



NCTD SPRINTER Rail Vehicle

The SPRINTER light rail vehicles, which begin service in March 2008, are self-propelled units that are best known for being quiet, clean, sleek and sensible. The “Desiro” brand vehicles being purchased by NCTD from Siemens AG Transportation Systems, are new generation, mid-sized, modern diesel multiple units, also known as DMUs.

These vehicles will be the second DMUs of this kind in the country, although they are widely used in Europe. The German Railway (Deutsche Bahn) alone purchased over 230 of these vehicles for use in regional and suburban operations throughout Germany. DMUs of a different design are currently running on New Jersey Transit’s River LINE.

This vehicle is unlike any train you’ve seen before

Reasons to hop aboard the SPRINTER:

- Vehicles offer a high degree of passenger comfort thanks to wide doors, level boarding and a high percentage of low-floor space (60%)
- The lightweight aluminum bodyshell is sleek and inviting
- The robust, environmentally compatible drive system features diesel engines, which comply with strict Euro III emissions standards
- Bright interiors feature wide aisles, padded seats, luggage racks, extra-large windows and generous lighting

SPRINTER



The SPRINTER diesel multiple units (also known as DMUs) run on a 22-mile rail line that connects the cities of Escondido, San Marcos, Vista and Oceanside. They begin operations in March 2008 and serve 15 stations every half hour along North County's heavily congested Highway 78 corridor.

Exterior

The SPRINTER vehicles feature NCTD's signature royal blue, white and teal paint scheme. The sleek bodysell is much smaller in size than a commuter train. Vehicles feature destination indicators at the front and on each side of the unit. Its multiple-unit design allows for vehicles to be coupled together – the SPRINTER runs in two unit sets, but more can be linked together to provide additional capacity as demand increases over time or for special events.

Interior

The SPRINTER vehicles feature multiple seating compartments with padded seats in two levels. Four seats are in each row, arranged facing one another. Generous overhead compartments provide plenty of space for belongings. Multipurpose areas contain folding seats, fixtures for stowing bicycles, baby carriages and bulky luggage. Wide aisles with comfortable seat spacing make it easy to walk through the train.

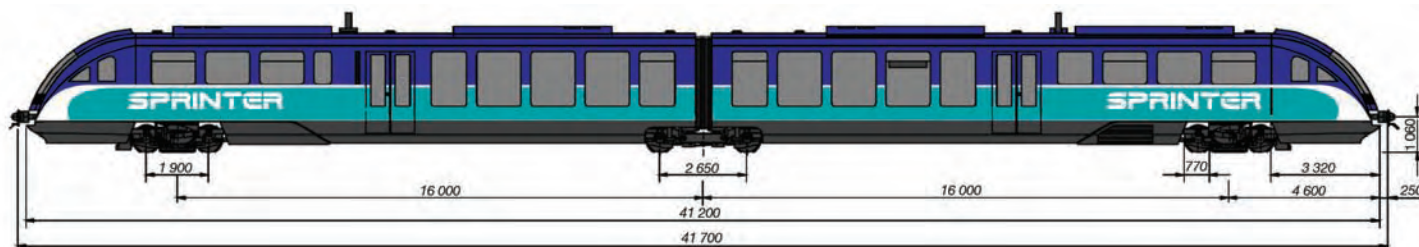
The appealing interior is highlighted by graffiti-resistant textured paintwork, attractive upholstery and glass partitions that separate the boarding area from the rest of the passenger compartment. Boarding and exiting areas accommodate a modern passenger information system and an emergency call station with a link to the driver.

Doors

When the SPRINTER arrives at the station, passengers are lured inside through doors with a clear opening width of approximately four feet. A deployable threshold offers 100% level boarding for ease of entry/exit and accessibility for passengers with disabilities. Passengers hear an acoustic warning when doors close. A speed-dependent door inhibiting facility prevents doors from opening when the vehicle is in motion.

Windows

Passengers are impressed with how bright and airy these vehicles are, due to extra-large, panorama windows. These windows are made



All dimensions indicated are in millimeters.



of laminated safety glass, bonded into position flush with the outer skin. Six windows are arranged in each section with a tip-down panel at the top.

Comfort

Riders experience low noise levels thanks to noise-attenuating insulation on the inside surfaces of the mainframe. The trains will travel on brand new continuously welded rail with concrete ties and new track bed, significantly reducing noise.

Two roof-mounted air conditioning units on each car and a warm-water recirculating air heating system ensure a pleasant climate. Static roof-mounted fans provide good ventilation.

Passengers can relax and enjoy padded seats with comfortable backrests and ample legroom.

Safety

Safety is the first value of the NCTD Board's mission statement and when developing the SPRINTER,

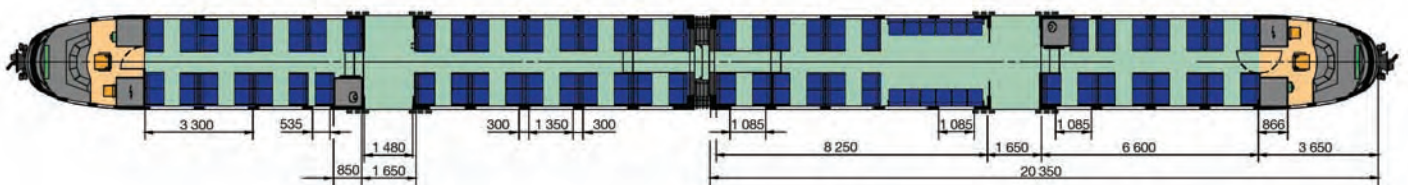
innovative and enhanced safety measures were used. All grade crossings are being upgraded with state-of-the-art signals and warning systems. The SPRINTER operates on a dedicated right-of-way – freight trains only use the tracks at night when the SPRINTER trains are not running.

Environmentally-friendly drive system

The SPRINTER will reach speeds of up to 55 mph thanks to modern, powerful diesel engines which comply with the limits stipulated by the strict Euro III emissions standards. The SPRINTER DMUs are more efficient and quieter than their heavy commuter rail counterparts, such as the COASTER and Metrolink.

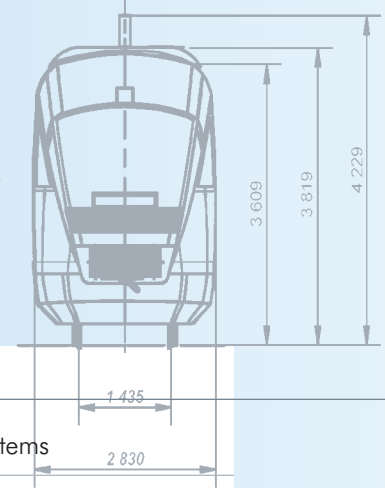


The first SPRINTER vehicle arrives in Escondido on August 15, 2006.





All dimensions indicated are in millimeters.



Technical Data

Manufacturer	Siemens AG Transportation Systems	
Type of drive	Diesel-mechanical	
Carbody	Aluminum integral construction	
Track gauge	Standard 4' 8 1/2"	
Maximum permissible speed	55 mph	
Total seats	136	
Number of standing passengers	90	
Length of married vehicle pair	135'	
Maximum width	9'4"	
Maximum height	13' 10 1/2"	
Floor height	low-floor area	22"
	high-floor area	49"
Empty weight	67 ton	
Maximum weight	87.3 ton	
Fuel tank capacity	2 x 200 gal.	
Wheel diameter	new / worn	30.3"/28.0"
Type of brakes	Hydrodynamic retarders, direct-action automatic electropneumatic brake, may also be actuated as indirect, automatic pneumatic brake, electromagnetic track brakes in the powered bogies	
Engines	Two turbocharged, intercooled 6-cylinder diesel engines, each rated for 420 Hp	
Transmission	5-speed automatic transmission with integrated torque converter and retarder	
Heating, ventilation and air conditioning	Warm-water convection heating, pressurization, air conditioning systems in the passenger compartments and the driver's cabs	
Onboard electrical equipment	Multiple control of up to 3 units; 24 V DC electric train supply; two 24 V DC battery sets, each 225 Ah	
First delivery to NCTD	August, 2006	