Digitrax Command Control

Makes Model Railroading More FUN

Winter 2005 Catalog & Planning Guide

Digitrax Command Control is a complete layout control system that gives you reliable, realistic train operation and simple layout wiring. You can run multiple trains independently on your layout. You are in command of each locomotive's speed, direction, lights and other functions. Whether you are a beginning model railroader with a simple loop of track or an old hand with a basement sized empire, **Digitrax Command Control will make your hobby more fun!**

Digitrax Command Control is the modern way to run your trains. No more worries about those double pole double throw (DPDT) switches and where the gaps are located; now, you can run your trains wherever you want on the layout, just like the prototype. In the real world, real engineers control real trains that operate under their own power. Engines move forward or in reverse at different speeds, they accelerate and decelerate at different rates depending on their weight, they can be run together in consists, their lights, bells and whistles are controlled by the engineer. **With Digitrax, you become the engineer at the throttle, controlling your model trains, just like the real thing.** As a good engineer, you must obey the signals and watch for other trains because, there are no electrical blocking restrictions with Digitrax Command Control to prevent trains from running in to each other, just like the real railroad!

The Digitrax system has something for every model railroader. If you want basic train control or are a beginner, choose Digitrax because it is the system that you can grow with. If you are an experienced model railroader, choose Digitrax for the advanced features like detection, transponding and signaling.

> *Customer Comment: "Running your trains instead of your track brings a new dimension to model railroading! It's a very powerful concept.*
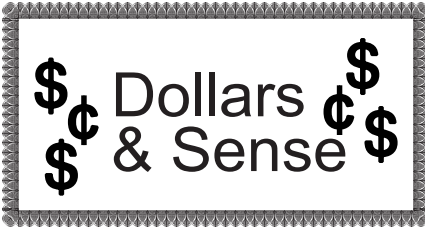
Digitrax, Inc.
450 Cemetery Street # 206
Norcross, GA USA 30071-4228
(770) 441-7992   Fax (770) 441-0759
www.digitrax.com
e-mail: sales@digitrax.com

Digitrax, Inc. is not responsible for unintentional errors or omissions in this document.

Why Choose Digitrax Command Control?

1. Digitrax Command Control Costs Less & Does More!

Dollars ¢ $ $ ¢ $ & Sense $

**The Features You Want-
A Price You Can Afford**

**Digitrax is the best value for
your DCC dollar!**

2. Digitrax Command Control
Makes Model Railroading More FUN!

Award Winning, User Friendly, Easy to Use Throttles & Equipment

Easy to Understand and Operate
You don't have to sweat the details, we've already done that for you!

Digitrax Innovation-the best in the DCC industry! We make all the latest technology easy and fun to use.

Keeps DCC

Plug 'N Play layout wiring & decoder installation make it easy to get started and easy to expand.

Installation

Surprisingly

Digitrax LocoMotion® System.

Simple & Affordable

Your locomotives look like the real thing, Digitrax LocoMotion lets you run them like the real thing, too!

Add more FUNctions! The Digitrax Decoder Function System lets you add realistic lights and other features to your locos.

Digitrax Command Control

3. Outstanding Digitrax Customer Service

Digitrax is a **full time professional** DCC manufacturer. DCC is what we do!

Digitrax **designs and manufactures** products for you in our own factory.

Digitrax offers **top notch customer service** when you have questions or if you need repairs.

Digitrax offers **dealer training** so that you can get help from your local dealer, too! Check www.digitrax.com for a trained Digitrax dealer in your area.

Digitrax is a customer driven company-
Our number one goal is to make YOU happy!

4. LocoNet®: The Digitrax Difference

LocoNet sets Digitrax apart from other DCC systems. This peer to peer network is based on the latest networking technology and is designed specifically for model railroad operation.

LocoNet goes above and beyond simple DCC compatiblilty to offer you more of the features you want.

LocoNet delivers superior system performance at every level from beginner to advanced. LocoNet lets your DCC system grow with you and your railroad!

LocoNet is expandable-all LocoNet components are plug 'n play. Just plug in new components and LocoNet automatically reconfigures itself to incorporate new capabilities! This means you'll be able to add the "cool new stuff" as is becomes available.

**LocoNet delivers advanced features
with future expansion capabilities already built in!**

Accept No Imitations!

Digitrax System Components & Sets

The Digitrax LocoNet system is made up of components that let you choose which features you want for your model railroad operation. These components are packaged in sets that can be used as starter sets or expansion sets. Digitrax offers three value priced sets: Zephyr (Basic), Super Empire Builder (Advanced), and Super Chief (Super). Each set contains the components you need to install your Digitrax Command Control system simply and affordably.

After your layout is up and running, you may decide that you need another booster, to run more trains or to automate reversing districts, and another throttle so you can have someone else run trains with you. In this case any of the sets are great for expansion of your LocoNet system. Instead of purchasing separate components, you can take advantage of the extra value pricing available with the Zephyr, Super Empire Builder or Super Chief sets.

Individual system components are available if you just want to add a single component. Radio throttles, infrared throttles, traditional throttles, auto reversing boosters, mobile decoders, stationary decoders, function decoders, computer interfaces, stand-alone programmers, power management devices, detection devices, signaling and transponding are available. New system components are being added all the time, so check with your dealer often to learn what's new!

Digitrax LocoNet is designed to give you the command control system you want today with the ability to add features in the future. The components you are using now will continue to be part of your Digitrax Command Control system for many years to come. LocoNet is engineered to let you add the "latest and greatest" technology to your system without having to replace the Digitrax equipment you already own. Something new is always on the horizon at Digitrax.

Digitrax Products At a Glance

Digitrax Sets: The most economical way to get started.
                 Great for expansion, too!

Digitrax Components: Something for Everyone!

Award Winning DCC!
Digitrax' Zephyr is

2002 Model Railroader
Readers' Choice
Award Winner
Most Innovative Product

AND

2002 Hobby Outlook
Best Model Railroad
Accessory Winner!

Zephyr gives you simple to use **D**igitrax **C**ommand **C**ontrol for a great price. It offers basic train operation on any size layout with many exciting features that are not available in other basic control systems. Zephyr keeps it simple and still has the features real model railroaders want. Best of all, Zephyr is expandable, you won't have to start over when you want to do more with your railroad.

Zephyr is a breath of fresh air in Model Railroading!

Your Zephyr Set includes the following Digitrax System Components:

- DCS50 All-In-One Command Station, Booster & Throttle
- PS315 Power Supply
- One LT1 LocoNet Cable/Decoder Test Kit
- Zephyr Manual
- Digitrax Decoder Manual

Don't Get Stuck in a Low End-Dead End System!

Digitrax does not include mobile decoders in starter sets. There is a wide variety of DCC decoders available, some are made to fit specific locomotives. Your dealer will be able to help you select the right decoder to go with your starter set.

Basic Digitrax Command Control

Simple To Use

Full numeric keypad and large LED display makes it easy to use Zephyr, even for beginners! The large knob controls locomotive speed and the toggle switch controls direction and brake. Use the keypad to select the loco you want to run. The other keys on the throttle let you control functions and program decoders.

Run Up To 10 Throttles and 10 Locomotive Addresses

Zephyr gives you more system capacity than other basic DCC systems. This is a system that you can really grow with!

Over 9000 Locomotive Addresses and 999 Stationary Addresses

Access to over 9000 digital locomotives & one analog locomotive. Also access over 900 switch addresses for stationary decoders to control turnouts.

Direct Function Control for 10 Functions-F0-F8

Use the numeric key pad to turn on and off locomotive functions like lights, sound, smoke units & anything else you can dream up! F0-F8 available. Add a DT400 to control F0-F12!

Constant Brightness Directional Lighting

With Digitrax Command Control you have full voltage on the track at all times; so, the locomotive lights stay on, even if you are not moving.

2 Jump® Ports

Use one or two smooth DC power packs as throttles to control the speed and direction of one or two digital locomotives. Functions on the digital locos controlled by the Jump Ports remain active, too. Just connect a smooth DC power pack and assign a loco address to it! It's a simple, cost effective way to add one or two more throttles to your system so you can run trains with your friends and your children.
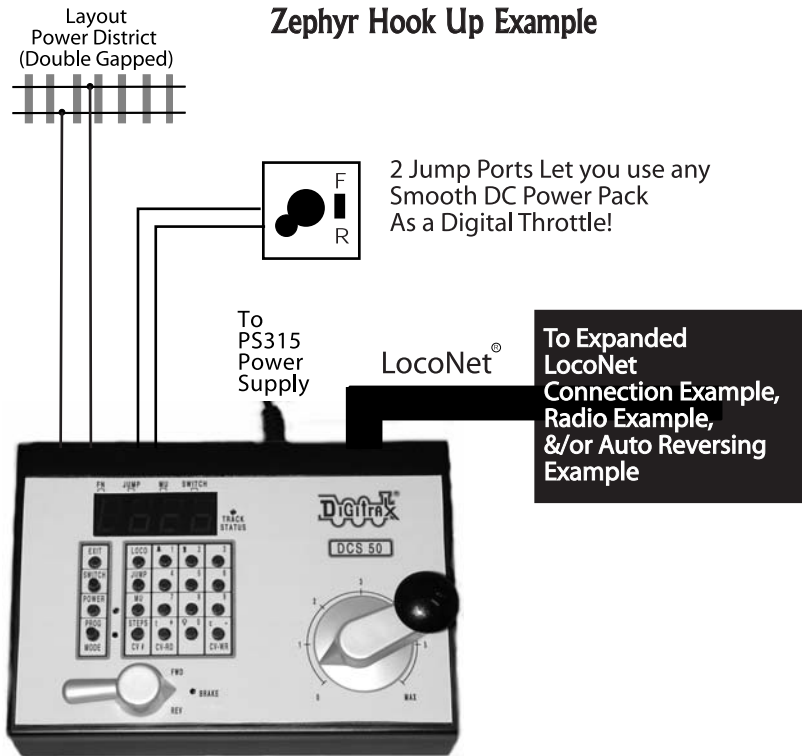
Jump technology is so unique, it's covered by US Patent 6,536,716

ZEPHYR™ Zephyr Set $199.99 msrp

Zephyr Hook Up Example

Layout
Power District
(Double Gapped)

2 Jump Ports Let you use any
Smooth DC Power Pack
As a Digital Throttle!

F
R

To
PS315
Power
Supply

LocoNet ®

**To Expanded
LocoNet
Connection Example,
Radio Example,
&/or Auto Reversing
Example**

Any LocoNet throttle can be added to Zephyr.

Zephyr supports up to 10 operators!

2 Jump Ports let you use 1 or 2 smooth DC power
packs as throttles to control 1 or 2 digital locos.

Zephyr can be expanded with
all Digitrax LocoNet Components.

Zephyr has an independent
programming output.

Zephyr is
FUN to RUN!

ZEPHYR™

Zephyr Set:
DCS50
Command Station/Booster/Throttle
PS315 Power Supply
LT1 LocoNet Cable/Decoder Tester
Complete Manuals

Basic Digitrax Command Control

Smooth Speed Control with 128 Speed Steps

Unlike most other basic DCC sets, Zephyr offers 128 speed step control. You will be amazed at how smoothly your locos move with 128 speed step control. No jerky locomotive movements. (14 or 28 speed steps are available for running non-Digitrax mobile decoders that can't do 128 speed steps.)

2.5 Amps of Power To Run More Trains

The DCS50 Booster that is built in to your Zephyr can deliver up to 2.5 Amps to let you run more locomotives. In HO & N scale, the average layout running with a DCS50 can run between 3 & 6 locomotives.

Safe for Use With ALL Scales

Booster outputs 12 volts for safety of use with N and HO layouts.

Decoder Programming

With Zephyr's built in read/write programmer, simply place the loco you want to program on the programming track, change to program mode & use the keypad to program the locomotive. Zephyr supports all programming methods, including operations mode for programming on the layout.

Acceleration, Deceleration, Loadable Speed Tables

Zephyr has access to all CVs (configuration variables). This gives you access to the full capabilities of the LocoMotion® and Function Systems available in Digitrax decoders for making your trains run like the real thing. Zephyr delivers many more programming options than most other basic DCC systems.
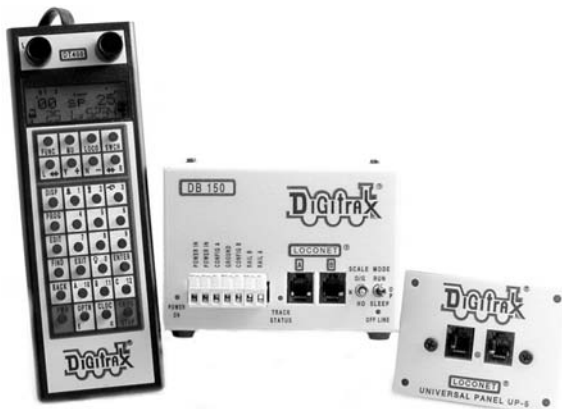
Consisting

Zephyr offers basic, advanced and universal consisting. It is more flexible than any other basic DCC system when it comes to multiple unit operation.

Expandability with Digitrax LocoNet

Zephyr is part of the Digitrax LocoNet complete layout control system. This means that you can start off very simply and add to your system as your layout grows. With Zephyr, you won't be stuck in a "dead end" system.

Super Empire Builder Set
$349.99 msrp

Super Empire Builder is designed for most home layouts.
It offers excellent speed control, prototypical consisting, the full range
of programming features and much more.
Build your railroad empire with Super Empire Builder.

**Your Super Empire Builder Set Includes the following Digitrax
Components:**

- **DB150 Command Station/Booster (5 Amps) With AutoReverse**
- **DT400 LocoNet Super Throttle (Infra ready)**
- **One UP5 Digitrax Universal Panel**
- **One LT1 LocoNet Cable/ Decoder Test Kit**
- **Super Empire Builder Manual**
- **Digitrax Decoder Manual**

*Digitrax does not include mobile decoders in starter sets. There
is a wide variety of DCC decoders available, some are made to
fit specific locomotives. Your dealer will be able to help you
select the right decoder to go with your starter set.*

Also Available With Radio

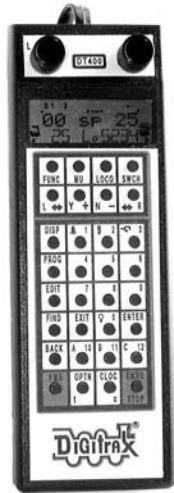 **RADIO EQUIPPED®** **$549.99 msrp**

Radio Equipped Super Empire Builder Sets include a **DB150** command
Station Booster, a **DT400R** LocoNet Super Throttle-Radio, a **UR91** Radio
Receiver, an **LT1** Cable/Decoder Tester, Complete Manuals.

Super EMPIRE BUILDER ™

DT400 Super Throttle & DB150 Command Station Offer

Now With Coiled Cord!

Available Separately for $179.99

- ☐ User interface makes DCC simple.
- ☐ Dual throttle controls.
- ☐ Full numeric key pad.
- ☐ Simplified 4 digit addressing.
- ☐ Easy address browsing and selection.
- ☐ User friendly text messages to guide you.
- ☐ Click encoders for smooth speed control.
- ☐ Multi-line LCD display puts all the information you need right at your fingertips.
- ☐ Infra-ready out of the box. Radio equipped version also available.
- ☐ Ready for transponding and cab signaling.

Plenty of Capacity for Most Layouts

- ☐ Run up to 22 addresses at the same time on your system.
- ☐ Run up to 22 throttles at the same time on your system.

Over 9000 Locomotive Addresses

- ☐ Address 00 for operation of one or more locos without decoders
- ☐ Two Digit Addressing is easy to use. (Address 01-127)
- ☐ Four Digit Addressing lets you use the road number of your engines as their addresses. (Address 0128-9000+).

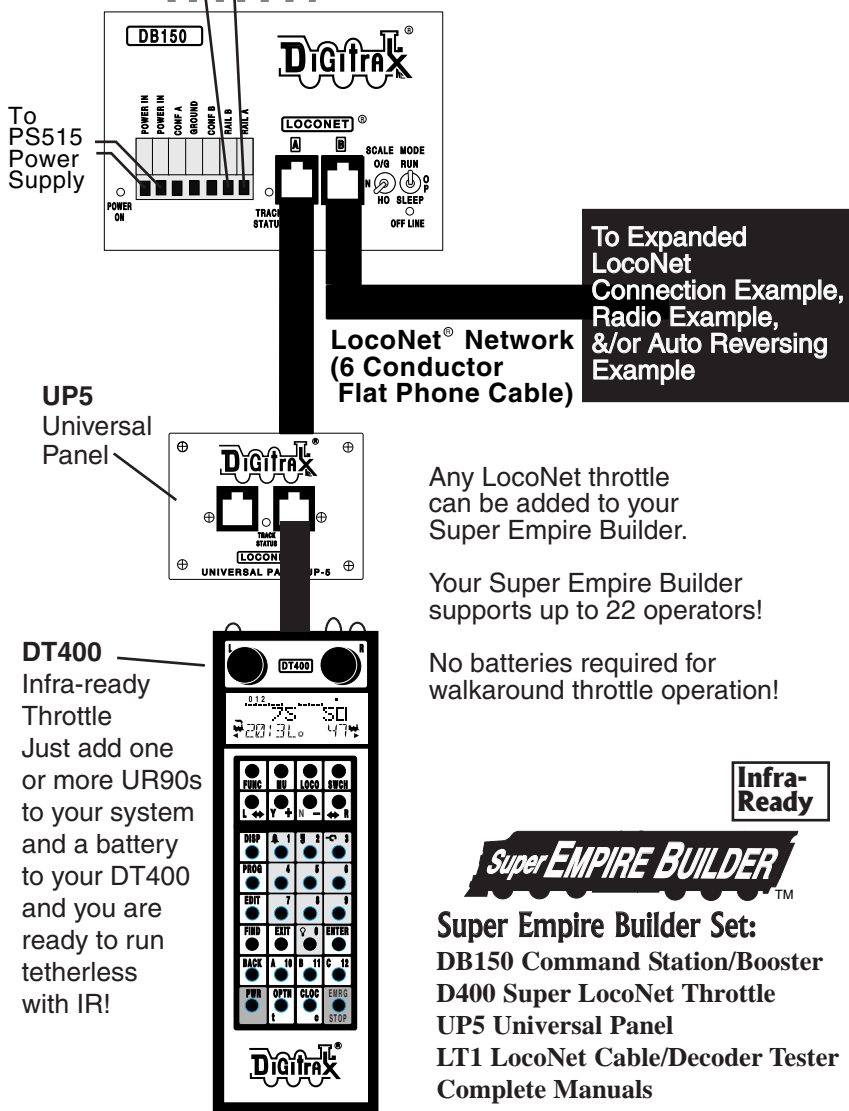## 5 Amps of Power to run more trains.
Selectable scale voltage for safe operation in ALL scales.

Function Control

- ☐ Control 14 functions-F0 through F8.
- ☐ Function 2 is a special non-latching key that can be used to sound the horn for as long as the key is held down.
- ☐ Constant brightness lighting. Headlights can be directional or independently controlled (depending on decoder capabilities).

Super EMPIRE BUILDER™

Super Empire Builder Set
$349.99 msrp

Super Empire Builder Hook Up Example

Layout
Power District
(Double Gapped)

DB150 **DiGiTrax ®**

POWER IN POWER IN CONF A GROUND CONF B RAIL B RAIL A

LOCONET ®

A   B

SCALE   MODE
O/G   RUN
N   O
HO   SLEEP   P
OFF LINE

POWER ON

TRACK STATUS

To
PS515
Power
Supply

To Expanded LocoNet Connection Example, Radio Example, &/or Auto Reversing Example

LocoNet® Network (6 Conductor Flat Phone Cable)

UP5
Universal
Panel

DiGiTrax ®

TRACK STATUS

LOCONET

UNIVERSAL PANEL UP-5

Any LocoNet throttle
can be added to your
Super Empire Builder.

Your Super Empire Builder
supports up to 22 operators!

No batteries required for
walkaround throttle operation!

DT400
Infra-ready
Throttle
Just add one
or more UR90s
to your system
and a battery
to your DT400
and you are
ready to run
tetherless
with IR!

DT400

FUNC MU LOCO SWCH
L   Y   N   R

DISP 1 2 3
PROG 4 5 6
EDIT 7 8 9
FIND EXIT 0 ENTER
BACK A 10 B 11 C 12
PWR OPTN CLOC EMRG
t   0   STOP

DiGiTrax ®

Infra-Ready

Super EMPIRE BUILDER™

Super Empire Builder Set:
DB150 Command Station/Booster
D400 Super LocoNet Throttle
UP5 Universal Panel
LT1 LocoNet Cable/Decoder Tester
Complete Manuals

Decoder Programming
- ☐ Built in programmer that can write all CVs.
- ☐ Supports Paged programming method (Digitrax preferred method). Also supports direct and register mode programming.
- ☐ Operations mode programming can be used to program decoders on the layout.

Stationary Decoders, Turnout Control & Turnout Position Reporting
- ☐ Access to stationary decoder control for turnouts and other devices.
- ☐ DT400 reports turnout position based on last command sent.
- ☐ Control 999 stationary decoder addresses.

Consisting
- ☐ Universal consisting, Digitrax preferred method. Allows ALL locos to be consisted prototypically, even analog locos.
- ☐ Advanced consisting, allows only advanced consist capable mobile decoders.
- ☐ Basic consisting, program decoders to run on same address.

UP5 Universal Panel
- ☐ Makes LocoNet hook up simple!
- ☐ 2 LocoNet jacks for hooking up your network and 3 throttle jacks for hooking up throttles and other non-RailSync devices.
- ☐ Included with non-radio sets. Radio equipped sets include UR91 radio receiver.

Expandability with Digitrax LocoNet
- ☐ Use Super Empire Builder as a starting point, then add components.
- ☐ Use Super Empire Builder as an expansion set with Digitrax equipment you already have installed.

The Super Chief Set Includes:
- **DCS100 Command Station/Booster (5 Amps)**
- **DT400 LocoNet Super Throttle**
- **UP5 LocoNet Universal Panel**
- **One LT1 LocoNet Cable/Decoder Test Kit**
- **Super Chief Manual**
- **Digitrax Decoder Manual**

Digitrax does not include mobile decoders in starter sets. There is a wide variety of DCC decoders available, some are made to fit specific locomotives. Your dealer will be able to help you select the right decoder to go with your starter set.

Also Available With Radio

RADIO EQUIPPED®   **$639.99 msrp**

Radio Equipped Super Chief Sets include a **DCS100** command Station Booster, a **DT400R** Super LocoNet Throttle-Radio, a **UR91** Radio Receiver, an **LT1** Cable/Decoder Tester, Complete Manuals.

DT400 Super Throttle and DCS100 Command Station Offer:
- User interface makes DCC simple.
- Dual throttle controls.
- Full numeric key pad.
- Simplified 4 digit addressing.
- Easy address browsing and selection.
- User friendly text messages to guide you.
- Click encoders for smooth speed control.
- Multi-line LCD display puts all information at your fingertips.
- Infra-ready out of the box. Radio version available.
- Ready for transponding and cab signaling.

Big System Capacity for Big Layouts
- Run up to 120 addresses at the same time on your system.
- Run up to 120 throttles at the same time on your system.

Over 9000 Locomotive Addresses
- Address 00 for operation of one or more locos without decoders
- Two Digit Addressing is easy to use. (Address 01-127)
- Four Digit Addressing lets you use the road number of your engines as their addresses. (Address 0128-9000+)

5 Amps of Power to Run More Trains
Selectable Scale Voltage for Safe Operation in ALL Scales
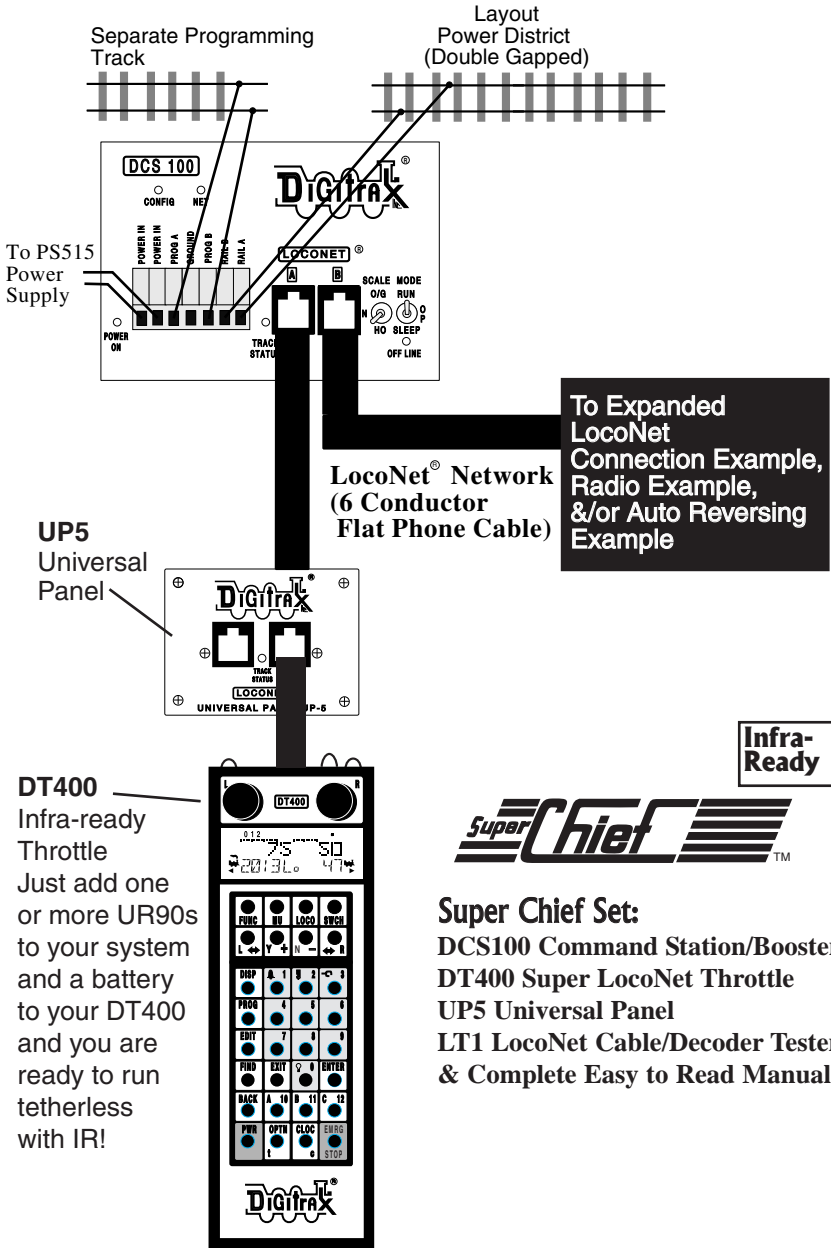(8 Amp Version Also Available)

Function Control
- Control 14 functions-F0 through F12.
- Function 2 is a special non-latching key that can be used to sound the horn for as long as the key is held down.
- Constant brightness lighting. Headlights can be directional or independently controlled (depending on decoder capabilities).

Two DCC Outputs are Better than One!
- Use one output for programming decoders while the other runs the layout. No need to shut down the layout to program decoders!
- Use one output for a braking section while the other runs the layout.

Super Chief Hook Up Example

Separate Programming Track

Layout
Power District
(Double Gapped)

DCS 100

CONFIG   NET

POWER IN
POWER IN
PROG A
GROUND
PROG B
RAIL B
RAIL A

LOCONET ®

To PS515 Power Supply

POWER ON

A   B

TRACK STATUS

SCALE   MODE
O/G   RUN
N   O
P
HO   SLEEP
OFF LINE

To Expanded LocoNet Connection Example, Radio Example, &/or Auto Reversing Example

LocoNet® Network (6 Conductor Flat Phone Cable)

UP5
Universal Panel

TRACK STATUS
LOCONET
UNIVERSAL PANEL UP-5

Infra-Ready

DT400
Infra-ready Throttle
Just add one or more UR90s to your system and a battery to your DT400 and you are ready to run tetherless with IR!

DT400

FUNC   MU   LOCO   SWCH
L ← Y + N → R

DISP   A   1   B   2   C   3
PROG   4   5   6
EDIT   7   8   9
FIND   EXIT   0   ENTER
BACK   A 10   B 11   C 12
PWR   OPTN   CLOC   EMRG
1   0   STOP

Super Chief Set:
DCS100 Command Station/Booster
DT400 Super LocoNet Throttle
UP5 Universal Panel
LT1 LocoNet Cable/Decoder Tester
& Complete Easy to Read Manuals

Decoder Programming
- Built in read/write programmer lets you read back CV values.
- Supports Paged programming (Digitrax preferred method). Also supports direct and register mode programming.

Consisting
- Universal consisting, Digitrax preferred method. Allows ALL locos to be consisted prototypically, even analog locos.
- Advanced consisting and Basic consisting, too!
- Nested consisting where consists can be consisted together.

Stationary Decoders, Turnout Control & Turnout Position Reporting
- Access to stationary decoder control for turnouts and other devices.
- DT400 reports turnout position based on last command sent.
- Control 999 stationary decoder addresses.

Routes
- Turnout List/Route capability to simplify complex yard operations.

Customizable System Options
- User adjustable voltage trim.
- Turn audible warnings on or off.
- Set up purging options.
- Multi-format command station mode (Motorola Trinary Format).
- DCS100 is the most flexible command station on the market.

Expandability
- Super Chief is just the beginning for large, complex layouts that emphasize prototypical operations. With LocoNet you can add more boosters, throttles, power management, detection, transponding, signaling and much more.
- To expand Super Empire Builder for all the capabilities of the Super Chief, simply add a DCS100. If you want to add another throttle at the same time, then it makes sense to add an entire Super Chief set and take advantage of the value pricing offered on Digitrax sets.

The chart below shows the major differences among the Zephyr, Super Empire Builder & Super Chief Sets. Once you decide how you want to operate your layout & which operating features are important to you, you can easily compare the three sets and decide which one is right for you and your layout.

Digitrax Starter Set Comparison Chart

Feature	Zephyr	Super Empire Builder	Super Chief
Command Station	DCS50	DB150	DCS100
Current Rating	2.5 Amps	5 Amps	5 Amps or 8 Amps
Throttle	DCS50	DT400	DT400
Throttle Controls	Single Big Knob, Direction Switch	Dual Click Encoder Throttles	Dual Click Encoder Throttles
Function Control	F0-F8 (10 functions)	F0-F8 (10 functions)	F0-F12 (14 functions)
Keypad	Full numeric	Full numeric	Full numeric
Throttle Capacity	10	22	120
Loco Capacity	10	22	120
Loco Adr Range	00-9000+	00-9000+	00-9000+
Stationary Adr Range	01-999	01-999	01-999
Programmer	Separate Output Read/Write	Broadcast Write Only	Separate Output Read/Write
Program Methods	Paged, Ops Mode, Direct, Register	Paged, Ops Mode, Direct, Register	Paged, Ops Mode, Direct, Register
Consist Control	Universal, Advanced, Basic	Universal, Advanced, Basic	Universal, Advanced, Basic
Routes	No	No	Yes
Wireless Upgrade	Radio & IR	Radio & IR	Radio & IR
Fast Clock	Supports display	Yes	Yes
Jump® Ports	2	0	0
Power Supply	Yes	No	No
MSRP	$199.99	$349.99	$449.99
MSRP-Radio	N/A	$549.99	$649.99

Zephyr, Super Empire Builder & Super Chief Options

The chart below outlines the choices available.

	Digitrax Set	Throttle	Comm Station/ Booster	UP5 or UR91	Part #	MSRP
	Zephyr 2.5 Amps	DCS50	DCS50	None	ZEP	$ 199.99
Infra-Ready	Super Empire Builder	DT400	DB150	UP5	SEB	$ 349.99
RADIO EQUIPPED	Radio Equipped Super Empire Builder	DT400R	DB150	UR91	SEBRE	$ 549.99
Infra-Ready	Super Chief 5 Amps	DT400	DCS100	UP5	SCF	$ 449.99
Infra-Ready	Super Chief 8 Amps	DT400	DCS200	UP5	SCF200	$ 469.99
RADIO EQUIPPED	Radio Equipped Super Chief 5 Amps	DT400R	DCS100	UR91	SCFRE	$ 639.99
RADIO EQUIPPED	Radio Equipped Super Chief 8 Amps	DT400R	DCS200	UR91	SCFRE200	$ 659.99

Digitrax has three different starter sets & many other system components: How will I know what fits my layout best?

Here our recommendations for the layouts many customers ask about:

I have a 4x8 layout; I want to run 2 or 3 trains. I will operate the layout by myself or with possibly one other operator. It's a really basic operation.

The Zephyr Set with decoders for the engines will probably do what you want. You can even use up to smooth DC power packs as "Jump" throttles to control two additional trains.

I have a small layout; I want to run 4 to 6 trains with 2 or 3 operators. I don't need anything fancy like turnout control or signaling.

The Zephyr Set will give you basic train control. You can add up to 2 Jump throttles by using smooth DC power packs as controllers. You can also add up to 10 Digitrax digital throttles to accommodate your additional operators. Depending on the current draw of your locomotives, you may also need an additional DB150 booster. You will need decoders for the locomotives.

I have a small layout & it looks like the Zephyr is for me. Super Empire Builder is more expensive. Why would I spend the extra money for the Super Empire Builder?

The Super Empire Builder has more capacity that the Zephyr. If you want to run more than 10 trains, then you should consider the Super Empire Builder for a smaller layout. Super Empire Builder can handle up to 22 throttles and locomotive addresses.

I have a small switching layout; I am interested in low-end speed control & want to control turnouts from the handheld.

Consider Zephyr or Super Empire Builder. Base your final decision on which throttle you like best. Both throttles offer 128 speed step control. The built in throttle in the Zephyr Set is great for switching and is simple to use. The DT400 that comes with the Super Empire Builder gives you a detailed LCD display and speed control via encoders for incredible smoothness. The DT400 also gives you access to the full range of system features.

Other possibilities: If the layout needs more than one throttle, consider adding a UT1 throttle to either starter set. This combination gives you access to all the system features and the use of the UT1 throttle for switching.

I have a medium/large-sized layout with a reversing district. I want to operate 6-10 trains prototypically with several operators. I am interested in turnout control, prototypical consist operations & signaling to be added later. I might want a computer added later on, too.

You will need a Super Empire Builder Set or Super Chief Set with additional throttles for the operators & an additional DB150 booster or PM42 power manager for the reversing district. You can mix and match any Digitrax LocoNet Throttles for the additional throttles, depending on how you operate the railroad. You will need stationary decoders such as the DS44, DS54, DS52, or SE8C to operate turnouts, an MS100 & software to hook up your computer. You will also need to install BDL168s for detection and SE8C signaling boards for signaling. Install the control system first and then add the stationary decoders, computer control, detection and signaling later if you wish.

We are a LARGE club layout. We have several reversing districts, 25 operators & run 30 trains at a time. We want computer control, turnout control, signaling. You name it; we've got it.

You need the Super Chief Set with additional throttles, boosters and power supplies, power managers, mobile & stationary decoders, detectors & signaling equipment. A typical HO layout of this size would need approximately 5 boosters & power supplies to provide enough power to run 30 engines. The DCS100 command station/booster will be one of these boosters so; you would need four additional boosters. In addition you may need to add cooling fans to get the most power from your boosters.

You will need enough throttles for all the operators. You can mix & match Digitrax LocoNet throttles depending on how the operators will use them. Many clubs have each operator bring his/her own throttle from home & purchase a few units to have on hand for visitors.

I want Radio Control.

You can order Super Empire Builder or Super Chief as a Radio Equipped Set. Or if you already have a Digitrax starter set you can add the UR91 radio receiver and one or more radio throttles (you can even have your DT300 & DT400 Digitrax throttles converted to radio.

What about Infrared?

Throttles that come with Super Empire Builder and Super Chief are infrared throttles. To run these on IR, simply add one or more UR90 infrared receivers around the layout. You'll be really surprised at how reliable the IR signal is at getting to the receiver. The throttles have two large IR emitters to ensure that your commands get through. You can use a UR91 as an infrared receiver and a radio receiver at the same time if you want to run both radio and IR together.

What about detection and layout automation? Can I sit back & watch my railroad run? Can I automate my staging yards?

Yes, if you equip your layout and equipment with detection and/or transponding, you can set up automated operation. Automation can be very useful in your staging yard and if you are running your railroad without other operators. When you don't enough engineers around to run your railroad, you can use automation to simulate them. Digitrax sets alone are not designed for automated train control but all the "hooks" are there so that you can add automation if you choose to do so by adding detection and/or transponding.

I am running Large Scale can I get a system that is more than 5 Amps?

Yes, you can order an 8 Amp Super Chief Set or Radio Equipped Super Chief Set. Digitrax also offers decoders for large scale applications. If you are a garden railroader, the radio equipped set is particularly nice! The DB200+ is an 8 Amp booster for use with large scale applications.

Can I add signaling to my railroad?

Yes! The Digitrax signaling system simplifies signaling your railroad and puts signaling within reach of every model railroader. Digitrax signaling is user configurable for any signaling scheme you want to use. The first step toward signaling your layout is to set up detection sections with BDL168s. The next step is to add SE8C, signal decoders and your computer to set up your own signaling scheme.

I want the top of the line set to get started with. Which one should I buy?
Super Chief or Radio Equipped Super Chief.

Customer comment: "I've compared all the DCC systems available and at first it was really hard to believe that you don't have to spend more money to get the best system available. Digitrax really is the best value for money on the market!
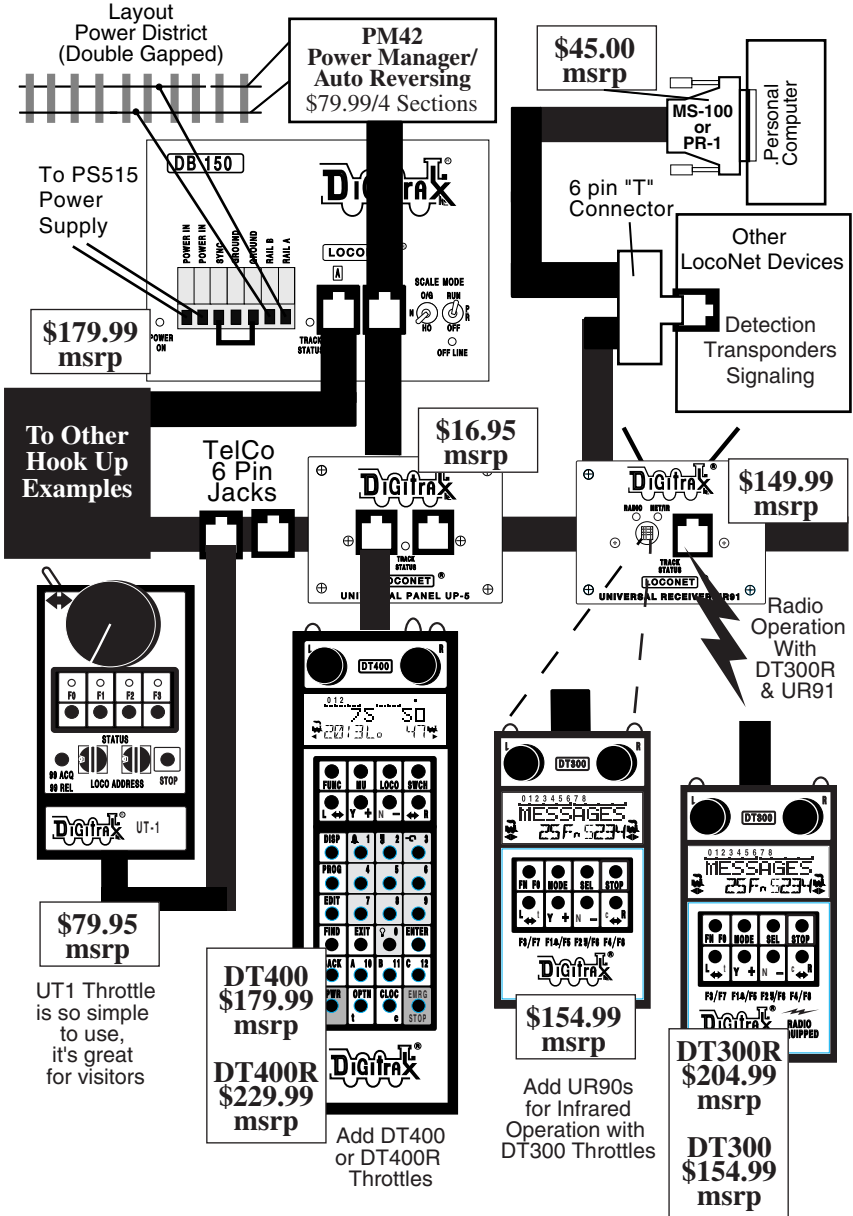
After you've installed a starter set on your railroad, you may want to expand your system further. Digitrax offers a variety of expansion components.

- Command Stations-To expand total system capacity.
- Boosters-To add power to run more trains.
- Power Management Devices-for short circuit management.
- Automatic Reversing Devices-for seamless reverse section operation.
- Power Supplies.
- Throttles-To add more operators.
- Universal Panels-Add more throttle plugs & simplify LocoNet wiring.
- Tetherless Operation-Infrared and Radio Control
- Mobile Decoders-to increase the number of DCC locos you can run
- Stationary Decoders-to operate turnouts and other stationary devices.
- Function Decoders-to add more functions (and transponding) to your locos.
- Computer Interfaces-For programming decoders, computer assisted operation, detection and running the layout.
- Detection and Transponding Hardware-For train detection and identification on the layout.
- Signaling-to bring more realism to your layout.

Digitrax LocoNet Expansion Hook Up Example

Layout
Power District
(Double Gapped)

**PM42
Power Manager/
Auto Reversing**
$79.99/4 Sections

**$45.00
msrp**

MS-100
or
PR-1

Personal
Computer

DB150

To PS515
Power
Supply

6 pin "T"
Connector

Other
LocoNet Devices

Detection
Transponders
Signaling

POWER IN | POWER IN | SYNC | GROUND | RAIL B | RAIL A

LOCONET
A

SCALE MODE

POWER ON

TRACK STATUS

OFF LINE

**$179.99
msrp**

**To Other
Hook Up
Examples**

TelCo
6 Pin
Jacks

**$16.95
msrp**

**$149.99
msrp**

UNIVERSAL PANEL UP-5

UNIVERSAL RECEIVER UR91

Radio
Operation
With
DT300R
& UR91

F0 F1 F2 F3

STATUS

00 ACQ
00 REL

LOCO ADDRESS

STOP

UT-1

DT400

7S SD
2013L   47

FUNC | RU | LOCO | SWCH

DISP
PROG
EDIT
FIND EXIT ENTER
PWR OPTN CLOC EMRG
STOP

DT300

MESSAGES
25F.5234

FN F0 MODE SEL STOP

F3/F7 F1A/F5 F2B/F6 F4/F8

DT300

MESSAGES
25F.5234

FN F0 MODE SEL STOP

F3/F7 F1A/F5 F2B/F6 F4/F8

RADIO EQUIPPED

**$79.95
msrp**

UT1 Throttle
is so simple
to use,
it's great
for visitors

**DT400
$179.99
msrp**

**DT400R
$229.99
msrp**

Add DT400
or DT400R
Throttles

**$154.99
msrp**

Add UR90s
for Infrared
Operation with
DT300 Throttles

**DT300R
$204.99
msrp**

**DT300
$154.99
msrp**

Digitrax Command Stations and Expansion Boosters

DCS50 2.5 Amp Command Station/Booster $179.99 msrp

- Zephyr command station.
- Dual DCC outputs to run the layout and program at the same time.
- Full Read/Write Programming.
- 10 throttle & 10 address capacity.
- 2 Jump Ports-allow use of 2 smooth DC power packs as throttles.
- Built in AutoReversing when used with another booster.
- Accepts 50/60Hz AC or DC input from your power supply. Minimum input voltage: 12.6V AC or 13.8V DC. Maximum input voltage: 15V AC or 20V DC. Power supply should be overload protected for a maximum output of 3 Amps DC.
- Output set at 12 V for safe operation in N and HO Scales. Short circuit protection.
- LocoNet Expansion Network for easy reliable system hook up & future system expansion.

DCS100 5 Amp Command Station/Booster $285.00 msrp
DCS200 8 Amp Command Station/Booster $305.00 msrp

- Super Chief command station.
- Dual DCC outputs to run the layout and program at the same time.
- Full Read/Write Programming.
- 120 throttle & 120 address capacity.
- Built in AutoReversing when used with another booster.

DB150 5 Amp Command Station/Booster $179.99 msrp

- Super Empire Builder command station.
- Single DCC output for either running the layout or programming.
- Write Only Programming.
- 22 throttle & 22 address capacity.
- Built in AutoReversing when used with another booster.

- DCC booster only (no command station capability).
- Built in AutoReversing when used with another booster.

Digitrax Booster Specifications (DB150, DB200, DCS100 & DCS200)
- Accept 50/60Hz AC or DC input from your power supply.
- Minimum input voltage: 12V AC or DC.
- Maximum input voltage: 22V AC or 28V DC.
- Power supply should be overload protected for a maximum output of 5 Amps DC for the DB150, DB100 & DCS100 & 8 Amps DC for the DB200+ and DCS200.
- Auto resetting over temperature & short circuit protection.
- Multi Scale selectable for N through G scale operations. N Scale=12V, HO Scale=15V, O/G Scale=18V.
- Track Status indicator shows voltage & signal type (DCC or "Zero Stretch" Analog Signal for conventional operation).
- Stabilized Track Drive Output. Over Voltage Protected.
- LocoNet Expansion Network for simple system hook up & expansion.
- High impedance balanced or unbalanced signal input receivers on the LocoNet Interface allow boosting of several different types of command control signals.
- Auto shutdown if command control drive signal is lost so that the layout will not convert to DC operation if a cable or connection is broken. The trains won't just "take-off" when there is no DCC signal.

Use Digitrax Expansion Boosters to:
1. Run more trains on your system.
2. Add automatic reversing districts.
3. Prevent a short-circuit in one power district from stopping operation of the entire layout.
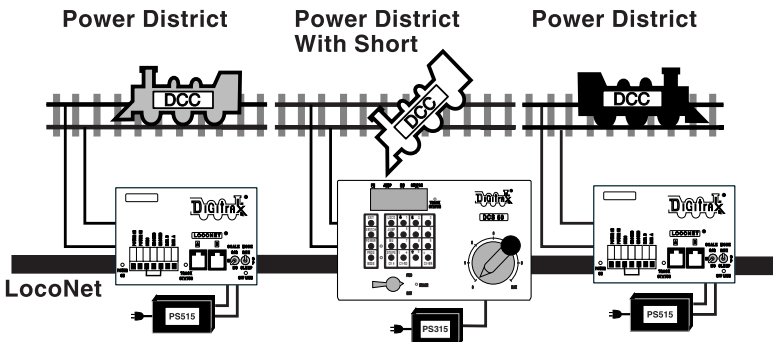
Note: When using DCS50 with other boosters, all boosters in the system must be set to the N-scale power setting.

Automatic Reversing ªLook Ma, No Hands!!!º

Automatic reversing works when you are operating one Digitrax Booster as the main system booster & an additional automatic reversing device. This device can be an additional Digitrax Booster set up for Auto Reversing, a PM42 Power Manager set up for auto reversing or an AR1 auto reverse section controller. The auto reversing device is set up to control an electrically isolated reversing district of the layout. A single auto reversing booster can usually handle more than one reverse loop. A PM42 can handle up to four individual auto reversing districts. An AR1 handles a single automatic reversing section. It works like this: when a loco crosses the gap at the entrance to or exit from the reversing district, if the Digitrax auto reversing Booster, PM42 or AR1 senses a short if the track polarities are different, it automatically matches the track polarities & the train keeps moving across the gaps into the reversing district.

If your reversing district handles a lot of traffic on its own, you would want to use an auto-reversing booster because you need the power. If this is not the case, either the PM42 or AR1 would be an excellent, cost-effective choice.

Note: You can also handle reverse loops conventionally with a toggle switch or relay if you do not wish to add an extra booster, PM42, AR1, or other automatic reversing device to your system.

Power District

Reversing District

DOUBLE GAP

DOUBLE GAP

LocoNet

PS515

PS515

1. Digitrax Booster
   Set for AutoReversing

2. PM42
   Set for AutoReversing

3. AR1
   Single AutoReverse
   District Controller

4. Traditional DPDT
   Not Automatic
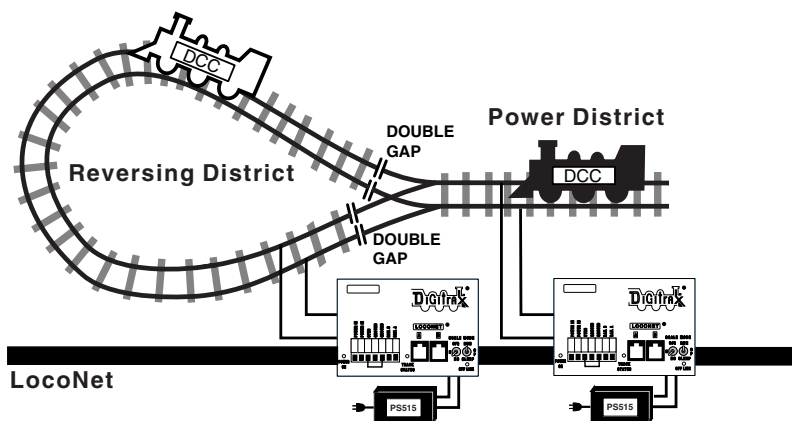
**Four Ways to Handle
Reversing Districts With
Digitrax Command Control**

Booster Set-up
for Normal Operation

Digitrax Power Supplies, Power Management System and Automatic Reversing

PM42 Power Manager $79.95 msrp
(Less than $20 per section)

Short circuit management & auto reversing without adding a booster!

s Short circuit management and/or Auto-reversing control for 4 independent power sub-districts.

s Each PM42 can run 4 sub-districts off one or more boosters in any combination of regular sub-districts and auto reversing sub-districts.

s PM42 operates with or without LocoNet so, it can be used on non-Digitrax DCC systems, too.

s Each sub-district of the PM42 can be separately set for slow, standard, fast or faster short circuit management to optimize performance.

AR1 AutoReversing Controller $29.99 msrp

The easiest way to add automatic reversing to a section of your layout.
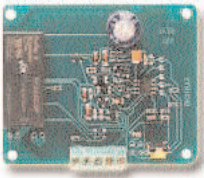
s 8 amp Auto-reversing control for a single reversing district.

s Simple to wire.

s Tunable trip current lets you use it on any layout from Z to G.

s AR1 operates with or without LocoNet so, it can be used on non-Digitrax DCC systems, too.

PS2012 Power Supply by Digitrax $179.99

s Regulated 20amp power supply

s Get more power with less heat.

s Operate up to 4 5amp boosters

s Scale selectable for use with N, HO or large scale.

s DC Ammeter.

s On/Off Switch.

s Integral cooling fan.

s Design coordinated for use with Digitrax products.

s Fully Assembled

s Ready to Run

s Plugs into an appropriate wall outlet (AC120V 60Hz).

s Overload protected.

s 1 "Y" Cable Included (Additional Y Cables available separately).

PS515 Power Supply by Digitrax $49.99 msrp

- Recommended by Digitrax for powering all Digitrax Sets Accessories (except DCS50-Zephyr see PS315 below)
- Works for DC, too!
- Fully Assembled and Ready to Run
- Class 2 SELV, Input: AC120V 60Hz, Output: 15V AC, 5 Amps, 75VA
- Plugs into an appropriate wall outlet (AC120V 60Hz).
- Overload protected.

PS12 Power Supply by Digitrax $8.50 msrp

- Recommended by Digitrax for powering all Digitrax Accessories like UP5, BDL168, DS54, UR90 & UR91
- Fully Assembled and Ready to Run
- 12V AC Adapter, 12V DC Output. Center pin +.

PS315 Power Supply by Digitrax $29.99 msrp

- Recommended by Digitrax for powering Zephyr's DCS50 Command Station.
- Works for DC, too!
- Fully Assembled and Ready to Run
- Class 2 SELV, Input: AC120V 60Hz, Output: 15V AC, 3 Amps, 45

Digitrax Throttles

Digitrax makes a variety of throttles so that all your operators can have tons of fun!

Use the Utility Throttles or Zephyr's Jump Ports with DC power packs to let beginners or visitors enjoy running your railroad.

DT300s and DT400s will make the serious model railroaders in your group happy!

Utility Throttles

UT4, UT1 & UT2 are perfect if you're looking for a "traditional" throttle. They are great for casual users, "the kids" and layout visitors. Users can be running locomotives and having fun quickly and simply because the UT Throttles are so intuitive to operate.

UT4 LocoNet Utility Throttle with IR $ 79.95 msrp
UT4R LocoNet Utility Throttle with Radio $129.95 msrp

Infra-Ready   OR   **RADIO EQUIPPED** ®

Digitrax' new UT4 Utility Throttles provides the optimum features requested for model railroad operation. Operators from all over the US, told us what they expected from an affordable, easy to operate DCC throttle and we put their suggestions to work to create the operator's throttle you always wanted.

The UT4 throttle integrates intuitive operation with rock solid design and low cost into a single hand held throttle featuring:

- ꜱ 4-Digit Addressing
- ꜱ Low cost
- ꜱ UT4 is InfraReady for use with UR90
- ꜱ UT4 has coiled cord.
- ꜱ UT4R is Radio Equipped for use with UR91
- ꜱ UT4R has short cord.
- ꜱ Functions F0-F12 for sound decoder operation
- ꜱ Direction switch with center brake position
- ꜱ Improved battery life
- ꜱ Large knob for precise throttle control
- ꜱ Automatic Selection and Speed matching features
- ꜱ UT4 does not handle programming or turnout control.

UT1 LocoNet Utility Throttle $79.95 msrp
UT2 LocoNet Utility Throttle with Programming $99.95 msrp

- ꜱ Simple, cost effective throttles
- ꜱ Large knob for speed control & toggle switch for direction control.
- ꜱ Dials for loco selection.
- ꜱ Address range 00-98
- ꜱ Use with any LocoNet System.
- ꜱ UT2 has programming capability, UT1 does not
- ꜱ Safety throttle reconnect feature prevents runaway trains, unexpected stops and unexpected direction changes if the throttle is changed while unplugged.
- ꜱ Control dispatched universal and basic consists.
- ꜱ Control 6 Functions, F0-F5.
- ꜱ Address 99 can select locomotives with 4 digit addresses. This gives you access to all 2-digit and 4 digit DCC decoder addresses.
- ꜱ Control turnout addresses 01-98.
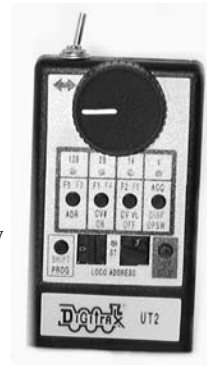
DT300 Advanced LocoNet Walkaround/IR Throttle $154.99msrp
DT300R Advanced LocoNet Radio Throttle $204.99 msrp

- Dual Throttle Controls let you run two locos at once.
- Great for prototypical helper service with one loco on each throttle.
- Click Encoders for Loco Selection, Speed, and Direction.
- Easy to operate with one hand!
- Multi-line Backlit LCD Display.
- Puts all the information you need right at your fingertips.
- Speed & direction for both throttles is always displayed.
- User friendly text messages make DT300 easy to use.
- Control 9 Functions F0-F8.
- Function active/inactive indicators show function status at a glance.

Infra-Ready OR **RADIO EQUIPPED**®

- Easy address browsing and selection.
- Simplified 4 digit addressing.
- Fast Clock Display.
- Convenient small throttle, fits in the palm of your hand.
- Recall feature lets you see the last several locos used in the throttle.
- Cab signaling available.
- DT300 is Infra-ready, just add UR90 IR receivers and you are ready to run with IR
- DT300R is a simplex radio throttle for use with UR91 Radio Receiver.

DT400 Super LocoNet Walkaround/IR Throttle $179.99 msrp
DT400R Super LocoNet Radio Throttle $229.99 msrp

- Dual Throttle Controls let you run two locos at once.
- You can even have prototypical helper service using the dual throttle controls.
- Click Encoders for Loco Selection, Speed, and Direction
- Multi-line Backlit LCD Display.
- Puts all the information you need right at your fingertips.
- Speed & direction for both throttles is always displayed.
- User friendly prompts in the display guide you every step of the way.
- Function active/inactive indicators for F0-F12.
- Full numeric keypad makes loco selection, programming and other tasks simple.
- Direct access to 13 Functions F0-F12 with DCS50 & DCS100 command stations.
- Direct access to 13 Functions F0-F8 with DB150 command stations.
- Single key access to most common throttle tasks.
- PROG Key makes programming a breeze.
- Simplified 4 digit addressing.
- Easy address browsing and selection.
- DT400 can be used on any LocoNet system.
- Turn fast clock display on and off with the touch of a button.
- Find Key for use with transponder equipped locos and layouts. Transponder location is displayed on the LCD.
- Recall feature lets you see the last several locos used in the throttle.
- Built in flashlight for reading paperwork and loco/car numbers in darkened layout rooms.
- Cab signaling available.
- DT400 is Infra-ready, just add UR90 IR receivers and you are ready to run with IR
- DT400R is a simplex radio throttle for use with UR91 Radio Receiver.
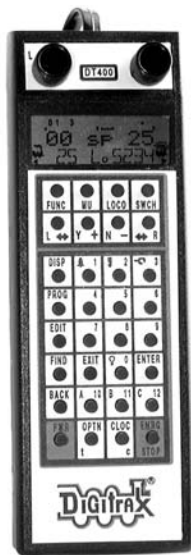
Now with Coiled Cords!

Infra-Ready   OR   **RADIO EQUIPPED** ®

33

UP5 LocoNet Universal Interconnect Panel $16.95 msrp

Simplifies hook-up, maintenance & troubleshooting of LocoNet.

▫ Give your layout a professionally fin-
   ished look.
▫ Two RJ12 6 pin LocoNet jacks in the
   back of the panel for hooking up
   LocoNet devices that use RailSync.
▫ Two RJ12 6 pin Throttle jacks in the
   front of the panel for hooking up throttles and other LocoNet
   devices that do not use RailSync.
▫ One additional RJ12 6 pin Throttle jack on the side of the panel for
   hooking up LocoNet devices that do not use RailSync. For example,
   any device that is not connected to other LocoNet devices beyond
   itself. This extra throttle jack is great for connecting a DS54 or other
   local device.
▫ Indicator LED that shows the power state of a local track section.
▫ 2mm power jack that allows you to make the UP5 a battery saver ter-
   minal for your throttles by plugging in a PS12 DC power supply.
▫ Rear panel has two RJ12 jacks & two #6-32 right angle screw termi-
   nals for local track connections for power and diagnostics.

Digitrax Radio Equipped & Infrared
Freedom from tethered operation!
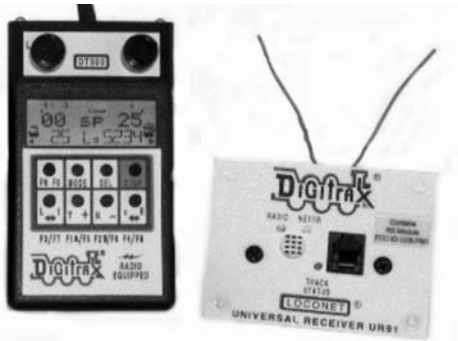
▫ Digitrax Radio Equipped and Infrared throttles and receivers can be
   used with any LocoNet system.
▫ Radio throttles have a short cord as a fail safe to let operators regain
   control of locos in case of battery failure.
▫ Safety Selection requires operators to plug in to select a loco to run.
   This prevents operators from accidentally acquiring each other's
   trains and creating havoc on the layout.
▫ Radio has a range of approximately 300-ft diameter circle

- Radio operates in the 900Mhz band.
- System ID lets multiple clubs run in close proximity at train shows.
- Infrared throttles & receivers are an inexpensive way to have tether-less control indoors.
- IR throttles are equipped with powerful dual Infrared LED emitters for better transmission reliability.

UT4R Radio Equipped Utility Throttle — $129.99 msrp
DT300R Advanced LocoNet Radio Throttle — $204.99 msrp
DT400R Super LocoNet Radio Throttle — $229.99 msrp

Radio Throttle Conversions Available
- Convert DT300 to DT300R $50.00
- Convert DT400 to DT400R $50.00

UR91 Radio/IR Receiver Unit — $149.99 msrp
- UR91 is a Radio/IR receiver that can be added to any LocoNet system.
- Fascia mounted panel.
- One RJ12 Throttle jack in front panel & 2 LocoNet jacks in the rear of the panel for connection to LocoNet.
- Radio antenna is concealed under the layout.
- Supports approximately 10 radio throttles.
- Most layouts need one UR91 but in some large configurations a second unit may be needed to compensate for "dead" spots.
- Handles infrared and radio operation simultaneously.
- Includes PS12 Power supply.

UR90 IR Receiver Unit — $45.95 msrp
- UR90 is an IR receiver that can be added to any LocoNet system.
- Fascia mounted panel.
- One RJ12 Throttle jack for plugging in for loco selection and in case of emergency and 2 RJ12 LocoNet jacks in back for connecting to LocoNet and other LocoNet devices.
- Supports approximately 10 IR throttles.
- Most layouts will need more than one UR90 because IR is line of sight and the receivers must be able to "see" the IR signal.
- UR90 & UR91 can be used together on your layout to provide both IR and radio communication at the same time.
- If you have Infra-ready throttles (UT4, DT400, DT300 or DT100IR) that you are using with your LocoNet system, the UR90 is the only thing you have to add to get infra red throttle operation.
- Requires 12 volt power supply such as Digitrax PS12. One PS12 can be used to power up to 6 UR90s.

Digitrax Command Control Mobile Decoders

All Digitrax decoders offer:

- Exciting DCC features.
- Great low prices.
- Robust operation.
- Long-term reliability.
- Digitrax LocoMotion System
- Digitrax Function System
- Installation options for almost every locomotive available
- Economy OR Premium feature sets available.

DH163A0

DH123P

DH163D

DZ143

DH163PS

DN163

DN143IP

DN141E2

DZ143

DN143IP

DN122K2

DN163K0A
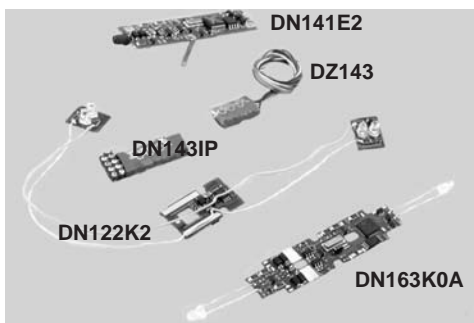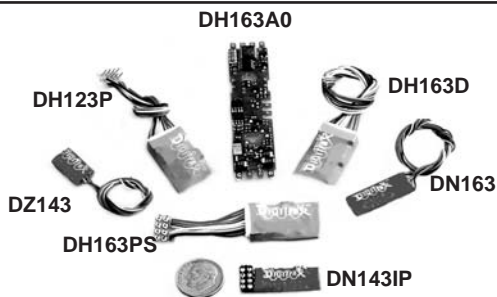
Choosing A Decoder Depends On These Considerations:

- Shape, size, plug/interface, current rating for your installation
- Features and functions you want to use
- How much you want to spend

Digitrax Decoders come from the factory ready to run
with the most popular settings already programmed for you.
Just set the address and you're ready to go!

The Digitrax LocoMotion™ System

Your locomotives look like the real thing, Digitrax LocoMotion System makes them run like the real thing, too!

- 128 speed step control.
- Smooth deceleration to stop before changing direction when locomotive is reversed. No sudden, non-prototypical stops!
- Torque compensation for the smoothest operation ever.
- Momentum with acceleration and deceleration settings.
- Set normal direction of travel for your loco.
- Switching speed feature for quick access to slower switching speeds.
- Simple 3 step speed tables are easy to set up.
- Advanced 28 step speed tables with 256 level resolution.
- Series 3 decoders have smooth scaleable speed stabilization feature.

(Note: not all decoders have all LocoMotion Features)

Digitrax Decoder Features At A Glance

Economy DH123 ALL DZ123 ALL	2 & 4 Digit Addressing Digitrax LocoMotion System 3 Step Speed Tables 28 Step Speed Tables with 256 step interpolation Support for ALL DCC programming methods Advanced Consisting FX^3 Function Outputs Transponder ID to work with surround sound systems Motor isolation protection SuperSonic motor drive for silent motor operation One Step Factory CV Reset
Premium DN122K2 DN141E2	2 & 4 Digit Addressing Digitrax LocoMotion System with Scaleable Speed Stabilization (Back EMF) 3 Step Speed Tables 28 Step Speed Tables with 256 step interpolation Paged, Register, Direct & Ops Mode Programming Advanced Consisting FX Function Outputs Full Transponding Motor fault detection at initial power on One Step Factory CV Reset
Series 3 DG383AR DG583 ALL DH163 ALL DN163 ALL DN143IP DZ143 ALL	2 & 4 Digit Addressing Digitrax LocoMotion System with Simplified Scaleable Speed Stabilization (Back EMF) 3 Step Speed Tables 28 Step Speed Tables with 256 step interpolation Support for ALL DCC programming methods Support for Operations Mode Read back Advanced Consisting FX^3 Function Outputs Full Transponding Motor isolation protection SuperSonic motor drive for silent motor operation Torque Compensation for smooth silent operation One Step Factory CV Reset Golden White LEDs on decoders with LEDs Decoder Lock

For complete specifications of any Digitrax decoder ever made, visit www.digitrax.com and check out the Decoder Index.

There are several types of function outputs available on current production Digitrax Decoders:

FX³-all function outputs incorporate FX generators for prototypical lighting effects and have qualifiers for FX³ effects and qualifiers for standard on/off functions. All Digitrax Series 3 decoders have FX³ type functions. FX³decoders offer full function re-mapping so you can choose which function (F0-F12) controls each function lead.

FX³ decoders offer qualifiers for FX function operation qualified by one of the following: the loco's direction of travel, whether F0 is on or off, loco direction and F0, or whether the loco is moving or not. These qualifiers are also available on function outputs that are used as standard on/off functions.

FX-function outputs incorporate 4 FX generators for prototypical lighting effects like Mars lights, ditch lights, Gyra lights, rotating beacon, single & double pulse strobe lights and random flicker. These effects can be customized for maximum realism using FX qualifiers. FX decoders do not offer qualifiers for function leads used as standard on/off leads.

RDC/Configurable Strobes(CS)-function outputs are set up to run as an RDC or can be set up to be simple on/off functions or as single or double pulse strobes. The RDC/CS option is available only in the DN122K2 which fits the Kato N Scale RDC.

Digitrax Real FX³ & FX Are More Than Just Flashing Lights!

s No extra lighting board to install, it's on   the decoder board!

s Use incandescent lamps or LEDs. No expensive multiple filament bulbs needed.

s Sophisticated algorithms built in to FX³ & FX decoders simulate realistic lighting in your locomotives.

s Set up a Mars light with just one function output lead.

s Use three FX³ or FX function outputs to set up ditch lights to be on when the engine is running and then flash alternately when you approach a grade crossing and blow the horn.

s Use two Real FX^3 or FX function leads to put realistic firebox flicker in your steam locos!

s FX^3 and FX effects are fully user configurable, you set up blink rates and periods to get just the look you want.

Decoder Installation Options

**Decoder installation is easier than ever before
with all of the decoder interface options available today!**

s Digitrax Easy Connect 9 pin decoder interface system.

s Plug 'N Play decoders for many N, HO, & G scale locomotives.

s 8 pin DCC medium plugs/sockets integrated on decoders.

s Digitrax solderless decoder interface for regular Athearn locos.

s Wired decoders for installation in non-DCC ready locos.

s Complete instructions included with each decoder.

s If you choose not to do your own installations, your local dealer can handle the installation or refer you to someone who can.

Integrated DCC Medium Plug

**Wired
Decoders**

Plug 'N Play

DHWH

**DHAT
Interface
for Athearn
regular
locos**

DHWHPS

DHWHP
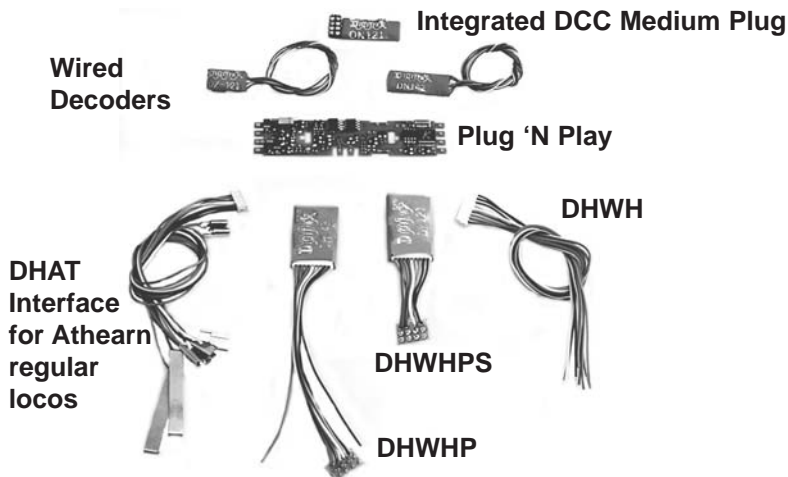
Digitrax Easy Connect 9 Pin Decoder Interface System

Digitrax Easy Connect 9 Pin Decoder Interface System
Available on many DH Series Decoders

s Simplifies decoder wiring and installation.

s Lets you share decoders among multiple locos wired with harnesses.

s This is a great way to get your HO club started in DCC. Have all club members wire their locos with a wiring harness and use a dummy plug to run on regular DC at home. When the locos come to run at the club, just replace the shorting plug with a club owned decoder and you are ready to go.

DHWH Digitrax 9 pin wire harnesses in 5 packs $15.00 msrp
- s 7" wire harness with Digitrax 9 pin plug.

DHDP Dummy Plug in 5 packs $20.00 msrp
- s Operate harness equipped locos on regular DC without a decoder &
   gives you constant lighting too.
- s DHDP can be used with all DH harnesses.

**DHWHP Digitrax 9 pin to DCC medium plug
   with 3.25" wire harness** $6.00 msrp
- s Plug 'N Play for locomotives with DCC medium socket.
- s DHWHP is included with all DH163P & DH123P decoders.

**DHWHPS Digitrax 9 pin to DCC medium plug
   with 1" wire harnesses** $6.00 msrp
- s Plug 'N Play for locomotives with the DCC medium socket but need a
   short wire length for installation. The Kato HO RS2 is an example
   of a loco that uses the short harness.
- s DHWHPS is included with all DH163PS & DH123PS decoders.

**DHAT Digitrax 9 pin wire harnesses with solderless
connections for regular Athearn Locomotives** $8.95 msrp
- s For use with Athearn regular locomotives (not Genesis series).
- s DHAT is included with all DH163AT & DH123AT decoders.
 Note: DHAT is not needed for the Athearn Genesis Series Steam Loco that
comes pre-equipped with a Digitrax nine pin plug.

Digitrax Plug `N Play Decoders
Available to fit many N, HO & G Locomotives
- s Easy snap in installations. Just remove the existing light board or
   dummy plug and plug in your new decoder!
- s See your local Digitrax dealer or our web site to find out if we have a
   plug 'n play decoder for your locomotive.

How do I know which mobile decoder to use for my engine?
Digitrax builds many different decoders in different shapes, sizes and current
ratings to fit almost any locomotive. We have grouped the decoders we make
below according to the ways they are most often used by modelers. Some
decoders are listed in more than one category because they are used in different
applications. If you need information about which decoder fits a specific loco-
motive, consult your dealer or our web site www. digitrax.com.

Z Scale Super Small Decoders

Decoder (Notes)	Curr Rating	Size/*Applications*	Function	MSRP
DZ123 Economy	1.0/2.0	.38 x .57 x .127 *Micro-Trains Z scale diesels*	2 FX^3 500 mA	19.99
DZ143 Series 3	1.25/2.0	.36 x .55 x .13 *Micro-Trains Z scale diesels*	4 FX^3 500 mA	34.95

N Scale Plug `N Play Decoders

Decoder (Notes)	Curr Rating	Size/*Apps*	Function	MSRP
DN122K2 Premium	1.0/2.0	*Kato N RDC*	2 CS-RDC 125 mA	44.99
DN163K0A Series 3	1.0/2.0	*Kato N P42, PA-1, E-8*	6 FX^3 500 mA	34.99
DN163K0B Series 3	1.0/2.0	*Kato N F3A & B*	6 FX^3 500 mA	34.99
DN163K1B Series 3	1.0/2.0	*Kato N SD70MAC SD40-2, C44-9W*	6 FX^3 500 mA	34.99
DN163K2 Series 3	1.0/2.0	*Kato N SD80/90MAC, RS2, RSC2*	6 FX^3 500 mA	34.99
DN163M0 Series 3	1.0/2.0	*Micro Trains FT*	6 FX^3 500 mA	34.99
DN163I0 Series 3	1.0/2.0	*InterMounain SD40T-2*	6 FX^3 500 mA	34.99
DN163I1A Series 3	1.0/2.0	*InterMounain FT A*	6 FX^3 500 mA	34.99
DN163I1B Series 3	1.0/2.0	*InterMounain FT B*	6 FX^3 500 mA	34.99
DN163A0 Series 3	1.0/2.0	*Atlas N GP40-2, & others*	6 FX^3 500 mA	34.99
DN163A1 Series 3	1.0/2.0	*Atlas N SD60, SD60M, SD50*	6 FX^3 500 mA	34.99
DN141E2 Premium	1.0/2.0	*ER Models Sharknose*	4 FX 125 mA	45.99

N & HO Scale Wired Decoders

Decoder (Notes)	Curr Rating	Size/*Applications*	Function	MSRP
DZ123 Economy	1.0/2.0	.38 x .57 x .127 *Arnold S-2* *Atlas RS-1* *Lifelike SW1200* *N-scale Steam*	2 FX^3 500 mA	19.99
DZ143 Series 3	1.25/2.0	.36 x .55 x .13 *Arnold S-2* *Atlas RS-1* *Lifelike SW1200* *N-scale Steam*	4 FX^3 500 mA	34.95
DN163 Series 3	1.0/1.5	.36 x 1 x .18 *N-scale Diesels* *N-scale Steam* *Kato Mikado*	6 FX^3 500 mA	34.99

N Scale wired decoders are very versatile and can be used in many N & HO locos not listed here. Because they are rated at 1 Amp, they can handle HO. Their small size makes them great for tight spaces.

HO Scale Wired Decoder Selection

Decoder (Notes)	Curr Rating	Size	Function	MSRP
DZ123 Economy	1.0/2.0	.38 x .57 x .127	2 FX^3 500 mA	19.99
DZ143 Series 3	1.25/2.0	.36 x .55 x .13	4 FX^3 500 mA	34.95
DN163 Series 3	1.25/1.5	.36 x 1 x .18	6 FX^3 500 mA	34.99
DH123D Economy	1.5/2.0	.66 x 1.2 x.25	2 FX^3 500 mA	19.99
DH163D Series 3	1.5/2.0	.67 x1.05 x .25	6 FX^3 500 mA	29.99

HO Scale wired decoders are very versatile & can be used in most HO locos. You will need these decoders to convert older locos that aren't DCC ready.

HO Scale Plug `N Play Decoder Selection

Decoder (Notes)	Curr Rating	Size/*Applications*	Function	MSRP
DZ123PS Economy	1.0/2.0	.38 x .57 x .127 *Locos with DCC Medium Socket & Limited Space*	2 FX^3 500 mA	22.99
DZ143PS Series 3	1.25/2.0	.36 x .55 x .13 *Locos with DCC Medium Socket & Limited Space*	4 FX^3 500 mA	37.95
DN143IP Series 3	1.0/1.5	.36 x 1.15 x .18 *Bachmann Decapod, Concor N 4-8-4, Locos with DCC Medium Socket, Stewart U25C & VO1000*	4 FX^3 500 mA	29.99
DN163PS Series 3	1.25/1.5	.36 x 1 x .18 *Locos with DCC Medium Socket*	6 FX^3 500 mA	37.99
DH123AT Economy	1.5/2.0	*Athearn Regular Locos*	2 FX^3 500 mA	27.98
DH123P/S Economy	1.5/2.0	.66 x 1.2 x .25 *Locos with DCC Medium Socket*	2 FX^3 500 mA	24.99
DH163AT Series 3	1.5/2.0	*Athearn Regular Locos*	6 FX^3 500 mA	34.99
DH163P/S Series 3	1.5/2.0	.67 x1.05 x .25 *Locos with DCC Medium Socket*	6 FX^3 500 mA	32.99
DH163IP Series 3	1.5/2.0	.652 x .923 x .2 *Locos with DCC Medium Socket,*	6 FX^3 500 mA	29.99
DH163L0 Series 3	1.5/2.0	*Proto 2000 Plug 'N Play*	6 FX^3 500 mA	29.99
DH163A0 Series 3	1.5/2.0	*Athearn Genesis Diesels, Atlas HO*	6 FX^3 500 mA	29.99
DH163K0 Series 3	1.5/2.0	*Various HO W/ Kato Light Bd*	6 FX^3 500 mA	33.99

At least one of these HO Scale Plug 'N Play decoders will fit in current production locomotives that are DCC ready.

Large Scale Decoders

Decoder (Notes)	Curr Rating	Size	Function	MSRP
DG383AR Series 3	3.5/5.0	1.45 x 2.23 *Aristo DCC Plug RS3, RDC*	8 FX^3	59.99
DG583AR Series 3	5.0/10.0	1.45 x 2.23 *Aristo DCC Plug SD45 2 motors/truck*	8 FX^3	64.99
DG583S Series 3	5.0/10.0	1.45 x 2.23 *Screw Terminals for wire connections*	8 FX^3	66.99

Large scale decoders make DCC possible in O, S, & G scales, too! It's easy to plug in decoders in new model Aristocraft locos! Screw terminals on other large scale decoders make installing DCC a no-solder proposition.

Digitrax Function Decoders with Transponding

Put more ªFUNº in your DCC operations.
Add more FUNctions to your locomotives! Add FUNctions to cars, too!
Integrated transponding, too.

Digitrax Function and Transponder Decoder Features

- Functions can be turned on/off using F0-F12 keys on throttles.

- Support both 2 digit and 4 digit address-
    ing.
- Programmable from DCC compatible
    equipment.
- Configurable Strobe feature lets you sim-
    ulate flashing lights like FRED,
    Strobes, Mars Lights, etc.
- Use functions with or without transponding enabled.
- Compatible with Digitrax DCC Transponding Systems & other DCC
    systems.

TL1 Single Function Decoder with Transponding $16.95 msrp

- Use in any rolling stock with track pick ups.
- Approx. size: 0.461" x 0.31" x 0.161" (11.7mm x 7.8mm x 4.1mm)
- One 125mA function output.

TF4 Four Function Decoder with Transponding $20.95 msrp

- Quad function decoder with transponding. Use in any rolling stock
    with track pick ups.
- Approximate size: 0.461" x 0.31" x 0.161" (11.7mm x 7.8mm x
    4.1mm)
- Four 125mA function outputs.

Digitrax Stationary Decoders & Accessories

DS44 Quad Stationary Decoder $39.99 msrp

s Control 4 slow motion turnout machines.
s Quick Set up for sequential addresses or
s Set up 4 independent addresses.

DS51K1 Stationary Decoder for Single Kato Unitrack Turnout $14.99 msrp

s Control one Kato Unitrack Turnout
s Cost Effective
s Easy to Install

DS52 Dual Stationary Decoder $24.95 msrp
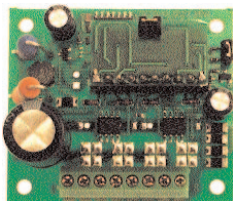
s Control 2 slow motion turnout machines OR
   Control 2 solenoid type turnout machines OR
   Control 2 Kato Unitrack or LGB turnouts.
s Quick Set up
s Addresses are independent.

DS54 Quad Stationary Decoder $79.99 msrp
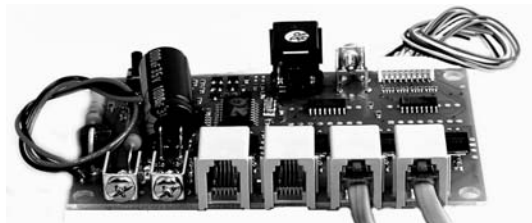
s 4 multi-purpose outputs for turnout control, lamp/LED control, etc.
s Control either solenoid or slow motion turnout machines.
s 8 sensor inputs for occupancy detection (with BD4 detector), local
   turnout control and more!

BD4 Occupancy Detector $29.95 msrp

- Quad Occupancy Detector.
- Use with Digitrax DS54 Quad Stationary Decoder or SE8 series signal/occupancy decoder & LocoNet.
- High sensitivity track occupancy detector designed for DCC operations.
- Internal "anti-chatter filtering" to ensure reliability.
- Use up to two BD4 detectors with each DS54.

DM1 DC Motor Adapter $9.99 msrp

- DM1 is an in line adapter designed to modify any DS54 output to provide the bi-polar drive current needed to run reversible DC motors, solenoid turnouts (like Kato UniTrack turnouts and LGB turnouts), lamps and other similar devices that draw up to 1/2 Amp.
- Plug the DM1 into any DS54 output and the DM1 will provide a bipolar drive rated at 500mA continuous and 1 Amp surge.

SE8C Signal/Stationary Decoder $125.00 msrp

It's not just for signals! It does turnouts, too!

- Control 8 slow motion turnout machines.
- 8 inputs for local turnout control.
- 8 sensor inputs for occupancy detection.
- Independent addresses.
- Control 32 LED signal heads or 8 semaphores run by slow motion
  turnout machines.

## BDL168 Occupancy Detector for 16 Sections $149.99 msrp

- LocoNet Universal Occupancy Detector for 16detection sections.

- Complete LocoNet Occupancy detection (with NO DS54 required).
- Local occupancy & zone power status reporting via fascia mounted LEDs &/or computer.
- Use as host for one or two Digitrax RX4 Transponder Receivers.
- Supports operations mode read-back for Digitrax series 3 decoders.
- Supports supsersonic decoder operation.

47

Digitrax Transponding!

TRANSPONDING
Proven Bi-Directional Technology
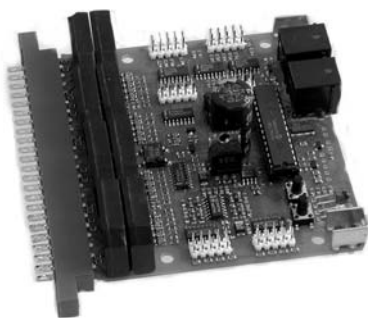
Proven technology for bi-directional layout control without the need for modifications to your existing DCC system investment.

Know the occupancy status of detection sections and/or the zone location of any locomotive or other rolling stock equipped with a transponding device. Yes, now your dispatcher will be able to know "who you are and where you are"!

Location and identification information are updated constantly on LocoNet and can be displayed on a track diagram.

Adds operations mode readback of CVs to your layout.

Allows you to automate your staging yard and other operations with transponding.

Use transponding devices in rolling stock with transponding detectors on industry tracks to display the location of your freight cars.

Transponding will bring you an under layout sound system that will "follow" the locomotives around the layout based on transponding infomation received by the system. This means you can use larger speakers under the layout rather than small speakers in the locos to get more realistic sound on your railroad. You'll even be able to put transponders in other rolling stock and generate sounds like couplers, flat wheels, etc.

No modifications to existing DCC equipment required. Just add transponding components and you are ready to go!

More features than any other method of "bi-directional" layout communication.

Digitrax Transponding Products are covered by U.S. Patent 6,220,552 and other patents pending.

What will it take to install transponding on your layout?

1. Install BDL168 occupancy detector(s).
2. Add transponding receivers (RX4) to the zones where you want to use transponding. (You won't need to outfit all zones to get good coverage.)
3. Use locos with transponding decoders or add transponding devices (TL1 or TF4) to the locos, cars, or cabooses you want to be able to identify on the layout.

Note: The Digitrax Series 3 Decoders and DN122K2, DN141E2, and DN141K2 decoders come equipped with transponding.

RX4 Four Zone Transponder Receiver $49.95 msrp

 ⊆ Use one RX4 with a BDL168 to add transponding to 4 zones on the
   layout.
 ⊆ Use two RX4s with a BDL168 to add transponding to 8 zones on the
   layout.

**Note: Locomotives must be equipped with Transponding Devices for
transponding to work. Transponding or transponder ID are
included in most current production Digitrax decoders. If you
need to add transponding to an older Digitrax decoder or to a
decoder made by another manufacturer, simply add a Digitrax
TL1 or TF4 function decoder with transponding.**
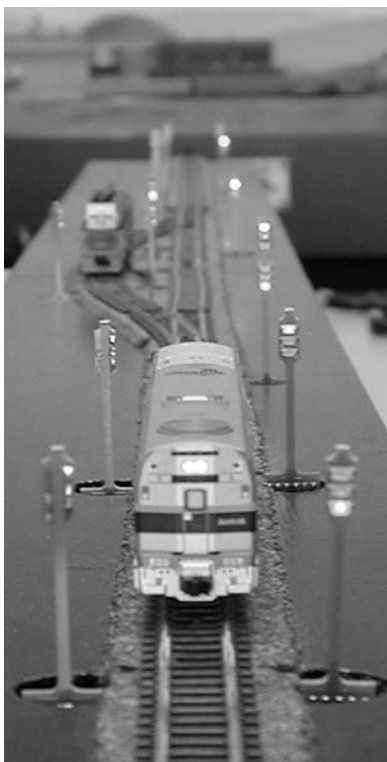
BDL168 Occupancy Detector for 16 Sections $149.99 msrp

s LocoNet Universal Occupancy Detector for 16 detection sec tions.

s Use in conjunction with SE8C signal decoder to set up a cus tomized signaling system on your layout.

SE8C Signal Decoder $125.00 msrp

s Control signals on your layout: Manually with any LocoNet Throttle and Command Station.

  Automatically with detection and compatible computer software.

s Drives as many as 32 signal heads

s Any popular LED signal type:
  Bi-color LED searchlights with 2 or 3 leads.
  Three-LED heads with com mon anode or common cath ode.

s Can drive B&O or Pennsy type heads.

s Designed to model most US signalling systems.

s Built in current limiting resistors for setting brightness of LEDs.

s Simple modular wiring:
  Modular Plug 'N Play system.
  Each Signal Driver Cable drives four heads.
  Includes sample Signal Driver Cable and Test Signal Mast.

s Drives either
  8 slow motion turnout machines such as Circuitron's Tortoise^{TM} OR
  8 semaphore signals using slow motion turnout machines.

s Provides 16 inputs:
  8 control lines for local turnout control.
  8 occupancy sensor inputs.

s Use with DC or DCC controlled layouts.

s Can also be used as a stationary decoder for turnout control!

s A computer and compatible software are necessary to realize the full feature potential of the SE8C.

s Transponding is not necessary to implement signaling.
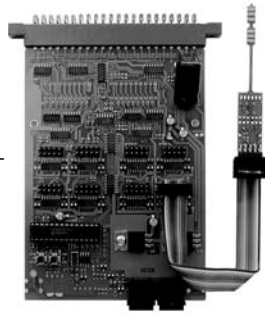
SE8C Accessory Products make SE8C installation easy

Signal Mast Base Kit $14.95 MSRP
Includes 3 Signal Masts that can be used as Signal Mast Bases in any scale or can be painted and detailed and used as N-scale signal masts.

Signal Driver Cable Kit $19.99 MSRP
Materials for making 2 Signal Driver Cables for SE8C. Includes 20' of 10-wire Signal Driver ribbon cable & 8 10-Pin sockets.

Signal Mounting Hardware Kit $9.99 MSRP
Under layout mounting hardware for Signal Driver Cables and their sockets. 6 metal signal straps and 6 signal spacers.

Terminal Strip Mounting Kit $14.95 MSRP
Includes 2 terminal strip boards with resistors for easy installation. Each terminal strip board can handle from 1 to 4 signal heads.

Computer Applications

PR1 Decoder Programmer $45.00 msrp

The Simplest Way to Program Digitrax Decoders Yet:
Digitrax PR1 Decoder Programmer & your PC!
s Convenient, user friendly programming interface.
s Read & write all CVs.
s "Draw" loadable speed tables on the screen & program them directly to the decoder via the PR1's programming track.
s Save programming from one decoder and program it into another decoder automatically.

- ∽ FX set up is point and click.
- ∽ Program mobile and stationary decoders without shutting down the layout.

Windows & PC Compatibility Notes: PR-1 works with Windows 98 and prior versions only, it is not guaranteed to work with later versions of Windows. Because of differences in hardware used for personal computers, PR-1 is not guaranteed to work with all PCs. If you find that the PR-1 does not work with your computer hardware, your purchase price will be cheerfully refunded.

MS100 Computer Interface $45.00 msrp

- ∽ MS100 is a signal level translator between LocoNet & a 25 pin DB25 style RS232 port designed to let a computer with an IBM compatible COM, or RS232 communications port monitor LocoNet. See www.digitrax.com for third party software

Learn more about Digitrax Command Control with
The Digitrax Big Book of DCC $24.95 msrp

If you are one of the thousands of model railroaders who want to run their trains like the real thing this is the book for you! Digital Command Control, DCC is explained in terms that everyone can understand. The author uses examples to show you how to use DCC in your operations and on your layout to make model railroading more fun!
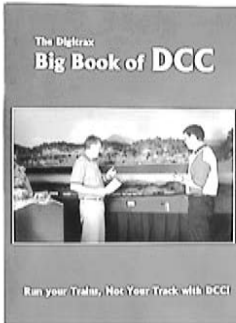
- ∽ 175 pages, over 100 photos and diagrams.
- ∽ An excellent resource for anyone who is considering DCC.
- ∽ Introduction Section includes a brief history of command control and how it evolved into today's DCC. The basic terminology of DCC is explained in layman's terms.
- ∽ Installation Section uses three railroads as examples to show you how to set up DCC on small, medium and large layouts.
- ∽ Operation Section explains how to control locomotives, how to program them, what the configuration variables are used for, how to set up consists, how to use route control, how to use transponding and signals and several other miscellaneous topics.
- ∽ Technical Section explains how DCC works and how to do troubleshooting on your layout.
- ∽ Glossary and index included.

The Digitrax Big Book of DCC is available at your local Digitrax dealer.

LocoNet, The Digitrax Difference

System Architecture is the biggest difference among DCC systems. System architecture is the way the components of a DCC system communicate among themselves. Digitrax LocoNet is a Peer to Peer local area network (LAN) designed specifically for model railroad operation. LocoNet wiring is cost effective, flexible and expandable to accommodate almost anything you want to do with your railroad today and in the future.

The system architecture used for communication within DCC systems is not standardized so, DCC compatibility encompasses decoders, command stations and boosters but not throttles and other devices. In addition, devices that require feedback and other types of signals that are outside the domain of DCC, such as detection systems and transponding, are not standardized. LocoNet incorporates both DCC and other technologies to expand the capabilities of your system. Your Digitrax system gives you the best of both worlds with a system that is compatible with today's DCC "standards" and also goes beyond those "standards" to deliver enhanced system performance, multi-format capabilities and advanced features that are far beyond the scope of DCC.

Event Driven or Polled system what's the difference? LocoNet is an event driven network. The command station on a LocoNet network waits for input from other components before sending commands to the layout. For example, if there are 10 throttles on LocoNet and throttle #1 sends a command, the command station sees it and executes the command immediately. With a distributed network like LocoNet, new features can be added by simply plugging in new hardware or software. Since LocoNet is a peer to peer network, devices on the network can act independently of the command station, too. Feedback is incorporated in LocoNet's wiring scheme so you don't need to wire a separate feedback bus as with most other DCC systems.

Other DCC systems use polled buses or "networks." In this case, the command station must "ask" each of the throttles or other devices in turn: "Do you have input for me?" The device must wait for the command station to poll all the devices on the bus before it sends the command. This arrangement can slow down response times and limit the number of devices that can be handled by the system. With centralized processing in a master/slave control type system like this, adding new features usually means updating at the command station when new components are added since devices can't operate on the system unless the master command station knows about them. To add feedback capabilities to this type of system, a separate feedback bus may also be necessary.

Network Speed, Is Faster Really Better?

Not necessarily, it depends on whether the system uses event driven or polled architecture. The DCC track control packet format sets the "speed limit" for all DCC systems. Going faster than the "speed limit" won't make a system work any better & causes signal distortion problems on the network.

LocoNet is engineered for the lowest speed that will get the job done. Because LocoNet is event driven, slower network speeds are possible. With slower network speed, signal distortion on the network is not a problem. Because LocoNet uses a slower network speed, its free-form wiring scheme is simple and flexible. With LocoNet you can "branch" or "tee" anywhere in your network wiring and no termination is needed.

Polled systems generally have to go a lot faster than the "speed limit" to accommodate the large amount of traffic generated by polling and to prevent delays between the time a command is issued by the throttle and the time the system executes the command. The big problem is that as the network speed increases, so does signal distortion. Polled systems generally use linear terminated bus wiring to solve this problem. Free-form wiring like LocoNet is not possible with polled systems.

LocoNet Certified Products

Digitrax works with many companies who sell LocoNet Certified Products. WinLok, Railroad & Company, & KAM Industries Engine Commander offer LocoNet software. LocoNet Certified freeware is available on the internet. LogicRail Technologies builds a LocoNet Fast Clock. Uhlenbrock Electronics builds a LocoNet command station. CML Electronics builds the DAC10 8 output accessory decoder & DTM16 Tower Master. Team Digital builds the SRC8 LocoNet Turnout Controller. LocoBuffer by John Jabour is also LocoNet Certified. This means more choices for you!

Is LocoNet Proprietary?

Yes, LocoNet is proprietary just like the control bus architectures used by other DCC companies. Digitrax LocoNet is professionally maintained for the benefit of the hobby. Digitrax works with competent DCC developers so that they can use LocoNet in their products. Our non-disclosure & licensing agreements & fees for the use of LocoNet are very reasonable. **LocoNet Personal Edition** is available to all model railroaders through our web site. This edition of LocoNet is available so that you can develop your own private LocoNet applications.

Is LocoNet Patented?

Yes, certain aspects of LocoNet are covered by US Patent # 6,275,739 B1. Digitrax has licensed LocoNet to several other DCC companies who build LocoNet Compatible products.

LocoNet Wiring

All connections are made with **6 conductor telco jacks & wire**. LocoNet operates with "non-reversing" cables. You can buy ready-made 6-pin male RJ12 to RJ12 cables from many sources. You can also buy 6 conductor wire, plugs and a set of crimpers to build your own LocoNet cables. Each Digitrax Set comes with an LT1 that makes it easy to test LocoNet cables prior to installation on the layout. LocoNet supports a total cable length of up to 2,000 feet with no two devices connected by more than 600 feet of cable. LocoNet wiring is totally free-form. We do not recommend looping LocoNet back on itself.

Track Wiring

Will I have to re-wire my existing layout for Digitrax? If your layout is running with DC now, you probably won't need to re-wire. For DCC, you need a power bus and feeder system that can safely support the continuous full current rating of any booster anywhere on the layout. Because the DCC signal and the power that runs the trains are one in the same, you must provide adequate power to all areas of your layout for reliable DCC operation. If the decoder in the locomotive does not see track power, it will not see the DCC signal and it won't run. Digitrax boosters need enough track power to sense short circuits to operate properly.

Direct Home Wiring vs. Common Rail Wiring
Digitrax strongly recommends direct home wiring where each power district and its booster are electrically isolated. This type of wiring is safer and more convenient to work with for debugging and for adding reversing districts and detection later. If you choose to use whole layout common rail wiring, please have your dealer special order opto-isolated boosters for your layout. Note for detection and signaling wiring, common rail is used within power districts that are wired for direct home and use regular Digitrax boosters.

What gauge wire do you recommend for the power bus & track feeders?
On an average size layout we recommend that the power bus from the booster be at least 16AWG. When feeding areas more than 50' from the booster, we recommend using 12 AWG wire for the power bus.
From the main power bus, we recommend dropping feeders (20AWG) approximately every 6 to 10 feet of track. Sets of feeders should be wired to both rails and we recommend at least 2 sets of feeders per power district. The actual wire gauges used (AWG) can be increased or decreased, depending on the layout dimensions and operating power/current loads.

How can I be sure I have enough power? Use the "quarter trick." Once your Digitrax booster is installed and the layout is powered up, use a quarter (or other piece of conductive material) to short both rails at various places on the layout. If you have enough power at that location, the booster will chirp and shut down. If the booster does not shut down, then you need to add more feeders.

Power Source: Do I need a separate transformer?

No for Zephyr, Yes for Super Empire Builder and Super Chief. The Zephyr Set includes a transformer. The DB150 & DCS100, 5 Amp Digitrax boosters, included with Super Empire Builder and Super Chief accept either 50/60 Hz AC or DC input. The power pack must be overload protected for a maximum output of 5 Amps. Minimum input voltage is 12V AC or DC. Maximum input voltage is 22V AC or 28 V DC. Digitrax more advanced sets do not include a power supply because most model railroaders already have power supplies that can be used to power the boosters. You can use either AC or DC from a model railroad power pack or you can use a generic transformer. Most regular DC train control packs were designed to run 1 locomotive in a block so, they may not have enough power to supply the needs of a DCC system once you are running more than a couple of trains. To provide enough power to run more trains, you may need to use a more powerful transformer. Digitrax offers the PS515 Power Supply. It is rated at 15V AC, 5A, 75VA. Your local Digitrax dealer has PS515 and other suitable transformers available.

What happens when I have a problem or need a repair?

If you have problems, contact Digitrax or your Digitrax Authorized Dealer right away. Don't suffer in silence! You can call, fax or e-mail your questions and concerns. We're open Monday-Friday, 9am to 5pm Eastern Time. Our technical staff will be happy to help you. If you need to be contacted after office hours, let us know and we will make every effort to accommodate your needs. Most problems can be resolved with a short phone call.

Digitrax warranty and repair policies are straightforward with no "weasel words or prorated gobbledygook". All Digitrax products other than decoders are warranted against manufacturer defects for one year from date of original purchase. Decoders are covered for 60 days. If you need a repair, send the equipment directly to Digitrax with your name, address, phone number, copy of your dated receipt and a brief explanation of the problem. For complete warranty information and repair pricing see www.digitrax.com/warranty1.htm.

> *Customer Comment: "I think your service was beyond the call and I am willing to tell anybody that cares to listen how responsive you were to my needs. Service is as important as the product in many cases."*

With LocoNet , Digitrax customers have the best of model railroading. The Digitrax System is compatible with today's DCC "standards" but is not limited to them. The flexibility and power of LocoNet lie in its ability to automatically reconfigure itself when new technologies are added.

Today's DCC "standards" are made up of many commonly used practices by many different DCC companies. The National Model Railroad Association, a volunteer hobby organization, has put together a set of basic "DCC Standards and Recommended Practices" that cover a few of the features possible for digital model railroad control and operation.

There are many aspects of model railroad control and operation that go far beyond basic DCC. Most of these features are offered by the DCC company that originally developed the particular technology. Digitrax has licensed several technologies to other companies.

Because it is in the best interest of the model railroad industry to provide interoperable equipment for consumers, DCC companies actively work to make sure their products work with other DCC products, no matter what the "standards" say.

The bottom line on the DCC compatibility is that we really have to count on the DCC companies to maintain DCC interoperability. Chances are that you will never experience any interoperability problem with your DCC equipment and if you do, the DCC companies are the ones who will take care of any problems you might encounter.

Because of Digitrax LocoNet's expandable network capabilities, your model railroad control system will be able have the DCC of today and the DCC of the future!

Today, Digital Command Control is a real market factor in the model railroad hobby. The technology is widely accepted and utilized by model railroaders everywhere. Innovation and improvements in the DCC field will continue to be driven by you, the DCC consumer, in the future.

How to find An Authorized Digitrax Dealer

Digitrax products are sold by Hobby Dealers all over the world. Contact your favorite model railroad retailer for a demonstration and more information about purchasing Digitrax. If your favorite dealer does not carry Digitrax yet, ask them to contact us so that they can get started right away.

Visit our web site www.digitrax.com for a current listing of our dealers by State/Province in the US & Canada and by Country for the rest of the world.

You can also fax (770)441-0759 or call (770)441-7992 to request a list of Digitrax dealers in your local area.

450 Cemetery ST #206
Norcross, GA   USA   30071-4228
(770) 441-7992   Fax (770)441-0759
www.digitrax.com
sales@digitrax.com

Our latest product updates are posted to our web site. Our manuals are also available for download from our web site.

> *Customer Comment: " I just wanted to drop a note and advise you the problem(s) I'm having with my Digitrax system—NONE! . . . Good job and keep up the good work."*

www.digitrax.com
Your online source for Digitrax Command Control

Movin' Down The Tracks With ® **D**igitrax **C**ommand **C**ontrol

Main Station

Starter Sets
LocoNet
Power Supplies

RADIO ®
EQUIPPED
Available

Your Digitrax LocoNet®Starter Set
is just the beginning
of an exciting trip!
Pick the one
that's right
for you!

Super **Chief** ™

Super **EMPIRE BUILDER** ™

ZEPHYR ™

LocoNet ®
The Digitrax
Difference

Locomotive Shops

Mobile Decoders
Function Decoders

Decoder   **Decoder**
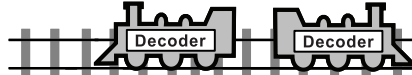
More Fun For Everyone

Add More Boosters,
Advanced & Simple Throttles,
Power Supplies,
Universal Panels,
IR and/or Radio
for more trains and operators.

Universal Panels

Boosters
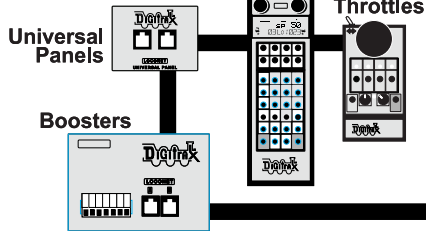
Throttles

Maintenance Of Way

Make your
layout more
fun & simpler
to operate!

Automatic Reversing & Power Management

Stationary Decoders
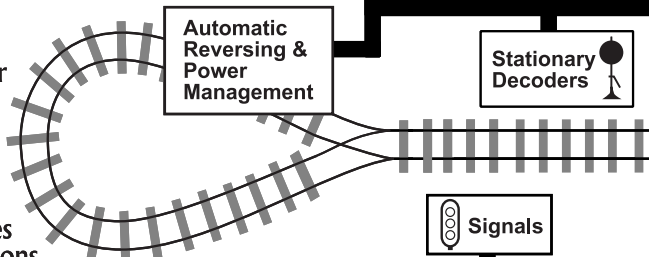
Computer Controls

PDA Throttles
 & Applications
Computer Interfaces
Programmer

Signals

Putting It All Together

The Digitrax Big Book of DCC

Detection   **Transponding**

8427

87   4123
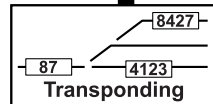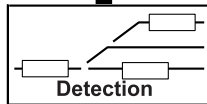
Digitrax Command Control
Accept NO Imitations!

Digitrax Catalog Index

Digitrax Layout Planner:

Scale	
# of Operators	
# of Locos	
Estimated Total Current Draw	
# of Turnouts	
Size of Layout/How Many Feet of Track	
Reversing Sections	
Starter Set Recommended	
Additional Equipment Recommended	

Locomotives To Equip	Decoder

Layout Sketch