

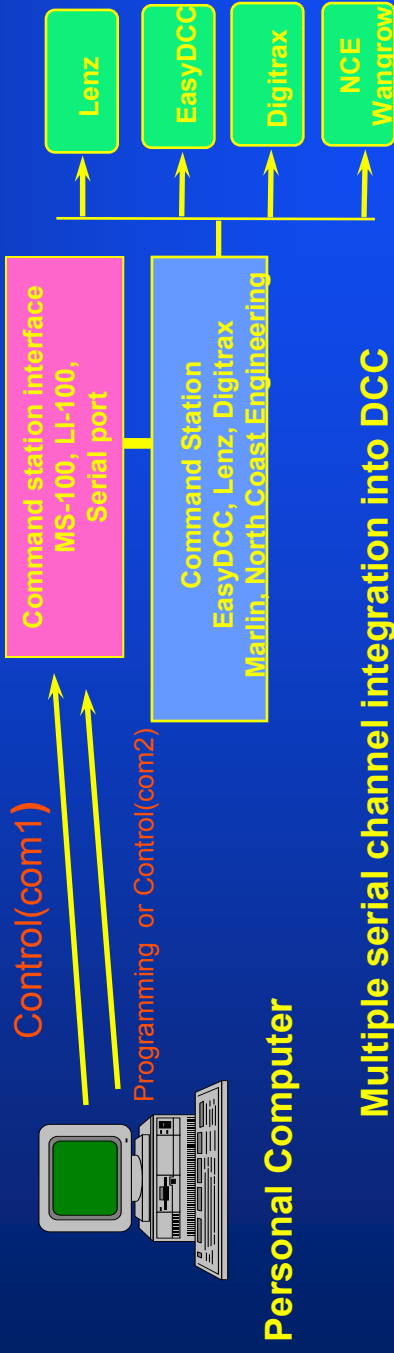
Engine Commander TM 2

**KAM Industries
Hillsboro Or.**



Railroad Requirements

- **NMRA DCC command stations**
 - 1 or more serial ports for multiple command stations
 - Up to 10 command stations may be used on layout
 - Common approach is one for control, other for programming/control



Personal Computer

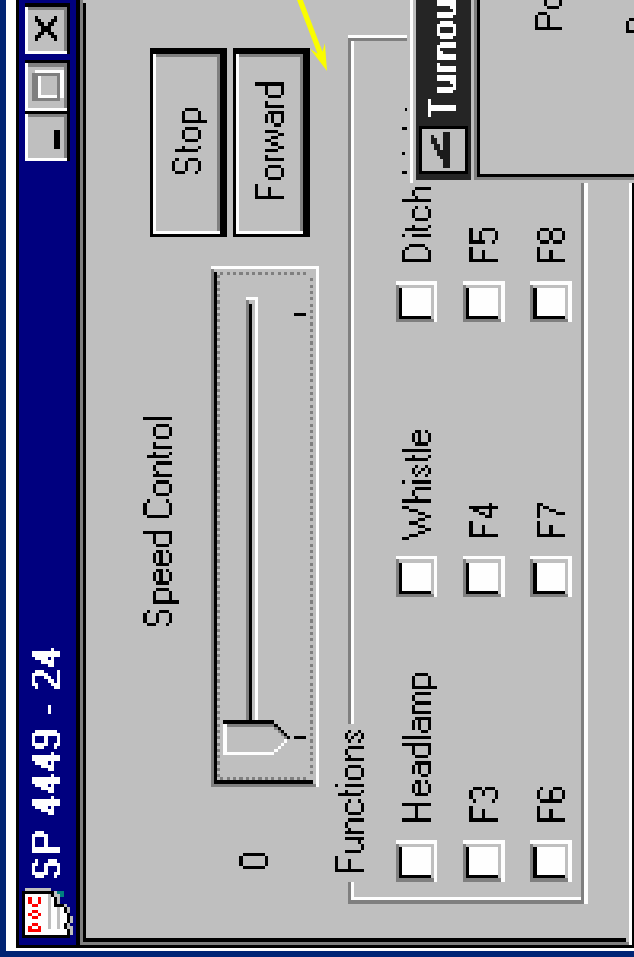
Multiple serial channel integration into DCC

Engine Commander TM 2

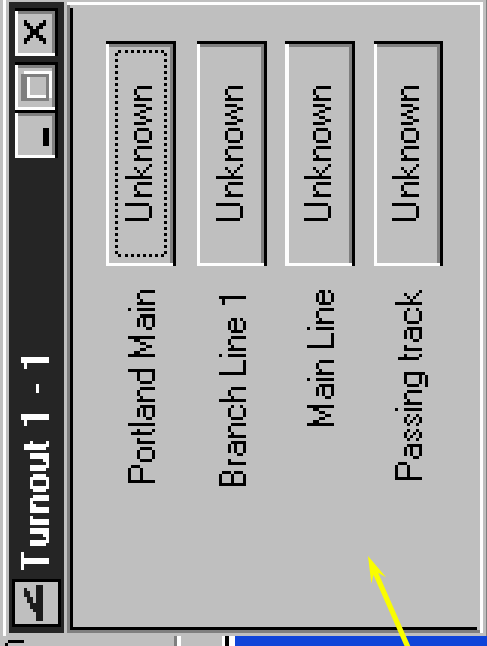
- **Supports Multiple DCC vendors**
 - Digitrax - LocoNet MS-100 adapter
 - EasyDCC - Computer Interface
 - LENZ - Digital Plus LI-100
 - Northcoast Engineering - Master Series
 - Marklin - 6050/6023
 - NMRA - propose serial specification
 - Wangrow - System One
- **Network enabled!**



Easy to use Interface



Throttles



Accessories



KAM's Philosophy

- **Computer Monitored**
 - the computer is a tool of the modeler
 - the computer is used to manage events
 - the computer does not control!

**EngineCommander® is the
Tool for DCC railroads**



PC Hardware Requirements

**If your PC runs Windows
95/98/NT then you can run
Engine Commander®**

Supports

- Simultaneous Command Stations
- NMRA Application Interface
- Networked clients



Network Support

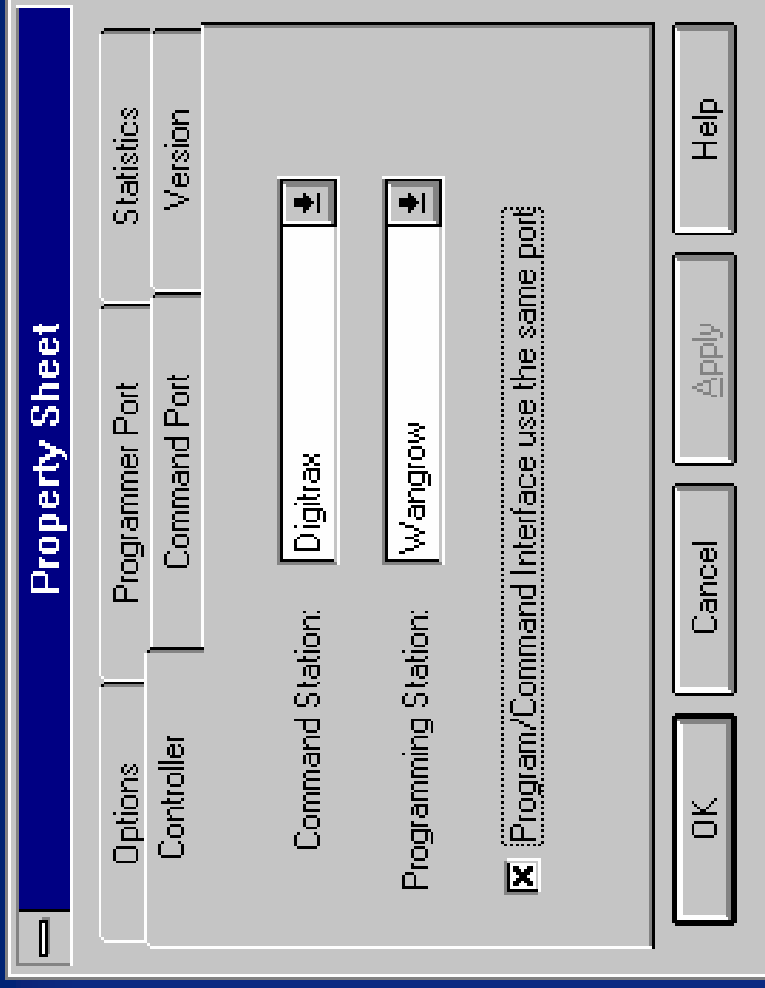
- **Distributed Network Support**
 - Multiple client computers
 - Multiple command stations



Easy movement between Divisions



Fully Configurable



Select multiple command stations

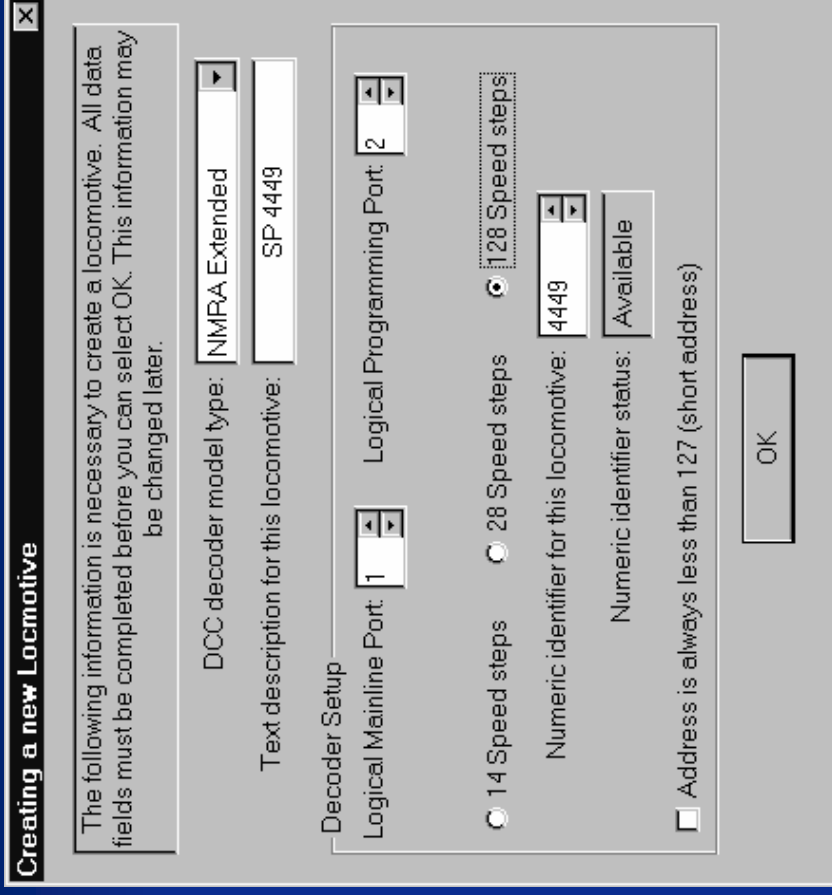


Configurable decoders

**Easy to use decoder wizards!
You decide how to set up your
locomotive!**



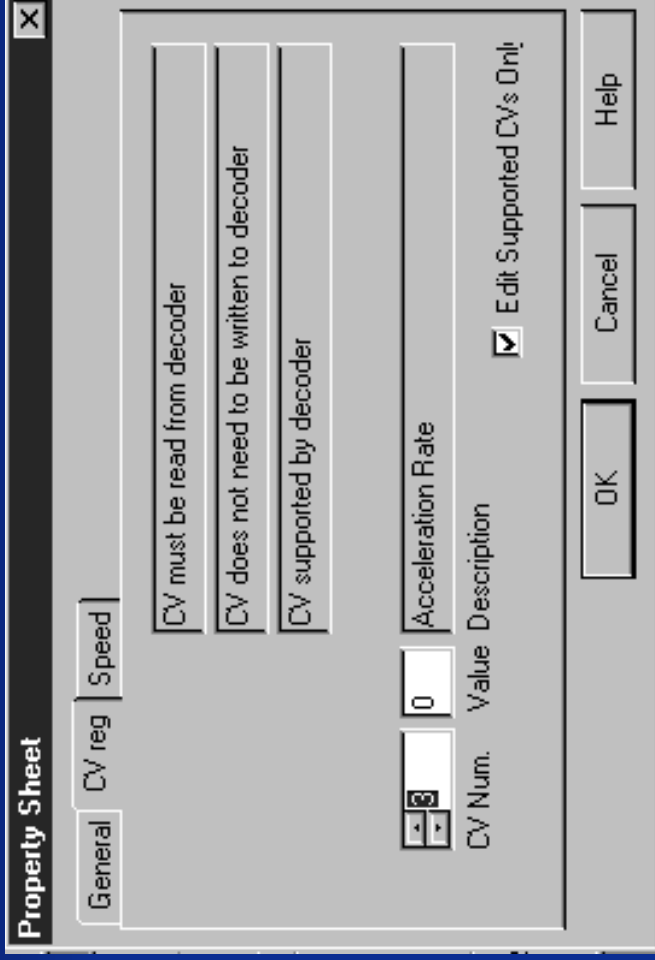
Set up Mobile decoders!



Download CV's from Locomotive



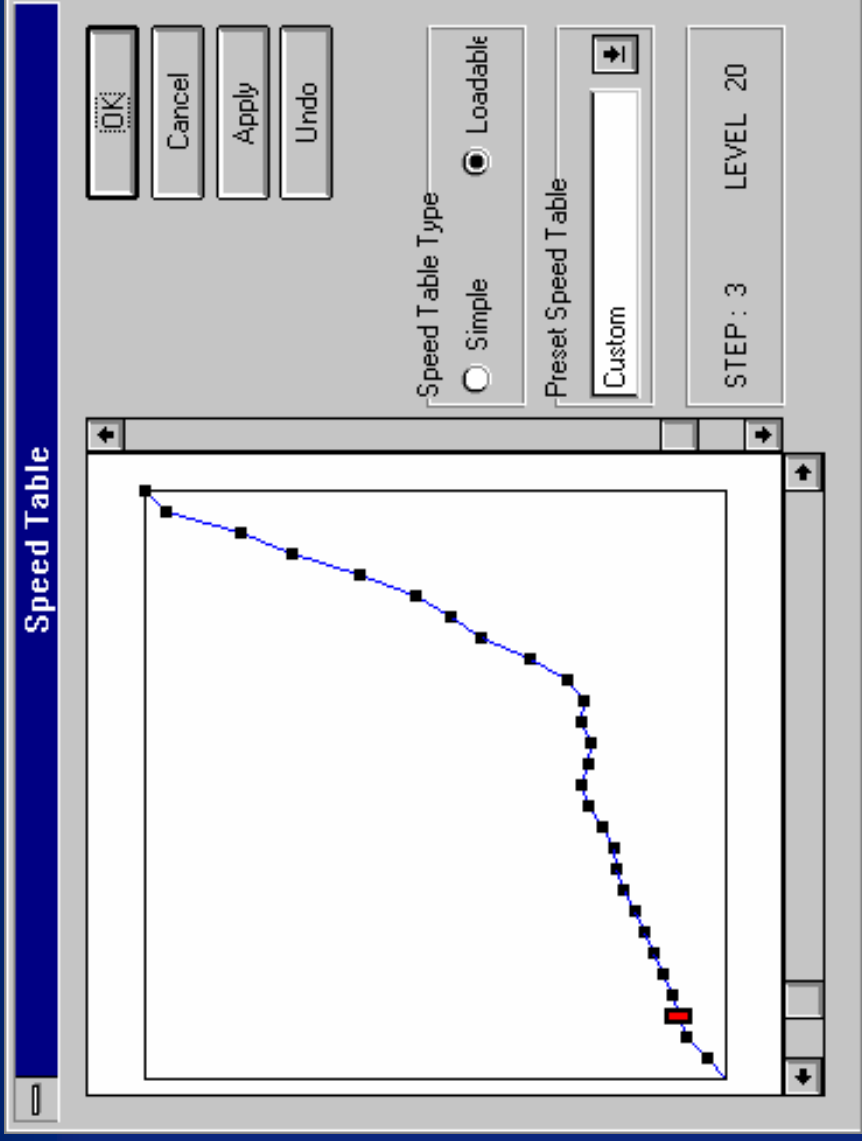
Complete CV access



CV's displayed for easy modifications



Full Speed Table Support



You define the speed table!



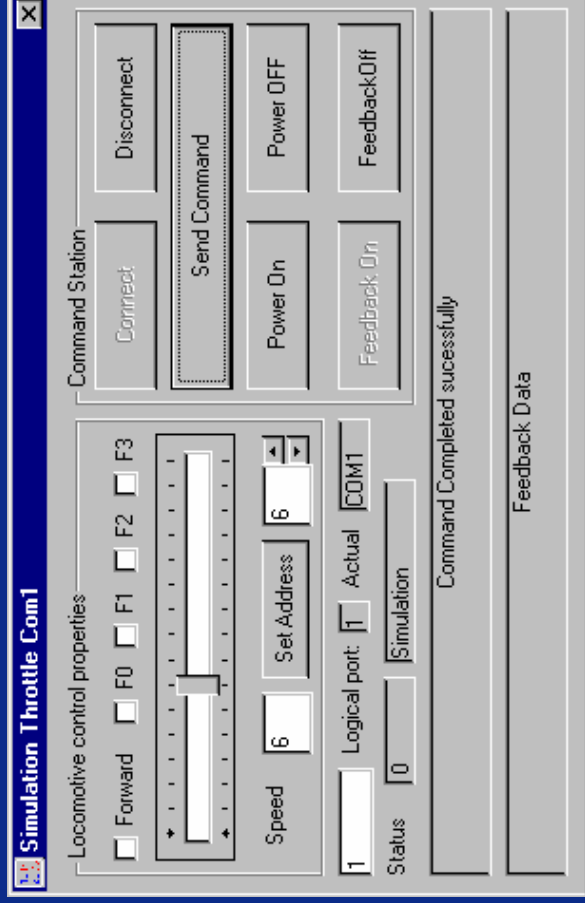
Visual Basic Support?

- **What about programming?**
 - Do you support Visual Basic?
 - Other languages C++, Java?



- **Yes!**
 - You can write Your own programs!

Visual Basic Example



Lets Implement a speed change...



Visual Basic 5 (cont.)

- First step; add the object reference

This is the key for all programming languages...
create an object reference

```

' This first command adds the reference to the TrainTools Interface object
Dim EngCmd As New EngComIfc
'
' Engine Commander uses the term Ports, Devices and Controllers
' Ports -> These are logical ids where Decoders are assigned to. Train Tools
'           Interface supports a limited number of logical ports. You can
'           also think of ports as mapping to a command station type. This
'           allows you to move decoders between command station without
'           losing any information about the decoder
'
' Devices -> These are communications channels configured in your computer.
'            You may have a single device (com1) or multiple devices
'            (COM 1 - COM8, LPT1, Other). You are required to map a port to
'            a device to access a command station. Devices start from
'            ID 0 -> max id (FYI; devices do not necessarily have to be
'            serial channel. Always check the name of the device before you use
'            it as well as the maximum number of devices supported.
'            The Command
'            EngCmd.KamPortGetMaxPhysical(lMaxPhysical, lSerial, lParallel)
'            provides means that... lMaxPhysical = lSerial + lParallel + lOther
'
' Controller - These are command the command station like LENZ, Digitrax
'              Northcoast, EasyDCC, marklin... It is recommend that
'              you check the command station ID before you use it.
'
' Errors - All commands return an error status. If the error value is
'          non zero, then the other return arguments are invalid. In
'          general, non zero errors means command was not executed. To
'          get the error message, you need to call KamMiscErrorMessage
'          and supply the error number
'
' To Operate your layout you will need to perform a mapping between

```



Visual Basic 5 (cont.)

```

|*****|
| Send Command
| Note:
| Load the state of the decoder first, then send the command
|*****|
Private Sub Command_Click()
' Send the command from the interface to the command station, use the engineObject
Dim iError, iSpeed As Integer
If Not Connect.Enabled Then
' TrainTools interface is a caching interface. This means that you need to set
' the CV's or other operations first; then execute the command.
iSpeed = Speed.Text
iError = EngCmd.DccEngSetFunction(lEngineObject, 0, F0.Value)
iError = EngCmd.DccEngSetFunction(lEngineObject, 1, F1.Value)
iError = EngCmd.DccEngSetFunction(lEngineObject, 2, F2.Value)
iError = EngCmd.DccEngSetFunction(lEngineObject, 3, F3.Value)
iError = EngCmd.DccEngSetSpeed(lEngineObject, iSpeed, Direction.Value)
If iError = 0 Then iError = EngCmd.DccCmdCommand(lEngineObject)
SetError (iError)
End If
End Sub

```

With KAM products you can build application like
EngineCommander® or **Computer Dispatcher®**



Whats Next from KAM?

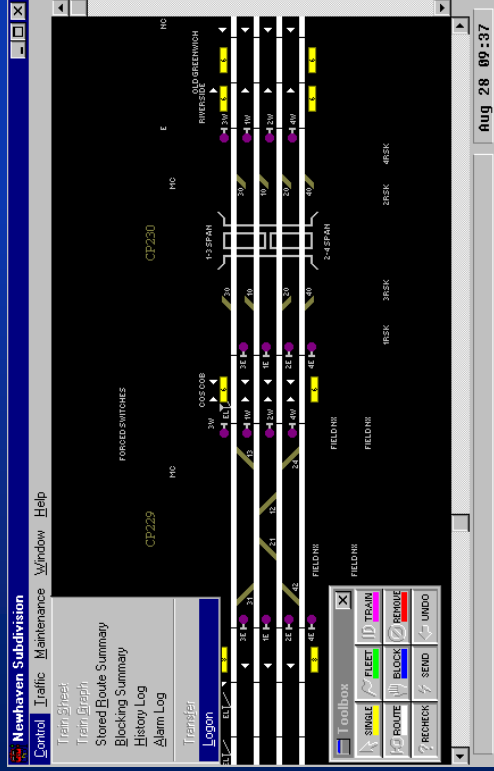
- **Engine Commander® returns control of the Locomotive to the user.**
- **Computer Dispatcher provides full prototype operation**
 - Product is modeled after Train Tracks TDPro
 - Runs on 20 Class 1 railroads world wide

Why play with toys when you can use the prototypeSM

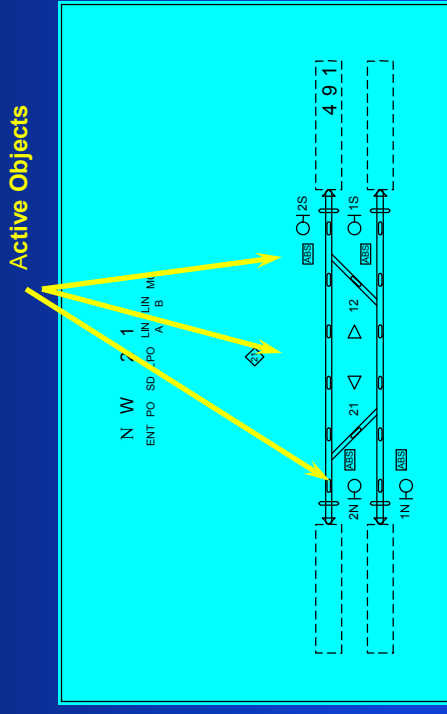


Computer Dispatcher®

- First Class Prototype Operation....



CTC Panel View in Computer Dispatcher



Computer Dispatchers
Model view of an active element
with full Entry/Exit (route) control

KAM Product Family

- **KAM Products Include**
 - **Engine Commander®**
 - **Computer Dispatcher® (3/99)**
 - **Train Tools® Developer package(11/98)**
 - **Train Tools Library - 9/99**

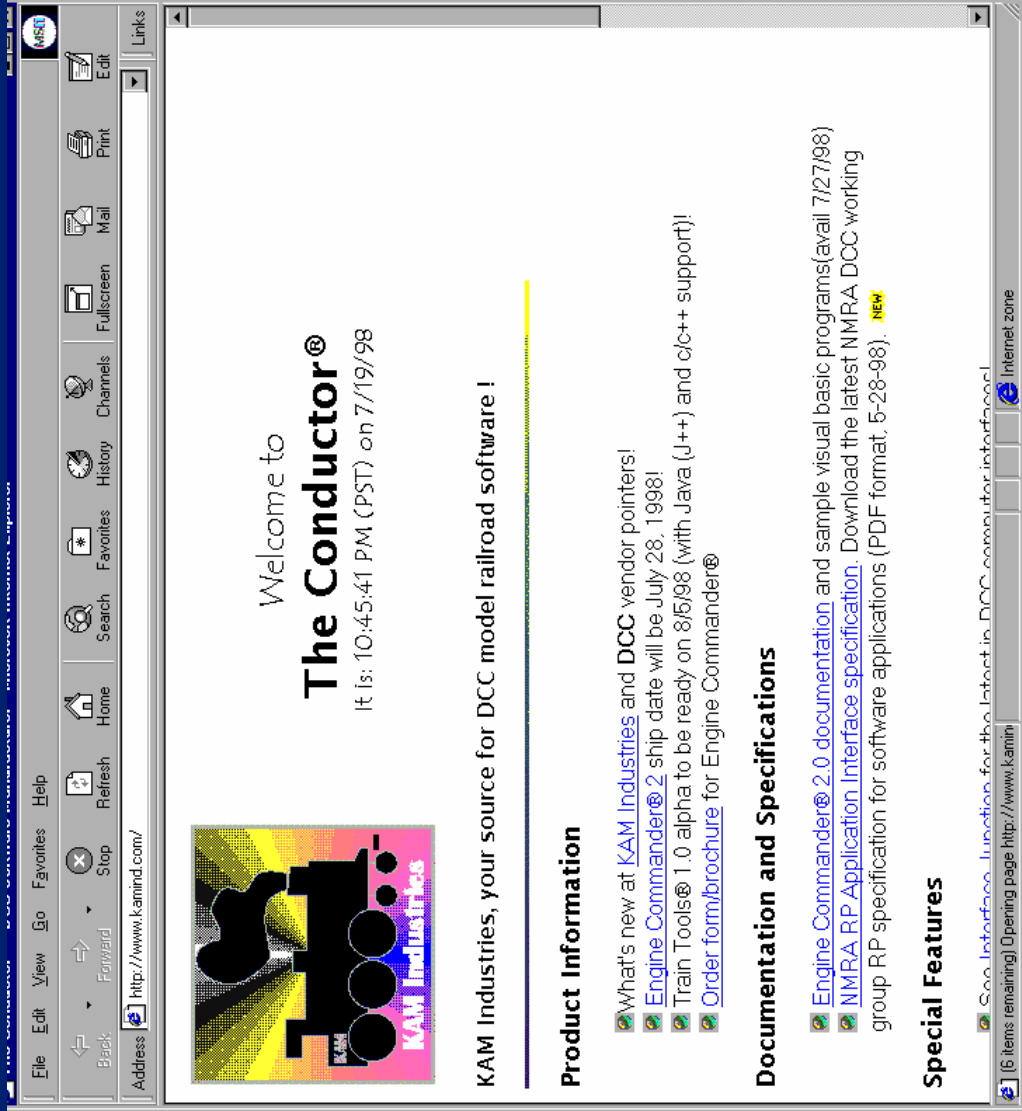


**With KAMs products, you have a choice!
pick the product that solves you problem**

How do I get support?

- **What about updates?**
 - Where can I get speed tables?
 - Where can I find new decoders?
 - Where can I find samples of Visual Basic?

http://www.kamind.com



Thank you for visiting KAM

