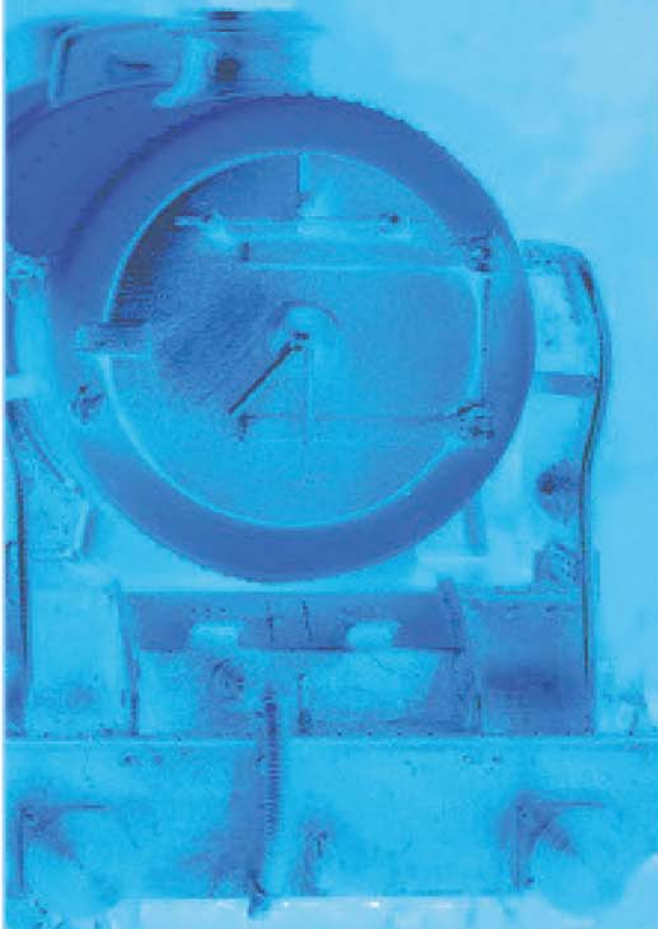


Cobalt α Mimic

Plug and Play Ground Signals

Alpha Mimic Ground Signals OWNERS MANUAL



Cobalt α Mimic Signalling

Details of the Alpha Mimic ground signal controller

Understanding the Cobalt α Alpha Mimic control board

Simple connection and zero complication makes it easy!

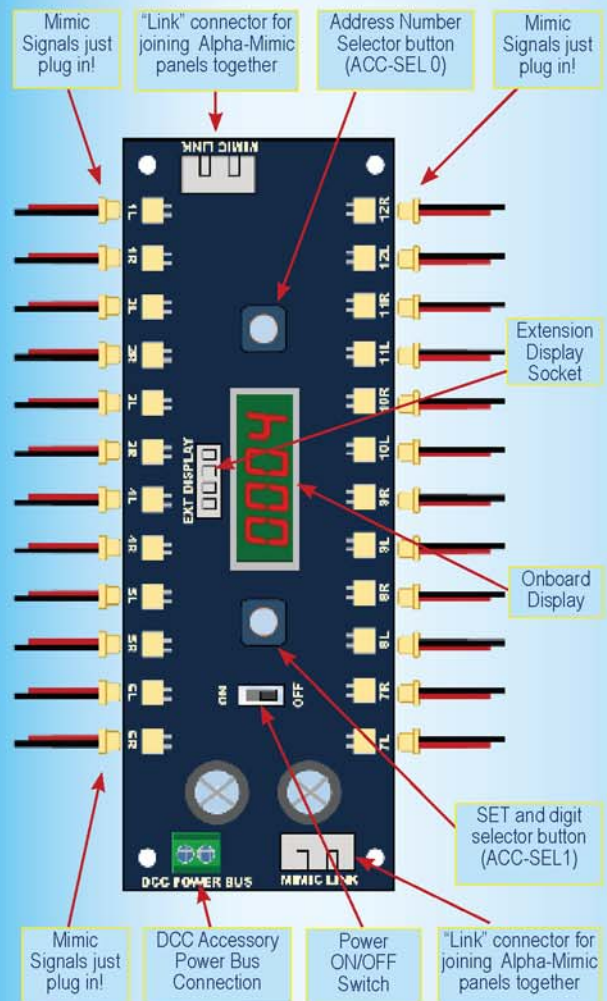
The Alpha Mimic control board outputs, inter control board links and extension modules are totally plug-and-play. The DCC Accessory power bus wires are also easy - just a simple screwdriver connection.

Address setting is simple and there are no complicated procedures.

We also provide a simple linking cable with every Alpha Mimic so you can daisy-chain together as many as you need and even the optional extension display cable just plugs in! (Many control boards can be directly linked together to give over 2000 possible output addresses)

* **Connections are explained in the diagram below.** Please note however: you should always be careful to not pull or put pressure on the wires when inserting or removing plugs and sockets.

* **Changing address numbering.** Addressing is sequential from 1 to 12 by default. If you wish to change addresses or use more than one Control board, we explain this process on page 5 of this manual.



Mimic Plug-&-play add-on items.

- DCD-ADX - 1 x Mimic Extension Display
- DCD-MJ6 - 6 x Alpha Mimic cable joiners for plug and play linking of Extension Cables.
- DCD-MRA3 - 3 x Alpha Mimic Y and reverse connector adapters to pair LEDs or signals.
- DCD-MMA3 - 3x multi-connectors for Mimic LED or signals, allowing six Mimic LEDs or signals to be linked to one board output.
- DCD-MW2.10 - 10m of Mimic LED Wire.
- Plus - Extension leads in several lengths...



Need help? please email us at:
sales@dccconcepts.com
 Or visit the DCCconcepts website at:
www.dccconcepts.com
 All of our contact details are there

Cobalt α Mimic Signalling

Simple to use automated plug and play signalling

The Cobalt α Alpha Mimic Ground Signal System:

Thank you for buying Cobalt Alpha Mimic ground signals.

Every Alpha-Mimic controller, every Mimic LED and all of our Ground Signals are tested during production & again prior to packing for sale, so the process of installing & operating them should be problem free.

If you have bought the full set with control board, the pack includes:

- * These instructions PLUS:
- * 1x Alpha Mimic Control Board
- * 1x Alpha Mimic Linking Lead (to join 2 Mimic Control Boards)
- * 12 plug and play Alpha Mimic Ground signals complete with their mounting blocks and ready to install, plug in and operate. There are several prototype ground signal styles available as below.
 - ~ Early UK 2-light red/green ground signals. (Perfect for fiddle yards)
 - ~ LMS / "BR until now" 3-light red-white / white-white ground signals
 - ~ Modern Era 4-light red-red / white-white LED ground signals
 - ~ American Westinghouse 2-light red/green ground signals
- * 3 x Y or reverse connection adapters (as per the DCD-MRA3 pack) for linking two signals onto one output. These adapters also include a "reverse connection" option so that you can have one display green while the other signal shows red.
- * 4x screws for securing the Alpha Mimic Control board in place
- * 1x Drill for making the holes in which to mount the signals.

If you have bought the Alpha Mimic Signal "Add-on" pack which contains 12 signals plus some accessories, The pack includes:

- * A copy of these instructions PLUS:
- * 1x Alpha Mimic Linking Lead (to join 2 Mimic Control Boards)
- * 12 plug-and-play Alpha Mimic Ground signals complete with their mounting blocks and ready to install, plug in and operate. There are several prototype ground signal styles available as below.
 - ~ Early UK 2-light red/green ground signals. (Perfect for fiddle yards)
 - ~ LMS / "BR until now" 3-light red-white / white-white ground signals
 - ~ Modern Era 4-light red-red / white-white LED ground signals
 - ~ American Westinghouse 2-light red/green ground signals
- * 3 x Y or reverse connection adapters (as per the DCD-MRA3 pack) for linking two signals onto one output. These adapters also include a "reverse connection" option so that you can have one display green while the other signal shows red.

Please read the instructions carefully before you start to unpack your Alpha-Mimic signals, connect them or add DCC power to the Alpha Mimic ground signal control board as they contain both important information AND advice to help you get the best result.

DCCconcepts also offer on-line instructions, YouTube videos and of course one-on-one help should you wish to take advantage of it.

We have created these signals using original drawings. Economical, ready to use and plug & play does not need to mean compromise, so they are also close to scale. (Even the LEDs we use are created to the exact colour used in the prototype). While construction is quite robust, being so close to scale they ARE fine in some areas and the detail will therefore be fragile. Please take care when installing them as physical damage to your signals is not covered by warranty.

Your Alpha Mimic Warranty is 12 months from the date of purchase.

Important User Information:

While we have made the Alpha Mimic signalling control board & the signals that connect to it very simple to use and connect, please remember that the Alpha Mimic signalling control board and the signals that go with it are all part of a sophisticated system that is managed by digital micro-controllers.

Finely scaled items and all electronics are sensitive to how you handle them and it is very important that you read instructions before you install and connect them.

Never connect the Alpha Mimic control board directly to any power source other than a DCC track or Accessory power bus with a voltage within DCC standards.

DC modellers can create the power source needed by using the very economical DCCconcepts Alpha Sniffer with an appropriate power supply. Incorrect wiring or wrong power supply choices may cause damage that is not covered by warranty.

- * Use only with DCC-Standards compliant DCC Control systems. You can also use the DCCconcepts Alpha Sniffer to create a suitable power bus.
- * Installation and all connections must always be done with the power off.
- * Do not exceed the load limits of any output. Use only Alpha-Mimic signals or LEDs. Multiple LEDs can be connected using our Alpha Mimic adapter cables. (If you are using Alpha Mimic ground signals or Alpha Mimic LEDs Use the DCD-MMA3 or DCD-MRA3 Multi-LED joiners to connect them).
- * We cannot accept responsibility for product failure if you attempt to use non standard wiring or connections or if you choose to connect other brand LEDs or anything outside the scope of this manual, so if you do, be careful.
- * If you do choose to use other LED types the load limit is 50mA per output.

Cobalt α Mimic Signalling

Wiring & connecting Alpha Mimic Ground Signals

Accessories for Cobalt α Alpha Mimic Ground Signals

Extension leads & interconnectors for every possibility!

This range is almost totally plug and play, so there will never be any need to cut wires or solder joints unless you wish to do so.

Interconnectors & Adapters:

DCD-MJ6 - Six Alpha Mimic cable joiners for plug and play linking of all Alpha Mimic Ground Signals and Extension Cables

DCD-MMA3 - Three multi-connectors for Mimic LED or signals. Primarily an Alpha Mimic Panel creation accessory, this allows up to six LEDs or signals to be linked to one Mimic control board output.

DCD-MRA3 - Three multi-connectors for Mimic LED or signals. Primarily an Alpha Mimic Panel creation accessory, this adapter has two normal and two reversed links available.

"Plug & Play" Extension Leads and Bare Mimic wire:

DCD-ME6.150 - Six Mimic extension leads. each 150mm long.

DCD-ME6.300 - Six Mimic extension leads. each 300mm long.

DCD-ME6.750 - Six Mimic extension leads. each 750mm long.

DCD-ME6.1M - Six Mimic extension leads. each 1 metre long.

DCD-MW2.10 - 10 metres of Alpha Mimic twin wire. Supplied with heatshrink to insulate the joints. (requires cutting and soldering wires)

Understanding Cobalt α Alpha Mimic Ground Signals

You will find this much easier than you ever imagined!

Let's start by adding one or two of the ground signals to the Control Board, connecting it to power and operating it so that you can see and understand how it works before you start.

(This also makes planning of your signal installation easier as understanding how you will wire it all will give you some idea of the number of additional Y-connectors or extension leads that you may possibly need for the final installation as well)

The first thing that you'll see is the incredible versatility of the system.

There are 12 individual output addresses on an Alpha Mimic Ground Signal control board. Each address has TWO independent outputs (left and right or "normal and reversed" to be more correct) giving you a total of 24 signal connection points per board (12 paired outputs)

Because each of those 24 connection points actually reverses its polarity when the state of an output address is changed, you can use each of them independently to change 12 pairs of signals if you wish.

As well as making signalling much more economical than you may have thought, this is also very convenient for ground signalling of turnout position as the loops and crossovers on your layout may also have both signals able to be changed with a single turnout address.

(Please refer to the diagrams and information later in this manual for specific connection points and how to go about control board setup)

Lets start: Refer to the drawing on page 4 for connection detail.

* Carefully unpack the Alpha Mimic control board & signals.

Be quite careful as the very fine ground signal details may be damaged by careless handling (remove staples before unpacking so that the instruction manual is not torn or damaged).

* Plug several of the ground signals into the control board. To keep it simple, please use output 1 left and 1 right and 2 left and 2 right.

* Connect the DCC Accessory power bus to the input terminals.

(If you are a DC modeller, please use the easy to use DCCconcepts Alpha Sniffer, AEU & AlphaSwitch-D or Alpha Central to create a very economical, manually switched DCC-digital accessory power bus)

* Turn on the System power then switch the Alpha Mimic control board power on too. The signals will now light up. Default output addresses are 1 to 12, so we are already ready to go.

* Change turnout Accessory address 1 or 2 with your DCCcontrol system, AlphaSwitch-D or Alpha Central.

You will see the ground signals change immediately, reflecting the turnout change command.

Note how left and right outputs show opposite aspects, giving you simple choice to use left, right or both for each address.

Now you understand how things work, you can plan ahead. Once you start, you'll be amazed how versatile and simple it is. Have fun!

Cobalt α Mimic Signalling

Planning the installation of your Alpha Mimic Signals

Adding Cobalt α Alpha Mimic ground signals to your layout

First, lets take a look at the signal types and their aspects.

1935 LMS-BR to present day

(On)



(Off/Normal)



Early UK 2-light

(On)

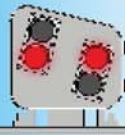


(Off/Normal)

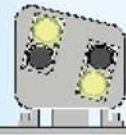


Modern NEW Style LED signals

(On)



(Off/Normal)



Current USA

(On)



(Off/Normal)



Now lets think about where to put them.

The prototype generally uses ground signals to permit passage past a certain point. They may or may not directly refer to turnout position.

In these images the left hand picture is indicating a position on the line that cannot be passed, so the signal is "On" or at danger. The Right hand signal is indicating that the line is clear for the train to pass, so the signal is "Off" or normal.

If "Getting it right" is important to you - research the area represented by your model or perhaps look for Forum or book-based assistance with signalling your model if your layout is your own design. Signalling rules can, after all, be applied to any logical track plan, real or imagined.



Of course, these signals are also the perfect way to add turnout-related signalling to any yard or storage area on your layout. If using them for this purpose, place and orient them to give you clear indication of the turnout settings in the yard in the way you prefer... no matter how you do it, they will look great and you will find operation much easier!

Setting your Cobalt α Alpha Mimic DCC Addresses:

The Alpha Mimic control board has a semi-automatic addressing ability that is pre-set to numbers 1 through 12, so you may not even need to use this process! If you do, you will only need to set up the first address and the rest will be changed automatically.

If you have multiple Alpha Mimic units & want a consistent address series, daisy chain them (with the lead provided) while setting the addresses. Then, when you set address #1 on the first Alpha Mimic in the chain, they will automatically cascade addresses throughout the chain, to a limit of 2044 accessory addresses (as per DCC standards).

- (1) Turn Alpha-Mimic OFF using the onboard ON-OFF switch, then hold down either ACC-SEL selector switch. Keeping it depressed, turn ON again with the ON-OFF switch. The display will now flash.
- (2) You can now choose the address that you want for output number 1 by momentary presses of the switches each side of the display. The ACC-SEL 1 switch will now change which of the 4 digits is changed (it cycles through the 4 digits). The ACC-SEL 0 switch will change the actual value of each digit. (It will cycle through 0-9)
- (3) Once you have the display set to the address you want, press and HOLD the ACC-SEL 0 switch for several seconds. The display will flash "YES" when it has been accepted and memorised.

That's all there is to it! You can now change your points/turnouts or signals using either your DCC system, via Cobalt Alpha or Alpha Central OR your computer DCC system... and your ground signals will automatically change to reflect the real state of your trackwork.

Still need more? Call us or visit www.dccconcepts.com

The Cobalt and Alpha family

Designed to work together and make it easy for you.

Cobalt name is best known for its unique point or turnout motors, but the "Cobalt Collection" has evolved to be much more than that. It also includes many versatile digital devices and between them, Cobalt and Cobalt Alpha now offer many things to do with better control of layout and trackwork!

Turnout motor range is expanding too... and with the release of the incredibly small and sophisticated Cobalt-SS, our Cobalt turnout motor range now includes both under-board and above-layout motors and many digital control devices and related accessories.

The more recently released Cobalt Alpha range has re-defined and greatly simplified control panel creation and use by reducing wiring, making panel creation easier and greatly extending the convenience layout accessory control for both DC and DCC modellers.

This is not the end of new Cobalt range developments though!

The Cobalt collection continues to grow and will soon also include a sophisticated but easy to use product called Alpha-Commander for clever automation of train activity, some high quality auto-reversers and overload protection devices plus easy to use and very capable detection systems for signalling and layout automation.

All of these things are already in development. Once they are finally released, the Cobalt Collection will be almost complete.

To stay in touch with developments, more information, plus lots of useful articles and advice, please visit www.dccconcepts.com often.

Let's review selected items from the Cobalt family

The Cobalt iP Digital Point Motor

Cobalt iP Digital is without doubt the best turnout motor available and its usable on DC or DCC!

To allow DCC + full manual control we've added a second set of momentary push button switch contacts for fully independent left/right "change direction" control (instead of 1-button toggled action).

Cobalt iP Digital is comfortable with 7-23v DCC track power and is super-easy to install as it's ready to go with nothing to add!

Cobalt iP Digital also has three simple-to-use software commands built in. We've made use of these easy by utilising standard "Address-setting procedures" to activate or deactivate them.

These new software selections activate or deactivate the self centering function and let you reverse the direction of change.

This allows you to synchronise or change operating direction so that it matches perfectly with track diagrams on screen-based control systems & with any brand of layout control software, route control or similar digital control methods.

(It also makes it possible to install Cobalt iP digital facing either the Toe or Heel of the point, so installations in tight places are easier!)



The Cobalt-S signal box lever

The Cobalt-S Lever range is unique to DCCconcepts.

Designed with quality and functionality at its core, Cobalt-S has been created and built without compromise to be the best available representation of a traditional signal box lever.

Featuring solid brass levers, a solid engineering plastic case and, literally, gold plated phosphor bronze contacts on the 3 built-in SPDT switches, Cobalt-S will interface perfectly with DC or DCC layouts.

Cobalt-S is VERY versatile.

It has both a momentary SPDT switch with contact that is made only at the extreme end of the lever throw and two on-on type SPDT switches, so it can be used for electrical interlocking, point control of ALL types and signal control.

Cobalt-S is also usable for control of digital accessories & anything else you may imagine. That's why we call it "The switch that switches everything". Cobalt-S is sold singly, or in packs of 6 or 12.

Each pack includes more than just Cobalt-S levers!

You will find these attractive metal lever tops and etched brass numbering in every pack... we have even included a spacer with every lever so that those with thicker fingers can increase the space between the levers to suit! At 5" (140mm) tall they are an imposing addition to any control panel that adds a touch of realism to your layout operation that is well beyond the average!

