Glossary Z

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Zener diode

A type of diode named after the American physicist Clarence Melvin Zener who discovered a method of creating controlled breakdown at a specific voltage in a specially doped P-N semiconductor junction. When reversed biased, the zener diode behaves like a conventional diode and passes little or no current until the reverse voltage reaches the breakdown voltage when current will begin to flow. At this point the reverse voltage is maintained more or less constant irrespective of increase in current so that the zener diode can be used as a reference or stabilising component for voltage regulation. Zener diodes are available at a range of breakdown voltages which are quite accurately defined by the doping process in the manufacturing stage. See the BZX84 (0.3w), BZX55 (0.5w) and BZX85 (1.3w) series of diodes.

Zero 1

An early form of Command Control for model railways, Zero 1 was launched in 1979 and systems incorporating the technique were marketed by Hornby Hobbies and Hammant & Morgan.This really was the FIRST DIGITAL SYSTEM,predating our current NMRA DCC system by MANY years,hence the name given to it “Zero 1”;digital,binary notation,it all revolved around the Texas Instruments TMS 1000 microprocessor. Now obsolete, having been overtaken by the DCC system, Zero 1 pioneered the concept of controlling model railway motors by establishing a constant track power source that included control signals to define locomotive identity, speed and direction.There was ultimately three phases of the protocol that was brought to market,before the whole thing was dropped due to lack of market acceptance,in the year 2013,there is still a vibrant market of new,used units & components on eBay,thus ensuring its continued usage by enthusiasts. The MERG series of Technical Bulletins CC1 written when Zero 1 was popular, remain an important source of information and techniques on this system. A MERG kit 71 is still offered which provides replacement parts for Zero 1 system keyboards. Some of the DCC decoders supplied by ZTC Controls Ltd can also be used with the Zero 1 system. A list of compatible decoders appears on the Yahoo site here:- http://groups.yahoo.com/group/redw756389/files/ZTC Controls/

Zero 1 Forum on MERG here:- http://www.merg.org.uk/forum/viewforum.php?f=73

Technical Bulletin CC1/12 ZERO-1 Master Controller Replacement Keyboard (Kit instructions) here:- http://www.merg.org.uk/forum/tb_download.php?f=CC01_12_2.pdf

Yahoo Zero 1 protocol users group here:- http://groups.yahoo.com/group/redw756389/

DCC wiki here:- http://www.dccwiki.com/Zero_1#Hornby_Zero_1

Wikipedia entries here:- http://en.wikipedia.org/wiki/Hornby_Zero_1#Hornby_Zero_1

ZIMO

ZIMO ELEKTRONIK, an Austrian company based in Vienna, first launched a digital model railway control system in 1979 and progressively developed the system through the 1980s and early 1990s to include decoder BEMF, block control, route setting and a push button CTC panel amongst other advanced functions. Switching to the emerging DCC standard in 1996, ZIMO swiftly gained a reputation as the 'Cadillac' of DCC suppliers and maintains a leading industry position at the time of writing.
http://www.zimo.at/web2010/

ZTC

ZTC Controls Ltd, a British supplier and designer of DCC systems now based in Yeovil after the former manufacturer ceased trading. ZTC has over 25 years of design and manufacturing experience and has supplied DCC systems for Network Rail training schools.
http://www.ztccontrols.co.uk

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