# The Block Oriented N-Gauge (BloNg)

This system is of historical significance only, but as the forerunner of the MERG SuperBloc system its origins may be of interest. Note that the BC3 (SuperBloc) kits have been discontinued but all information is held in MERG to allow self build.
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## Principle of Operation

The system automates the Absolute Block principle whereby trains drivers are constrained by signals that indicate the occupancy of the section ahead. Each Block Section is electrically isolated from its neighbours and is powered by its own controller, colloquially known as “a BloNg”. All such “BloNgs” are powered from a common, nominally 20V DC power supply, which establishes a zero-volt reference. Each “BloNg” incorporates track circuit detection whose state is transmitted on a single signal wire to the Block Section in the rear to set the state of its Block Signal to Danger (if occupied) or Clear otherwise (ie to red or green).

Each “BloNg” then automatically drives any train entering its section according to an input from the state of this signal wire. If the signal is red, the train is slowed to a halt before it. If the signal is green, the train continues at a speed determined by a “master speed” input to its controller. When a stopped train receives a green signal or the signal goes green before the train reaches it, the train automatically accelerates to the master speed. As a result, many trains may be run on the same layout without operator intervention.

## Circuit of "the BloNg"

The circuit of the BloNg controller was published in the N-Gauge Journal for March/April 1999 on page 38.

## At Junctions

The signal wire is switched at turnouts according the the route set. At a diverging junction the signal is connected to whichever “BloNg” is ahead, eg using switches linked to the turnout; at a converging junction, the signal wire is fed back to whichever “BloNg” has been given the route while the other route receives a red signal, automatically preventing a train from running into a turnout set against it. Such switching can be carried through complex junctions formed from many turnouts.

## Operator controls

In normal operation, the operator may simply set routes ahead of trains by setting the states of points, as well as controlling the release of trains that have stopped at converging junctions. Operators may also over-ride the state of any signal to danger to establish priorities, to stop trains in platforms, and so on: they therefore become “signalmen” rather than “drivers”.

Each “BloNg” also provides controls for manual driving, including speed and reverse, for the purpose of shunting. Trains can only be shunted within the confines of their own block. However, conventional “Cab Control” methods may be used to extend blocks eg to use a main line as a headshunt.

## Migration to SuperBloc

The BloNg controller suffered from two weaknesses: locomotives with different characteristics did not all stop exactly in front of a signal, and trains had to reach the master speed in the overlap before entering the next block. This latter was less of a problem in N-Gauge but it restricted its use for 00 where it is more difficult to provide long enough blocks to scale. The SuperBloc BC3 controller corrected both these features by adding an extra wire between controllers that causes a train to enter the block ahead at the speed it left the previous block. In all other respects it is electrically compatible with “the BloNg” and can be retrofitted in its place. SuperBloc inherits all the features of the BloNg system.