

## THE TACT SYSTEM

The TACT system is being developed to meet train control requirements for new railways and for the refurbishing of lines where there is no modern signalling system. TACT stands for Total Automatic Control of Trains, and what is in fact total about this system is the information central control has concerning the trains in the system.

Operating philosophy on railways has in the past depended very much on local control. It is natural only to attempt control of the area within which communication can be established. As communications have improved control has become more centralised, station masters have been replaced by area managers, wagon allocation will soon be on a national basis, and local signal boxes have been replaced by power boxes, the latest of which incorporate computer systems which give further aid to centralised regulation.

Communication to the train itself has changed remarkably little. Information is still conveyed visually from the trackside to the driver from fixed points only. The signals have been made more effective and are now backed up with AWS, but they are no different in basic concept from those used in the early days of railway operation.

Multiple Aspect Signalling is designed to meet present and predictable future traffic requirements. It is limited in flexibility, as once lineside signals have been installed, their spacing cannot easily be varied to allow for an unforeseen substantial change in traffic demand or a change in the characteristics of one or more of the types of stock using the line.

Research has shown that reliable and continuous communication can be established between trains and a centralised control point. Information to control train speed can be passed via this link and the need for physical trackside signals vanishes.

From the description of the TACT system in the report, it will be apparent that the principles employed make TACT suitable for a wide spectrum of advanced guided land transport systems such as very high speed trains, automatic freight vehicles, automatic commuter trains or even magnetically levitated vehicles. The major economic advantage of the TACT approach is that a major part of the conventional signalling system is not required.