Digital slot-car basics

Ninco’s new digital system adds to the offerings by SCX, Scalextric and Carrera. Here’s what you need to know to sell them effectively

BY DAVID POPP

Slot-car racing has always been a fun and exciting hobby. In the last several years, the four major manufacturers of 1:32 scale car sets have moved slot cars into the digital age, ramping up racing action to new heights.

Digital racing offers the freedom to change lanes and the excitement of maneuvering through the pack to pass other cars. Perhaps the biggest attraction of digital racing is the ability to have from four to eight drivers all running at the same time on a standard two-lane slot car track!

Digital slot cars have also opened up an entirely new set of purchasing choices for consumers. But, unlike slot cars of old, where various brands of cars and track could be mixed and matched, most of the new digital systems are proprietary and mostly incompatible.

Digital basics

The technology for digital slot cars isn’t very different from the Digital Command Control (DCC) systems used by the model railroad industry. In fact, if your store already has some experience with DCC, you’ll find that the major concepts of digital slot-car systems carry across. Both DCC and digital slot cars require constant power on the track, through which encoded command signals are carried to miniature receivers in each model.

Unlike standard analog control, where the throttle adjusts the flow of current through the track to the motor, digital systems use the throttle as an encoder to supply commands to the model’s receiver chip, which allocates power from the track to adjust motor speed.

Digital slot-cars, regardless of manufacturer, must be equipped with receiver chips. All the digital system manufacturers offer digital-ready cars, and most provide aftermarket chips to upgrade analog cars in their respective product lines.

Though each works differently, all four major digital systems use special track sections to make lane changes. All manufacturers offer straight and diverging route switch tracks, and some also have curved sections.

To change lanes on any digital track, the racer presses a button on the throttle as his car approaches the switch track. Carrera, Ninco and Scalextric use track sections with built-in switch points that use a small motor to route the approaching car into another lane when the controller button is depressed. Once the car clears the point, it returns to the straight position, preventing following cars from making an unwanted lane change.

SCX switch points move, but are not powered. Instead, the guide on a digital SCX car has a second blade that telescopes down when the lane-change button is pressed. The blade catches the switch point deep in the track groove, and the car changes lanes. A spring pushes the point back into the straight position.

The reaction time of the switch points is so fast that closely following cars can either make lane changes or continue straight without being misdirected.

A fractured industry

At best, the digital slot car market is a fractured industry, with limited crossover between systems and no pro-grade after-market controllers.

The following is a listing of each of the four main digital slot-car systems. Each listing includes specific information about that system’s track, cars, chips and other key details.
Scalextric’s Sport Digital systems are sold for two and three racers, and any of these can be expanded to six drivers with additional throttles and upgraded power supply. A digital conversion set is available for existing analog tracks. This set includes the control base, two throttles and digital-equipped cars, and a switching track. (Be advised that customers converting an analog track to digital will need to remove all standard power bases from the course to prevent damaging the digital components.) The switch track components come in straight, pit and curved sections and are fully compatible with Scalextric’s Sport track, as well as Classic track, through the use of adapter sections. The system uses optical sensors to activate the switch points, and all digital-equipped Scalextric cars have a small LED (light-emitting diode) on the bottom behind the guide. Scalextric offers cars with factory-installed digital receivers and after-market chips that will work in nearly every type of Scalextric car and other brands. A big plus is that Scalextric digital-equipped cars can also run on any analog track.

**System name:** Sport Digital  
**Starter sets:** Two- and three-car starter sets with track and analog track retrofit set  
**Track components:** Works with standard Scalextric Sport Track, and through adaptor sections, Classic track components

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Carrera’s Evolution PRO-X system is Carrera’s entry into the digital market. The PRO-X system uses Carrera’s standard 1:24 scale track and digital-equipped 1:32 cars. The firm offers two-driver starter sets, but with extra controllers, these can be expanded to handle four drivers. Switching sections are currently available in straight and pit formats, but they are compatible with all Carrera 1:24 scale track. Carrera also offers a number of digital-equipped cars, but no after-market chips, and the digital cars cannot be used on analog tracks. Carrera has the easiest programming format of any digital system: just set one or two DIP switches on the bottom of the car for one of the four-possible control addresses. Carrera offers optional wireless throttles for the PRO-X digital system, eliminating the need for drivers to stand huddled together at the connecting base. And, Carrera’s digital system includes the provision for any digital car to be set on auto-pilot, allowing racers to practice against computer-driven cars. Additional accessories include a pit-stop lane with fuel-management features and an electronic lap counter.

**System name:** Evolution PRO-X  
**Starter sets:** Two car starter sets with track  
**Track components:** Works with standard Carrera 1:24 scale track components  
**Maximum no. of racers:** Six with expansion parts

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1. Maximum no. of racers: Six with expansion parts  
2. **Switch track sections:** Straight, pit and curved sections offered  
3. **Digital-equipped cars:** F1, MINI Coopers, A1 Grand Prix and others  
4. **After-market receiver chips:** For most Scalextric cars and many other brands of cars  
5. **Accessories:** Electronic lap counter, larger power supplies and extra controllers

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1. Maximum no. of racers: Four with expansion components  
2. **Switch track sections:** Straight and pit sections offered  
3. **Digital-equipped cars:** Formula 1, classic stock cars, German touring cars and street cars  
4. **After-market receiver chips:** None  
5. **Accessories:** Electronic lap counter, pit stop lane and wireless controllers
SCX

SCX built its digital system from the ground up. It offers digital starter sets for two or three racers. With added components, the system can handle up to six drivers. Its digital system has some of the most eye-catching accessories available, including a pit-stop lane with fuel-management features and readouts, chronometers, and a scoring tower that keeps track of the current lap. The system also allows drivers to turn headlights on or off. SCX has greatly expanded its line of digital-equipped cars in the last year, though its digital cars don’t run on analog systems. SCX is the only manufacturer whose digital track is incompatible with its analog sections. Switching tracks are available in straight, pit and curved sections. SCX also offers after-market chips that allow consumers to upgrade SCX analog cars to digital, but not other brands. Shops stocking SCX digital systems will want to keep replacement telescoping guides in stock, as they are delicate parts.

**System name:** SCX Digital System

**Starter sets:** Two- and three-car starter sets with track

**Track components:** Works only with SCX Digital System track; cannot be used with standard analog track

**Maximum no. of racers:** Six with expansion components

**Switch track sections:** Straight, pit and curved sections offered

Digital-equipped cars:
- World Rally Cup, NASCAR and German touring cars

**Accessories:** Electronic lap counter, chronometer, pit-stop lane with fuel-consumption display, lighted bridge and additional power supplies

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NINCO

Ninco’s N-Digital system offers the highest degree of cross-compatibility. Its digital line includes a three-driver starter set and a three-driver analog conversion set. Ninco’s system allows for eight drivers. N-Digital sets do not include digital-equipped cars, and Ninco has no separate line of digital cars. Instead, it offers three receiver chips with each set, which may be added to just about any analog slot car on the market. The switching sections (straight and pit) are compatible with all Ninco track components. Ninco’s digital switch tracks and control base can be incorporated into race courses made up of Scalextric Sport and Classic, and SCX track with transition pieces. Additional Ninco digital products include an electronic scoring tower. N-Digital throttles provide feedback to the driver, using vibrations to tell drivers they need to make a pit stop or when they are on the last lap of a race. All N-Digital-equipped cars can run on standard analog slot-car tracks.

**System name:** N-Digital

**Starter sets:** Two three-driver starter sets, one with track and one for analog conversion. Sets include three receiver chips only

**Track components:** Compatible with all Ninco track sections, standard SCX, Scalextric Classic and Sport track; need adapters

**Maximum no. of racers:** Eight with expansion components

**Switch track sections:** Straight and pit sections

**Digital-equipped cars:** None

**Accessories:** Electronic lap counter, throttles, power supplies