

Jacobsen Declaration Exhibit AV

Train Server® Administration Guide

KAM Industries

KAM Industries
2373 NW 185th Ave
Hillsboro, Or 97124

Phone 503 291 1221
email: sales@kamind.com
Fax 503 291 1221

Train Server® Administration Guide

Configuration and Diagnostic Manual



Train Server® Administrators Guide

Copyright © 1991 - 2004 KAM Industries. Engine Commander, Classic Panel, Computer Dispatcher, IFeedback, IEngComIc, Kamind, Layout Commander, LocoCe, LocoWinCe, Train Controls, Train Priority, Train Server, Train Tools, Video Speed are registered trademarks of KAM Industries. Products covered under Patent 6065406, 6267061, 6270040, 6530329, 6460467, 6494408, 6676089, Ger 29923834.2, GB 2353228, CAN and other US and international patents pending. All rights reserved..

*Other copyrights owned by their respective owners. Use with permission from Cisco Corporation, Dell, Lenz, and Hewlet Packard Corporation and Lenz Elektronik, GmbH. KAM Industries is a division of KAMIND Associates, Inc.

For more information on KAM Industries products, please contact

KAM Industries.
2373 NW 185th Ave., #416
Hillsboro, Oregon 97124

EMAIL: sales@kamind.com
WEB: <http://www.kamind.com>
FAX #: (503) 291-1221

Other names and brands are the property of their respective owners.

Revision: 10/6/2004

Copyright © 2000 -2004 KAM Industries. All rights reserved

Train Server® Administrators Guide

History of KAM Industries

Matt Katzer founded KAM industries in 1991, with the principle that model railroaders want a common software standard to operate their model railroads. All developers are faced with common tasks that are repeated over and over again. KAM's software is designed to address this duplication of effort. To facilitate this, in 1993, Matt joined the NMRA working group and contributed to the establishment of the DCC (Digital Command Control) standard for the embedded control protocol for the locomotive.

DCC established a way in which all manufacturers can use the same components on the model railroad. Matt, and Ken Rice (another member of the working group) working with the NMRA committee developed the NMRA serial command station interface. This interface led to the common command station protocol that soon become the defacto ASCII standard interface for computers and command stations.

In 1996, Matt and Ken West introduced Train Server, along with the proposed NMRA programming API. The programming API was the first multi user, multi programmed interface that allows developers to create software applications that are not tied to a manufacturer's command station hardware, or any operating system. Train Server was established as the programming standard overnight. Since 1996, KAM has shipped over 100,000 CD-Roms to end users and developers. Train Server is such an innovative and unique programming environment that numerous patents have been granted to KAM both in the United States, Germany, Great Britain, Canada and other countries

KAM Industries incorporated in 1998 as KAMIND Associates, Inc. KAMIND has extended the Train Server architecture adding Microsoft networked COM/DCOM protocol support and the support of Commercial Dispatcher control application from Train Track. Train Track developed the Windows NT version of software called Track Driver Professional 32. KAM, along with Train Tracks extended the software application to support the NMRA DCC protocols. This software achievement represents the first time that a commercial dispatching product has been ported to the model railroad command and control systems and DCC. This product has been released by KAM and is called Computer Dispatcher Professional (CD-Pro). KAM was the first Model railroad manufacturer to support Win 32 protocols in the operation and control of the model railroad. This advanced program development has lead to numerous patents incorporating advanced designs into KAM's Train Server.

In 1999, KAM Industries expanded in to Europe with inclusion of Computer Dispatcher Lite as part of the KAM's software product line. Computer Dispatcher Lite was designed for the automation conscious model railroad customers, and is a port Bouwens Engineering's Train Wizard. Computer Dispatcher Lite was later renamed to Layout Commander® software to reduce the confusion with Computer Dispatcher Pro. Computer Dispatcher pro is a professional dispatching program, while layout commander is a Layout Automation program.

Classic panel was designed to fill in the missing software component for manual operation in 2000. The software was designed using Sun Java language, and was designed from a 1940's Great Western Dispatchers panel. Microsoft has stop supporting the java language in all of its products in Summer of 2004. Classic Panel was rewritten to support the .NET runtime and to allow portability to the handheld devices. Classic Panel version 3 was released in Fall of 2004. Classic panel version 1 and version 2 were never production released, and from the market, Classic panel 3 is the original product, only 2 ½ years late. Classic Panel version 3 integrates new signal technology, distributed network support, location information and portability to the Windows CE PDA devices.

In 2001, Train Server reached another milestone: support for the first full duplex wireless hand held throttle using Microsoft Windows CE devices, called Loco CE. Loco CE integrates commercial computer Windows CE - PDA products into the model railroad environment using off the shelf computer equipment. Loco CE is the OEM software product included in Lenz Set LI in the United States.

In late 2003 KAM introduced the distributed XML communications protocol designed to allow distributed model railroad clients to operate over a remote network using TCPIP and the XML data/command

Train Server® Administrators Guide

protocol. The Train Server Architecture clearly extends the boundary on what can or cannot be done to support the end user and developers.

In 2004 KAM introduce The RailDriver Commander® remote software supporting the RailDriver computer based throttle and full scale simulators running model railroads. Rail driver interface is unique where the interface can be local to the user system, or remote across the internet using Train Server XML protocol. KAM's Train Server architecture supports the demands and performance of a user-to-hardware interface that is unique in the industry.