



## **Crew Alertness and Audio Visual Modules**

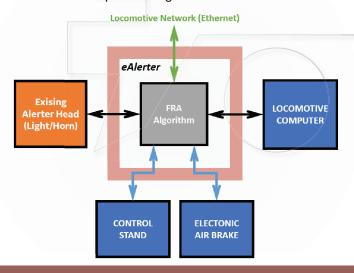
By focusing on the unique needs of each customer, Central Railway Manufacturing has worked with leaders in the rail industry to turn their crew safety requirements into a reality.

## **Crew Alertness and Audio Visual Modules**

Central Railway Manufacturing's equipment portfolio includes the eAlerter® family of products, crew alertness devices capable of supporting discrete standalone and PTC-enabled locomotive crew alertness applications. The F2530 eAlerter is specifically designed to work in conjunction with the components of existing integrated locomotives as a low-cost solution for adding energy management awareness and the latest FRA CFR compliance to onboard crew alertness systems.



The eAlerter is compatible with most existing audiovisual alarm boxes and electronic air brake systems by deriving locomotive control state available from LDARS and PTC on-board messaging as well as any serial source such as a locomotive computer to implement an FRA-compliant alertness algorithm. The eAlerter integrates into the locomotive network and also supports generation of real-time ITC network alerts for user-specified logical conditions.





## **Energy Management and Alertness...**

With a focus on cost reduction and environmental concerns, leaders in the industry have started to deploy locomotive energy management systems that optimize fuel usage and improve train handling. These systems rely on software components such as New York Air Brake's LEADER®, as well has physical throttle interface devices such as the CRM Throttle Assist Gateway, or TAG®, an M-9155 LCCM compliant throttle and dynamic brake interface.

While integrated locomotives can be equipped with these hardware and software components as part of an energy management strategy, performance of existing integrated crew alertness systems can be adversely affected. The CRM eAlerter system leads the industry with an embedded communications subsystem specifically designed to account for cruise control or auto-throttle activity, dynamically optimizing the crew alertness algorithm to ensure FRA alertness compliance without compromising crew safety or onboard energy management directives.