

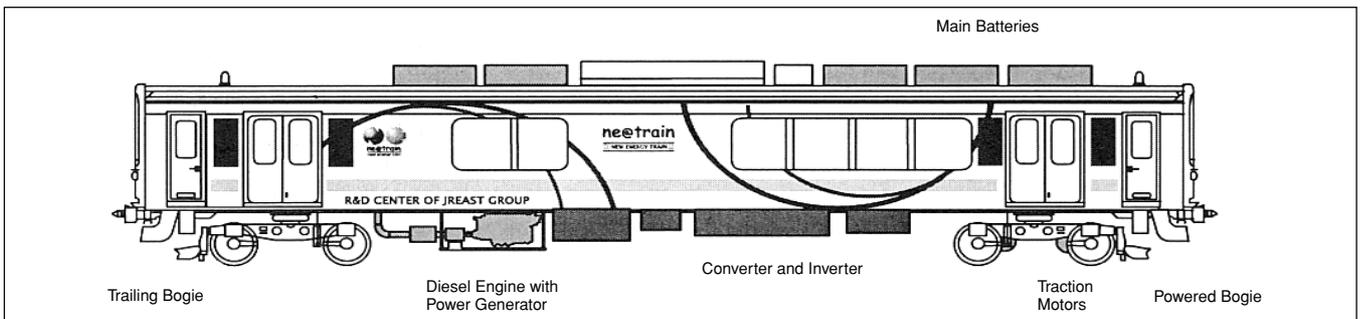
World's First Hybrid Railcar

JR East has revealed the world's first electro-diesel hybrid railcar to be tested for commercial operation soon. Nicknamed *NE Train* (NE means new energy), the single-car prototype has five large lithium-ion batteries on the roof, as well as a combined power generator and diesel engine under the floor. The engine does not run when the train is stationary or starting. Instead, the traction motors are driven by the batteries. At higher speeds, the engine starts to drive the power generator and power is supplied by the batteries and generator. The traction motors work as generators during braking and the regenerated power is used to charge the batteries.



NE Train on JR East Nikko Line

(Transportation News)



Layout of main equipment

(JR East)

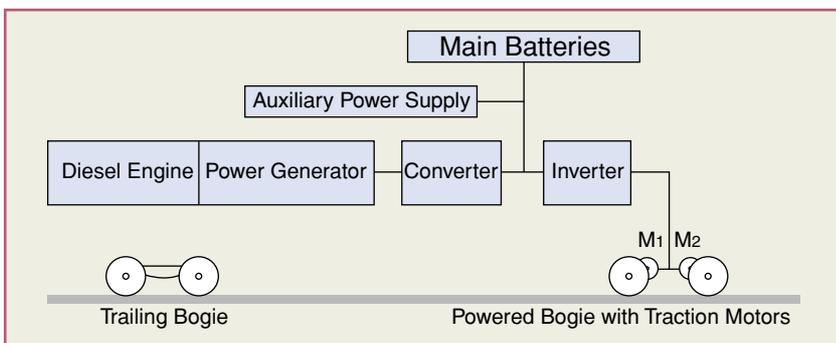


Diagram of main power and driving equipment

(JR East)



Driver's console

(EJRCF)

(Continued on p. 67)

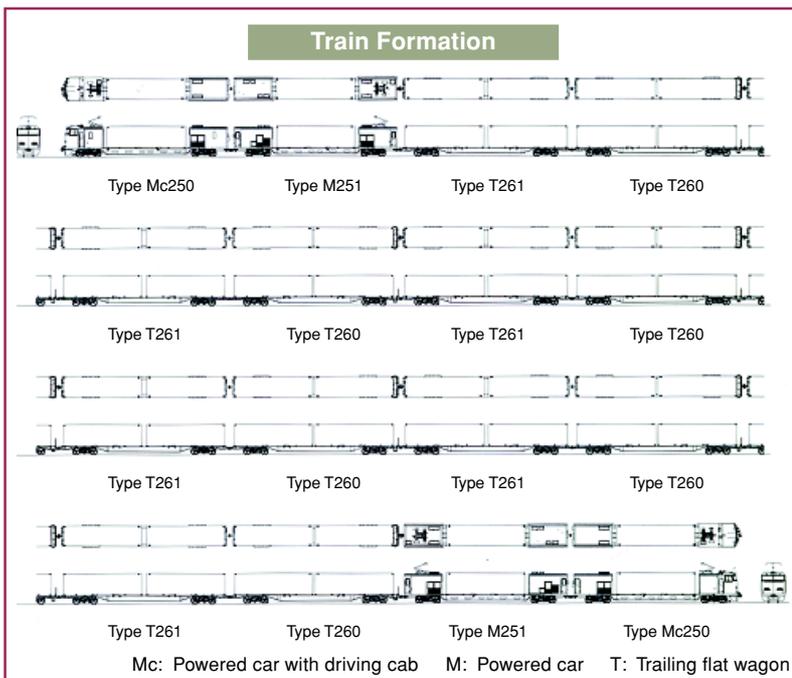
JR Freight to Develop Express Container EMU

JR Freight has recently revealed its prototype Series M250 container express EMU. Nicknamed *Super Rail Cargo*, the 16-car train set is composed of two powered cars at each end and 12 intermediate trailing flat wagons. Each powered car carries one 31-ft container while each trailing flat wagon can carry two. The maximum weight of the fully loaded train is 730 tonnes and a total rated output of 3250 kW drives the train at a maximum speed of 130 km/h. Although the inauguration date for commercial operation is yet to be announced, JR Freight and Sagawa Express—a leading trucking company in Japan—intend to introduce the train on the busy 500-km Tokyo–Osaka corridor to assure late evening departure and early morning arrival. JR Freight expects that environmental considerations will soon boost demand for this type of freight train.



Series 250 EMU with two powered cars at each end and 12 intermediate trailing flat wagons

(JR Freight)



Train formation

(JR Freight)



One of eight powered bogies

(Transportation Museum)



Driver's console

(JR Freight)