

TRAIN COASTING ADVISORY SYSTEM (TCAS) HARDWARE

This document describes the hardware used for the TCAS pilot scheme tests. The aim of the TCAS project is to give the driver of a High Speed Train an indication when the train is sufficiently ahead of time that it can coast down to a lower speed before braking for a speed restriction or stop. This will provide a saving in brake wear and possibly a reduction in thermal cracking of brake discs; over a period of time, it will also save fuel. Another possible side benefit is that drivers may gain a means of improved timekeeping.

The computer in the driver's cab compares the train's progress with the train timetable. Whenever coasting is appropriate the driver is given a visual indication. For the pilot scheme a data logger is incorporated to allow Research Division staff to study the characteristics of train journeys. To act as a control, a series of journeys are being logged without giving any coasting advice to the driver. The positions of the AWS magnets have been logged as they are used for route/position checking.

The TCAS equipment has been fitted to five power cars for this experiment. The report details the hardware, and contains details of electrical safety procedures for working on the equipment.