



Product Data Sheet

ZTC 511 Digital Master Controller - desktop model

- ◇ Suitable for all Gauges
- ◇ Operates Digital or DC Output modes
- ◇ "Real Feel" Loco controls
- ◇ Can command at least 127 DCC Locos
- ◇ Extended addresses go up to 9999
- ◇ Very Easy to use
- ◇ Operates up to 2000 points or signals
- ◇ Clear LCD display
- ◇ Variable Angle Display
- ◇ Massive 5 Amp maximum output
- ◇ Virtually Unlimited Power with boosters
- ◇ DCC allows control of many Locos on the same track without block sections
- ◇ Smooth Acceleration & Braking
- ◇ Simulation On/Off modes
- ◇ Double Head or Multiple Units
- ◇ Controls Loco without decoder
- ◇ Meets International DCC standards
- ◇ Scale Speed Display in mph or kph
- ◇ Scaled Clock Display up to x15
- ◇ Can attach Up to 15 slave controllers
- ◇ Usable with precision coreless motors
- ◇ Output current "sight gauge"
- ◇ Panic Button for All Stop
- ◇ Rugged Construction
- ◇ Programming Track Output
- ◇ Loco Set-up Readout
- ◇ Loco Characteristics Memory
- ◇ Tactile Key-Pad
- ◇ Preset Memory for Route Switching
- ◇ Compatible with other DCC makes
- ◇ Can work with old Hornby Zero 1
- ◇ Very High Reliability



Now you can control and operate your model railway in a new and exciting way

This versatile controller can be set to operate either with an ordinary DC output or in Digital mode for multi-train control.

It's Easy

You don't need to be a technical genius to operate the ZTC 511. It's easy to install and a pleasure to use, allowing control of at least 127 locomotives and almost unlimited accessories such as points and signals.

This unit gives you smooth and responsive power control. The physical panel has been engineered to feel as much like the real thing as is possible.

You can control a railway system entirely on your own or have as many extra drivers as you like, with slave controllers which will plug into the main unit.

Superb Controls

The ZTC-511 can simulate the control of prototype steam engines as it has both a regulator, reverse gear and brake controls. These make driving a real challenge when used to the full. Forward and reverse are progressively controlled with the reverse lever. This can be selected to switch direction or work collectively with the regulator lever so the controls are just as convenient for diesel or electric outlines.

The controls themselves are made from the finest materials being Stainless Steel and Brass. The unit's case is in steel and aluminium, coated in a matt graphite finish.

Digital Command & Control

In **DCC** digital mode, the ZTC-511 can command practically any number of locos on a layout with a massive 5 amp output capacity. That's enough power to run at least 10 or more average locos simultaneously. The actual number depends on their efficiency. But many more can be provided by adding the optional ZTC 550 Power Booster which can supply another 5 amps of track current.

Each loco needs its' own decoder 'chip' to receive the commands uniquely addressed to itself. This regulates the power to the motor very smoothly. The controller can also turn on and off additional outputs from the loco decoder for lights, smoke or sound effects if the loco has them.

Because the controller can superimpose a regulated DC voltage on the track output, a conventional DC loco without decoder can also be run almost as well as if it had one.



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Since there is digital power on the entire track, all the time, it can be used to power coach lighting and other features. The track power can also be used by accessory decoders to operate points, signals and other accessories, all controlled by the ZTC 511.

Loco Simulation

Whichever output mode you want to operate your layout in, simulation can be enabled with smooth acceleration and braking. With this feature, a train once accelerated using the reverse lever and regulator in concert, will continue to roll for some time according to the inertia level set. To pull-up and stop naturally needs the application of the brake control.

In DCC operation, double heading and multiple units are easy and you can bank and shunt independently on the same track. But you have to be careful, as the direction of travel is independent too and there is nothing to stop you having a head-on crash! Other operators can help here if extra slave controllers are plugged into the rear of the unit. The ZTC 511 itself can also be used as a slave to another master.

Loco decoders

ZTC make a range of these miniature remote control circuits of different shapes, sizes and power ratings small enough to fit in most 00/HO locos and N gauge with the smallest decoders. These allow independent operation of each loco in digital mode. On board accessory function output on some decoders can optionally be used to turn on and off lights, smoke or sound effects where fitted. This is done with the ZTC 511's keypad which can command up to 8 such outputs.

The loco decoders can be set-up for their address numbers and all other characteristics from the ZTC 511 by using the programming output connected to a short stub of track or rolling road. The ZTC 511's display is very comprehensive, with helpful plain English and all numbers in natural decimal form. The ZTC 511 is supplied with a comprehensive manual.

Ordinary DC Operation

The ZTC 511 can provide either pure DC or high power PWM DC output for conventional use by switching mode from the panel..

Of course, when switched to DC, not all the digital benefits are available. You can only independently control one loco on a track at one time. However, unlike any other controller, the ZTC 511 can remember all your individual locos set-up characteristics. This feature enables each to be run optimally when rostered, as the start voltage, speed curve, momentum and maximum voltage can all be accurately recalled from a set-up memory.

In the pure DC mode of operation, the output is absolutely smoothly and precisely regulated. Since the maximum output voltage can be preset, then even the most delicate motored models can be safely controlled.

In its' PWM DC mode, the output power is in a pulse form and can deliver up to 5 amps making it suitable for the larger gauges or the most powerful models.

SPECIFICATIONS

Electrical		Physical	
Power Input <i>(Low Voltage Only)</i>	10 to 17 VAC or 12 to 17 VDC with external transformer / PSU	Size	270 (W) x 180 (D) x 70(H) mm 10 5/8" x 7 1/4" x 2 3/4"
Max. Output Voltage	User settable up to 25 Volts	Display	265 (W) x 43 (H) x 20 (D) mm
Max. Output Current	up to 5 Amps, user settable	Format	LCD 20 char x 2 Line STN
Max. DC Output	1.5 Amps continuous pure DC	Outputs	2 track, 1 program, accessory bus port pluggable terminals
Max. DIGITAL Output or PWM mode DC	5 amps subject to external transformer capacity and internal temperature limitation	Expansion Sockets	Power Booster Port, Slave Controller Port, 8 pin mini DIN sockets
Max. Locos running excepting current limit	up to 16, more with option M	PC Option	RS-232, 8 pin mini DIN skt.
Max. Preset memory	10, many more with option M	Temp.	10 to 40 °C ambient
Slave Connection	8 pin mini DIN sockets Extended Lenz X-Bus protocol	Keypad	Professional positive 'click' type
Protection	Output current trip, fast electronic auto-resetting	Options	For option details see ZTC price list or option sheet

DCC Compatibility

ZTC Controls follow the now internationally recognized NMRA recommended Digital Command & Control standards for digital operation of model railways. This allow you the maximum choice of compatible components now and in the future as many other brands are already supporting this standard as shown when they display the DCC logo.



All dimensions approximate



DCC COMPATIBLE

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