



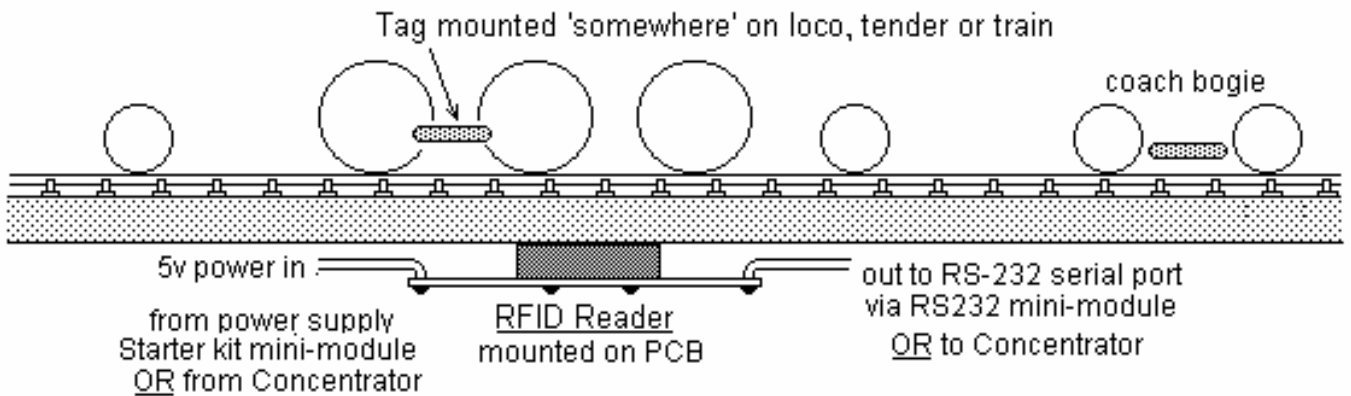
RADIO FREQUENCY IDENTIFICATION (RFID) KITS

Electronic Kits available to MERG members only

2008 sees an exciting new range of kits added to the MERG Kit Locker featuring train detection by Radio Frequency Identification (RFID). This technique, widely employed in industry to identify warehouse inventory stocks and in the veterinary field to identify pets, involves the allocation of a unique identifying code to a locomotive or even every piece of rolling stock in a train. Trackside readers pick up the ID code(s) as it moves past and transmits this over standard serial links to a computer. This allows accurate train description on a layout over and above the simple electrical detection of a movement offered by in-circuit block detectors or optical transducers.

The MERG Kit Locker offers a starter kit for those wishing to experiment with the technology, and a printed circuit board kit, with necessary components, for extra reader stations to expand an installation to layout size. An 8 channel RFID Concentrator kit completes the range allowing up to 8 separate RFID readers to share a computer's serial port.

RFID Basic Principle



13mm Glass ID Tag (approx 2 x actual size)



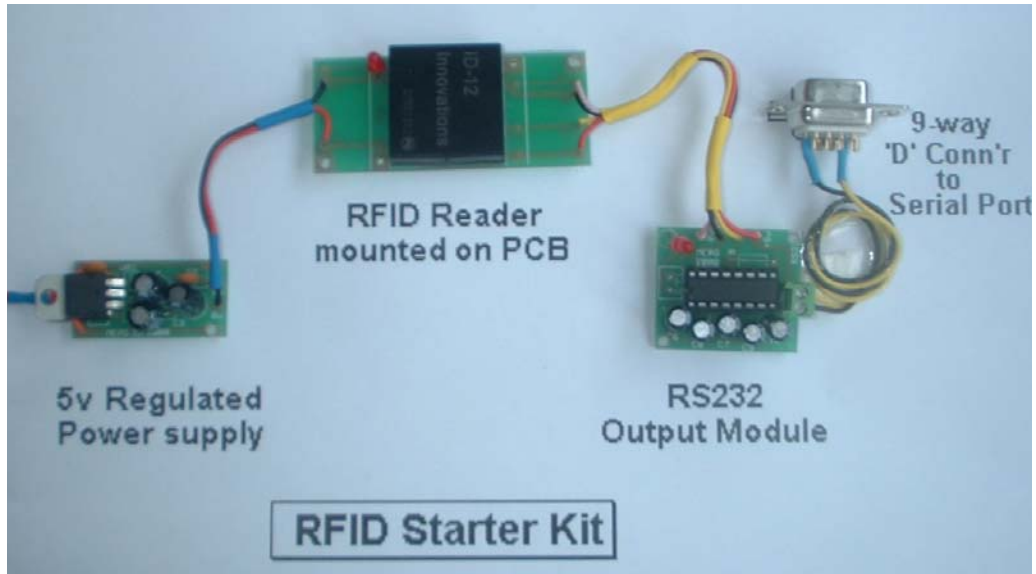
RFID Reader mounted on PCB

Installing RFID on your layout couldn't be simpler. The basic principle involves attaching a small glass identification tag to the underside of the piece of rolling stock to be detected. Tags come in 12, 13mm and 34mm lengths and are easily fixed to the underside of rolling stock and locomotives. Every tag has a unique ID code embedded inside.

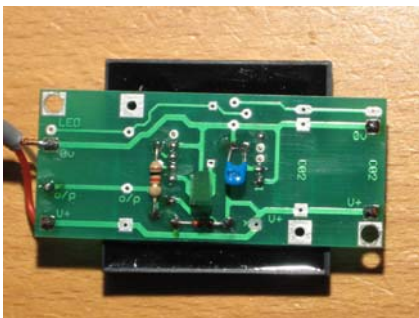
To detect a passing tagged train it is necessary to mount a reader either underneath the track/baseboard or at the trackside. The reader is connected through a standard serial data line to a computer either directly or via a Concentrator. The reader emits a localised radio field which charges up a passing tag and causes it to transmit its ID code. The reader then echoes this to the attached computer and simple software can then relate incoming tag identification to a particular train or piece of rolling stock, thus displaying exactly which locomotive or train is passing. Readers are available in the 26 sqmm (ID12) and 40 sqmm (ID20) sizes which offer differing reading ranges dependent, of course, on gauge of models and mounting locations.

Autumn 2008 sees the introduction of the new kits (shown overleaf) intended for members to try out the technology and then expand it for use on their layouts. A number of members have already commenced preparing suitable display software to make use of the train identification data provided and the data specifications will enable members with special requirements to develop their own.

**Single Channel RFID Starter Kit
Kit No. 30**



The Starter kit is aimed at members wishing to try out the technology and determine which of the mounting options and reader sizes best works for them. The kit contains one ID12 reader, one reader PCB, a PCB for a single RS232 interface, a PSU, components, two 12mm RFID tags and 1m of suitable twin-screened connecting cable. Its operation is described in Technical Bulletin A39/1. The reader and PCB are suitable for use in an expanded system using a Concentrator.



**RFID Reader PCB Kit
Kit No. 31**

A Reader PCB kit containing the PCB itself and all small components for expanding an installation from one to 8 channels. Members can purchase further ID12 or ID20 readers direct from the CoreRFID shop depending upon their requirements.

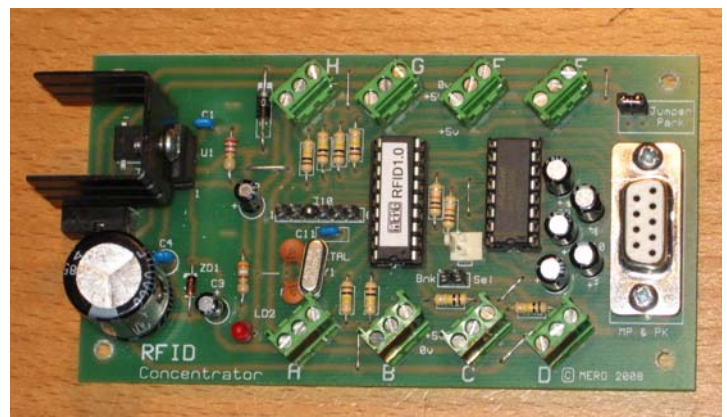
Reader PCB with components connected to an ID20 reader (not provided)

RFID Tags Kit No. 32

A pack of 5 12mm glass RFID tags.

**8ch RFID Concentrator
Kit No. 33**

An 8 channel RFID Concentrator which can be powered from 7.5v - 12vAC or DC. This kit allows the installation of up to 8 RFID readers across your layout and routes their data output to a standard computer Serial interface.



SEE ALSO THE DCC KITS RANGE AND DC ANALOGUE KITS RANGE LEAFLETS AND RPC Kits.