

Event Recorder

Industrial Radio Remote Control

From Cattron Group International



* Event Recorder is ONLY compatible with Cattron locomotive remote control systems utilizing STS protocol. Contact your Cattron representative or one of our local offices for further details.

Digital Event Recorder for Locomotives

The Digital Event Recorder from Cattron Group International, when used in conjunction with the Accuspeed or MP 96 RCL locomotive remote control systems, is an invaluable tool for monitoring and analyzing operational data from Radio Remote Controlled locomotives. The Event Recorder monitors and records electrical analog, digital and pneumatic input data from the remote control system, and the locomotive which can be retrieved and downloaded to a computer through a wired or wireless serial link. Items recorded include all commands from the Operator Control Unit (OCU), the remote control inputs and outputs as well as locomotive only functions. Samples are recorded once per second.

The Cattron Event Recorder is FRA certified and provides 220 recording channels for 96 hours **synchronizing information recorded by the radio control (RC) system with data from the locomotive**. All this is generated in a single integrated report that can save hundreds of thousands of dollars in incident reconstruction and liability protection. Most locomotive RC

system event recorders capture much less information and are not synchronized with the locomotive.

The package includes a sophisticated Data Analysis Software (DAS) for use on a PC which allows rapid search, chart-type data display and a wide variety of report customization.

With an optional cellular modem interface, Event Recorder data can be retrieved and viewed from virtually anywhere a phone connection is available – a valuable resource for trouble shooting with Cattron Help Desk technicians. In addition, the wireless link allows “real time monitoring” of the RC system and locomotive from a long distance, allowing you to see activity as it is happening.

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System Components

- Electronic hardware and software, including pneumatic analog and digital sensors.
- Main Recorder Cable connecting Event Recorder to the locomotive.
- RS-232 MP96G2 Receiver/Decoder Cable connects the event recorder to the RC Locomotive Control Unit (LCU).
- All LCU software
- Serial Download Interface Port (locomotive cab mounted enclosure) incorporating a DB9 connector that enables data downloads to a laptop computer.
- Traction Motor Current Module used to monitor Traction Motor Current.
- Axle Drive used to monitor movement and to compute locomotive speed and distance traveled.

Digital Inputs

- Throttle Position - the state of the throttle position is recorded along with the generator field.
- Dynamic Brake Setup - input is recorded and displayed as part of the throttle notch position channel.
- Generator Field - input is recorded as one of the inputs for throttle position.
- Direction of Travel (forward, neutral, and reverse positions). Two inputs are used for this channel. One of the inputs monitors the forward line (MU-8) while the other input monitors the reverse line (MU-9).
- Horn - this input is recorded as a high-resolution event with a resolution of 1/10th of a second. This input can be either connected pneumatically or electrically, but not both. Typically the pneumatic connection will be used.
- Bell - this input can be either connected pneumatically or electrically, but not both. Typically the pneumatic connection will be used.
- PCS Open - this input is used to monitor the Power (Pneumatic) Control Switch. This recorded input is used to determine whether an emergency condition occurred.
- Spare I/O Input - this input can be used to monitor a 74V digital input.
- If equipped, GPS position latitude and longitude.

Analog inputs

- Speed - Rotational speed (RPM) recorded. This measurement, wheel size, and time data are used to determine distance traveled and speed. This input is connected to either a 20 or 60-pole axle drive.
- Traction Motor Current (Load Amps) - This input is connected to the Traction Motor Current Module type CM-03.

Serial Inputs

The Event Recorder system will monitor and record serial data from the Locomotive Control Unit Computer. All serial data is recorded with a resolution of one second. This includes all OCU and LCU inputs and outputs, showing in each and every operating command and resultant RC directive to the engine.

Recorder Functionality

All recorded inputs are recorded with a one second resolution, except for the Horn, which is recorded with a tenth of a second resolution. The system will record a minimum 96 hours of data before re-recording over the oldest stored data ('endless loop'). The recorder utilizes Flash Data Memory (no batteries are required to maintain data integrity) to store the event data.

Self-Test Function

The Event Recorder is equipped with a continuous 'Self-Test' function that confirms that the Recorder is functioning correctly. An LED located on the side of the Recorder indicates that the 'Self-Test' function is operating.

Optional Cellular Modem Interface

The Multi-Mode Cellular Radio/Modem contains rugged extended-temperature hardware modules that support AMPS analog, CDMA and PCS digital infrastructures.

Note: The cellular interface does not require special calling or data plans, however, it is the responsibility of the end user to contract with a cellular provider. End user is responsible for all registration and relative airtime fees.



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