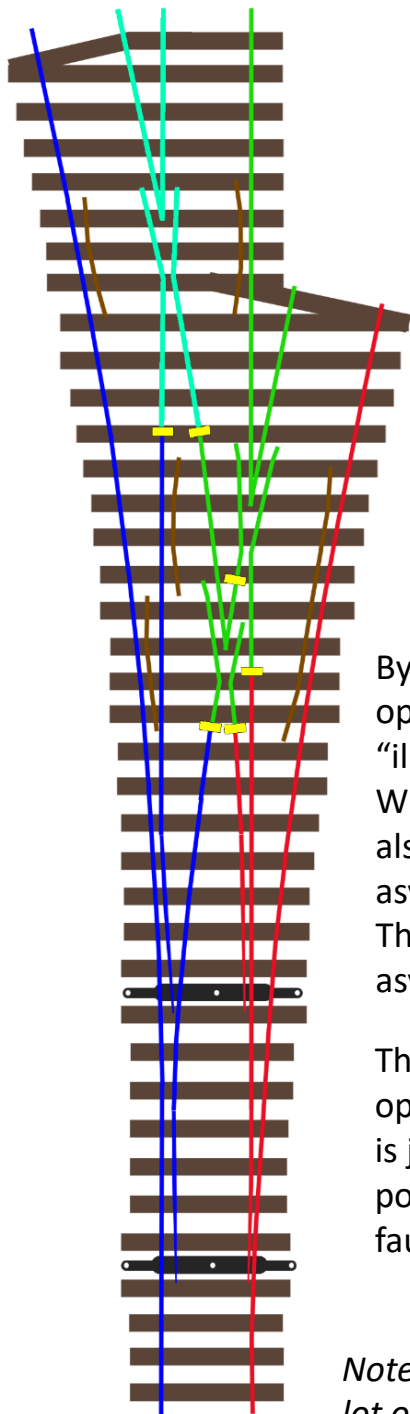


## Cobalt iP Digitals and Symmetrical 3-way

### Asymmetrical



The problem lies here where the blades are adjacent. With a Peco asymmetrical 3-way turnout, there is no fouling although the bottom tiebar pointing the traffic to the right needs to point straight if the top tiebar is to be of any use.

Not a real problem.

With the *symmetrical* 3-way turnout, the blades are adjacent so, if operated out of sequence, then the blades will foul.

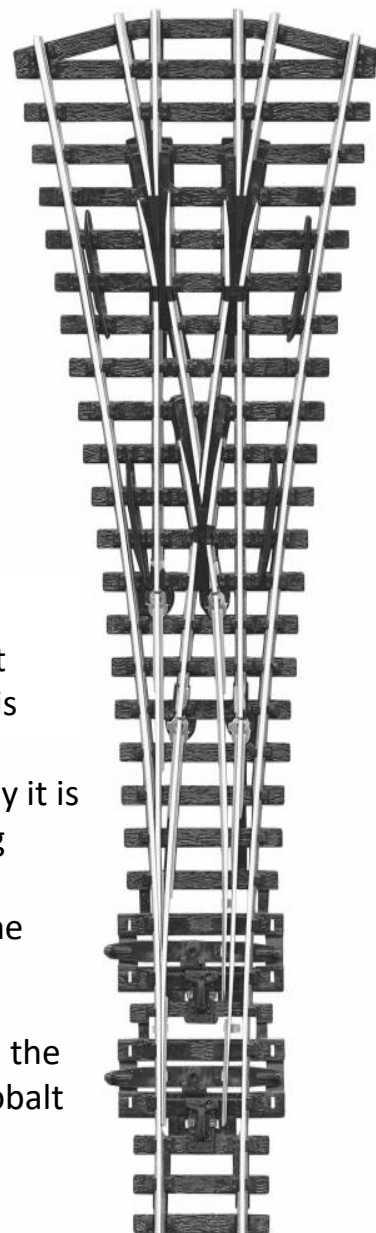
By wiring the Cobalts so that one doesn't operate until the other one is correct, this "illegal route" is prevented.

Whilst essential with a symmetrical 3-way it is also quite useful with the more forgiving asymmetrical turnout.

The wiring is the same and we will use the asymmetrical 3-way as an example.

The only drawback of this method is that the operator must remember that a silent Cobalt is just awaiting for the go-ahead for its power from the other Cobalt – it is not a faulty Cobalt or bad wiring!

### Symmetrical



*Note: From our experience, symmetrical 3-ways seem to cause a lot of running problems for the average user – if possible, avoid!!*

*Originally drawn for John F*



# DCC concepts

thinking outside the square

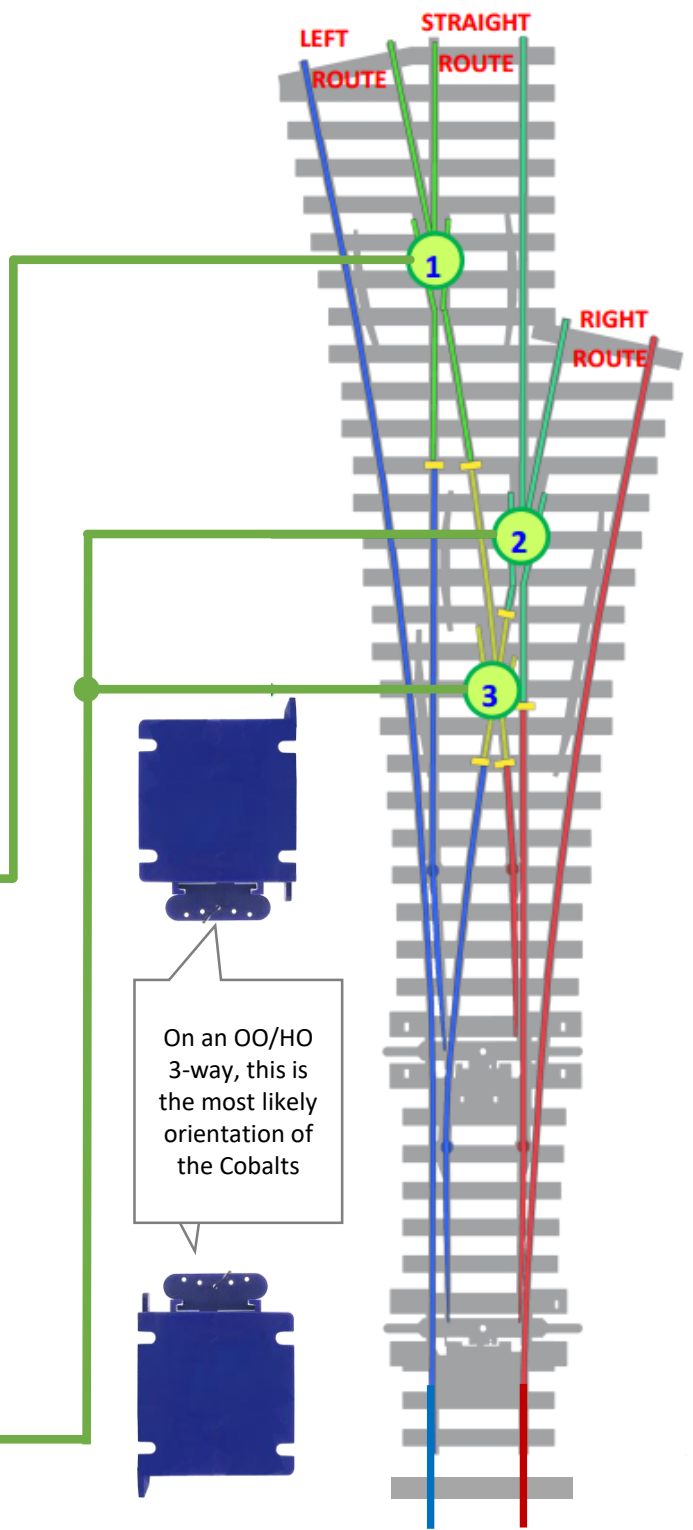
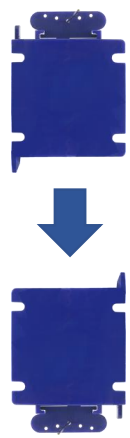
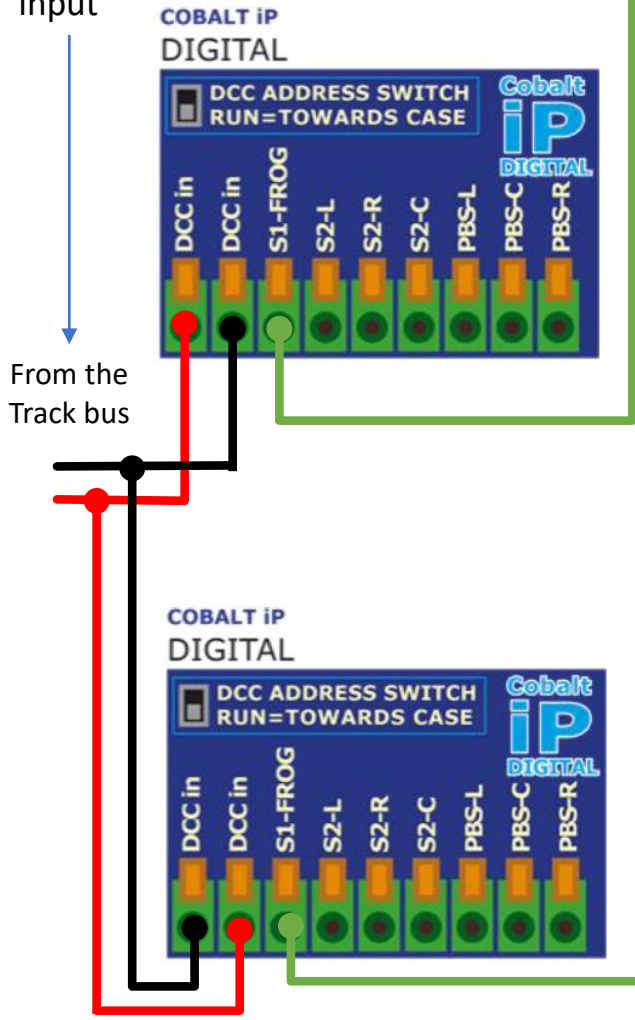


## Cobalt iP Digitals and Symmetrical 3-way

Tip 1: Difficult to avoid as shown here on a OO/HO 3-way but orientation of the Cobalt will affect the wiring.  
If the point frog shorts, swap the **DCC IN** wires over.

Tip 2: When wiring a 'cascade' of frogs i.e. a ladder of points, check the correct frog polarity on Frog #1 before wiring Frog #2 etc.  
If you don't and a frog is wired incorrectly, it will be difficult to identify!

Let's start with standard wiring for the input

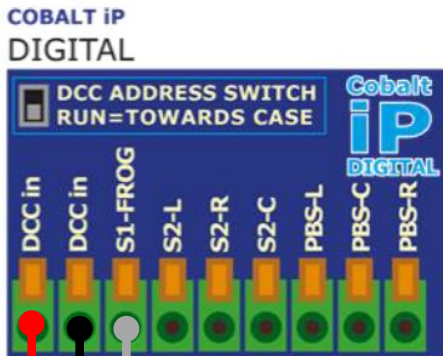
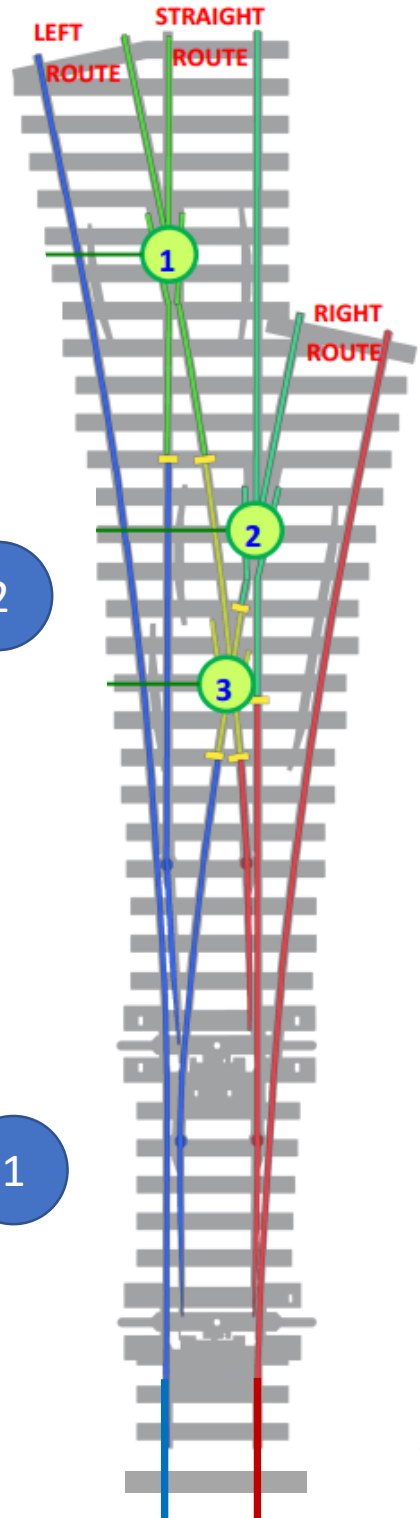
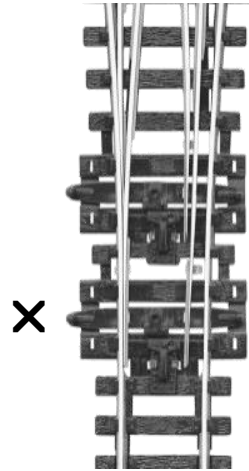




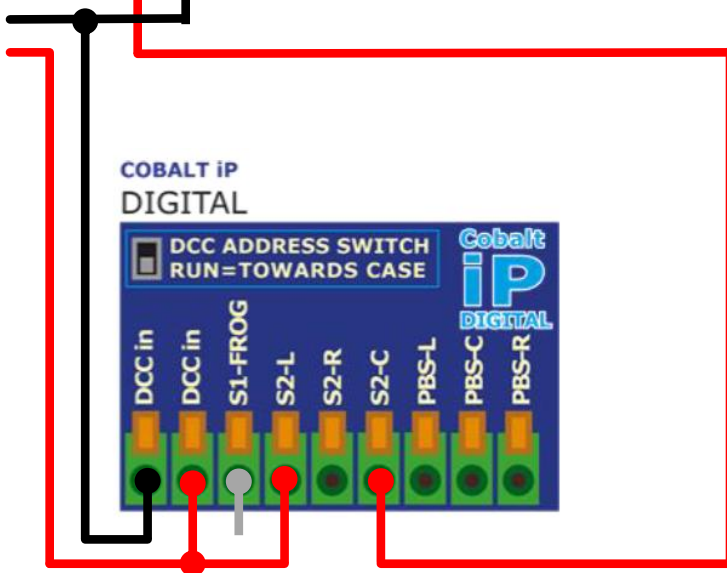
# Cobalt iP Digitals and Symmetrical 3-way

Rule 1.  
 Cobalt 1 must be  
 "STRAIGHT" before the  
 Cobalt 2 can operate.

The SPDT switch on Cobalt 1  
 supplies one of the inputs to  
 Cobalt 2 only when its  
 direction is STRAIGHT.



From the  
 Track bus

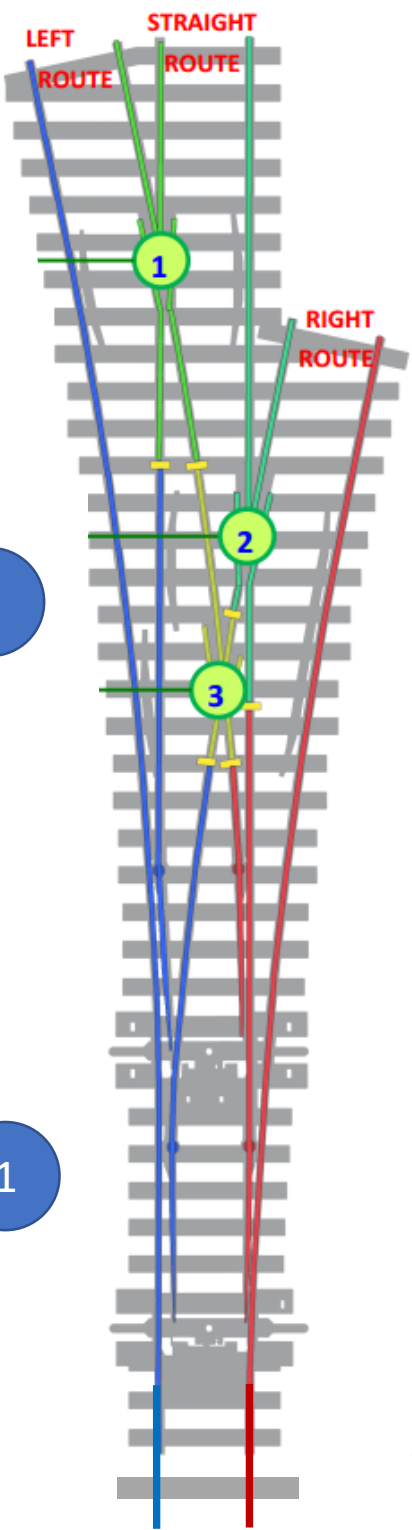
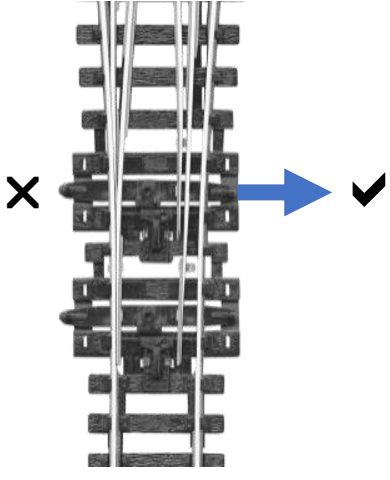




# Cobalt iP Digital and Symmetrical 3-way

Rule 2.  
 Cobalt 2 must be "STRAIGHT"  
 before the Cobalt 1 can  
 operate.  
 The SPDT switch on Cobalt 2  
 supplies one of the inputs to  
 Cobalt 1 when its direction is  
 STRAIGHT.

Note: The wiring will work as  
 shown if the Cobalts are facing  
 each other as shown on page  
 2. If not, swap S2-L and S2-R.



**Important:** Test the operation as shown on page 2 first. Then  
 command both points to STRAIGHT before diverting the wiring to  
 enable this interlocking.

