

Tokyo's Prewar Commuter EMUs

Tokyo's electric commuter trains date back to August 1904 when the private Kōbu Railway (nationalized in 1906 and now part of JR East Chūō Line) was electrified using a 600-V DC system between Iidamachi and Nakano via Shinjuku. The government railways' Yamanote Line was electrified in 1909 and the Tokyo–Yokohama section of the Tokaidō main line was electrified to 1200-V DC in 1914 after the opening of Tokyo Station. After WWI, Tokyo grew rapidly and suburban EMU services were expanded; the 1500-V DC system was adopted subsequently as the standard. To compete with the more efficient government railways, private operators also switched from steam traction to electrification during the 1920s.

Kōbu Railway electric railcar near Ochanomizu Station in central Tokyo (top). Government railways' Class *Moha* 30 (1926) for Tokyo suburban services (middle left). Tobu Railway's Class *Deha* 5 (1928) for longer commuter services to northern suburbs (middle right). Musashino Railway (now Seibu) Class *Deha* 5560 (1928) serving western suburbs (bottom left). Shonan Electric Railway's (now Keikyū) Class *De* 1 (1930) for suburban services around Yokohama (bottom right). The four colour pictures were painted by the late Mr Yasuyoshi Kuroiwa who was one of the most popular railway painters in Japan.



(Transportation Museum)



Paintings: Yasuyoshi Kuroiwa

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The early 1950s saw a change towards better acceleration and braking performance for operations at shorter headway. Comfort levels were also raised by installation of air conditioning and air suspension from the 1970s. The 1990s were marked by efforts towards environment-friendly energy-saving lightweight designs.



(JR East)

(JR East)

TRTA Marunouchi Line subway train composed of classes 300 (1953) and 500 (1957), the forerunner of today's high-performance EMUs (*top left*). Tokyu Corporation's Series 5000 (1954) used for Shibuya–Yokohama services (*top right*). Odakyu Electric Railway's Series 2400 (1959) for southwest services from Shinjuku to Odawara (*second top right*). JNR's Series 101 (1956) on cherry-blossom festooned Chuo Line near Higashi Nakano (*middle left*). View of Tokyo Station with JNR/JR's Series 201 (1979) for Chuo Line express services in foreground and Series 205 (1985) for Yamanote Line services, both with regenerative braking (*middle right*). JR East's Series 209 (1991) with lightweight body and VVVF control (*bottom left*). The Series 209 was modified to a wide-body version in 1998 to ease passenger crowding on the Chuo and Sobu lines (*bottom right*).

Photos: Satoshi Kubo