DCCconcepts
thinking outside the square

Set your loco up with **ONE** CV!

▶ ***How do you stand out from the crowd when it's small... and hidden inside a loco?***

Before we start: Its not easy to describe everything about our new ZEN range well enough and so we use a lot of words here. We could add pictures I suppose but they are tiny things and so not very visually exciting.

On the other hand, the NEW Zen manuals are well illustrated with lots of easy-to-understand diagrams and related pictures. They also talk you through things in three different ways, ie: CV by CV, by example for lighting and re-mapping AND there is a special section for ABC braking and shuttle use.

Therefore… If you are a modeller that likes diagrams and pictures, or to explore further as you discover new things, click HERE to be taken to the ZEN MANUALS.

Daring to be different:

When we created our first ZEN range of decoders, we had already enjoyed great success in decoder design, with several core models that ran beautifully and did everything that a decoder should do. However, we wanted to offer more… so we created ZEN.

This took an already good decoder design, refined our running qualities even further and also added something that seemed to have been forgotten by most manufacturers.

Decoders that actually fit comfortably into your locos!

After all, great decoder design is valueless if they are hard to install.

Therefore every ZEN model and variant was designed to be easier to use and more installable than the others. So, the range includes a "direct plug" decoder the same size as the 8-pin socket fitted into your loco, a decoder that offers both 21 pin and 8 pin connection so you do not have to worry which you buy - and a tiny 6 pin decoder that was direct, but also included both 6-pin and 8 pin harnesses, so it worked equally well for N or OO/HO locos with almost no space at all. We even included one less than 3mm thick, the tiny ZEN 8H!

Evolving ZEN - the next step - making them easier to use:

Thinking about the user and the need for simplicity… with installability sorted, the next step was to make ZEN cleverer, easy to use and dead easy to set up… that meant taking away the complication.

ALL of the things mentioned in this area apply to the new ZEN ranges being released over the next few months… and called ZEN Blue+ and ZEN Black.

- ***Back-EMF is always hard for you to adjust...*** *because it needs three CVs adjusted in perfect balance.*

  To make this work without complication we made ZEN self - adjusting, so the decoder reads the motor and sets itself up for perfect slow running with no need to start a headache to get the loco running nicely. You have 3 simple choices… Back EMF on or off, at default or set to "coreless motor" mode for the odd loco that gives more than the usual trouble. All with one simple choice!

- ***Adjusting a decoder so the loco works like the real thing…*** *all too hard for most to bother with.*

  Loco makers do not help much because they use the same motor and gear train in all of them… they just "make them go" and leave it at that.

  It's important though, because a shunter has a totally different speed and acceleration than a passenger train or express freight etc… and an electric loco starts and stops very differently to a diesel or steam loco. To do this you would normally have to understand and change lots of things… including CVs 2, 3, 4, 5, 6 and possibly others. Accepting that there is no way that most

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How do you stand out, continued (One step set-up):

How did we do this? We made ONE simple change do all of the others for you! If you have a ZEN Blue+ or Black decoder, just go to CV25. This chart tells the story. One change and it's done.

Of course, if you want to tweak this, you can. Just change the specific CV any way you want!

To simulate a loco/train that acts like the options below	SET CV25	Decoder settings will then become				
		CV2	CV3	CV4	CV5	CV6
DEFAULT SETTINGS	**0**	2	12	12	0	0
SHUNTING LOCO	**1**	2	4	4	72	24
LIGHT FREIGHT	**2**	2	6	6	84	32
HEAVY FREIGHT	**3**	2	18	24	96	40
EXPRESS FREIGHT	**4**	2	15	21	108	48
LIGHT ENGINE	**5**	2	4	4	96	40
LOCAL / BRANCH PASS.	**6**	2	12	12	96	40
STOPPING PASSENGER	**7**	2	15	18	108	36
EXPRESS PASSENGER	**8**	2	15	18	120	52
EMU or DMU	**9**	2	8	12	120	60

- *Removing the problems of imperfectly cleaned track and wheels.*

Because decoders include microprocessors, and these require a minimum voltage to "stay awake", intermittent power through dirty wheels or track could create problems as the decoder turns on and off each time the power is lost. Of course, this means poor running or stalling.

Previously, we supplied a small Stay-Alive to help reluctant locos run smoothly, but some modellers just do not want to solder and others simply cannot find the space for them, so we needed something better.

All ZEN Blue+ and Black decoders now already include a really high level of internal "Brown-out" protection to keep things running nicely even when wheels and track need a clean.

The result is even better running with NO need to add anything at all, even with those locos that previously gave you trouble no matter what you tried!

So… add to these three simplifications and easy installation more than 30 adjustable lighting functions, up to 6 powered functions, full function mapping ability, decoder locking and other things… and ALL ZEN Blue+ and Zen Black decoders are already the perfect choice.

But - lets move on to ZEN BLACK now… for even more things to make you smile!

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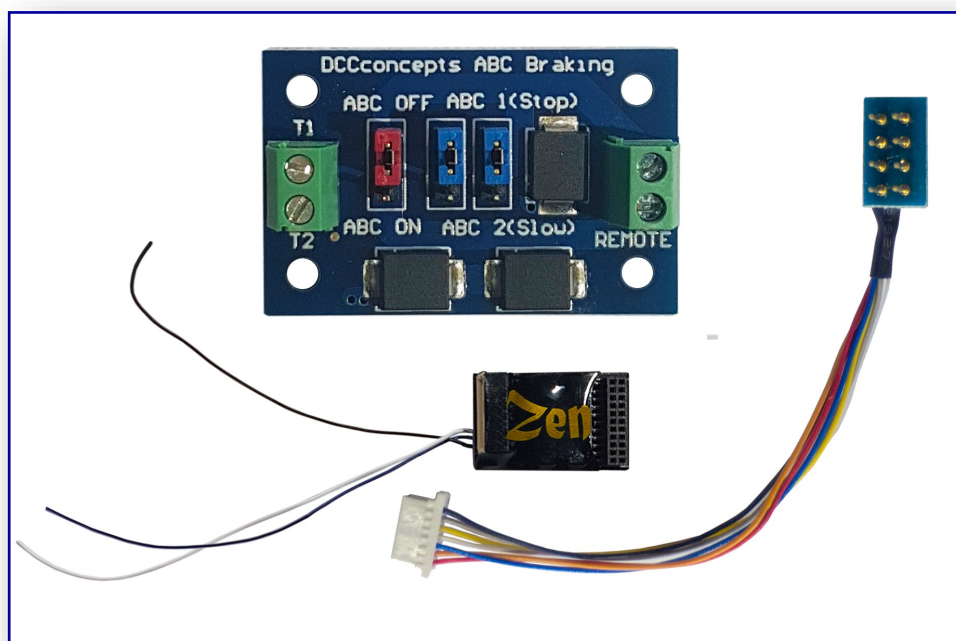
▶ *ZEN Black. The best there is, made even better!*

ABC Braking. "So what" you say… it's been done.

That's true, but we looked at how it worked with other brands and we couldn't help but feel that they have done only half a job. Adjustment was a real pain-in-the-^%$#. Transitions from slow to stop sections were, to say the least, poor and quite clumsy. In fact, just not good enough.

We decided we could do it better and we DID.

So… lets tell you about ABC braking with <u>ZEN</u>…

* *Forget "left or right rail" bias… ONE rail is all you need.*

* *Forget having to rewire if you get the <u>ABC module</u> backwards. Ours uses a simple onboard switch to change from slow to stop (see the image below).*

* *Forget having to wire specially if you want to use <u>ABC</u> for simple automation, because our <u>ABC board</u> has a set of on-off connections that can be controlled by a point motor such as <u>COBALT</u> - or you can even use an onboard header to activate or deactivate the board.*

* *Accurate slowing and stopping are easy <u>and</u> tuneable with two adjustment choices for deceleration and, even better, you can even slow to specific speed step levels if needed, making it perfect for the approach to fiddle-yard ends or terminus stations!*

* *The transition from slow to stop is silky-smooth and reliable.*

* *Best of all, you can buy your <u>ZEN Black</u> with an <u>ABC board</u> already in the pack at a favourable price, so you can experiment immediately without needing anything else!*

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▸ ***Zen Black - Continued:***

With the DCCconcepts approach to <u>ABC</u> sorted, we then considered something that has made life awkward for DCC modellers since DCC began… How to create a "DCC-Shuttle train" without complicated add-on devices, awkward set-up or special brands of controller.

▸ ***ZEN Shuttle: A simple, sophisticated automated shuttle, right inside the decoder!***

Again… others have tried - but with limited results.

We were amused to hear that one UK brand had made a shuttle…. but when asked by a modeller how to make sure it stopped reliably we heard them advise him to use buffer stops.

We were equally amused to see a well known European maker quietly use his hand to adjust the position of a loco while using their controller-based shuttle when customers were not looking (He also saw us notice him, and confessed that the approach they used wasn't really perfect).

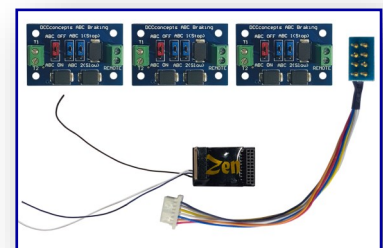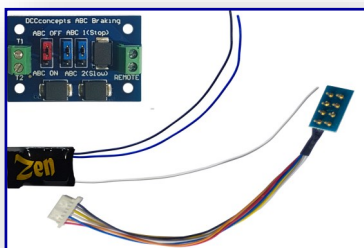### So… let's tell you how we <u>have</u> perfected the "Shuttle process".

The Shuttle's path on your layout

* It can be a separate track or can even run from branch station to another branch station via the main (with access and stops at junctions to the main controlled by switched <u>ABC boards</u>)

* It can have as many intermediate station stops as you want. None, 1, 2, 3 or more with no limit.

The Shuttle management… ALL of it is within the decoder.

* Make <u>one</u> change to <u>one</u> CV and the <u>ZEN Black</u> "automated shuttle mode" is activated. (By the way, this does NOT take control from you and override the ability to drive the loco directly).

* Stopping distances and stopping times can be simply and accurately pre-set loco by loco.

* Intermediate stops can be either timed or controlled by switched ABC boards on the exit to loops.

* You can take over manual control of a shuttle train at any time simply by calling up its number on your DCC controller and driving it normally.

* Once it is set up the way you want it, you can let the shuttle run for as long as you like - and it will always stop exactly when and where it should... with no need to adjust or re-tune its actions.

<u>(Click HERE to be taken to the ZEN BLACK Shuttle manual)</u>

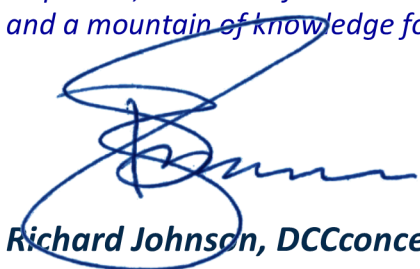## Set your loco up with __ONE__ CV!

▸ **Shuttle video coming soon!**

For those who like to see it run… the next thing we do will be a video of the shuttle process, from decoder installation, through the simple set-up at the track and the very simple decoder activation.

It won't be long!

The FOCUS Forum. By the way… if you are not already a Focus Forum member, why not join?

Click here.

You will find a hassle free, informative, supportive forum to participate in, with lots of interesting threads, supportive members and a mountain of knowledge for you to share.

Richard Johnson, DCCconcepts CME

(Click HERE to be taken to the ZEN BLACK Shuttle manual)