

ATO

AUTOMATIC TRAIN OPERATION



GENERAL RAILWAY SIGNAL COMPANY



RAPID TRANSIT — FULLY AUTOMATIC

Here's the "new look" in motormen's compartments. No hand on the control lever. Against the wall, a fail-safe network of transistors, relays, and electronic circuitry.

Brainchild of the General Railway Signal Company's corps of automation engineers, this control system has proven the feasibility of automating one of New York City's busiest subway routes, the Grand Central-Times Square Shuttle Service.

During months of exhaustive testing, it has piloted a three-car train hundreds of times over trackage which closely simulates the actual Shuttle run. The automatic control is in constant, electronic touch with an automatic dispatcher at the wayside, is instantly responsive to the rail-borne streams of command pulses. The control is continuously alert to every detail of traffic conditions and is fully interlocked with time-tested, fail-safe protective devices.

All operations are fully automatic: sign changing, door controls, braking and speed controls. Acceleration is automation smooth; platform stopping points are pinpoint accurate. — VERY TRUE

Now well out of the laboratory stage, this automatic rapid transit control is a practical reality, ready to go into actual service - another modern "Tool for Transportation" from the General Railway Signal Company, pioneer and leader in Automatic Train Operation.

A test road freight
running under fully
automatic control.



ATO ON THE MAINLINE

General Railway Signal Company experience in Automatic Train Operation also includes equipping a road freight train for automatic operation.

Recently brought to a successful conclusion, on a Canadian railway, tests were made with a regular road locomotive, drawing a test car, 32 freight cars, and a caboose.

When its GRS control equipment was switched to "AUTO", all operating procedures were entirely automatic. The train responded to rail-type codes for automatic block protection. In addition, tuned, inert way-side coils governed dynamic braking as required on downgrades and for automatic speed reductions in "slow order" areas.

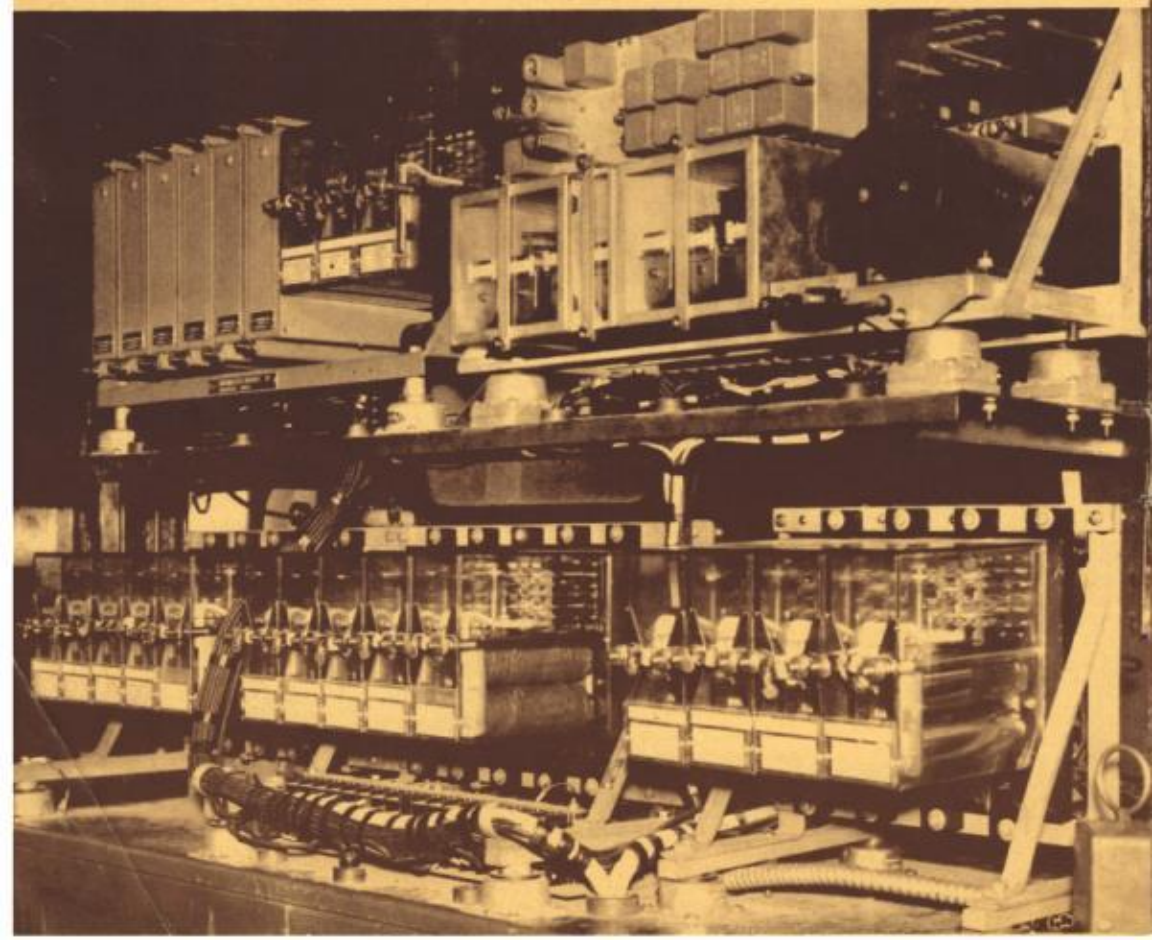


Electronic circuits and relays give intelligence to the automatic freight train.



A locomotive antenna receives controls from a single wayside linewire.

Receiving and control equipment in locomotive cab.



REMOTELY CONTROLLED GRAVEL TRAIN

In regular operation on a heavy traffic Canadian ore railway, this gravel train is equipped with the General Railway Signal Company's remote control system. The train consists of a standard 600 h.p. diesel locomotive and three air-dump cars. Inductively controlled from a single wire on a wayside pole line, it operates, at present, over about one mile of track. The track will be extended as needed into the raw gravel workings.

Operated entirely by remote control, the cars are spotted for loading, move to the receiving hopper at the gravel plant, and dump as required.

One man, in a tower overlooking the plant, controls the processing equipment as well as the train.



6148



ROBOT CAR ACCELERATOR

A battery-powered car accelerator is one of the many features available with Class-Matic®, the GRS system of freight yard automation. This car accelerator was furnished as part of a huge freight classification yard, which included radar and electronic computers for complete automation of the car sorting.

Electronically controlled from a central tower, the accelerator is designed to run to various points in the yard and shunt cars about as required.

GENERAL RAILWAY SIGNAL COMPANY

ROCHESTER 2, NEW YORK

NEW YORK 17, NEW YORK

CHICAGO 1, ILLINOIS

ST. LOUIS 1, MISSOURI