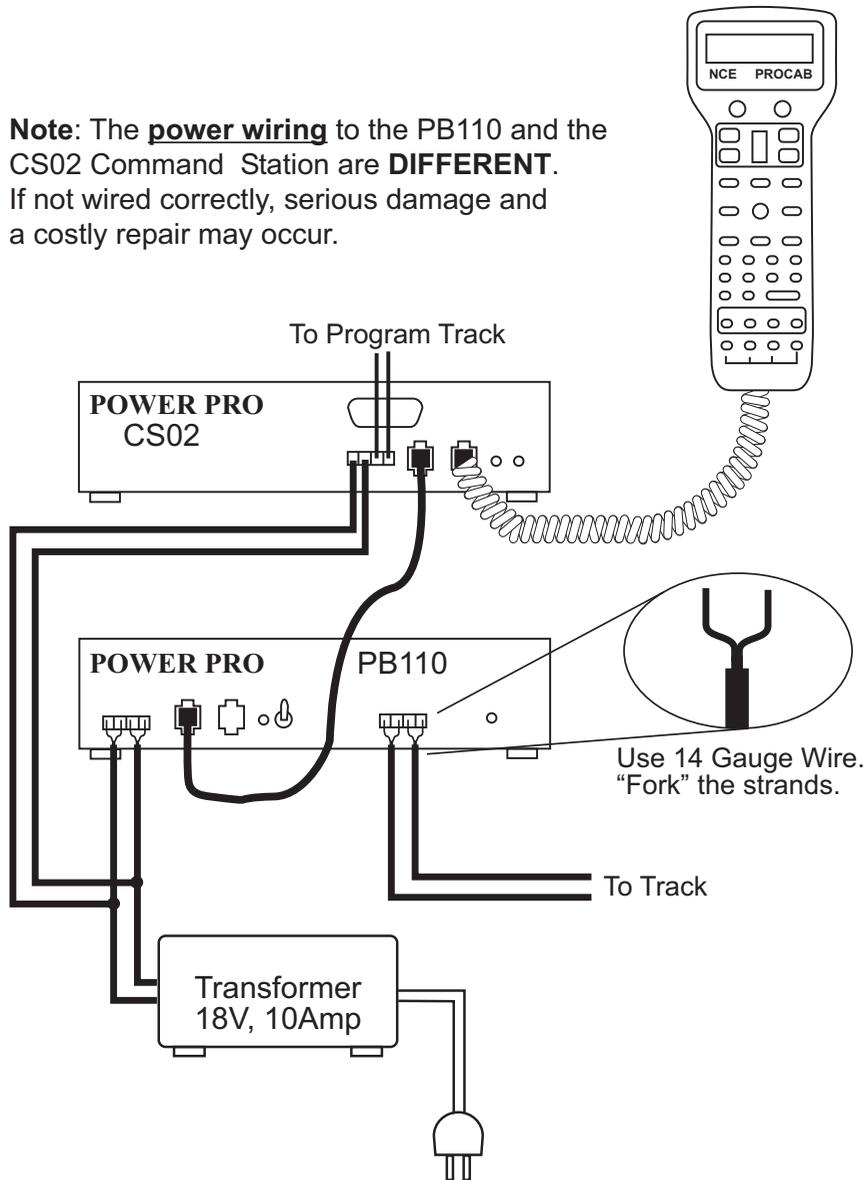


# Basic Set Up of 10 Amp Power Pro System

**Note:** The **power wiring** to the PB110 and the CS02 Command Station are **DIFFERENT**. If not wired correctly, serious damage and a costly repair may occur.



# Basic Set Up of 10 Amp Power Pro System

## BE CAREFUL

The maximum input voltage to your PH-10 or PH-10R is **22 Volts AC**. Voltages higher than 22 Volts AC will ultimately destroy your booster resulting in an expensive repair charge.

We recommend our 18V AC, 10 Amp transformer (P.N. 524-224, P1018). If you are using a different transformer be sure to measure the actual no load voltage before connecting it to your system.

## Quick Start

### Contents of the 10 Amp PH-10 System:

- CS02 Command Station
- PB110A Booster
- Pro Cab
- Seven foot coiled cable
- Twelve inch, four wire flat cable
- Seven foot, four wire flat cable
- UTP cab bus panel
- Seven foot, six wire flat cable for the UTP panel
- Power Pro system reference manual

We recommend that you follow the instructions below to connect your system to a small test track first. After your system is checked out completely and known to be working then consider the final installation locations for components and connections to the track.

### TRYING OUT YOUR PH-10:

- #1 Disconnect the existing power supplies from your layout.
- #2 Connect one end of the long (7 foot) **coiled** cable from the cab into the CS02 CAB BUS socket. Plug the other end in the ProCab.
- #3 We supply a twelve inch and a seven foot four wire, **flat** cable for the CONTROL BUS. Depending on where you mount the CS02 and the PB110A, use either the short or long cable. Plug one end of the cable into the CS02 CONTROL BUS socket. The other end of this cable plugs into one of the CONTROL BUS sockets of the PB110A. This connects the "Command Station" portion of the Power Pro to the "Power Booster" portion.
- #4 If in place, pull the 4 pin plug from its socket on the face of the Power Pro. Connect your power source to the screw terminals marked POWER. Your power source must have a voltage within the range of 16-22 volts AC. Follow the diagram to the left. Make special note of the differences between the CS02 power and the PB110A power wiring. Do not exceed these voltages as damage to the PB110A is

certain to result. If there is not enough voltage, the STATUS light on the PB110A will flash quickly. There will be a similar indication if the DCC signal from the command station is lost. The PB110A is factory adjusted to put out the NMRA recommended 16 volts for O and Large Scale.

**NOTE: Hook up to the PB110A and the CS02 are different.**

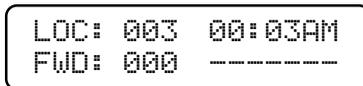
#5 Set up a test track. Obtain a length or two of flex track, or better yet, use that old circle of Atlas Snap Track you've had kicking around for years. Do NOT connect the PH-10 up to your layout at this time. We want you to test the operation of your new DCC system without the complication of troubleshooting any layout wiring, closed gaps, broken switch points, etc. Once you are confident that your new PH-10 DCC system is up and running then hook it up to the layout (after finishing the Quick Start Guide). Make sure that your layout wiring can stand a continuous 10 Amps of current. We recommend a minimum of #14 feeder bus, preferably #12 and at least #18 AWG power drops from the rails to the feeder bus.

Connect two wires from your test track to the TRACK screw terminals of the PH-10 plug. Plug in this connector into the socket marked TRACK.

#6 Carefully inspect all wiring to make sure proper connections have been made.

#7 Plug in the power source and/or turn on the power.

#8 The display of the cab should look something like:



```
LOC: 003 00:03AM
FWD: 000 -----
```

This is what we call the 'NORMAL DISPLAY'. The fast clock in the upper right hand corner will most likely show a different time.

The following cab buttons must be pressed in the proper sequence to acquire control of locomotive #3 (in the above example locomotive #3 is already selected):

- a. Press **SELECT LOCO** button once.
- b. Press the "3" button once. DO NOT press 0 then 3.
- c. Press **ENTER**.

Note: By convention, all locomotive decoders have their short address set to 3 at the factory.

**TIP #1** ➡ If you make a mistake while entering numbers on the cab just keep pressing more numbers until the number entry field clears, then enter the correct numbers.

**TIP #2** ➡ Whenever the cab is waiting for you to enter data (a flashing black square is on the screen at the point where the numbers will go) you can press the **PROG/ESC** key to "escape" what you were doing and return to normal operation mode.

**TIP #3** ➡ Whenever you have pressed a button (such as **SELECT LOCO**) and you want to keep what ever number that is already on the screen just press **ENTER**.

- #9 To operate the locomotive, the following controls are used:
- a. The thumbwheel will increase/decrease speed. The speed control buttons that flank the thumbwheel on either side may also be used as desired to control the loco speed.
  - b. Pressing the **DIRECTION** button will cause the loco direction to reverse.

**CONGRATULATIONS!** You are now operating one locomotive with DCC control. In most cases, less than twenty minutes has elapsed since you started reading this Quick Start Guide.

After completing your Quick Start, go to Page 1 - "Completing the Quick Start."