

FREE 16-PAGE MINI-MAG



UK PRODUCTS

2015

- Legacy Trackwork • Cobalt Alpha
- Choosing the right power supply
- Buddha: The Large Scale Decoder

AND MORE...

FREE WITH MAY 2015 BRM

DCC thinking outside the square
concepts



Cobalt α Alpha

Never before in the history of the hobby has one small electronic device made such a difference...

Whether you choose to drive your trains with DC or DCC, the Cobalt α Alpha Digital Encoder will allow you access to the advantages of digital accessories and let you create control panels fast and with incredibly easy wiring.

Needing only the simplest of connections, the very clever Cobalt Alpha Digital Encoder is super-easy to install and it is extremely simple to connect too, as it needs no soldering. Set-up takes no time at all.

Each has 12 SPDT connection sets and can manage 12 x 2-way digital devices. It doesn't matter if your layout is big or small as you can use just 1... or you can inter-connect more than 100 if you need to!

Control becomes very versatile... and very simple!

Anything you connect is immediately turned into a digital control device. Anything! - Stud and Probe, A diode matrix, a simple push-button, a detector or any form of switch or automation trigger will work.

This clever new product simply converts all kinds of traditional switching methods to "digital input devices" and it lets you connect your control panel to your DC, DCC or ANY kind of layout...

With only TWO wires!



Cobalt point motors and all other DCCconcepts products are distributed world-wide by DCCconcepts Pty. Ltd
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WELCOME...

To Your Free



UK Products Mini-Mag



In recent years DCCconcepts has grown to become one of the best-known suppliers to the British model railway trade. While the name suggests it is a Digital Command Control specialist, the reality now is that its range is much broader and more comprehensive.

As 2015 unfolds, the company is unveiling more and more products that will appeal to modellers outside its previous DCC audience. Arguably the most important among these is the 'Legacy' track range, which is making its debut with pointwork kits and track components but should gradually grow into a complete British outline track system. For a first glimpse of 'Legacy' products, see Phil Parker's article in this month's **BRM**.

In this latest mini-magazine, you'll see more of the company's new and forthcoming items that further expand its expertise, improve on existing, widely-used products, aim to make life easier - and achieve more - for those of us building

model railways. As an experienced modeller, DCCconcepts founder Richard Johnson is fully aware of the difficulties and obstacles we all face and is constantly seeking ways to improve our model railway experience. As you'll see in the following pages, he's also keen to encourage modellers to aim higher and strive for better standards, whether it be in track, power supplies or DCC functions.

Whether you're using DCC or not, the company has products that solve long-standing problems using clever technology, or just a bit of good old-fashioned nous. Over the last few years we've used a wide range of DCCconcepts products in various products and found them to be well-made and reliable. There are plenty more in the pipeline, and we'll bring you more on these developments in **BRM** over the coming months. Look out also for DCCconcepts products being used in a range of 'Practical BRM' articles throughout 2015.

BRM

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DCCconcepts LEGACY

Full of clever innovation...

The Legacy track range from DCCconcepts is growing quietly ...

Since DCCconcepts announced it was looking to make more realistic UK style track a reality, it has slowly grown the range of products available. Initially concentrating in the area of trackbuilding, it is now assembling an impressive range of high-quality products which will all become part of the

DCCconcepts 'Legacy' brand. It started with what are possibly the best quality gauges available

to British outline modellers. Made in hard brass to an impressively tight dimensional specification, they are intended for use with OO and all of its possible back-to-back and pointwork and track permutations, EM and P4. N gauge is also catered for with back-to-back gauges and Roller Gauges. The range of 17 different gauges covers roller gauges, three-point gauges and our very popular back-to-back gauges.

They can all be seen in detail at:

<http://www.dccconcepts.com/catalogue/h/dccconcepts-gauges>

Pre-Cut Trackwork Sleeper Frets

DCCconcepts has taken the boring part away from making track with copper-clad, while also greatly increasing the potential quality of results by creating a wide range of top quality pre-etched and pre-cut frets at a very reasonable cost.

These sets of pre-cut sleepers are designed to be used in the creation of plain track and pointwork.

Each set includes enough to make several variants of that point type; for

example, the standard turnout fret will let you make ANY turnout, left, right or curved, in any size between an A5 and a B9. Other frets have similar flexibility!

Available in 1.0mm thickness for chaired bullhead track or 1.6mm for directly soldered bullhead or flat bottom rail, each sleeper is pre-cut and the copper has been pre-etched to leave it only where needed. All copper areas are also pre-tinned, so even that step is done for you! With nothing to do but snip from the fret and lay the sleepers, what was once a boring task is now done in minutes, making trackbuilding a pleasure!

They can all be seen in detail at: <http://www.dccconcepts.com/catalogue/g/track-and-track-making-parts>

Templates are available too - free of charge. There is a template link on every fret page, or they can be downloaded from here. <http://www.dccconcepts.com/resources/tracks-and-track-making?id=manuals>

Stainless Steel BS95R Rail

This is a real winner. Made from Series 3 stainless steel, this bullhead rail can be used to replace existing bullhead in steel or nickel silver and has two HUGE advantages:

Firstly, it does not rust and pit like steel rail, nor does it oxidise and need cleaning far too often like nickel silver rail. Of course, to the modeller that cares about appearance, it has another advantage - it really does look like steel! Legacy BS95R bullhead rail is consistent with other bullhead rail so can be adopted at any time. It is the perfect answer for those who want realism and better layout performance. Legacy stainless steel rail can be cut with standard track cutters, filed

normally and generally used just like nickel silver or steel.

With a little practice it can be soldered easily too - all you need do is properly clean the area to be soldered with a file, fibreglass pen or 'wet and dry', turn a 50W or greater soldering iron up to maximum heat and most importantly, use DCCconcepts Sapphire 179 solder and no-clean flux for perfect results! (very few other solders and fluxes will work even nearly as well). It's available in tubes of ten lengths or bulk packs of 120 lengths.

SEE PAGE 106
OF THIS MONTH'S
BRM FOR PHIL
PARKER'S GUIDE TO
BUILDING A 'LEGACY'
POINT KIT.

Bullhead Rail Fishplates

Made from phosphor bronze, these are superbly fine and something totally unique. Each fishplate has full bolt details each side and has been designed to look more realistic than traditional rail joiners, with a clear portion in the base where rails join. They are both strong and versatile and as you can see from the images, a real 'scale model' in their own right. They are available now, packed in 25s and 100s, and should find a home on many layouts very quickly.

They can all be seen in detail at: <http://www.dccconcepts.com/catalogue/g/track-and-track-making-parts>

MORE TO COME...

If realistic track is important to you, keep an eye on this interesting new range. Here are a couple more new things that will happen very soon!

- A superbly high quality common crossing (frog) assembly jig is in development. Like Legacy gauges, they will be being made to tight specifications in hard brass, this time with solder-sensitive areas pre-blackened. Two versions will be made, one for No. 9, No. 7 and No. 5 frog angles and another for the more commonly used No. 8, No. 6 and No. 4 frog angles. They will also include blade filing slots making track construction easier than ever. They will not be low cost items, but they WILL be top-quality tools to last a lifetime.

- Top quality cast-brass chairs are coming soon too. Intended to be available now,

they are delayed slightly as DCCconcepts will not proceed without all of the many original drawings needed for a full, proper set of BR turnout chairs. The chairs will be design-matched to DCCconcepts 'Legacy' rail and the intention is to make complete sets for turnout construction at a price not far removed from that of plastic chairs today.

- With rail and fishplates already done, flexible track is not far away. DCCconcepts is aiming for delivery by late this year (hopefully in time for the Warley NEC show) for all of these items. See www.gaugemaster.com for UK prices and availability of all 'Legacy' products.

COBALT IP DIGITAL

It Just Gets Better...

Let's open the pack and take a look at the outside...

Physically, it's almost identical to the original Cobalt Digital from the outside, except for the addition of one more wiring terminal and a more conveniently placed set/run switch. It is in fact totally new, inside and out!

DCCconcepts has also added the very popular double sided mounting pads into the fitting kit, saving you the need to purchase them, and all 'New Generation' Cobalt motors now leave the factory already pre-centred, so you do not have to bother doing it before installation.

You will also see that there are nine terminals rather than eight. This is because there are now two push-button control connection points not one, giving perfect interfacing for DC or DCC control panel use and making interfacing with layout automation or computer control easier than ever.



Totally new power control electronics

The 'iP' in the name stands for 'Intelligent Power' and the all-new internal power management electronics are indeed smart. As a result, Cobalt iP Digital is incredibly voltage tolerant! In fact it now draws almost no power at all yet it will operate quite happily, all day every day, with either DC or DCC voltages from 9V right up to 23V.

With stand-by current also reduced to less than 0.005Amps (5/1000ths of an amp) the power Cobalt iP Digital needs only increases for a couple of seconds as it changes, and even then, it still draws less power than a white LED.

This means that even with lots of them on the layout, your system will not even feel the load!



Redesigned Digital 'DCC Control'

Starting with a bigger and more easily used switch to move between DCC address setting and running, we have now added the option for two switches for manual control as well as full DCC digital operation. Cobalt iP digital is also now the best choice for DC modellers too! For DCC modellers it is 100% DCC-compliant and offers the easiest and most direct address setting available.

With the original Cobalt Digital, we were often asked about reversing the direction of throw to match computer control systems or awkward installation positions that needed it to face the other way, so Cobalt iP digital includes that option too, using 'Address 197'. Follow the instructions packed with each Cobalt iP Digital to use address 197 and it will 'flip change direction' for you.

Once that's done all you will need to do is set it to the address you want for all future operations and it will respond just as you want it too. Available in singles, 6 and 12 packs, Cobalt iP Digital has a well-supported lifetime warranty and is equally usable for point control by DC or DCC modellers who need reliable, quiet and easily wired point control.

Cobalt iP digital...

Now incorporates three useful DCC commands to make life easy for you.

These use rarely needed addresses to activate, so all you need ever learn is one simple process.

1. Address 199 will activate 'self-centring' so you can easily return it to the best installation position if needed
2. Re-setting it to address 198 will defeat self centring
3. Setting to address 197 flips the change direction.

YOU WILL
FIND DETAILED
INFORMATION ON USING
AND WIRING COBALT
MOTORS AT www.dccconcepts.com

Inside Cobalt iP Digital:

An all-new gear train with shorter shaft lengths and slightly tighter tolerance makes it quieter than ever in operation, and with any unused space now completely filled with synthetic rubber inserts for sound insulation, it is exceptionally quiet.



See www.gaugemaster.com for UK prices and availability

COBALT α ALPHA



When DCC was first promoted, the phrase 'just two wires' was commonly used. It never was just two wires of course, and while DCC wiring gives great control and is certainly much simpler than wiring was for DC analogue, it still needs lots of wire to keep things connected.

It is NOT just about DCC though! DC or DCC - it doesn't matter. Nowhere is the problem of wiring complexity more obvious than when a control panel is added, because as well as track wiring we now need to add wires for switches and accessory decoders, LEDs and switches for turnout position indicators as well as for feeding power to various locations.

Think about it - at least two or three for switch connections to any point, signal or other accessory. Add power wires and LED indicators and switches and that figure more than doubles. It really adds up so that even a smaller layout with any form of electric point control is usually going to have 100 or more wires linking a control panel to the layout. There will be lots more wire in the

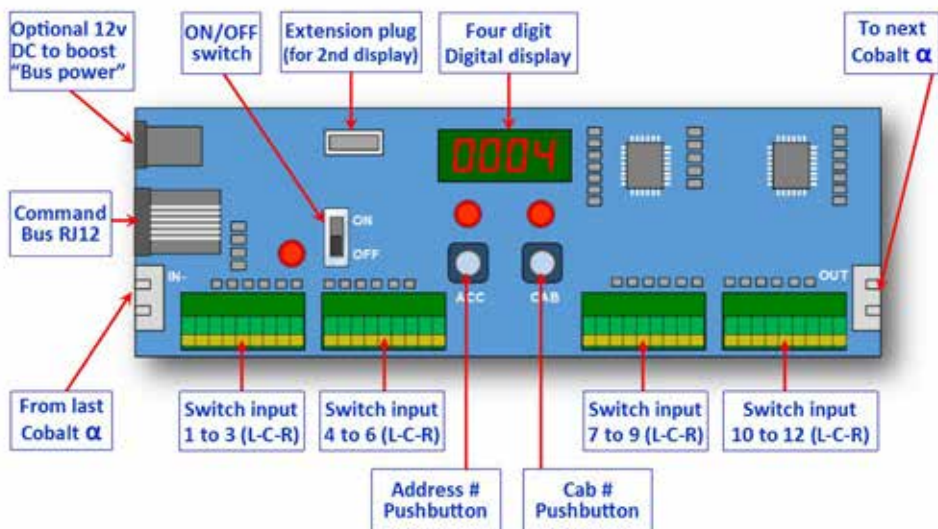
“Simplicity is the ultimate sophistication”

Leonardo Da Vinci

control panel and under the baseboards too. Perhaps it's fun for some, but it is a nightmare to others and always, it has the potential to be a real chore, a deterrent to some modellers taking up the hobby and a constant maintenance problem! It affects DC or DCC users equally so we've been thinking hard about how to solve it.

“Why do I still need all these wires?”

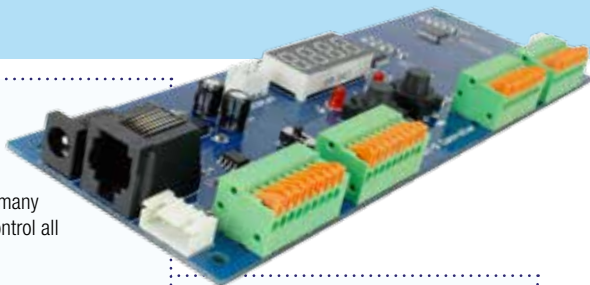
Inspired by a simple, innocent question from a customer a year or so ago we set out to create something, anything, that would make it easier! We think we have succeeded, so please read on!



Cobalt α Alpha is the answer!

Cobalt Alpha can independently control 12 different items needing a single-pole double-throw type switch for control. It does not care how many devices are linked to its outputs so just ONE can control all 24 turnouts in a 13 track fiddle yard!

- Cobalt Alpha takes over the job that all those interconnecting wires used to do
- Cobalt Alpha is equally usable on DC or DCC layouts. It really does not care how you drive your trains!
- Cobalt Alpha works equally well with Cobalt-S levers or simple push-button switches as well as stud-and-probe systems or any imaginable form of switch
- Cobalt Alpha can be connected directly to detectors or similar items to add completely automatic operation commands or to trigger actions on the layout.



Because it is effectively a 'robot interface' for digital control, it is very versatile. Multiple Cobalt Alpha units are easy to connect with a simple cable to create a continuous series of hundreds of outputs. Or, for more complex DCC use, it can be used in an individually 'cab addressed' series-parallel arrangement that is only limited by the ability of the controller brand that you will use for driving the accessory bus. There is really almost no limit to how many you can use.

It doesn't matter if you drive your locomotives with DC or DCC, it will work for you... and make your life easier, because Cobalt Alpha connects your control panel to the layout via either the DCC command bus - or, for DC modellers, via ONE cable.

A journey around Cobalt α Alpha

The overall PCB is approximately 180mm long by 58mm wide. It is intended to live in your control panel as a 'fit and forget' solution. The basic Cobalt Alpha connects directly to the NCE command bus. A universal 'Alpha box' is available for those who use AC or DC to drive trains, those who separate accessory control from train running or whose DCC systems have inadequate accessory control ability. Adapters are being created now for many other DCC brands too - So Cobalt Alpha will soon work for everyone!

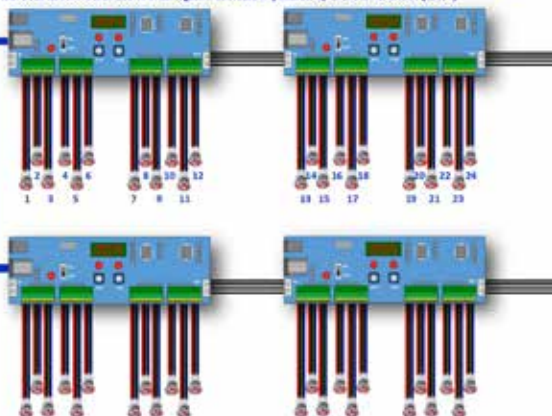
While it is quite complete 'as bought' (with the required interfaces if needed) we also realise that modellers might like to be able to see it work each time, so we have also added an 'extension display' socket to the PCB, and will make an extended display with 450mm cable and mounting bezel available at the same time as Cobalt Alpha's release.

Many Cobalt Alpha units can be connected, with the only real limit being imposed by the DCC accessory decoder address limit of 2,044 numbers. Cobalt Alpha is therefore able to give massive added opportunity to DC modellers and extend the usability of all 'full feature' DCC systems.

Cobalt α Alpha "General system architecture"

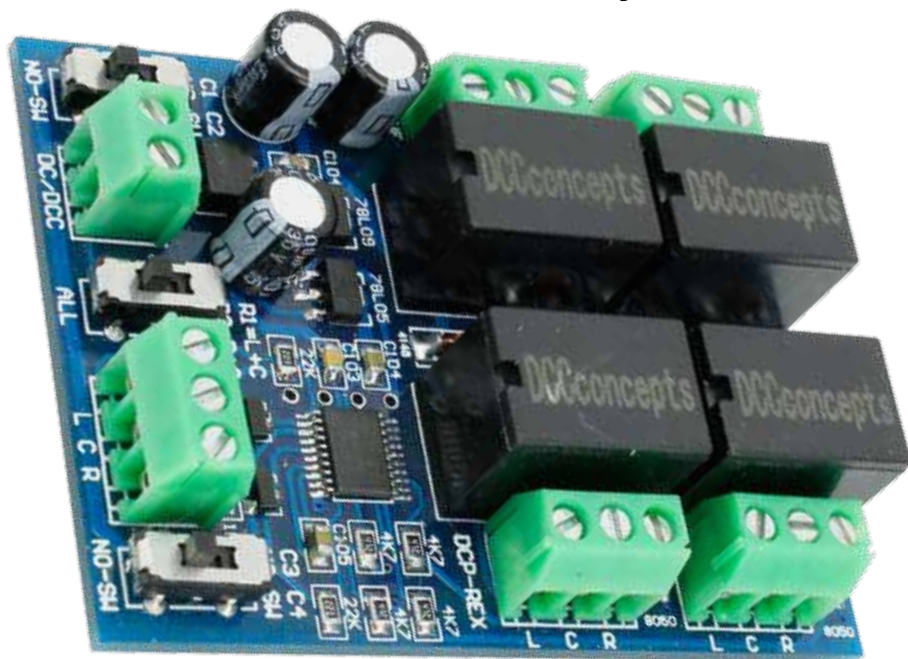
For DC users: This is a "Black box" device that connects to a "digital Accessory bus"
For other DCC: This is an "interface" device created especially for YOUR DCC system
For NCE users: Just make a connection to the NCE standard UTP or command bus

Connect them before turning on and they'll automatically set themselves to the right address sequence
There can link more than 300 of them together to create any address up to the limits of DCC (2000+)



ULTIMATE VERSATILITY

Cobalt REX relay extension board



When we create anything, we do our best to make sure that it is equally useful to DC and DCC modellers. We also always try to include as many useful features as we can.

We also try to make things either switchable directly and able to be triggered by things such as detectors, hall triggers and reed switches because modellers love to be creative. So, we did all of this when we added yet

another switch to the acclaimed Cobalt range and we added LED control and frog switching to our Solenoid accessory decoder ranges. Inevitably though, there are some situations that still just need more, or things that the endlessly creative minds of modellers want to do that need something switched. So we created the Cobalt REX. Now you really CAN do anything you want.

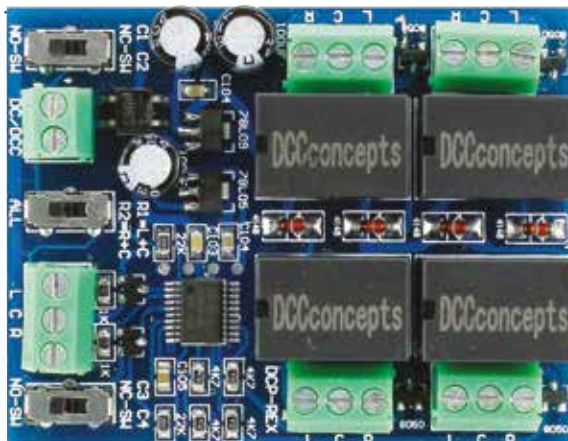
Even better, Cobalt REX is very reasonably priced too!

“There is no point doing things by halves. It’s a philosophy we love to work to, and Cobalt REX is a product that fits in with that concept very well!”



Cobalt REX is a small, but clever switching board fitted with four single-pole double-throw (SPDT) 3Amp relays that can be switched any way you want and configured to achieve any possible result we can think of!

- REX will work on 9~18V DC or with DCC track power
- REX has four built-in SPDT changeover switches (relays)
- REX can change them all at once, or become two separate devices just by moving a switch
- REX can be controlled by N.C. (on-on) switches or N.O. (normally off) switches. In fact you can operate each half separately and either way - again just by changing a switch!
- REX has power-off memory so it remembers switch positions when you turn the power back on
- REX has easy-to-understand wiring and easy to use screw terminals
- REX is easy to configure. Just three switches give access to all the options
- You can't even lose the instructions because we printed most of the important stuff, switch-by-switch and connection-by-connection, directly onto the PCB!



WE CAN'T POSSIBLY FIT ALL WE WANT TO TELL YOU INTO THIS BOOKLET, SO WE HAVE IT ALL ON OUR WEBSITE FOR YOU TO SEE - ALONG WITH A DETAILED MANUAL IN OUR ADVICE AND MANUALS AREA.

See www.dccconcepts.com/catalogue/a/Point-Motor-Accessories or take a look at the manual here: www.dccconcepts.com/resources/cobalt-products?id=manuals

ELECTRICKERY

THE MODELLERS' CURSE

If there is **ONE** thing that modellers really **DO** need to come to grips with today, it is the reality of electricity and power supplies for the many items they wish to use on their layouts.

Electricity and its use - or misuse - is the cause of 99% of confusion, failure and frustration to modellers and manufacturers alike. Firstly because they can't get the results they want, and secondly because it causes huge costs in customer service. Great care is required when explaining that whatever it was, it failed because the modeller failed to understand or follow instructions properly and use the right power supply!



History

For generations, train controllers have been at the root of the problem. Initially it did not matter, but now it **DOES**! Take any old DC controller; H&M, Hornby Dublo or Tri-ang, or indeed any current DC controller from Gaugemaster or others, and the problem is there too. They simply do **NOT** do what it says on the tin!

Unless loaded to their limits, the claimed 12V to the rails is really 16V or more. The terminals labelled '12V DC uncontrolled' are actually 16V or more and the AC terminals labelled '15V AC' are probably 18V+ with no real load on them. We can ignore the really rough DC output with no regulation for now!

This was perhaps acceptable when the train just went faster and all a bulb did was get far too hot, but that is not the case today where lighting is designed to run at realistic levels, lower voltage motors are fitted inside our locomotives and digital devices need clean DC, specific voltages and stable power delivery to work at their best – and more importantly to last.



Train controller circuits are usually totally unprotected at the mains side, so if there is a power surge or lightning strike, every extra volt will come through directly to your layout, damaging electronics, bulbs, decoders or anything else that gets in the way.

It doesn't matter whether you drive your trains with DC or DCC, it is time to stop, think and start to do it properly if you want to get the best from the hobby in the 21st century.

Our Recommendations

- Stop using your old trainset controllers. The older they get, the more dangerous they become as rubber insulation fails and the lacquer in transformer windings ages and cracks. If you have others around the layout, it is time to replace them, because even when they were new they would not have met today's safety standards.

- Only use newer trainset controllers to drive the trains OR for their AC outputs to change solenoids.

- Power your DCC system with a regulated DC power supply, not an AC supply. All DCC systems will be more stable when powered with a good quality DC supply.

- STOP thinking 12V for everything else. It has never been a 12V hobby really! Solenoids need 18V or higher. Model Lamps almost always need 3-6 volts, not 12V. Trains need 10~14.5V DC, depending on scale (higher for large scales). Everything else needs exactly the voltage it says on the instructions, no more, no less!

- Match power to the device being powered. Instead of an 'accessory bus' or a 'Lighting bus', run a 3V bus, a 6V bus, 9V bus and a 12V bus if that's what your items need.

- Stop using ONE power source for everything unless you understand ohms law properly and actually measure current draw before choosing resistances. It makes NO sense to add resistors to drop voltages as all you are doing is wasting electricity and generating heat, because that is what resistors are designed to do!

- NO power supply should have more than 75% of its limit used all of the time. This is just common sense.



Nothing lives at its extremes. Your car may be able to do 7,000rpm and deliver 350hp, but how long will it last if run constantly like that?

- Be kind to power supplies. Do NOT assume that any power supply, whether 1, 3 or 5Amp will last long if loaded constantly to the limit. Power limits are quoted for a reason!

- You can still save money. Look in the bottom drawer. There will be power supplies from mobile phones, modems, redundant electrical devices or old computers. Read the labels. Look for the words 'regulated DC' and if they are there, they are ideal for us to use. If not, recycle them!

- If you need to buy new, buy only regulated DC power supplies. 'Regulated' indicates that the voltage will be stable from low to high loads, so this is the ideal for today's electronics. Do not accept anything else.

- Treat power supplies with respect. Limit loading by calculation, not guesswork. Assess everything you use or run on the layout, but be generous in the allowance. For each locomotive running at one time, allow 100mA for N, 150mA for OO/HO and 300mA for modern O gauge. For motor drive point motors, allow 30mA and for any lamp 50mA if incandescent, 10mA if an LED. Do this with all constant load items.

AND FINALLY...

This is a huge subject and we do not have enough space to cover it all, but we will re-visit it soon.

Meanwhile, for those for whom electricity is akin to witchcraft, it might help you to think of it like plumbing. It really will give you a clue as to what happens when electricity flows.

- Power Supply is the pump
- Volts are the water pressure
- Amps are the water volume
- The Wire is the pipe
- A capacitor is a water tank (storage)
- A resistor is a restriction in the pipe (Increases pressure/restricts volume)
- Any restriction in the pipe needs increased pressure to maintain flow

- A switch is a valve
- The bigger the pipe, the more can flow (more electricity without resistance)
- Balance the pipes or the water will not flow evenly in the system. Ever been in the shower when someone turned on the cold tap elsewhere?
- Try to add too much pressure into the pipes (wire) and the pipes will burst (wire will melt) and if you do it for too long, the pump (power supply) will fail.

YOU'LL FIND LOTS
MORE ABOUT WIRING
AND POWER SUPPLIES AT
www.dccconcepts.com.
FEEL FREE TO EMAIL US
THERE IF YOU HAVE
ANY QUESTIONS...

MAKING FINER MODELLING EASIER

A new and innovative tool from DCCconcepts that will give a lifetime of useful service.

One of the things that is obvious - to me as a finer-scale hands-on modeller - and to us as a business, is that while the vibrant 'cottage industry' areas of the hobby excel in the creation of unique accessories, the hands-on part of UK's 4mm scale modelling scene has never really had any focussed support in the shape of truly high-quality 4mm scale oriented tools.

There are some excellent general suppliers who offer tools adopted and adapted to the hobby, but whereas HO and other scales have many specific scale-centric items to choose from, unless they know where to look and how to adopt things, modellers of British prototypes are largely left to their own devices. We therefore decided to create something entirely new... and very useful: a dedicated 4mm:1ft scale ruler made with the best possible materials and methods, fully embossed, made to tight tolerances and including something of huge value to any modeller who delights in creating their own models or adding detail to ready-to-run products.

On the surface, it was not so difficult to do, but reality soon strikes when such things are created. Making the accurately spaced holes is a great example; we wanted them to be really small so modellers wanting true-scale results could use wire down to a scale 1" or 0.3mm for handrails, enlarging holes only as needed for larger diameters.

That makes the hole much smaller than the thickness of the ruler material, so it is no longer possible to drill or punch (no machine shop will tolerate the tool breakages that would result) and it is difficult in the extreme to etch it reliably in a harder grade of stainless steel! The answer was laser cutting.. Sounds easy doesn't it, but because modelling accuracy demands many possible handrail sizes, there were more than 120 holes to be placed very

accurately on the ruler. Each is offset only slightly, and each 'handrail line' also needs a perfectly matched indent from hole to ruler edge to register the handrail ready for its 'second bend'. The finished ruler is now "off the line" and you will not be disappointed. DCG-SR4 is a magnificent tool.

An accurate scale rule that incorporates a comprehensive handrail bending jig that will make ANY handrail size possible from 6" to 18' 0", in increments of 0.25mm (less than 1") from a scale 6" to 48" along the side, and in increments of 1mm or 3" using the two end jigs, which give an extended handrail range from a scale 48" to 18' 0"!

Even better, because of the '1 inch scale length steps' you can simply offset by one or two holes (depending on how thick the handrails are supposed to be) to accurately create the difference between internal or external handrail length. While the tool is nominally to 4mm scale, modellers in N or HO will find it equally useful, as long as they can make simple calculations to suit their chosen scale.

Added value included! While we recommend using a high quality reamer to enlarge holes for larger wires, we recognise that many modellers will not have such a tool to hand when they purchase the ruler. We know only too well that there is nothing more disappointing than unwrapping a new tool and finding that you still need to buy yet another item to let you get started, so we have included a 0.5mm titanium coated HSS drill with each rule.

A truly comprehensive, very accurate handrail bending jig

DCG-SR4 will last for a lifetime's modelling. It is available now from www.gaugemaster.com and Gaugemaster/DCCconcepts stockists nationwide. UK price is £29.50.



ZEN BUDDHA

**The affordable,
easily
installable
and almost
'unkillable'
DCC decoder
for larger
scale models.**



'Zen Buddha' is fantastic value for O scale and larger - it's perfect for all modellers needing a high-quality, high power DCC decoder.

'Buddha' is tough enough for large scale but small enough to fit some On30 and even large, brass HO scale locomotives. Made to comply with the usual DCC standards and designed from the ground up to be installer-friendly, it is available with four or six functions, a continuous power rating of 3Amps and peak rating of 5Amps. Buddha meets all larger locomotive requirements yet still remains small enough at 40mm x 25mm x 10mm to fit almost anything.

Larger locomotives need slightly thicker gauge wire to cope with the extra power, so we opted for screw terminals all round. Each terminal is labelled with a coloured dot that matches DCC wire colour standards, so



deciding which wire goes where is easy. We also give you a wire standards reference in the comprehensive instructions packed with each decoder.

'Zen Buddha' also comes with a larger ceramic capacitor based 'Stay Alive' unit to help prevent cut-outs and keep locomotive drive as smooth as possible. We think that you will find its running qualities something special. A two-wire plug connector makes installing the Stay-Alive easy too.

We went all-out to make 'Buddha' extremely tough; in fact we were tempted to say that the new decoder was unbreakable, but experience has taught us that modellers are endlessly creative when it comes to destroying electronics!

Why Did We Do That?

Nobody wants to see a decoder fail, but so many O scale locomotives have older high-current motors or are of heavy brass construction, so the chances of accidental errors in wiring and unexpected short circuits are very much higher than with RTR locomotives in smaller scales.

We therefore add it all; protection from short circuits, from direct accidental linking of input track voltage to motor outputs and from over-current, overloading and overheating. Do any of these things and 'Buddha' will simply switch off and stop, only allowing a restart after you have 'broken power' by lifting the wheels off the track momentarily. So: 'Zen Buddha' really IS just about unkillable!

It is available now direct from DCCconcepts, Gaugemaster or Gaugemaster stockists throughout the UK. See www.gaugemaster.com for UK prices and availability.



FIND OUT MORE
'ZEN BUDDHA' AT
www.dccconcepts.com/catalogue/c/zen-decoders

DCC concepts

thinking outside the square



Cobalt iP digital

the ultimate turnout motor

...for both ~~dc~~ and dcc modellers

Cobalt iP Digital works equally well either way, so it really does not matter if you choose to drive the trains with DC or DCC...

Cobalt iP Digital always comes up trumps!

Just as happy on either 12~23v DC or DCC, the versatile Cobalt iP Digital is easy to install and it is simple to connect as it needs no soldering.

It has two built-in SPDT changeover switches you can use for point frogs, signals or control panel lights too, so there is nothing else to buy, install, tweak or adjust once it is installed!

Control is very versatile... and very simple!

DCC modellers can use full computer control, macros or routes, a conventional local control panel or their handset... or all of them at once.

DC modellers can stay traditional and use stud and probe, Diode matrix or just two simple low cost push-button switches.... It does not care.

Or BOTH DC and DCC modellers can choose to use The New Cobalt α Alpha Digital encoder.

This clever new product simply converts all kinds of traditional switching methods

To "digital input devices" and it lets you connect your control panel to your DC or DCC layout...

With only TWO wires!



Cobalt iP Digital is compact, smooth and almost totally silent. Beautifully engineered and designed to last, it is supplied with a lifetime Warranty.



Cobalt point motors and all other DCCconcepts products are distributed world-wide by DCCconcepts Pty. Ltd
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