EM A1 (former ORA-PREDAZZO RailRoad)

The original text of Sergio Usai, http://fgc.altervista.org/bve.htm, has been adjourned and revised October 20 th 2009 by Roberto Benini

TRACTION AND ELECTRIC BRAKES

The A1 EMU has a rheostatic starter system and two speeds in continuous service, in this way:

- SERIES: the two groups of motors (two in every trucks are always series   connected) are connect in series, therefore V_{mot} = V_{line}/4 = 750V each motor   with V_{line} = 3000V

- PARALLEL: the two groups of motors are connect in parallel, therefore V_{mot} = V_{line}/2 = 1500V each motor

- ELECTRIC BRAKES: the two groups of motors are connect to the rheostat and   work as D.C. generators

Rheostat's exclusion, PARALLEL or SERIAL connection and ELECTRIC BRAKES command are operated through a mechanical switcher (CONTROLLER) with 17 positions. The controller is operated through a roller chain by the wheel in front of the manuever bench.

Positions of this wheel are corresponding to these situations: 1 - 2 - 3 - 4 - 5 - 6 - 7 > SERIAL CONNECTION (in position n.7 the rheostat is switched off)
8 - 9 - 10 - 11 - 12 > PARALLEL CONNECTION (in position n.12 the rheostat is switched off)
F1 - F2 - F3 - F4 - F5 > ELECTRIC BRAKES operation

The rotation of the wheel operates the controller through a chain and a shaft. The controller is placed in a proper high voltage cab, in the middle of the car. Switchings (rheostat exclusions and motor connections) are operated by a cam shaft inside the controller.

The reverse command is pneumatic and operated by a lever on the manuever bench. Compressed air is supplied by a 48V compressor and monitored by a manometer in front of the cab.

- With openBve It has been possible to insert the 12 traction positions in the FILE. THIS OPERATION IS DONE BY PRESSIG A AND Z KEYS.

- ELECTRIC BRAKES operation is simulated with the brake command at 13 positions

VACUUM BRAKING (HARDY SYSTEM)

A vacuum braking (Hardy system) is fitted on this EMU. A 3000 V vacuum pump generates vacuum in cylinder and pipes. The cilinder's rod piston operates brakes levers and there is a vacuum cylinder in every car.

The FILE previews 13 positions of braking + one in emergency. The operation is executed through the keys ; : - (for Italian keyboard).

INSERTING EM_ A1g-3D FILE IN OTHER ROUTES

In order to insert the file in other routes it is necessary to open the route file (by ex. FEVF.CSV) using WORD PAD or NOTEPAD and replace in the TRAINsection the existing item FILE=Existing_Train with

FILE=EMA1g-3D

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