

## Head End Power Parts

Northwest Rail Electric distributes all parts and materials necessary for converting passenger cars to Amtrak compatible HEP. This includes connectors, wire cleats, mounting plates for HEP connectors, railroad grade wire, and all other specialty hardware and materials.



## Custom Equipment

For cases where none of our standard equipment fit the specific needs of the customer, we have produced a number of custom control panels, air conditioning condensers, HVAC blower packages, heaters, generator controls, HEP parts, and electrical locker packages.

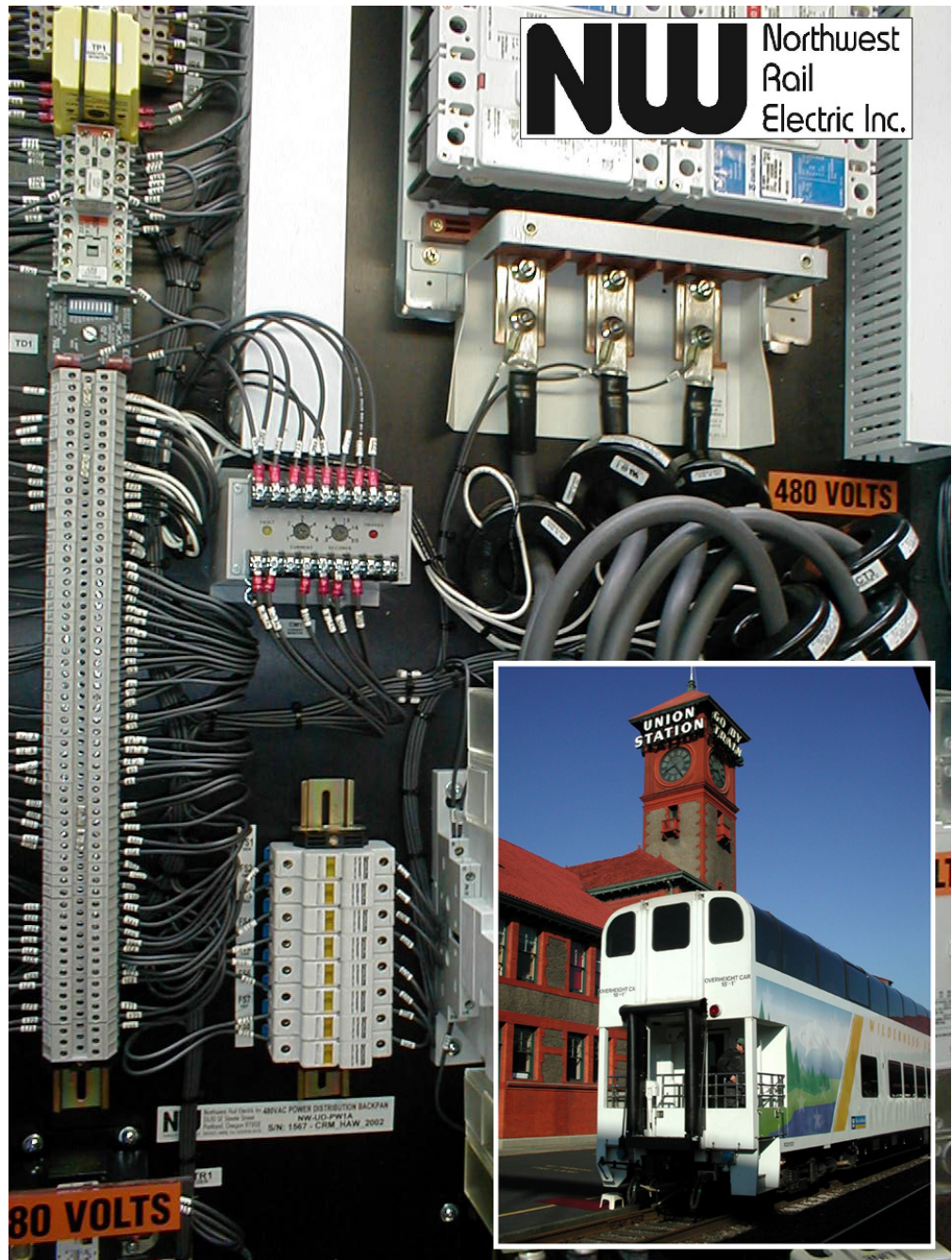


## Consulting

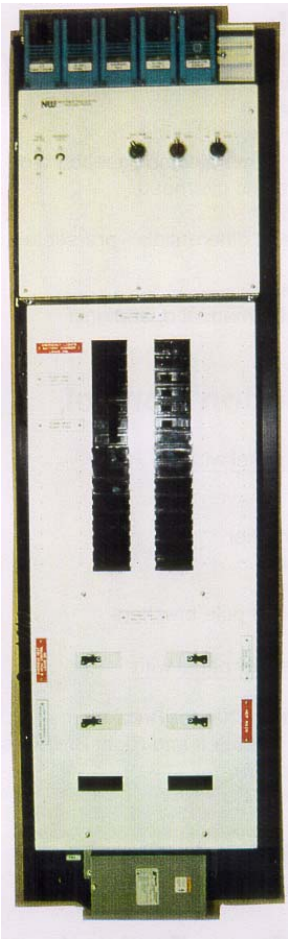
We have been involved in several hundred passenger car HEP conversions, and passenger cars using Northwest Rail Electric systems are operating from Panama to Alaska, on everything from baggage cars to business cars owned by the largest of North American railroad companies. We have evaluated passenger cars for customers, and worked with many different car builders, tourist railroads, railroad museums, private car owners, several transit agencies and class 1 railroads, and one entertainment company.

Get in touch with us today to see how we can help you with all your railroad passenger car needs.

**NW** Northwest Rail Electric Inc.  
2630 SE Steele Street  
Portland, Oregon 97202  
www.nwrail.com 503/231-4808, Fax 503/230-0572



**Railroad Passenger Car  
Electrical and HVAC Equipment  
From Northwest Rail Electric**



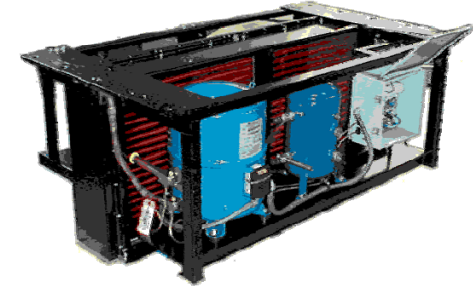
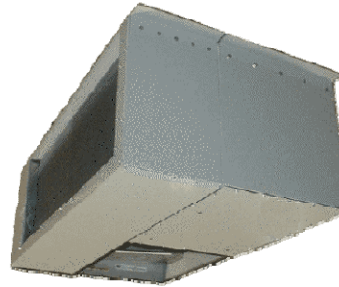
### Locker Packages:

Northwest Rail Electric makes a variety of electrical locker packages to fit a number of different applications. The simplest type of panel (**left**) includes heating and air conditioning control and circuit breaker panels for 480 volt three phase and 120/208 volt three phase and single phase circuits.

The most complex packages, such as shown on the cover of this brochure, may include load shed, power selection between generator or HEP or yard power, automatic generator start-up and operation, current monitoring, generator feed to other cars, battery circuits and charging, and various custom features.

### Heating, Venting and Air Conditioning Packages

We have made a wide variety of HVAC equipment to fit various passenger cars, but our standard models will fit almost all North American passenger cars.



Our standard evaporator unit (**above, left**) includes blowers, heater and air conditioning evaporator that will fit in most retrofit applications. Our standard condenser (**above, right**) is built to fit most passenger cars as well. All components are constructed with railroad service in mind. For example, the condenser coil features widely spaced copper fins, so the unit will survive under-car dirt and resulting cleaning. Powder coat finish assures metal parts a long life.

### Heaters

Northwest Rail Electric heaters are solid element designs. Baseboard units are a low-profile design that fit most types of railroad car steam heat systems, and several types of overhead heaters (**below**) are available to fit several common steam heat coils, allowing near drop-in replacement and upgrade.

### Generator Controls

Our generator controls (**below**) are specifically designed for controlling under-car railroad generator systems, include interface to HEP and Yard Power systems, and provide required information for operation of a remote generator, as well as HEP power feed.

### Yard Power Units:

200 (**right**), 400, and 800 amp units have been produced, for feeding power to cars in station or storage. Several models are available for feeding several different types of power configurations.

