

Overview of Chuo Line Rapid Service Series E233 Railcars

Concept

Implementing customer suggestions

- Reducing service disruptions
- Providing service-related information
- Improving usability for senior citizens and female passengers
- Cleaner air
- Wider seats
- Orange color is the Chuo Line "brand".
- Customers like stainless steel cars.

Postcard questionnaire

· 20,000 Chuo Line (rapid service) passengers (44% response rate)

Group interviews

· 93 passengers in Chuo Line areas

Internet survey

· Approximately 1,000 Chuo Line (rapid service) passengers

In-train survey

· Inside Chuo Line (rapid service) trains

Base

Suggestions implemented

Cars that are not liable to fail (reducing service disruptions)

- Backups of main equipment fitted
 - Train can still carry on running even if one out of a pair fails.

Increasing the comfort and usability of cars, paying particular attention to senior citizens, females and the physically impaired

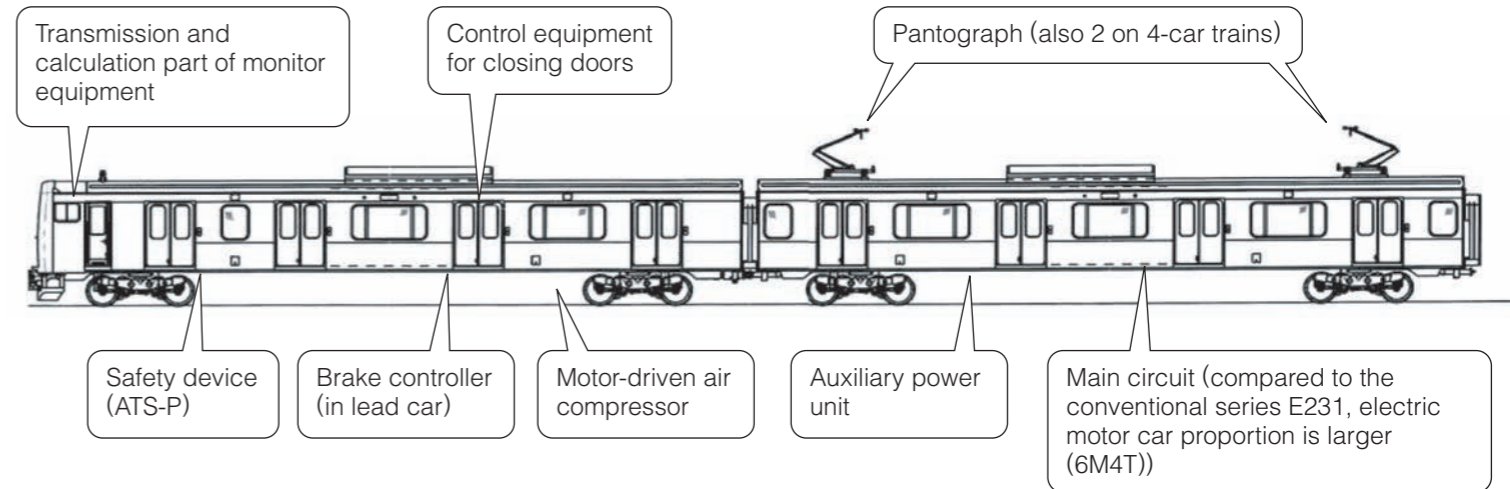
- Using Universal Design and improving accessibility for all
 - Height of luggage racks and hand straps each lowered by 50 mm around priority seating
 - Priority seating areas clearly marked
 - Braille used on doors
 - Floor of the train lowered to reduce the step between the train and the platform, from 80 mm to 30 mm.
- Women-only car created (designated as such only in the morning)
 - Height of luggage racks and hand straps each lowered by 50 mm since women are shorter than men.
- Air conditioning and wider seats for extra comfort
 - Air purifiers installed
 - Seats widened from 430 mm to 460 mm

Improved information displays and technical performance of cars

- Wide range of information for passengers
 - Inside the train: LCD displays to provide passengers with service-related information and news
 - On the outside of the train: full-color train destination displays (also for various different types of train)
- Reduced travel times from faster acceleration and deceleration
- Stainless steel wider-bodied cars to ease congestion
 - Bright and refreshing orange line on the body of the train

Enhanced resilience of train body

Backups for main equipment



External appearance



Comparison of new and old models

Series	E233	210
Number of cars	10 or 6+4 (6M4T)	10 or 6+4 (6M4T)
Body	stainless steel	steel
Maximum speed (car performance)	120 km/h	100 km/h
Control method	VVF inverter control AC induction motor	chopper control DC motor

Priority seating area



Series 201

