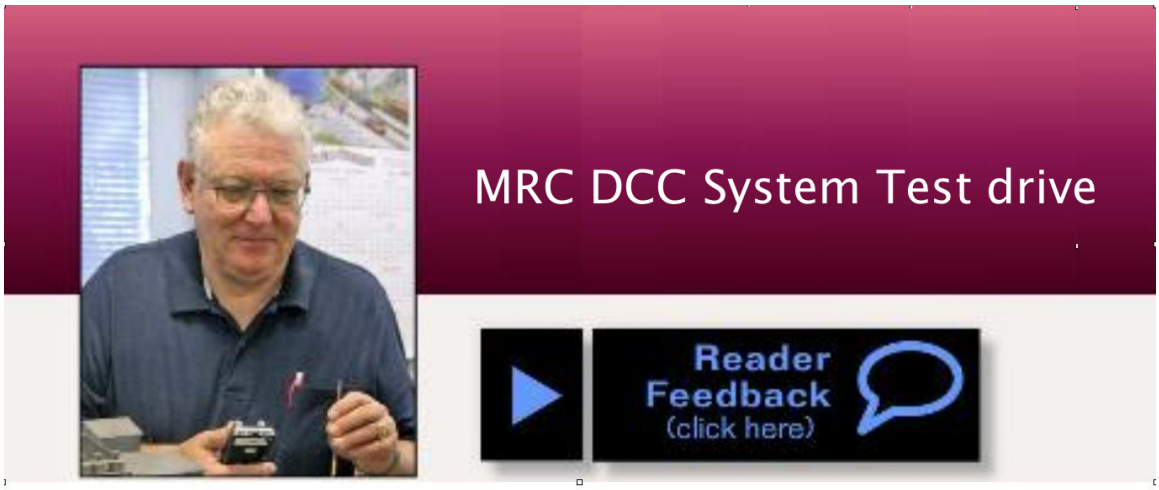


DCC Impulses Column

by Bruce Petrarca

A look at DCC systems from Model Rectifier Corp.

Model Rectifier Corporation (MRC) has long been known as a supplier of DC power packs. With the rising popularity of DCC, they seemed to sense a coming reduction of sales in power packs and looked to move into the DCC world.

Until now MRC has relied entirely on their internal resources for computer control. This summer they changed their philosophy and have released information to the JMRI folks about their computer interface. Since JMRI is an open-source project, this data allowed the volunteers to write the necessary cod to support the MRC system. This support started with JMRI version 3.9.1. For the latest information, see the JMRI web site (**www.jmri.org**)

With this recent change, I felt it was time to review their systems for the MRH readers. Jack at Litchfield Station was kind enough to loan me units for evaluation.

All of the current MRC DCC systems include the "Prodigy" moniker. The following words differentiate the various systems. The number 2 as part of the name is really a superscript 2. As such it reads "squared," as in "Prodigy Advance Squared".

Specifications

Table 1 summarizes the specifications of the current MRC systems.

1. MRC Prodigy system comparison, from the MRC web site.

System	Express²	Advance²	Elite
MRC Part number	1420	1414	1417
MSRP	$230.00	$440.00	$550.00
Street price	$158.00	$290.00	$390.00
DCC Amps	1.6	3.5	1 to 10 adjustable
DCC volts	14.5	14.5	14.5
Power supply	Included	Included	Included
Power mains	110 V 60 Hz	110 V 60 Hz	Worldwide
Number of throttles	32	99	99
Short addresses	1 - 127	1 - 127	1 - 127
Long addresses	1 - 9999	1 - 9999	1 - 9999
Non-decoder loco	Not supported	Not supported	Not supported
Functions	28	28	28
Speed steps	14 / 28 / 128	14 / 28 / 128	14 / 28 / 128
Write CVs, where?	Program / Main	Program / Main	Program / Main
Read CVs, where?	Program	Program	Program
Wireless	Upgrade available	Upgrade available and available as a complete radio system (higher price)	Upgrade available

Look and feel

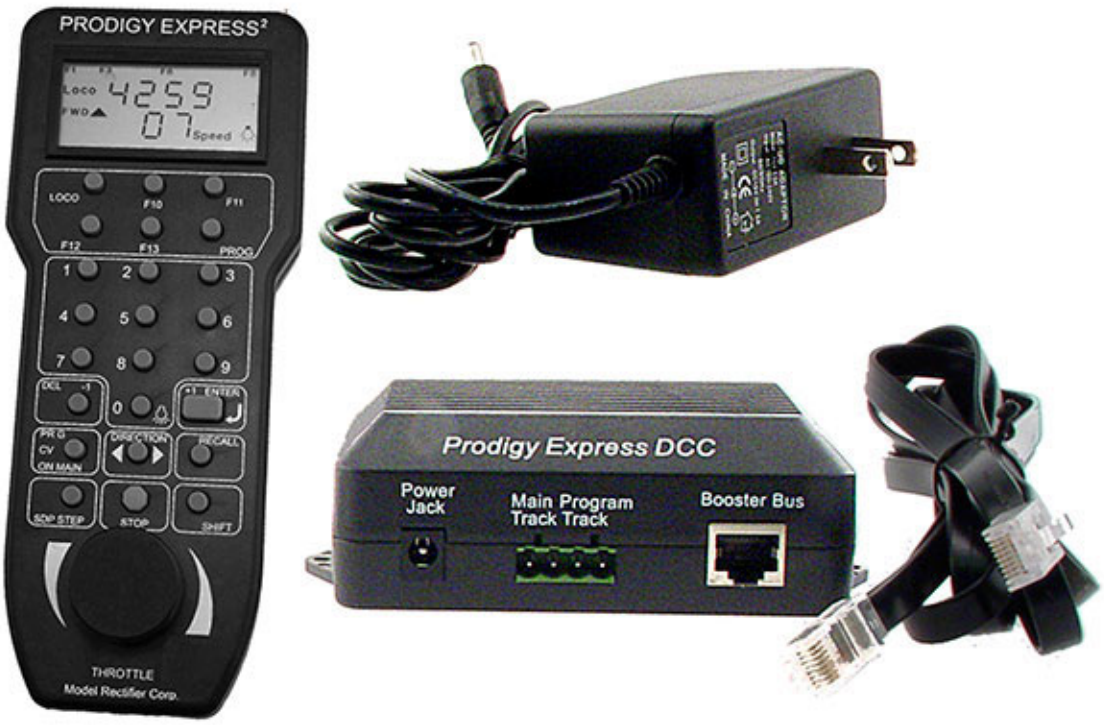
Let me comment on system operation. The current MRC line [1] has two different throttles with three paint schemes. The Prodigy Advance² and the Prodigy Elite share a similar button layout with a bit different graphics, as can be seen in photos [3] and [4]. The Prodigy Express² throttle [2] face is identical, except for the functionality of the six buttons just below the display.

Here come the differences: The Prodigy Advance² and the Prodigy Elite throttles have a blue back-lit display. Disappointingly, this display is almost illegible when viewed straight on, or from above. The best contrast occurs when viewed from about 45 degrees below.

The less expensive Prodigy Express² throttle has no backlighting and is visible over a very wide range of angles above and below straight-on.

At first glance, there is a strong resemblance between the Prodigy series throttles and NCE's ProCab. However, in my hand, the MRC controls are more difficult to use.

2. MRC Prodigy Express² 1.6 amp system. MRC photo

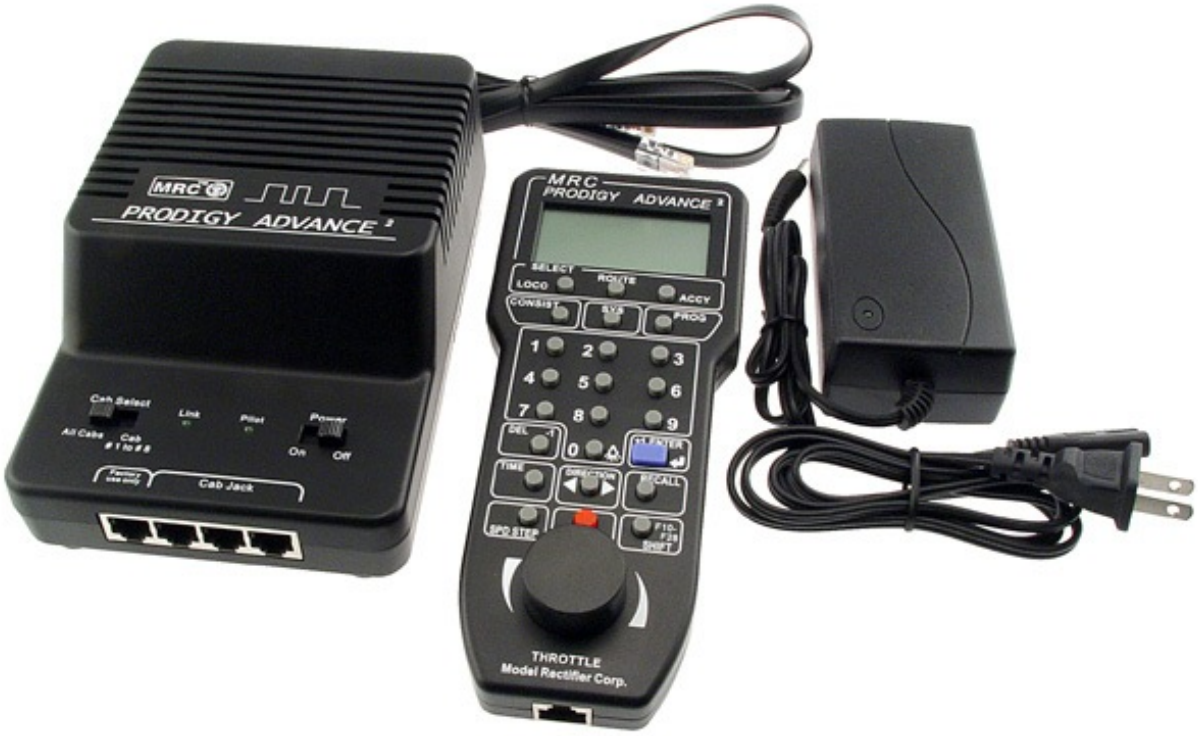


To hold the throttle in my hand and operate the knob with one hand, I have to hold the bottom of the throttle, which is uncomfortable to me and has me concerned that I'll drop it. To be comfortable, I need to hold the throttle in one hand and turn the knob or press buttons with the other.

While this two-handed operation may be acceptable for mainline running, it becomes a bit difficult for yard operations or switching. Trying to adjust speed while holding a throttle in the one hand and a coupler pick in the other just doesn't work for me.

The Prodigy Express² throttle will work with the Advance² or the Prodigy Elite system. However, the upper ~~buttons have~~ six-button panel has different functions, which I find confusing. If I had multiple sets, I'd keep specific throttles with their original systems. Actually, I'd consider ditching the Prodigy Elite throttle and using the Prodigy Express² throttle throughout. Yes, I'd give up backlighting for readability.

3. MRC Prodigy Advance² 3.5 amp system. MRC photo



MRC has printed instructions on the back of their throttles. There is so much information there [5] that I find it useless. The most legible piece of text is "Made in China". I do admit that I'm a "paragraph and bullet" sort of guy; I eschew freeform text.

The entry-level Prodigy Express^2 is competitive on price with the NCE PowerCab. The MRC offering has the command station and booster in an external box. The NCE offering is more portable, being a complete system in the handheld. I was unable to read a Tsunami decoder with the MRC Prodigy Express^2 without using a Programming Track Booster. If you need this ability, this makes the MRC system about $50 more expensive than the NCE, which can read Tsunamis.

The next level entry is the Prodigy Advance^2. It has the same power rating as the less expensive Digitrax Zephyr Xtra. The MRC product will handle more throttles than the Zephyr.

The up-to-10-amp Prodigy Elite system has a street price a few dollars lower than the 5-amp Digitrax Super Chief Xtra when both include a power supply. These systems compete well on price and power level. However, the fixed voltage of the Prodigy Elite is too low for many O-scale and most G-scale systems.

So, let's look deeper into the Prodigy Elite system as the backbone for a bedroom-sized layout in S-scale or smaller.

Hands-on with the Prodigy Elite

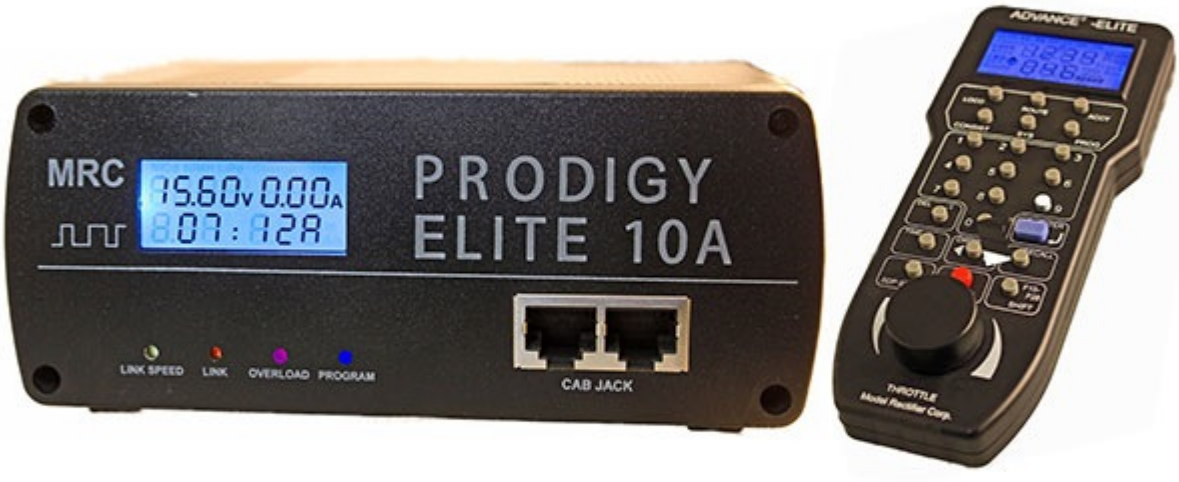
The throttle, power supply and interconnecting cords are all included with the Prodigy Elite system – everything you need is included in the box. The instruction book is small, but rather concisely written, packing a lot into only 20 pages.

From the factory, the Prodigy Elite is set for 6 amps maximum. My load resistors easily apply about a 5-amp load. The track voltage, as displayed on the Prodigy Elite, is about 15.6 volts with no load, dropping to about 15.4 at 5 amps. This is higher than the specified 14.5 volts, with acceptable regulation.

Full shorts shut the entire system down, just as if you had unplugged the unit. Overloads (10 to 20% over the stated amperage) leave the system on but with track voltage shut down and a flashing red LED on the front panel. Thus, I would NOT use the system without at least

one high-quality circuit breaker like the NCE EB1 or the DCC Specialties PSx. Otherwise, I fear, you will be chasing shutdowns in all but the most benign situations.

4. MRC Prodigy Elite 1 to 10 amp system. MRC photo



Adjusting the current output on the system is easier than setting an address in a loco. A few button presses allow you to review and change the setting. I find that the internal fan on the system box kicks in as soon as the system draws over 5 amps. I have yet to get the fan on the power supply to cycle on.

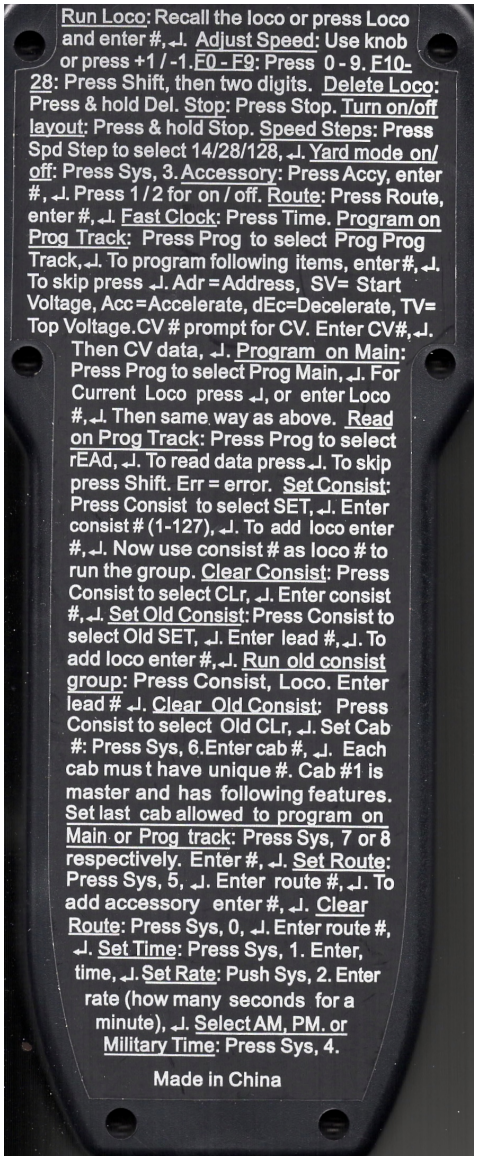
The Prodigy Elite power supply will work with any power main voltage and frequency that I know of anywhere in the world. The power supply utilizes a 3-pin input connector. The system is shipped with a power cord appropriate for the USA-style power mains. Replacing the power cord will have you moving trains anywhere in the world.

Programming is not as straightforward as I am used to with my NCE system. However, it is not as obtuse as many find Digitrax to be. It kind of hits a middle ground here.

The system fast clock display is nice, but it seems to reset every time you turn the system off and back on. I imagine that you would get very good at setting the fast clock if you used it regularly.

The throttle, system box, and power supply all seem very lightweight and a bit on the flimsy side.

5. Instructions on the back of MRC Prodigy Elite throttle. Bruce Petrarca photo



Programming

I didn't have the opportunity to spend enough time programming to become anywhere near comfortable with the MRC system. I found that I was confused programming with it. That said, I use JMRI's

DecoderPro almost exclusively to program decoders, so am becoming less and less conversant with button pushing to program.

However, currently JMRI is only supported on the Prodigy Advance[2] unit, so I couldn't test it with the Prodigy Elite that I had available. Within the limits of the functions supported on JMRI, I am sure that programming with the MRC system would be very similar to what I've become accustomed to with Digitrax, Lenz or NCE. Such simplicity is my goal.

Expandability

Wireless (radio) and computer control interfaces are available for all of the Prodigy series systems.

Conclusions

On a recent trip, I had a rental car that is a model that directly competes with the sedan I recently purchased. The ability to drive this competitive car showed me a few things that worked better than the same features on my car. However, close to a week of driving the competition, which is one of the best-selling models in the USA, reaffirmed my decision to buy the car I did.

This is how I feel about the MRC Prodigy Elite. It is a nice unit with a lot of power and some neat features. I believe I could like it if it were the only system I had worked with. However, I am not ready to trade my NCE system or the club's Digitrax system for one. The MRC offerings seem to be oriented to folks who want a DCC system to run a few locos about. They miss the mark for serious operators, as I discussed in this column.

I hope that MRC trades the low-price moniker for a solid-feeling system that really does what a serious operator needs in the future. It is so close and yet still not there.

Please join the conversation after the column on the MRH web site. A lively discussion frequently ensues. If you liked the column, please

rate it awesome. You can do both with the reader feedback links at the beginning and end of the column.

Until next month, I wish you green boards.