



# Logitek

## Logitek Electronic Systems

### *Supervisor Reference Manual*



Revision 3.6  
Jun 2009

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# Document Revisions

Date	Revision	Author	Notes
December 2004	1.0	Paul Dengate	First release of Supervisor 3 manual
January 2005	1.1	Paul Dengate	Minor corrections and additions
March 2005	1.2	Paul Dengate	Chapter 2 – Revised instructions regarding profiles and accounts in a domain. Chapter 2 – Added Client firewall / Windows XP Service Pack 2 information
April 2005	1.21	Paul Dengate	Updated Version History in Appendix A
August 2005	1.3	Paul Dengate	Updated for dual 8/16 character support and changes to Audio Engine State Updated version history & release notes Corrections and minor additions
August 2008	1.4	Ben Hietbrink	Updated for Supervisor 3.5 (draft)
May 2009	3.5	Ben Hietbrink	Release of Supervisor 3.5 manual – using new revision number format
June 2009	3.6	Ben Hietbrink	Release of Supervisor 3.6 manual – includes Backup functionality

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# 1 Introduction

## About this Manual

This manual describes the installation and operation of the **Logitek Supervisor** application.

### Intended Audience

This manual is aimed at Engineers and Technical Operators responsible for installing, configuring and supporting a **Logitek Console Router System** utilizing the *Supervisor* and *vTools* applications.

In the context of a system installation, or to become familiar with the entire **Logitek Console Router System**, the reader should also reference:

- Audio Engine User's Manual
- Surface User's Manual
- AEConfig User's Manual
- vTools User's Manual

It is assumed that the person responsible for installing and configuring *Supervisor* has a solid understanding of the *Microsoft Windows* desktop operating system, or has ready access to IT support.

### Manual Conventions

The following conventions are used in this manual:

---

*This text indicates a menu choice is to be made, with an arrow separating a multi-level selection, eg Control Panel ➤ Users & Passwords. This can be a menu choice in a Logitek application, or within Windows.*

↪ *Indicates a "see-also" section in this manual, or another Logitek manual.*



The exclamation symbol signifies an important note or critical information.

This text represents a command, script block example, instruction to be typed, or directory path.

💡 **TIP:** A useful tip from our knowledge base!

## About Supervisor

The **Logitek Supervisor** application is a PC gateway into your **Logitek Console Router System**.

The **Logitek** system combines the best of embedded and PC-based architecture to provide a solid and dependable on-air system:

- Embedded Operating Systems power the **Logitek Audio Engine** and **Control Surfaces** for mission critical audio processing, routing and control, without being dependent on a PC
- PC Application *vTools* extend embedded functionality to provide an unrivalled level of advanced system control and PC-based remote access.

*Supervisor* connects to your **Logitek Audio Engines** via serial RS232, and acts as a gateway for a variety of IP based configuration and operational tools. In addition, you can write your own applications to talk to the **Logitek System** via *Supervisor*.

When used with **Logitek CommandBuilder**, *Supervisor* is able to respond to events occurring in your **Logitek** system, executing macro style functions for a variety of purposes. *CommandBuilder* is used to produce a “Trigger Table” of events and commands that is executed by *Supervisor*. *Supervisor* is constantly monitoring all activity in the **Audio Engines**, not only for logging and diagnostic purposes, but for the execution of user **Triggers**.

*This architecture marries the IT world to your broadcast system, without compromising on-air reliability and responsiveness.*





## System Requirements

*Supervisor* is designed to run on *Microsoft Windows NT* based operating systems, including Windows 2000, Windows XP, Windows Vista 32bit, Windows Server 2003 & Windows Server 2008. Non-NT based systems (such as Windows 95, 98 and ME) are no longer considered appropriate for broadcast systems and are not supported.



*Windows Vista/Server 2008 64bit* has been tested with *Supervisor 3.6*. Whilst *Supervisor 3.6* will run under *Windows Vista/Server 2008 64bit*, it must be noted that due to it running in the WoW64 environment, certain Registry entries become embedded at the user level. Therefore when logging in as a different user, certain features will have to be setup again. **Logitek** recommends that if running in a *Windows Vista/Server 2008 64bit* environment, only one user is used to logon to the PC. This avoids confusion and duplication of setup parameters.

## Recommended PC Specification

Although *Supervisor* can run under a lower specification, the following is provided as the recommended minimum under new or recent hardware.

<b>Processor</b>	Pentium 4 or better – 1.8 GHz or faster
<b>Memory</b>	1 GB. Supervisor requires a large Page File if many Audio Engines are used.
<b>System</b>	Windows NT based (2000, XP, Vista, Server 2003, Server 2008, or newer)
<b>Screen Size</b>	1024x768 or greater (High Color modes recommended)
<b>Disk Space</b>	1 GB free (to provide adequate storage space for log files)
<b>Serial Ports</b>	1 port per Audio Engine; 1 port for Dual Supervisor link; ports for external device control.
<b>Redundancy</b>	RAID drives and dual Power Supplies should be considered, especially if not running <i>Dual Supervisor</i> computers.

It is possible to run other **Logitek** applications on the *Supervisor* PC, to assist with configuration updates and testing. However, as a general rule the *Supervisor* PC should be dedicated to its task, and should not be running other processes that may consume CPU time and memory.

Be aware that a variety of third party utilities, including security applications, can impact on the performance of a PC. While Windows NT based systems are much better at multitasking than the 9x platform, it is still possible for other processes to consume resources to the point where system performance is noticeably degraded. Please exercise caution in installing additional utilities on your *Supervisor* PC, and don't install anything unless it is absolutely necessary.

## Dual Supervisor Operation

*Dual Supervisor* mode is recommended for facilities using *Supervisor* and *vTools* in mission critical operations. For example, if you use *Supervisor* functionality to control aspects such as Delay Control, On-Air Routing, Scene changes or GPI remotes, *Dual Supervisor* is highly recommended.



Windows NT based operating systems and *Supervisor* software is designed for mission critical operations, however hardware and software can still fail.

*Dual Supervisor* provides a “hot spare”, which will immediately take over if your hardware, operating system or *Supervisor* software should fail.

## Compatibility


*Supervisor 3.6* is designed for use with **Logitek Audio Engine 3.x**.

*Supervisor 3.6* will communicate with all v3.6 **Logitek vTools** applications. Refer to the Release Notes for information on *Supervisor 3.6* and upgrading from prior versions.

Only v3.6 *vTools* applications can be used with *Supervisor 3.6*.

*CommandBuilder* and *Supervisor* are inter-related when it comes to **Trigger** compilation. The version of both applications should be the same, and the build dates should also match. This is because the compiled **Trigger Table** file format must match between both applications. From time-to-time changes are made to the **Trigger Table** format to support new commands, bug fixes and enhancements. To assist you, **Logitek** have added functionality to *AEConfig* and *CommandBuilder* to check the version of *Supervisor* to ensure it is compatible. If it is not, you will be unable to upload, and will receive an error message stating this.

*Supervisor 3.6* supports both 8 & 16 character **Device Names**. There is no extra configuration required within *Supervisor* – it determines the **Device Name** format in use and will automatically adjust.

 **TIP:** When upgrading to *Supervisor 3.6*, you will need to update all other Logitek software applications to 3.6 at the same time.

## About vTools

*vTools* are “virtual surface” software applications written by *Logitek* to interface with your **Console Router System**. *vTools* allow you to perform tasks not possible on analogue consoles or conventional routers. In addition, you can operate *vTools* in place of, or in conjunction with physical surfaces and use wide-area networks or the Internet to control your system remotely via IP links.

Some of the *vTools* applications for **Logitek** include:

<b>MatrixIP</b>	Routing, EQ, Dynamics and input alias assignment. Designed for use in an MCR environment, particularly with SharcAttack DSP cards.
<b>vButton</b>	Emulates a physical vButton panel or provides additional virtual buttons.
<b>vChange</b>	Mimics the <i>Artisan/Mosaic</i> ’s LCD screens onto a PC with a larger display for easier operation.
<b>vDelay</b>	Controls up to 8 Talk Delays on SharcAttack DSP cards.
<b>vManager</b>	A new application that ensures Supervisor is always performing correctly.
<b>vMix</b>	Emulates a physical surface, or can be setup to provide a virtual surface.
<b>vRoute</b>	Emulates a physical Route 3 panel, or can provide a virtual router.
<b>vScreen</b>	Designed to complement a <b>Logitek Control Surface</b> in an on-air studio, providing additional button, routing, metering and other system control.
<b>vSnapshot</b>	Allows you to store and recall settings from a <b>Logitek Control Surface</b> .

As broadcast facilities become IT driven and require an increasing level of flexibility and complexity, the **Logitek vTools** help you control your **Console Router System** in new and exciting ways.

➔ *See the vTools Reference Manual for more information.*

## 2 Before you Install Supervisor

### Hardware setup

Before proceeding to install the *Supervisor* software, you should have your PC hardware setup. While you can install *Supervisor* before connecting it to your **Audio Engines**, it will not provide much functionality until an **Engine** is in place.

As hardware platforms vary, this manual assumes you have the following already setup:

- One or two PCs running Microsoft Windows operating system
- Enough serial ports for connection to each **Audio Engine** (using in-built or multiport card)
- An additional serial port if using *Dual Supervisor* with **Serial Heartbeat**.
- A functioning TCP/IP network. It is recommended that the *Supervisor* PCs are allocated a static IP address, either through fixed settings in Windows, or a reservation on your DHCP server.

*Supervisor* can be configured to run on a single PC, or on two PCs using *Dual Supervisor* redundancy mode.

➔ *Refer to the System Requirements section in Chapter 1 for the recommended hardware/operating system specification.*

### Serial Ports

*Supervisor* communicates with the **Audio Engines** using the RS232 protocol. One serial port per **Engine** is required on each Supervisor PC. If using *Dual Supervisor* on two PCs, one serial port is recommended on each PC for the **Serial Heartbeat** connection.

*Supervisor* can communicate with up to 16 **Audio Engines**. Specialist cards are generally required to obtain more than four ports in one machine. **Logitek** can assist you with the selection of a suitable product for your system if you are unsure.

➔ *See Appendix B for a list of serial cards known to work well with Supervisor.*

**Serial Heartbeat** connection requires a Null Modem cable between the two *Supervisor* PCs.

If using a multi-port serial card, we recommend using the card's serial ports for connection to the **Audio Engines** and the PC's on-board ports for the *Dual Supervisor* **Serial Heartbeat**.

*Supervisor* can also use serial ports to control external devices, such as an automation/playout system. In addition, *Supervisor* contains an in-built RS232 router, which can easily be controlled in Triggers.

## Wiring Diagrams

The wiring between your **Supervisor PCs** and **Audio Engines** depends on the type of Controller Card in your **Audio Engine** and whether you are using standard serial ports or a multi-port card. If using a multi-port card that doesn't break out to DB9 connectors, substitute the pin-outs from the card's manual for the **Supervisor PC** connections as shown on the left of the diagrams.

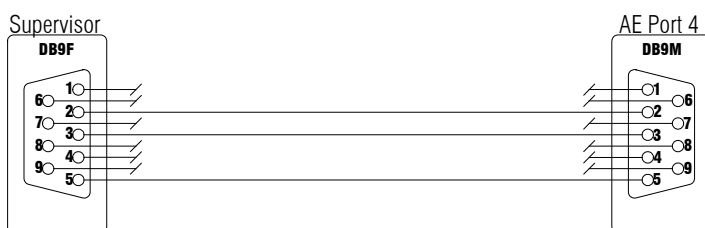


Figure 1 - Wiring Diagram for AE-C2 Single Supervisor

PIN	SUPERVISOR	ENGINE	PIN
2	Receive	Transmit	2
3	Transmit	Receive	3
5	Signal Ground	Signal Ground	5
FR	Frame Ground	Frame Ground	FR

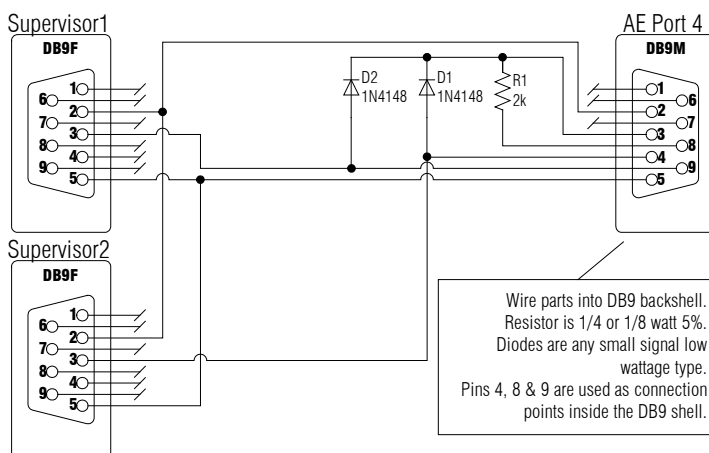


Figure 2 - Supervisor wiring for AE-C2 Dual Supervisor

PIN	SUPERVISOR	ENGINE	PIN
1	N/C	N/C	1
2	Receive	Transmit	2
3	Transmit	Receive	3
4	N/C	Solder Point	4
5	Signal Ground	Signal Ground	5
6	N/C	N/C	6
7	N/C	N/C	7
8	N/C	RTS (low)	8
9	N/C	Solder Point	9
FR	Frame Ground	Frame Ground	FR

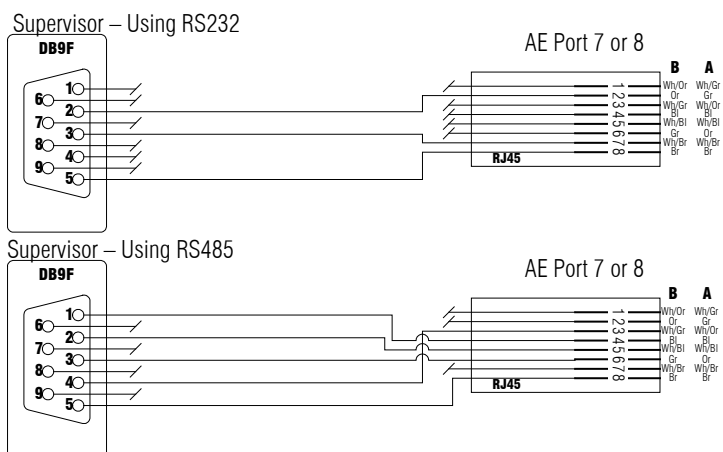


Figure 3 - Supervisor wiring for AE-C6 Supervisor (RS232 & RS485)

PIN	SUPERVISOR	ENGINE	PIN
2	Receive	Transmit	2
3	Transmit	Receive	7
5	Signal Ground	Signal Ground	8
FR	Frame Ground	Frame Ground	

PIN	SUPERVISOR	ENGINE	PIN
1	TX-	RX-	4
2	TX+	RX+	5
3	RX+	TX+	6
4	RX-	TX-	3
5	Signal Ground	Signal Ground	8
FR	Frame Ground	Frame Ground	

➔ See Chapter 6 for more information on Dual Supervisor setup and cabling.

## Supervisor on a Network

*Supervisor* is designed to function on a network – it acts as a TCP/IP gateway for the **Logitek System** and opens up many new possibilities over conventional consoles & routers.

All communication with *Supervisor* from *vTools* applications is over TCP/IP. To use *vTools* on other PCs, you need a TCP/IP connection from the remote PC to *Supervisor*. This can be over a LAN, WAN, VPN or even dial-up connection, provided the latency is low enough for the intended application. The bandwidth consumed by *vTools* varies between applications and how they are being used, but is still quite functional even on a dial-up link.

Many broadcasters segregate their office and broadcast networks for security and performance reasons. If *Supervisor* is connected to your broadcast network and you intend users to access *vTools* from the office network, you will need appropriate links or routers in place to pass this traffic. The ports used by *Supervisor* are configurable and firewalls can be easily setup to allow this traffic.

It is not necessary to have access to the Internet from the *Supervisor* PC. However, there are some considerations if no Internet access is available on *Supervisor*:

- **Logitek** support may require you to Email configuration files or download software updates from the Internet. You need the ability to copy these files to and from your Supervisor PC(s).
- An accurate time source is recommended. Internet access makes this easier, particularly for non-domain networks.

In practice, you will gain the most benefit from *Supervisor* if it is easily accessible by those who need it on your network. That said, your Network Administrator must be satisfied that sufficient security is in place and network performance for broadcast-critical tasks will not be degraded by general network users and applications.



Spyware is an increasing problem for both home and corporate users. If your network does not employ spyware and virus detection, it might be safer to restrict or block web browsing on the Supervisor PCs. Some spyware relies on known operating system vulnerabilities or user complacency. Such software can be easily installed on a machine with local Administrator rights and can adversely affect the performance of that machine or your network.

## Windows Profiles & Security

*Supervisor* stores configuration information in the Windows Registry of the local machine.



When running *Windows Vista/Server 2008 64bit* certain registry entries are stored in the current user section. **Logitek** recommends only logging in under one user to avoid confusion and duplication of setup parameters.

*Supervisor* also stores configuration information in files contained in the same directory as the executable. *Supervisor* requires read/write access to this directory.

### Profiles in a Windows Domain

For a domain PC, a dedicated *Supervisor* account should be setup. This account should have Administrator level access to the machine, or full read-write capability to the directory in which *Supervisor* is installed.

It is possible to use the same login account for both *Supervisor* PCs in a *Dual Supervisor* environment, however, in this case a roaming profile should not be used. Each *Supervisor* computer requires slightly different settings, meaning the profile cannot be shared.

If roaming profiles are required for *Dual Supervisor* PCs, you will need a separate login account for each *Supervisor* PC.

### Profiles in a Windows Workgroup or Standalone environment

For a non-domain PC, it is best to use the machine's Administrator account, or another account which is a member of the machine's Administrators group.

### User Security

If the user that logs into the *Supervisor* PC has Administrator rights, then you will not need to perform any additional configuration to allow *Supervisor* to run.

If your network has limited rights (non-Administrator) for user logins, you can easily configure *Windows* to allow the appropriate permissions.

The recommended procedure for this is as follows. It is easier to perform when you login to the PC with administrator credentials, but can be done from a standard user account, using RUNAS when elevated privileges are required.

1. Open Control Panel ➤ User Accounts.
2. Click the Advanced tab. Under Advanced user management, click the Advanced button.
3. Click Groups. In the group area, right click and select New Group...



4. Enter the name as Logitek Supervisor.
5. Enter the description as Permission to access Logitek file & registry locations.
6. Click Add...
7. Enter the name of the domain or local account(s) that require access.
8. Click Create.
9. Close User Manager.
10. Click Start ➤ Run and enter regedit (or use RUNAS detailed below if alternate credentials are needed).
11. Browse to the key HKEY\_LOCAL\_MACHINE\SOFTWARE\Logitek.
12. Right click the branch, and select Permissions...
13. Click Add...
14. Enter the Logitek Supervisor local group (created above). As this is a local group, you will probably need to click Locations, select the local workstation, and then click OK.
15. Click Check Names to ensure you have the right group name.
16. Click OK.
17. The Logitek Supervisor group should now be highlighted. Tick Full Control to assign it the required registry permissions.
18. Click OK.
19. Close REGEDIT.
20. Open Windows Explorer (or use RUNAS detailed below if alternate credentials are needed).
21. Browse to C:\Logitek or the directory where you have installed your Logitek software.
22. Right click the appropriate folder and select Properties.
23. Click the Security tab.
24. Click Add...
25. Enter the Logitek Supervisor local group (created above). As this is a local group, you will probably need to click Locations, and select the local workstation, then click OK.
26. Click Check Names to ensure you have the right group name.
27. Click OK.
28. The Logitek Supervisor group should now be highlighted. Tick Modify to assign it the required file permissions.
29. Click OK.
30. Close Explorer.
31. Don't forget you need to restart or log in again to get the group membership to update.

If you are logged into the *Supervisor* PC with non-admin credentials, you can use RUNAS to open regedit and explorer. Open a *Windows* command (cmd) window and use the following commands:

```
runas /user:ADMIN_USER regedit
runas /user:ADMIN_USER "C:\Program Files\Internet Explorer\iexplore.exe"
```

Note: we are using *Internet Explorer* to perform the file permission changes when using RUNAS. This is because *Explorer* will not easily work in RUNAS mode (unless **Launch folder windows in a separate process is enabled**). Once *IE* opens, you just enter C:\ into the address bar, and follow the steps listed.



## Setting up Windows to logon automatically

The *Supervisor* application is designed to run in a user session in *Windows*, as this allows interaction with the user. The *Supervisor* PC should be set to logon to *Windows* automatically with a specified local or domain account.



*Supervisor* is a useful diagnostic tool for support personnel. It is designed to be used on a computer that is left logged on at all times and therefore might be given a weak or well known password. Some Network Administrators would consider this a security risk – therefore consider restricting access to the account used by *Supervisor* to protect confidential resources on your network.

In the event of a power failure on your *Supervisor* PC, it is critical that the PC be set to power on automatically (in BIOS), logon automatically and start *Supervisor* automatically.

- ➔ *See Chapter 3 for information on setting Supervisor to start automatically.*
- ➔ *See your PC BIOS manual for information on setting it to turn on after power failure.*

Under Windows XP Home or as an XP Pro non-domain member, you can set the PC to logon automatically under **Control Panel** ➤ **User Accounts**. Under Windows 2000 or an XP Pro domain member, you need to set automatic logon through the registry or a third party utility.

- ➔ *For more information on turning on automatic logon for XP Pro, see the following Microsoft article. You can also search for instructions for earlier versions.*  
<http://support.microsoft.com/default.aspx?scid=kb;en-us;315231>

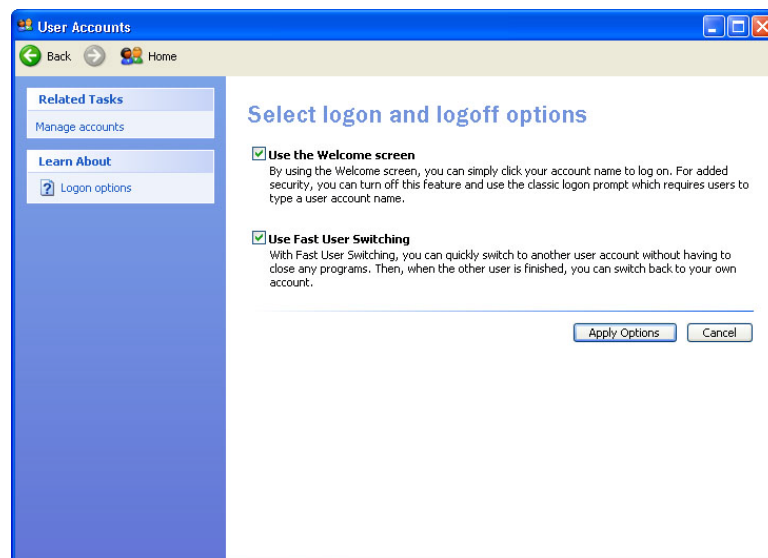


Figure 4 – Setting Windows XP logon options (non-domain)

## Time Synchronization

*Supervisor* relies on an accurate time source for a number of functions:

- Accurate time stamping of events in log files
- Clock display on **Logitek** surfaces
- Execution of date/time scheduled events

We strongly recommend that the *Supervisor* PC(s) are synchronized to an accurate time source. These days, this is easily achieved using an Internet time source. The setup for this depends on your network, so you might need to talk to your Systems Administrator. If that's you, read on for more information.

### Time Sync in a Windows Domain

In a Windows 2000 (and above) domain, all Domain Members will receive their time from a Domain Controller. This is a necessary part of Windows security in Windows 2000 and above. In a fully configured network, your Domain Controllers should already be set as an authoritative time server, with an accurate time source.

- ➔ *For more information on configuring the Windows Time Service, refer to the Microsoft whitepaper at:*  
<http://www.microsoft.com/windows2000/docs/wintimeserv.doc>

The default time synchronization settings in Windows are designed for an office environment and not a mission critical application. If you find the *Supervisor* PC is gaining or losing time noticeably between updates, it may be necessary to increase the synchronization frequency. This can be done through registry hacks, or more easily through Group Policy on your Domain.

### Time Sync in a Windows Workgroup or Standalone environment

If you are using a Windows workgroup or standalone *Supervisor* PC(s), it is necessary to synchronize that PC directly to a known time source. In Windows XP, this can be easily configured using the Date & Time Control Panel. The "Internet Time" tab is shown when your PC is not a domain member, and can be configured to use a known NTP time server. It default's to Microsoft's server.

- ➔ *For more information on configuring the Windows Time Service, refer to the Microsoft whitepaper at:*  
<http://www.microsoft.com/windows2000/docs/wintimeserv.doc>
- ➔ *To find a suitable public time server, do an Internet search for "NTP time server list" or similar. Your ISP may also operate its own time server, or you can use Microsoft's.*

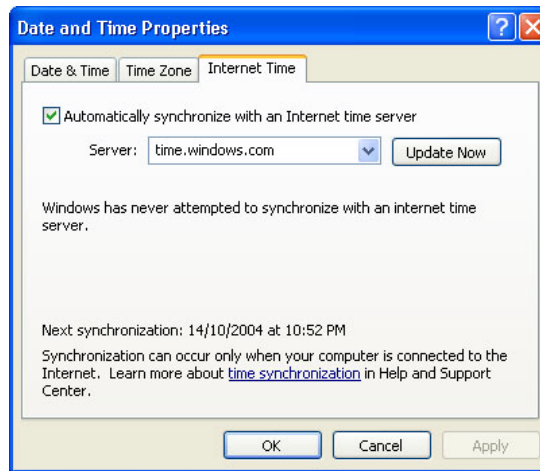


Figure 5 - Windows XP Internet Time (non-domain)

## Remote Administration

If you need to remotely manage your *Supervisor* PC(s), either from a different part of the building, or from a remote network, there are some important considerations.

### Terminal Services – Windows Server

*Windows Terminal Services* is a useful way to remotely manage servers. However, Terminal Services on a server machine launches a new session for the remote user and does not offer the remote user access to the same session that is logged in at the local console.



*Supervisor* is designed to run as an application, in one session only. Therefore Terminal Services is not a suitable tool for remotely managing *Supervisor*. It can be used for remote IT staff to change the configuration of the PC; however this is strongly discouraged, unless you are comfortable with the Terminal Services command line options for controlling the console session. If staff do not see *Supervisor* running they may inadvertently restart the PC without realizing the impact on your on-air operation. This has happened to a customer in the past!

### Terminal Services – Windows XP

*Windows XP Professional* includes a single-user Terminal Services server, also known as Remote Desktop. Under XP's Remote Desktop, a remote user can access the same session as the console. When a user is logged in remotely, the console screen will appear locked, and cannot be accessed. When the remote user is finished, the console session can be accessed by unlocking the workstation.

This scenario has been tested to work effectively with *Supervisor*.

## Remote Control applications

Remote control applications, such as *Remote Administrator*, *pcAnywhere*, *TightVNC*, *DameWare*, *LogMeIn*, *Bomgar* and *ControlIT* can all be used to remotely managed *Supervisor* and its PC, provided they give the remote user control of the locally logged in (console) session. It goes without saying that such access should be adequately secured to ensure only authorized personnel can get in remotely.

## Client Firewalls

Due to the growing number of virus and security threats, many corporate workstations are now being deployed with “client” firewalls. *Windows XP* introduced an upgraded version of Windows Firewall in Service Pack 2 in 2004, and enabled the firewall by default.

*Supervisor* can operate effectively with client firewalls, provided the necessary access is enabled.

You will need to add either a port exception, program exception, or possibly both, depending on the firewall software.

Some firewalls also restrict outbound access, which may require additional exceptions, particularly to allow a *Dual Supervisor* to talk to its mate.

## Windows Firewall

After Windows Firewall is installed (under XP Service Pack 2), the alert on the right will appear the first time *Supervisor* runs.

Click **Unblock** – Windows Firewall will then open the ports *Supervisor* uses to listen for incoming connections.

If you click **Keep Blocking**, you will not be able to connect to *Supervisor* with remote applications, and *Dual Supervisor* configurations will not work.



Figure 6 - Windows Firewall Alert

It is not necessary to add port exceptions in the *Windows Firewall*, as *Windows* will open any ports required when the *Supervisor* program exception is added.

## Windows Firewall through Group Policy

If you have a *Windows* domain based network, the *Windows Firewall* can be configured through Group Policy by your network administrators.

Some networks may remove the ability to locally configure *Windows Firewall* by enforcing settings in Group Policy, in which case ***Don't allow exceptions*** will be ticked and grayed out. In this case you will need to use Group Policy to configure the exceptions.

To do this, configure the Group Policy that is applied to those machines. We suggest placing the computers in their own Organizational Unit, or one separate from your office OUs:

***Windows Components > Network > Network Connections > Windows Firewall > Domain Profile > Define program exceptions > Enabled***

Add an exception such as: (you will need to customize the path to suit your install)

C:\Logitek3.6\Supervisor3.6.exe:localsubnet:Enable:Logitek Supervisor

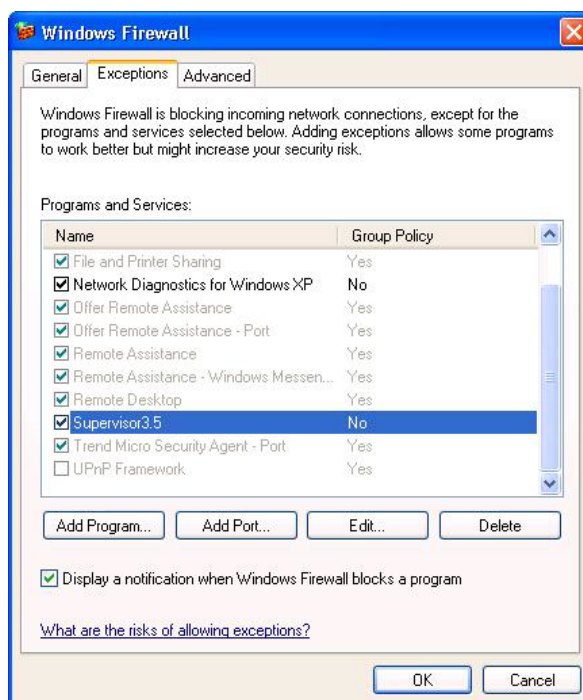


Figure 7 - Windows Firewall settings

## Other Client Firewalls

If you use another client firewall, you will need to add a rule to allow access for *Supervisor*. Some client firewalls require you to configure both outbound and inbound access rules. *Supervisor* uses TCP ports 10200-10212 for its applications. The base port is configurable, but the port range will always be the base port plus 12.

## 3 Installing Supervisor

This chapter describes the first time installation of *Supervisor*. If you are upgrading *Supervisor* to a new version you can skip this chapter.

### Software Installation

The **Logitek Supervisor** software will be supplied via Email or download from the **Logitek** website.

**Logitek** software is developed without reliance on components that are not standard in Windows. Upon first execution, *Supervisor* will setup default registry keys and make configuration files in the program directory.

It is possible to use the software without running an installer package. However, an installer package, `Setup3.6.exe` will do all the installation tasks for you.

#### To upgrade or install using Setup3.6.exe

1. Create a new folder on your PC, such as `C:\Temp`.
2. Download all of the new applications to that folder, including **Setup 3.6**.
3. Launch **Setup 3.6**.
4. Select the option that fits your situation. The first option when you are installing the apps for the first time. Use the second option when you are upgrading a previous installation where *Supervisor* is a version before 3.5 (This **will not** copy profile data and Registry entries). Use the third option when you are upgrading a previous installation where *Supervisor* is version 3.5 (This **will** copy profile data and Registry entries). Use the fourth option when you are upgrading a previous installation where *Supervisor* is version 3.6 (This **will not** copy profile data and Registry entries).
5. The setup program will prompt you for the location of your existing **Logitek** files. Point it to the existing folder (usually, this is `c:\Logitek` but may be different at your site).
6. The setup program will prompt you for the location of the new files. The default is `c:\Logitek3.6`. Adjust this if you use a different folder or drive letter.
7. The setup program will also give you a choice of, setting up a folder called **Logitek Programs** in the *Windows* Start menu, and creating Desktop shortcuts.
8. Launch **AEConfig 3.6**, read each config file (.aec or .a16) and save it without making any changes to ensure that any new formatting is correctly done.
9. Launch **Supervisor 3.6** and set up the COM ports for the engines if necessary. In **Supervisor 3.6** you can change COM port assignments without having to restart the program.
10. Launch **CommandBuilder 3.6**, read your trigger table from `c:\Logitek3.6`, (or the directory you have stored your configs in, if you did not use the defaults) save it, and upload it to *Supervisor*.



11. Configure and launch any other PC applications that you use at your facility. Do not try using older versions of our software with version 3.6 as they are not compatible.

The setup program will copy the required files to the program directory, establish a folder called **Logitek Programs** in the Windows Start menu (if ticked), and create desktop shortcuts (if ticked). These tasks can also be done manually by copying the program file to an appropriate directory.



Figure 8 - Setup3.6 Installation Type Choice

## Files required for operation

When initially installed, *Supervisor* does not require any auxiliary files. When run for the first time it creates operational files that are required by *Supervisor* to run.

→ See *Appendix C* for a list of configuration files used by *Supervisor*.

## Setting up Supervisor to start automatically

It is important that *Supervisor* automatically starts when the PC logs on. Ideally, the PC logon should also be automated, as described in the previous chapter.

**Logitek** has added a new application to the v3.6 suite, *vManager*.

*vManager* is designed to manage the startup of Supervisor and acts as a watchdog in case the application experiences an issue. This is the recommended way to start Supervisor automatically.

To do this, make a shortcut to the *vManager3.6* executable file, and place the shortcut in the **Programs ➤ Startup** folder in the start menu / user profile. This will start *vManager3.6*, which will in turn start Supervisor.



The *vManager 3.6.exe* and the *Supervisor 3.6.exe* files must reside in the same folder. Make sure that a shortcut to *vManager* is placed the startup folder. Ensure it is not a copy of the *vManager 3.6.exe* placed in the folder, as this will cause the PC to launch the program from the startup folder. This will cause *vManager* to be unable to locate and/or start *Supervisor*.

It is also possible to set *vManager3.6* to start automatically by using registry entries, but this may be harder to administer or change for someone unfamiliar with the required registry keys.



Care should be exercised when replacing the *Supervisor* or *vManager* executables with a newer version. *Windows* will attempt to locate a shortcut path even when the target is moved. Be sure to check your shortcuts carefully when performing upgrades or changing paths.



## Upgrading from previous versions

*Supervisor 3.6* is a major update to the *Supervisor* application and includes a number of important changes to the way settings are stored and managed. Therefore the upgrade must be carefully managed to minimize disruption.

## Previous Versions & Compatibility

To determine which version of *Supervisor* you are running, right click on the **Logitek** logo of the application. This will display the version; build date and time; and other information.

### Supervisor (1.0/2002)

These older releases of *Supervisor* are now many years old and a significant number of features have been added since their releases. An upgrade from *Supervisor 1 or 2002* to 3.6 will be treated as a new installation by `Setup3.6.exe`. The majority of files and registry locations now used by *Supervisor 3.6* either didn't exist or have changed since these *Supervisor* apps were released.

You should still maintain a rollback strategy, and ideally test and configure the new version of *Supervisor* on separate hardware so the changeover time is minimized.

### Supervisor3 (Pre 2007 build)

Pre 2007 releases of *Supervisor3* contain enough significant differences to require a fresh install approach. As such, an upgrade from *Supervisor 3 (Pre 2007 build)* to 3.6 will be treated as a new installation by `Setup3.6.exe`. The majority of files and registry locations now used by *Supervisor 3.6* either didn't exist or have changed since *Supervisor3* apps were first released.

You should still maintain a rollback strategy, and ideally test and configure the new version of *Supervisor* on separate hardware so the changeover time is minimized.

### Supervisor3 (2007 build)

*Supervisor 3 (2007 and later builds)*, have certain levels of compatibility with *Supervisor 3.6* file and registry formats, and as such `Setup3.6.exe` can perform an upgrade of this build, which will copy User Profile data and Registry keys to the new installation. This option keeps the existing User Profile Data and Registry keys intact, therefore allowing a rollback if necessary.

If you have a large amount of profile data, you may need to perform the upgrade in a test environment first.

## **Supervisor 3.5**

*Supervisor 3.5* has certain levels of compatibility with *Supervisor 3.6* file and registry formats, and as such Setup3.6.exe can perform an upgrade of this build, which will copy User Profile data and Registry keys to the new installation. This option keeps the existing User Profile Data and Registry keys intact, therefore allowing a rollback if necessary.

If you have a large amount of profile data, you may need to perform the upgrade in a test environment first.

## Upgrade Strategies

The upgrade strategy used by your station will depend on many factors, including how much you rely on *Supervisor* functionality to remain on-air, studio usage and operation hours. The notes below will help you decide how to best handle the upgrade for your station. If you'd like any assistance developing your strategy, please contact **Logitek Electronic Systems** or your local dealer.

### Single Supervisor

If your site only uses a single *Supervisor* setup, you will have to upgrade this machine while you are on the air. We suggest you do this at a time where a program source can be patched directly to air for a number of hours. While the upgrade should take less than half an hour, adequate testing and rollback time is recommended.

### Dual Supervisor

If your site uses *Dual Supervisor*, we recommend using your *Backup Supervisor* to test the upgrade, before deploying it to the *Primary Supervisor*. The *Dual Supervisor* functionality can be disabled during this time, allowing an easy rollback path should problems be experienced. Please note the following:

- We suggest that you disconnect the serial ports from the **Audio Engine** whilst you upgrade the machine.
- You will need to turn off the *Dual Supervisor* functionality, as *Supervisor* will not enter dual mode when the versions do not match.
- You may want to allow a few days of testing on the new version, with your other *Supervisor* computer still configured on the old version. This allows you to rollback very easily should any problems be experienced. However, you will lose the redundancy protection of *Dual Supervisor* during this time.

## Test Environment

In some complex operations, it might pay to perform the upgrade in a test environment first. This involves configuring a third PC to run *Supervisor*, and connecting this PC to a spare **Audio Engine**. We recommend this strategy for situations where:

- The on-air operation is complex and relies heavily on *Supervisor*
- Little maintenance time is available
- A failed upgrade could be detrimental to the on-air product
- A large number of user profiles need to be transposed prior to the upgrade

The advantage of this strategy is that it allows you to configure the new *Supervisor* application, and then port the data files and registry settings to the current *Supervisor* PCs when you are ready to upgrade. It also allows testing to be performed in a controlled environment.

## Rollback Strategies

We strongly recommend preparing a rollback strategy, in case the upgrade fails or a problem is experienced following the upgrade.

In all cases, you should keep the existing *Supervisor* directory in a safe place on your Supervisor PC(s), so you can reload this version easily.

*Supervisor* does not require any third party components or DLL files, and therefore the executable file can be stored and run from anywhere on disk.

You should save the current working *Supervisor.exe*, and its associated data files, to a separate backup directory, prior to loading the new version. Alternatively, you can rename or move the entire directory. Be careful with any desktop / startup Shortcuts when moving files and folders – Windows can often find the target file even when you moved it!



It is important to maintain a rollback path when performing the upgrade. This is a major version update and many file formats have changed.

## Performing the Upgrade

### Installation

Follow the upgrade procedure outlined in Chapter 3.

The exe file does not need to be “installed” by a Windows installer, it can just be copied from the source CD/Email. However, an installer utility is supplied to automate the process.


We suggest that you keep your existing directory intact and load the new version to a new directory (eg C:\Logitek3.6). The names are up to you, however we recommend that you keep the two directories separate.

### Configuration

When you open *Supervisor 3.6* for the first time, it will show up as a fresh install, with no serial ports added or settings configured. You will need to configure *Supervisor* for your site, as per the instructions in following chapters of this manual.

We suggest the following procedure to configure *Supervisor* for operation:

1. Setup Serial Ports for each **Audio Engine**, and verify connectivity.
2. Go to the **System Administrator** ➤ **System Setup** page and configure your settings. Also configure **Special Functions**, and **External Devices** (if required).
3. Go to the **System Administrator** ➤ **User Setup** page and enter the usernames for your site, remembering to enter profile numbers where required.
4. Go to the **System Administrator** ➤ **Profiles** page and enter the Profile data.
5. Open up the new version of *CommandBuilder* (supplied with Supervisor), load and save your current **Trigger Table**, then upload it to *Supervisor*. This will recreate your **Trigger** and **Variable** files.

 **TIP:** If your site uses a significant number of users and profiles, you may wish to contact **Logitek Electronic Systems** or your local dealer to discuss other migration strategies.

### Testing

When starting, *Supervisor* will not read any outdated **Trigger Table** that was uploaded by an older version of *Command Builder*. It will display a red message in the **Audio Engine Log** stating that the **Trigger Table** is out of date and that the **Trigger Table** was not loaded. It is important to launch *Command Builder 3.6*, read your current **Trigger Table** from C:\Logitek3.6 (or the location where your **Trigger Table** is saved), and upload the table to *Supervisor* in order to update your **Trigger Table** and restore it to operation.

Once you have uploaded your new **Trigger Table** and configured *Supervisor*, we strongly recommend that you thoroughly test all aspects of your facility's **Trigger Table**. It is not necessary to test every button, but at least verify correct operation of a few of each type of Trigger (e.g. intercom, delay control, scene change, routing, delegation, etc). Your ability to test the entire facility will obviously depend on the nature of your operation and how much of the system can be bypassed during the upgrade.

## Advanced Upgrade Notes

### Importing Settings from the Test Environment

If you have setup *Supervisor* in a test environment, and need to port the settings across to your live *Supervisor* PCs, follow these steps:

1. Do any necessary preparation on the live *Supervisor* system, e.g. setting up new directories.
2. Re-enter your **User Profiles** on the *Supervisor* test system and any other necessary settings.
3. Optional: upload the **Trigger Table** from the new *CommandBuilder* to the test environment. This will create the necessary .TBX, .VAR and .VAN files and will save you from having to upload them to the live system later.
4. Shutdown *Supervisor* on your test PC. This will ensure all files are saved.
5. Copy all of the *Supervisor* data files (Supervisor3.6.\*) from the test PC to the destination directories on the live PCs. Also load the executable file to this same directory.
6. Run REGEDIT on the test machine and export the following key to a file:  
HKEY\_LOCAL\_MACHINE\Software\Logitek\Supervisor3.6\  
7. Right click the file to EDIT it, and delete any reference to Supervisor2002, Supervisor3 or Supervisor4 (previous installation that may have existed previously on your test machine).
8. Copy the file to a location accessible on the live *Supervisor(s)*.
9. Double click the registry files on each of the live *Supervisor* computers. The settings will be imported to the new key location, and therefore will not overwrite keys for earlier versions.
10. You are now ready to upgrade and can follow the instructions on page 27.

The above procedure is recommended for complex environments where the upgrade will be difficult and time-constrained. It also allows the new version to be tested prior to upgrade.



This version uses the registry key Supervisor3.6. When upgrading from an earlier version, we recommend backing up the registry branch before proceeding. The key will vary depending on the version, eg:

```
HKEY_CURRENT_USER\Software\Logitek\Supervisor2002\  
HKEY_CURRENT_USER\Software\Logitek\Supervisor3\  
HKEY_CURRENT_USER\Software\Logitek\Supervisor4\  
HKEY_LOCAL_MACHINE\Software\Logitek\Supervisor3.5\  
HKEY_LOCAL_MACHINE\Software\Logitek\Supervisor3.6\  
HKEY_LOCAL_MACHINE\Software\Logitek\Supervisor3.5\
```

### In-place Upgrade

If you are already running a 2007 version of *Supervisor3* or *Supervisor 3.5*, you should already have the new **User Profile** file formats in place. In this case, you can retain the current *Supervisor* data files, and will only need to re-enter or import the registry settings.

In this situation, we still recommend copying the existing *Supervisor* directory, so that a rollback can be performed.

## 4 Configuring Supervisor

### Where Supervisor stores its configuration

*Supervisor* stores configuration information in two places:

- The local machine's registry profile, at HKEY\_LOCAL\_MACHINE\Software\Logitek
- In a number of configuration files stored in the directory of the application



When running *Windows Vista/Server 2008 64bit* certain registry entries are stored in the current user section. **Logitek** recommends only logging in under one user to avoid confusion and duplication of setup parameters.

➔ *See Appendix C for a list of configuration files used by Supervisor.*

### Starting and Stopping Supervisor

#### Starting Supervisor via vManager

*vManager* is a watchdog application to ensure *Supervisor* is running and behaving correctly.

Start *vManager* by double-clicking on the *vManager* shortcut icon on the Desktop or the **Logitek Programs** folder in the *Windows* Start menu. On initial startup the display screen will show the status of *Supervisor* which will not be running. The log will display information indicating this. *vManager* will then launch *Supervisor*.



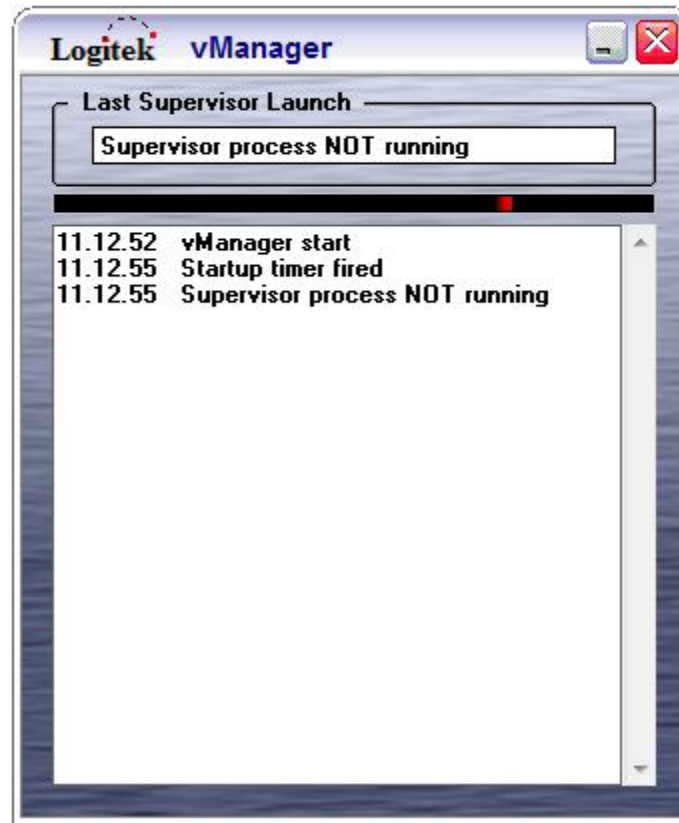


Figure 9 – vManager initial startup

### Stopping vManager

*vManager* is stopped by clicking on the windows style **Exit** button in the upper right corner of the *vManager* display (the **X** button). The *vManager* program can be run minimized and is available for display from the *Windows* Task Bar. If you need to stop *Supervisor* indefinitely, ensure you stop *vManager* first. Otherwise, *vManager* will automatically restart *Supervisor* again.

➔ *See Chapter 5 for more information about the setup and operation of vManager.*

### Starting Supervisor

Start *Supervisor* by double-clicking on the *Supervisor* shortcut icon on the Desktop or the **Logitek Programs** folder in the *Windows* Start menu.

On initial startup the display screen will show the **Audio Engine Communications Log** folder with no designated **Audio Engines** setup.

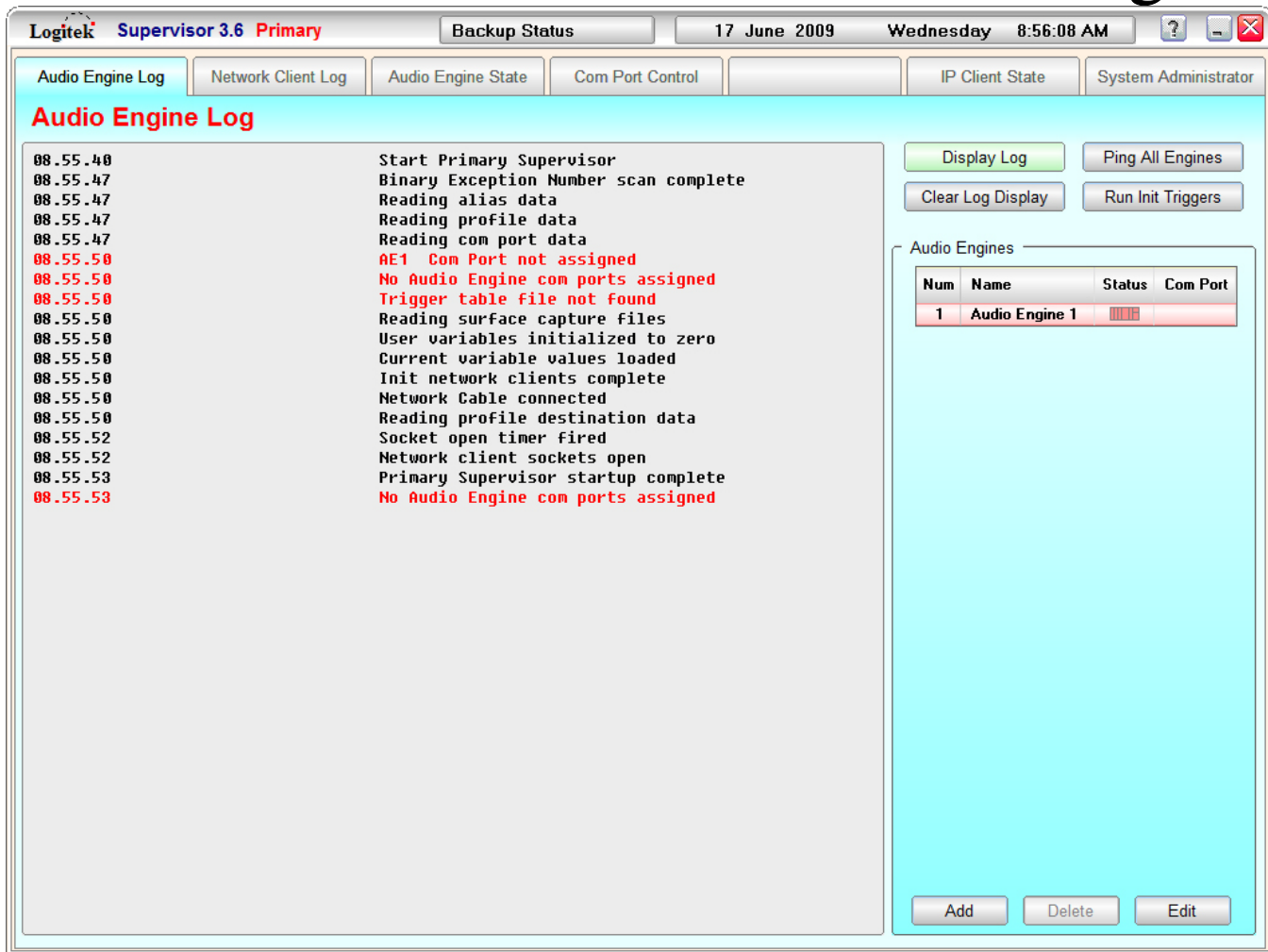


Figure 10 – Supervisor’s first run, before any configuration is performed

## Stopping Supervisor

*Supervisor* is stopped by clicking on the windows style **Exit** button in the upper right corner of the *Supervisor* display (the **X** button). The *Supervisor* program can be run minimized and is available for display from the Windows Task Bar.

## Finding your way around

You will notice a number of “tabs” across the top of the screen. These help you to navigate around *Supervisor*’s various screens. For now, we will concentrate on what you need to do to configure *Supervisor* for use. The *Supervisor* pages are covered in more detail later in the manual.

➔ *See Chapter 7 for more information on the Supervisor pages.*

## Engine Setup & Port Allocation

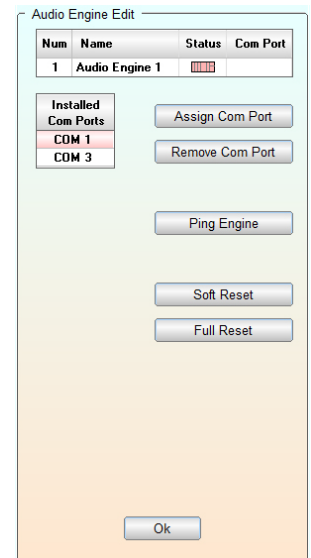
Click on the **Audio Engine Log** tab if you are not already on that page. This is the default screen you see when *Supervisor* starts.

Before *Supervisor* can manage your **Audio Engines**, you must add each engine and tell *Supervisor* which COM port to use for each.

To add an engine:

1. In the **Audio Engines** section, click the **Add** button.
2. Select that Engine in the list, and click the **Edit** button.
3. Select the text (which defaults to **Audio Engine** and the number) if you wish to customize it for the display. This can be helpful to identify **Engine** and studio relationships.
4. Select a COM port from the **Installed Com Ports** list and then click on the **Assign Com Port** button.
5. Click **OK** to save your changes. There is no Cancel button.

Repeat this procedure for each **Audio Engine** on your system. If you do not see the expected COM ports in the installed list, then your serial card is probably not setup correctly in Windows. *Supervisor* builds the list from what is available in Windows.



**Figure 11 - Audio Engine Edit Box**

You can click the **Ping All Engines** buttons to verify your PC is communicating correctly with each **Audio Engine**. You should see a green or yellow icon next to each Engine name. A red icon indicates *Supervisor* is not communicating with your Engine.

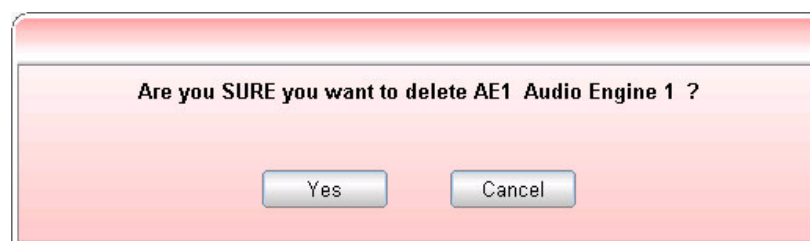
The RS232 COM port settings are not user configurable, as the communication parameters are fixed in the **Audio Engine**. The settings available in the *Windows* Control Panel do not affect *Supervisor*.

To delete an engine:

1. Select the **Audio Engine** you wish to delete.
2. Click the **Delete** button.
3. Click **Yes** when prompted, if this is what you really want to do. Click **Cancel** to exit without deleting.



Using the Delete Audio Engine function should not be done on a live system. Communication to that Engine will stop once it is deleted.



**Figure 12 - Confirmation dialog before Engine is deleted**

## System Setup

To access this screen, click the **System Administrator** tab, then the **System Setup** tab below it.

By default, *Supervisor* will configure itself in Primary mode. This mode allows *Supervisor* to control the **Audio Engines**.

This does not need to be changed unless this installation is for a *Backup Supervisor* computer.

An Administrator password can be set to protect access to *Supervisor's* setup screens. This password is obfuscated in *Supervisor's* registry settings (the password is not in clear text, but could be cracked by a very experienced user).

→ *See Chapter 7 for more information about the options on this screen.*

## Special Functions

The default settings on this screen are for all **Special Functions** enabled, and **Log only first and last fader levels**. These defaults can be left as is during configuration.

→ *See Chapter 7 for more information about the options on this screen.*

## External Devices

This screen allows for configuration of external devices that interface with *Supervisor*. These options do not need to be set during configuration.

→ *See Chapter 7 for more information about the options on this screen.*

## User Setup

This screen is for setting up usernames and passwords for the various **Logitek vTools** applications, and configuration applications such as *AEConfig* and *CommandBuilder*.

Whilst it is not necessary to establish usernames during configuration, it is useful to setup users for *AEConfig* and *CommandBuilder* now, as this will assist with uploading Engine configs and triggers.

To add a user:

1. Click in the **User Name** column of an available row (eg 1).
2. Enter a name for the user, eg "AEC" or "CB".
3. The **Password** field is optional, but some *vTools* require a non-blank password.
4. Tick the allowed *vTools* applications for that login, eg *AEConfig* and/or *CommandBuilder*.
5. Click Save to apply your changes.

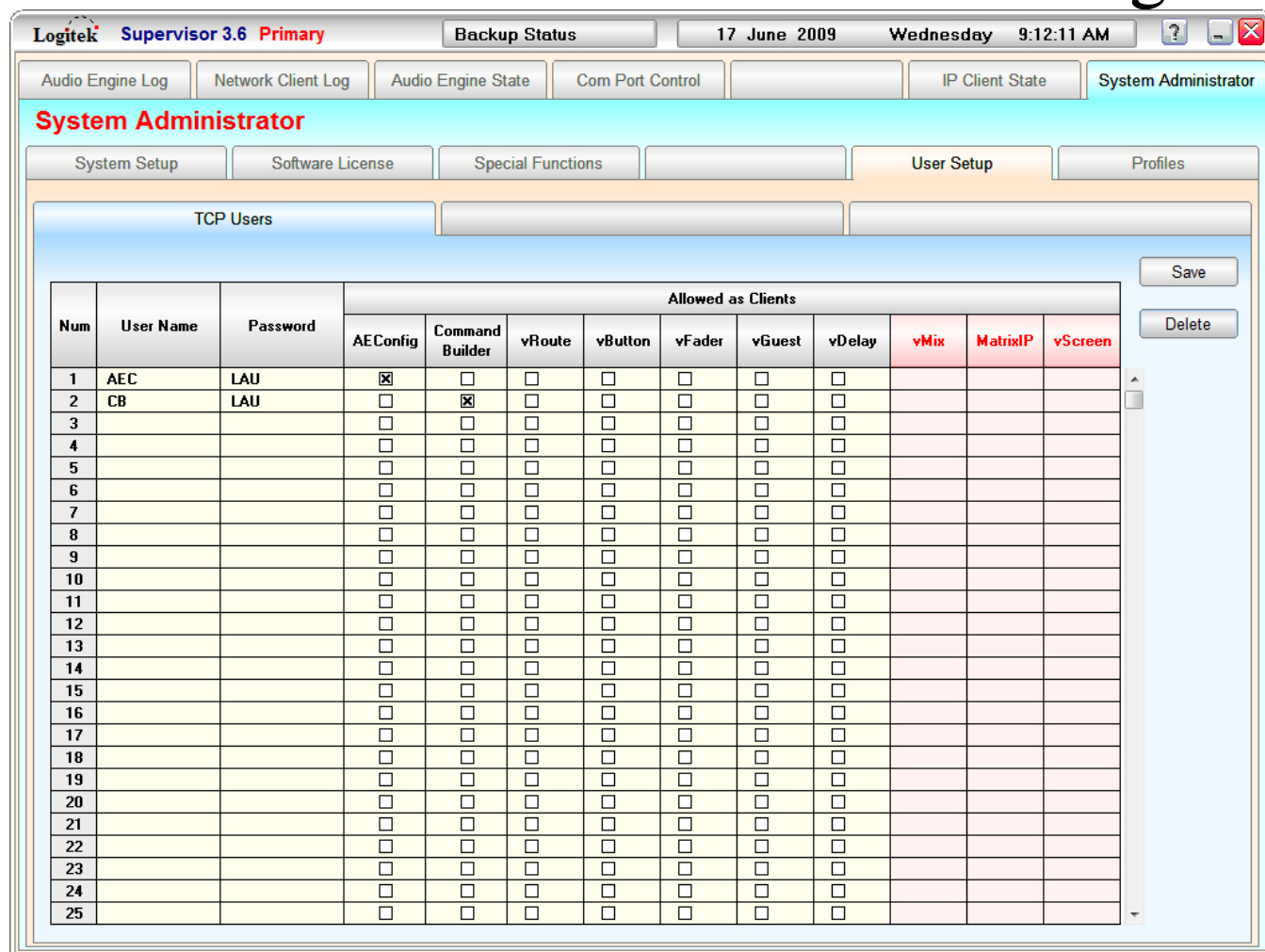


Figure 13 - Adding user names to the User Setup page

➔ See Chapter 7 for more information about the options on this screen.

## Profiles

This screen is used in conjunction with the *vTools* suite of applications. It is not necessary to configure **Profiles** at this stage.

➔ See Chapter 7 for more information about the options on this screen.

## 5 vManager Setup & Operation

This chapter describes the operation of *vManager*.

*vManager* is designed to monitor the current status of the *Supervisor* application and to automatically restart *Supervisor* in the event of a lockup or crash.

The *vManager* executable (`vManager3.6.exe`) should be located in the same folder as the *Supervisor* executable. Rather than launching *Supervisor*, it is recommended that users launch *vManager* and let *vManager* launch the *Supervisor* application.

*vManager* pings *Supervisor* every 30 seconds. If *vManager* fails to receive a response from *Supervisor* it will kill the *Supervisor* process and re-launch the application.

*vManager* writes a log file to the `c:\Logitek3.6\Manager Log` folder in the same fashion as *Supervisor* writes the `ACommLog`. There is one log per day that contains the date in the filename. Although *vManager* pings *Supervisor* every 30 seconds, to keep the log file size manageable it only writes successful pings to the log every 10 minutes.

When minimized to the taskbar *vManager* displays the date and time of the last *Supervisor* start event next to the program name.

If *vManager* is closed or dies unexpectedly, a message-box will pop up in *Supervisor* to notify you that *vManager* has disconnected. If you restart *vManager* while *Supervisor* is already running, *vManager* will connect and begin monitoring without affecting *Supervisor's* operation.

### Setup & Operation

There is no setup required for *vManager*. Simply running the application from the same folder as the `Supervisor3.6.exe` file is all that is required.



Figure 14 - vManager3.6

## 6 Dual Supervisor Setup

*Supervisor 3.6* re-introduces support for *Dual Supervisor* operation.

### Introduction

*Dual Supervisor* was designed for sites that rely heavily on the functionality provided by *Supervisor*. Unlike many digital console systems, the **Logitek Audio Engines** are not reliant on PC hardware to keep your station on the air. However, the additional functionality provided by *Supervisor Triggers* can often be a mission critical part of your operation.

Therefore, *Supervisor* can be run in Primary and Backup modes, to provide you with a hot-spare. The two *Supervisors* will ping each other continuously. If the Primary does not respond to the Backup, the Backup will take over, keeping your station running.

Both *Supervisor* PCs are connected to your **Audio Engines** to receive commands simultaneously. The *Backup Supervisor* processes all events, but does not transmit any commands to the **Audio Engines**. When the Backup promotes itself to Backup as Primary, it is in the same state as the Primary was before failure and can take over seamlessly. *Dual Supervisor* mode will protect against hardware failure and operating system freezes/crashes and some application crashes.


### Hardware Requirements

The requirements for running a *Dual Supervisor* system are:

- Two *Supervisor* PCs (See Chapter 1 for recommended spec)
- One additional COM port on each machine for Serial Heartbeat (see below)
- The two PCs do not need to be configured identically (except for COM ports), but it is good practice to keep the specification and configurations as close as possible.

In *Supervisor's* configuration, one PC is set as "A" and the other as "B". This is a means of identifying each PC to the user.

It is usual practice to default the "A" PC to the Primary, however, there is no reason why the "B" computer cannot run as Primary for an extended period.

 **TIP:** For the sake of consistency, you should name your *Supervisor* PCs SUPERVISOR-A and SUPERVISOR-B in Windows, or something similar. If your network has another PC naming convention already in use, you can use those names in the computer description field instead.



## Cabling

The cabling requirements from your *Supervisor* PCs vary slightly depending on the model of **Control Card** in your **Audio Engines**. Systems sold up to 2004 will most likely use the **AE-C2** card. Systems sold from late 2004/early 2005 will start using the **AE-C6** card.

### AE-C2 Engine Control Cards

To connect two *Supervisor* PCs to one **Audio Engine**, it is necessary to use a custom cable that has diode protection to the joined transmission lines to the **Engines**. *Supervisor* has been designed so that only one instance is able to transmit to the **Engine** at one time, to prevent data corruption.

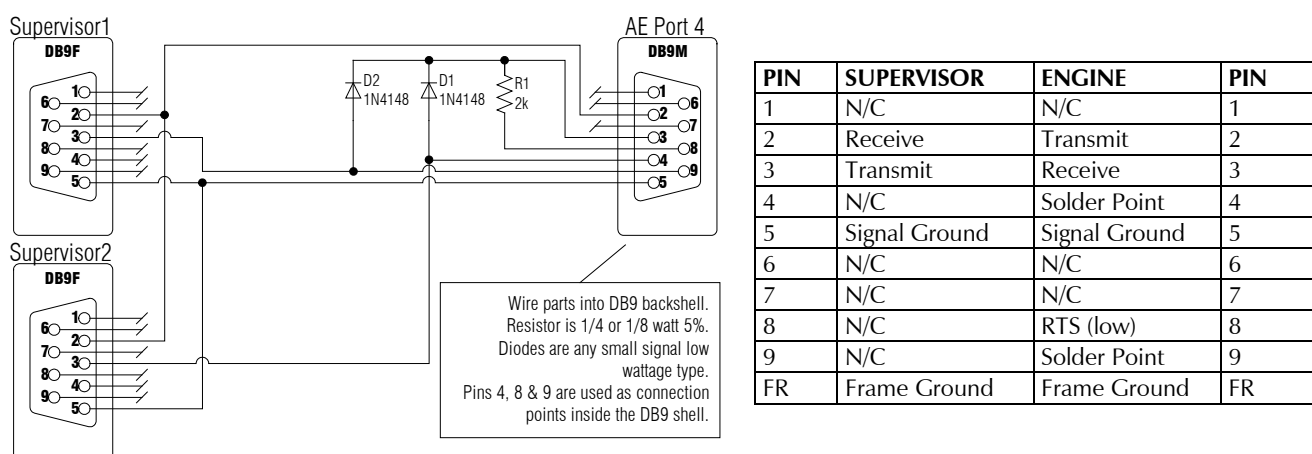


Figure 15 - Supervisor wiring for AE-C2 Dual Supervisor

To make wiring of this cable easier, Pins 4, 8 & 9 are used as solder/junction points inside the D connector back-shell. Following is the suggested order in which this cable should be constructed.

1. Make the DB9F ends, with appropriate lengths of cable to reach the **Audio Engine**.
2. Junction the wire from Pin 3 of the *Supervisor 1* cable to the anode of Diode 2 and solder to Pin 9 of the **Audio Engine** DB9. Keep the tail on the diode as short as possible, so there is no excess length at the DB9 end. Leave the other tail of the diode uncut for now.
3. Repeat step 2 for Pin 3 of *Supervisor 2* cable with Diode 1, to Pin 4 at the **Audio Engine**.
4. Solder the resistor to Pin 8 of the **Audio Engine** DB9, again keeping the tail at the connector end as short as possible.
5. Bend the other end of the resistor 180° around to Pin 3 of the **Audio Engine** DB9, and trim to length (approx ½ inch/1cm). We suggest using heatshrink on the long end of the tail to prevent the possibly of shorting. Leave a small section of the tail un-insulated at the bend.
6. Bend the other tails of the diodes 90° to meet the bend of the resistor. Solder the two diodes and the resistor together, and then trim the excess tails of the diodes.
7. Junction Pin 2 from the *Supervisor* cables to Pin 2 at the **Audio Engine** DB9.
8. Junction Pin 5 from the *Supervisor* cables to Pin 5 at the **Audio Engine** DB9. If using shielded cable, this should be the shield/drain wire.

## AE-C6 Engine Control Cards

The **AE-C6** card has additional serial ports, to allow both *Supervisor* PCs to connect to the **Audio Engine** on their own port. Ports 7 & 8 on the **AE-C6** are used for this purpose. The **AE-C6** card accepts commands from both *Supervisor* PCs, even if both were to transmit simultaneously. Each COM port on both *Supervisor* PC(s) has an individual connection to each **Audio Engine** in your system. The AE-C6 uses both RS-232 and RS-485 protocols – you should use only one at a time.

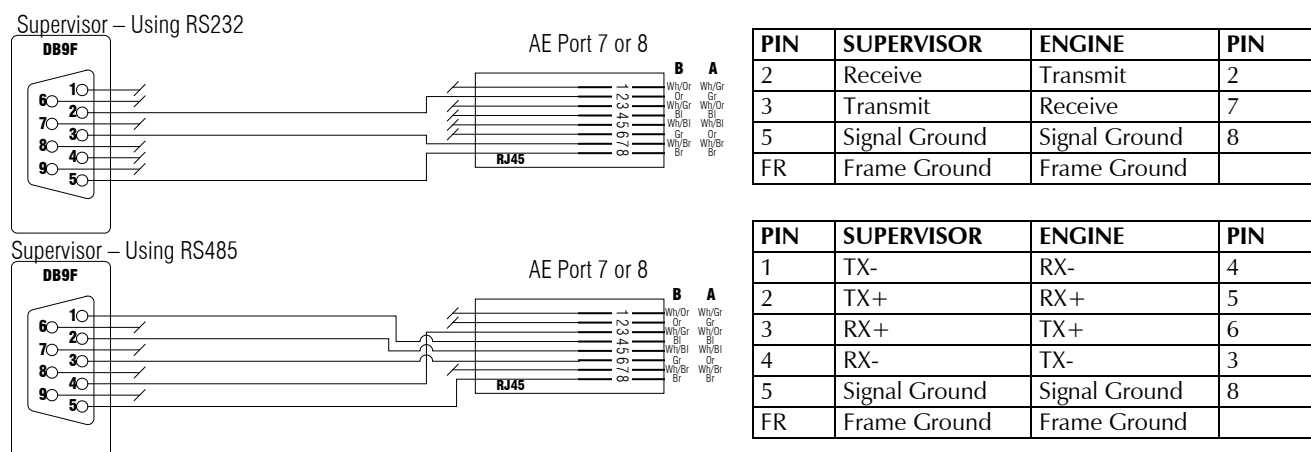


Figure 16 - Supervisor wiring for AE-C6 Supervisor (RS232 & RS485)

## Serial Heartbeat Channel

An optional **Serial Heartbeat** channel is available between the two *Supervisor* PC(s). See the following page for further information on the benefits of this channel. To setup a **Serial Heartbeat**, you need a null-modem connection between a COM port on each PC. Null-modem cables are available off-the-shelf, or can easily be made at your station.

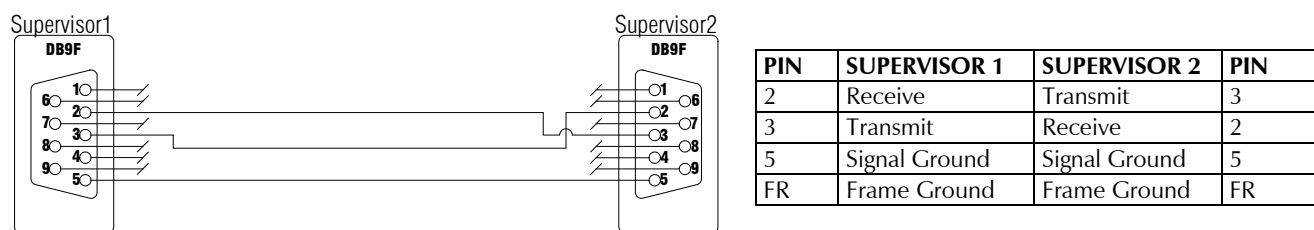


Figure 17 - Supervisor wiring for null modem between PCs

A standard null modem cable uses additional connections (such as Data Terminal Ready, Data Set Ready, Request To Send and Clear To Send). *Supervisor* does not make use of these, but there is no problem having them connected as per a standard null modem connection.

## Network Heartbeat Channel

Both *Supervisor* PC(s) must be attached to a LAN, with IP connectivity between them. This is required so configuration files are synchronized and also provides the **Network Heartbeat** channel.

## Heartbeat / Ping Channels

When running in *Dual Supervisor* mode, both instances of the application must be able to communicate with each other. This is achieved with:

- An IP based Network Ping (required)
- A Serial Ping (optional)



Figure 18 - Supervisor in Backup mode, showing the Primary status

The **Network Heartbeat** channel is also used to transfer information between each instance, on startup and when configuration updates are done.

The **Serial Heartbeat** channel is recommended, as it provides an extra level of assurance as to the *Primary Supervisor* status. Whilst network connections are generally reliable, there's more to go wrong, including switches/hubs, cabling, accidental patch removal and NIC failure.

It is still possible for the **Serial Heartbeat** connection to be broken, but as it is a point-to-point connection from on-board COM ports, the chances are quite remote.

The combination of the **Network** and **Serial Heartbeat** channels provides *Supervisor* with the best chance of determining the status of the other PC. Should both heartbeats fail, *Supervisor* can be quite certain the other unit is unable to communicate with the **Audio Engines**.



It is important to ensure only one *Supervisor* computer is transmitting commands to an **Audio Engine** at the one time. Commands can be corrupted if two *Supervisor* instances transmit simultaneously (ie both are in Primary Mode). The use of both **Network** and **Serial Heartbeat** channels is highly recommended to prevent this situation.

## Startup & Synchronization

*Dual Supervisor* mode is designed to work with little user intervention. Each *Supervisor* is set with a default startup mode – one should be Primary and the other Backup.

When *Supervisor* starts, it will immediately check for the presence of the other *Supervisor*. If the Primary detects the other instance is running in **Backup as Primary** mode, it will force the Backup Supervisor back into Backup mode to prevent data corruption of commands to the **Audio Engines**.

Upon startup, *Supervisor* will also look to its partner to get updated configuration – profiles; triggers; variables – to ensure both are fully in sync.

Synchronization is maintained throughout operation. Both *Supervisors* receive state information continuously from the **Audio Engines** and if the user uploads a new **Trigger Table** to the *Primary Supervisor*, the Backup will automatically receive a copy as well.

A great deal of development and testing has been done to ensure *Dual Supervisor* offers an always ready hot-spare and the changeover is both automatic and seamless.

## Failover

*Backup Supervisor* will promote itself to Backup as Primary and take over control of the **Audio Engines** when no pings are received from the Primary. A ping is sent to the *Primary Supervisor* every 5 seconds.

### Network Heartbeat only

If you are only using the **Network Heartbeat**, *Backup Supervisor* will promote to Backup as Primary when 3 consecutive pings are not received on the **Network Heartbeat** connection.

**TIP:** If using **Network Heartbeat** only, you need to ensure the IP connectivity between both *Supervisors* is maintained at all times. Ensure your hub/switch is on protected power and all cabling is marked to prevent accidental removal. Minimize the points of failure on the network between the two PCs. If performing maintenance on the physical network or hubs/switches, it might be safer to disable the *Backup Supervisor* PC during the maintenance period and restore it to service afterward.

### Network & Serial Heartbeat

If you are using both heartbeats, *Backup Supervisor* will promote to Backup as Primary when 3 consecutive pings are not received on both channels. This prevents unwanted promotion when the network is interrupted and is the recommended configuration.

### Manual Failover / Failback

Failover or promotion is an automated process. There is no facility to manually promote the Backup to Backup as Primary, or demote the Primary to Backup.

## Dual Supervisor with COM Port Control


If you intend to use COM Port Control (RS232 Routing) with *Dual Supervisor*, there are some complicating factors. COM Port Control was originally designed to operate on a single *Supervisor* PC. Whilst *Dual Supervisor* can still perform the same functions, additional cabling will be required to achieve this on two PCs.

→ *Please contact Logitek Electronic Systems for advice on this configuration.*

## Setting up Dual Supervisor

To setup *Dual Supervisor*, first install the application on your “A” and “B” PCs, setup the serial ports and confirm *Supervisor* can communicate with your **Audio Engines**.

➔ *See Chapter 3 for instructions to install Supervisor.*

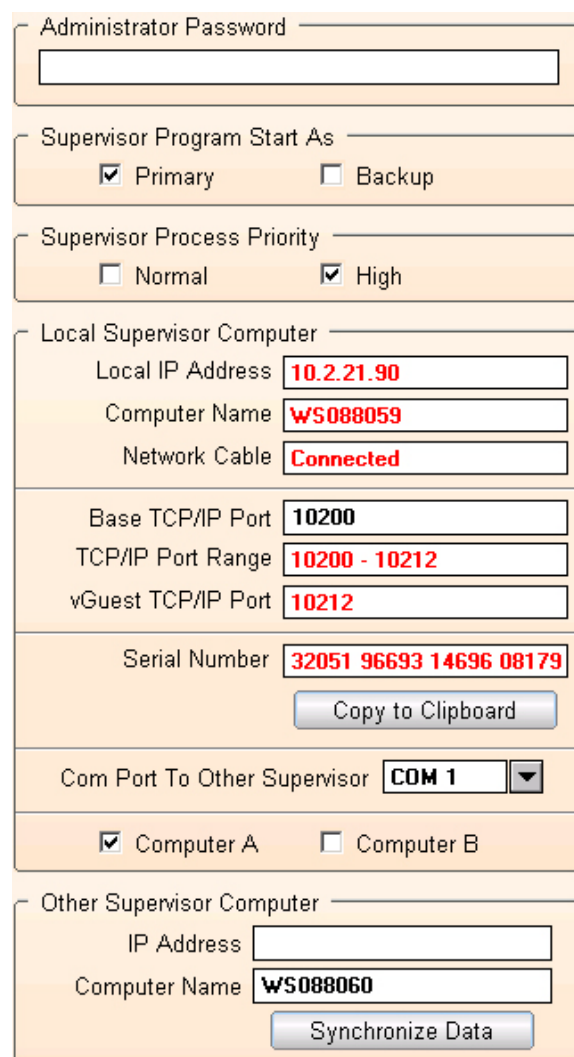
 **TIP:** Make sure only one instance of *Supervisor* is running when you are installing and configuring serial ports, ie install the “A” PC, quit *Supervisor*, then install the “B”.

Remember, only one PC can be the Primary. The other PC will be the Backup and will become Backup as Primary upon failure of the Primary. The Backup as Primary PC will automatically revert to Backup upon the resumption of the Primary PC. In normal usage, the “A” PC is set to startup as Primary, and the “B” is set as Backup.

Each *Supervisor* should be set to the appropriate **Controller Card** type for ping replies to work.

### Supervisor A (Primary)

1. Go to the **System Administrator** ➤ **System Setup** page.
2. Set **Supervisor Program Starts As** to “Primary”
3. Set **Com Port to Other Supervisor** to the port that has the null-modem connection to the “B” computer. If not using **Serial Heartbeat**, set this to “None”.
4. Tick the **Computer A** checkbox.
5. In **Other Supervisor Computer** enter the IP address or host (computer) name of the “B” PC.
6. Tick either **AE-C2** or **AE-C6** for the **Controller Card**. As shown in Figure 21 below.
7. Quit *Supervisor*.



The image shows the 'Supervisor A Settings' window. It contains several sections with input fields and checkboxes. The 'Administrator Password' field is empty. The 'Supervisor Program Start As' section has 'Primary' checked and 'Backup' unchecked. The 'Supervisor Process Priority' section has 'Normal' unchecked and 'High' checked. The 'Local Supervisor Computer' section includes 'Local IP Address' (10.2.21.90), 'Computer Name' (WS088059), and 'Network Cable' (Connected). The 'Base TCP/IP Port' is 10200, 'TCP/IP Port Range' is 10200 - 10212, and 'vGuest TCP/IP Port' is 10212. The 'Serial Number' is 32051 96693 14696 08179, with a 'Copy to Clipboard' button. The 'Com Port To Other Supervisor' is set to 'COM 1'. The 'Computer A' checkbox is checked, and 'Computer B' is unchecked. The 'Other Supervisor Computer' section includes 'IP Address' (empty) and 'Computer Name' (WS088060), with a 'Synchronize Data' button.

Figure 19 - Supervisor A Settings

## Supervisor B (Backup)

1. Go to the **System Administrator** ➤ **System Setup** page.
2. Set **Supervisor Program Starts As** to "Backup"
3. Set **Com Port to Other Supervisor** to the port that has the null-modem connection to the "A" computer. If not using **Serial Heartbeat**, set this to "None".
4. Tick the **Computer B** checkbox.
5. In **Other Supervisor Computer** enter the IP address or host (computer) name of the "A" PC.
6. Tick either **AE-C2** or **AE-C6** for the **Controller Card**. As shown in Figure 21 below.
7. Quit *Supervisor*.

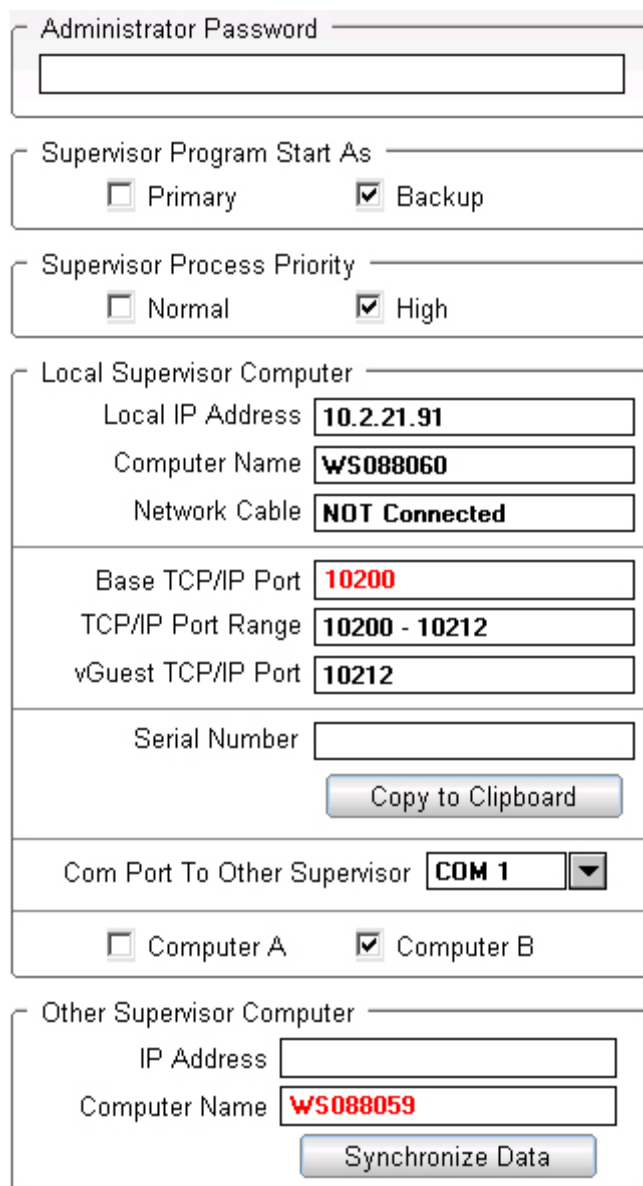


Figure 20 - Supervisor B Settings

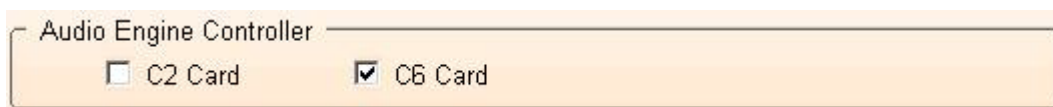


Figure 21 - Audio Engine Controller selection

## Testing

1. Start the “A” *Supervisor* via *vManager 3.6* – it should start in Primary mode.
2. Once the “A” has finished booting, start the “B” *Supervisor* via *vManager 3.6* – it should start in Backup mode.
3. You should see the **Network** and **Serial** (if used) Pings flash every few seconds in the title bar of *Supervisor*.
4. You can test the failover by quitting *Supervisor* on the Primary. The Backup should take over within a few seconds.

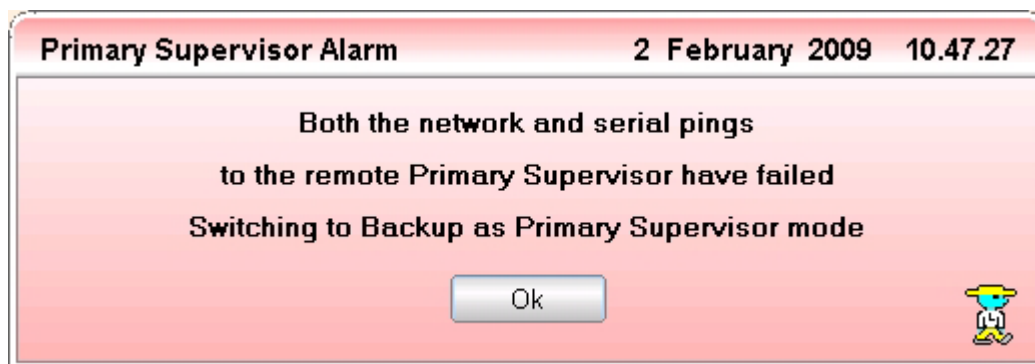


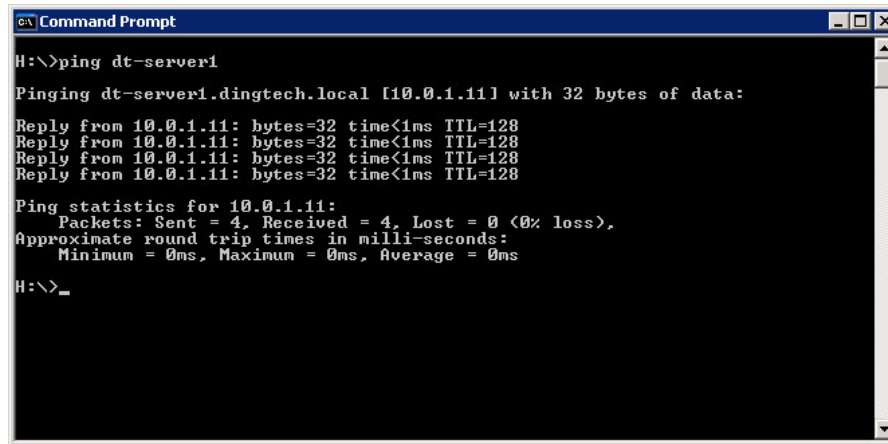
Figure 22 - Dialog showing failure of Primary Supervisor

## Troubleshooting

If you experience difficulties getting *Dual Supervisor* mode to operate correctly, you should check:

1. IP connectivity between the two machines. Ping the IP and Hostname of the other machine to confirm. This should be checked in both directions.
2. Verify the serial link between each PC. This can be done by quitting *Supervisor* and opening a terminal program (eg Hyperterminal) on each PC.
3. Double check the configuration of *Supervisor* – one should be set to Primary at startup, the other as Backup.
4. If using firewalls or routers between the two PCs (not recommended), ensure the required port is open in both directions. This port is set in the Supervisor **System Administrator** ➤ **System Setup** page.





```
c:\ Command Prompt
H:\>ping dt-server1
Pinging dt-server1.dingtech.local [10.0.1.11] with 32 bytes of data:
Reply from 10.0.1.11: bytes=32 time<1ms TTL=128
Reply from 10.0.1.11: bytes=32 time<1ms TTL=128
Reply from 10.0.1.11: bytes=32 time<1ms TTL=128
Reply from 10.0.1.11: bytes=32 time<1ms TTL=128
Ping statistics for 10.0.1.11:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 0ms, Average = 0ms
H:\>_
```

Figure 23 - Verifying IP connectivity between Supervisor PCs



## 7 Finding your way around Supervisor

This chapter provides an explanation of the key functions of each screen of the *Supervisor* application. The key buttons and functions are listed for each screen.

### Audio Engine Log

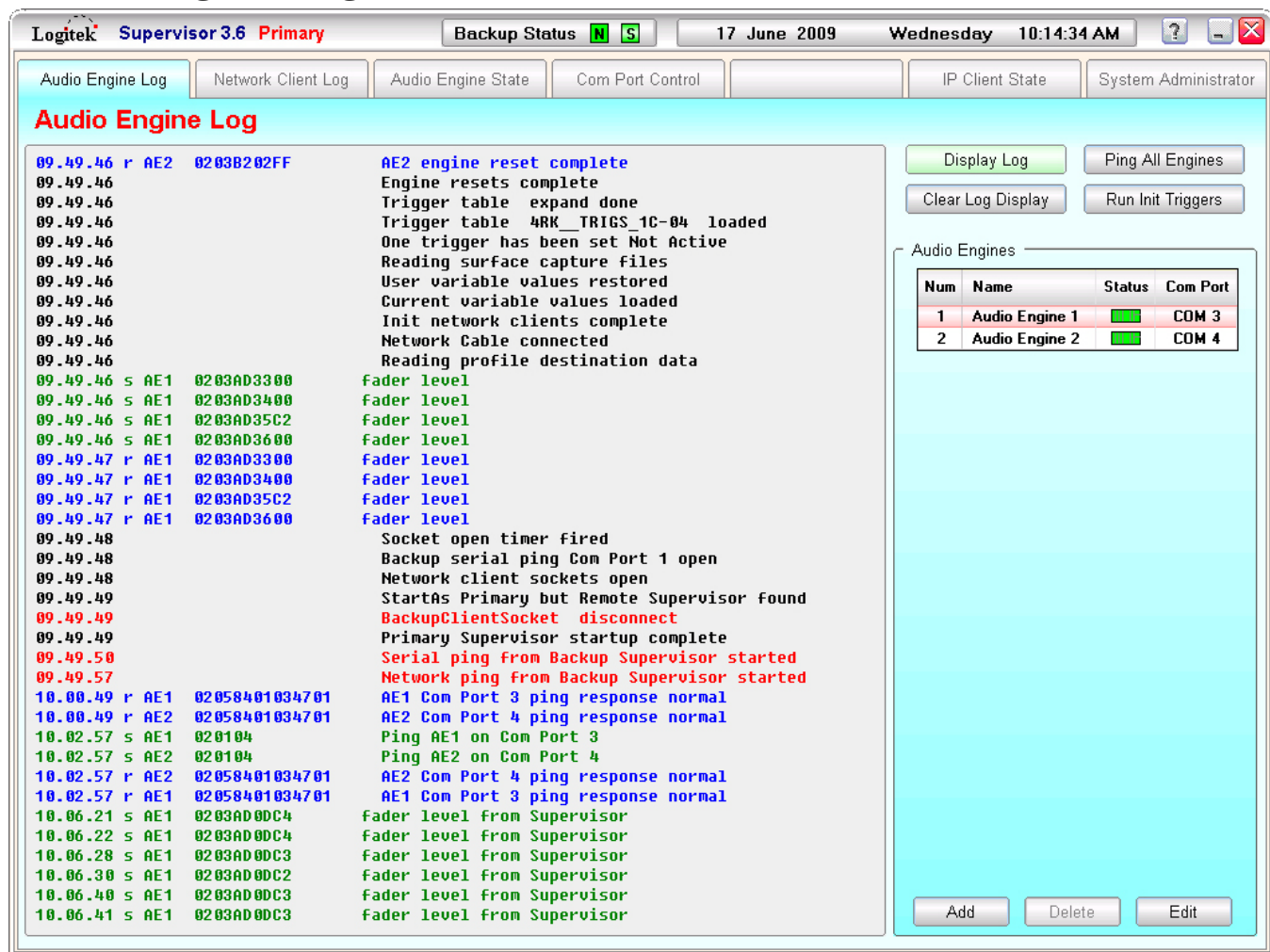


Figure 24 - Audio Engine Log page

The **Audio Engine Log** page is for monitoring communication between *Supervisor* and the **Audio Engines** and for configuration and verification of the **Audio Engines**.

#### Display Log button

Toggles display of on-screen **Audio Engine Log** – use to pause display. Shown in “ON” state (green).

#### Clear Log Display button

Clears log screen – useful when you want to watch the log for new activity.

### **Ping All Engines button**

Verifies connectivity to **Audio Engines**. Green status indicates the **Engine** is responding.

### **Run Init Triggers button**

Use this button to execute the **Init Triggers** for your facility (if used). Functionality of these varies.

### **Log frame**

Displays all communication between the **Audio Engines** when the **Display Log** button is lit.

## **Audio Engine Log – Audio Engines frame**

Shows status of each of the **Audio Engines** in your system. In normal practice, all will show with green status indicators. Also used to configure the **Audio Engines**.

### **Add, Delete & Edit buttons (Audio Engines frame)**

These buttons are used to configure the **Audio Engines** when you setup Supervisor and are usually left alone in normal operation. The **Edit** button displays a window that can be used to **Ping** or **Reset** an individual Audio Engine.

### **Assign COM Port button**

After highlighting the desired COM Port from the **Installed COM Ports** list, click on **Assign COM Port** to assign that COM Port to the **Audio Engine**.

### **Remove COM Port button**

Click on **Remove COM Port** to remove the assigned COM Port from an **Audio Engine**.

### **Ping Engine button**

Click on the **Ping Engine** button to Ping the **Audio Engine** and ensure communications are running.

### **Soft Reset and Full Reset buttons**

Click on the **Soft Engine Reset** or **Full Engine Reset** button to perform that reset upon the said **Audio Engine**.

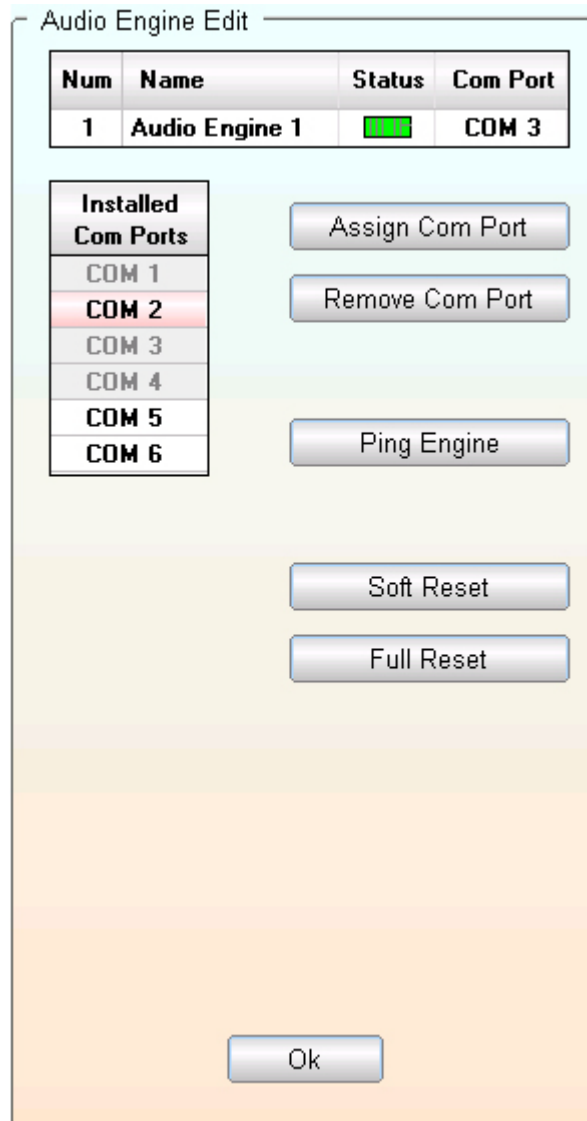


Figure 25 - Audio Engine Edit Screen

➔ *See Chapter 4 for information on configuring Audio Engines.*

## Network Client Log

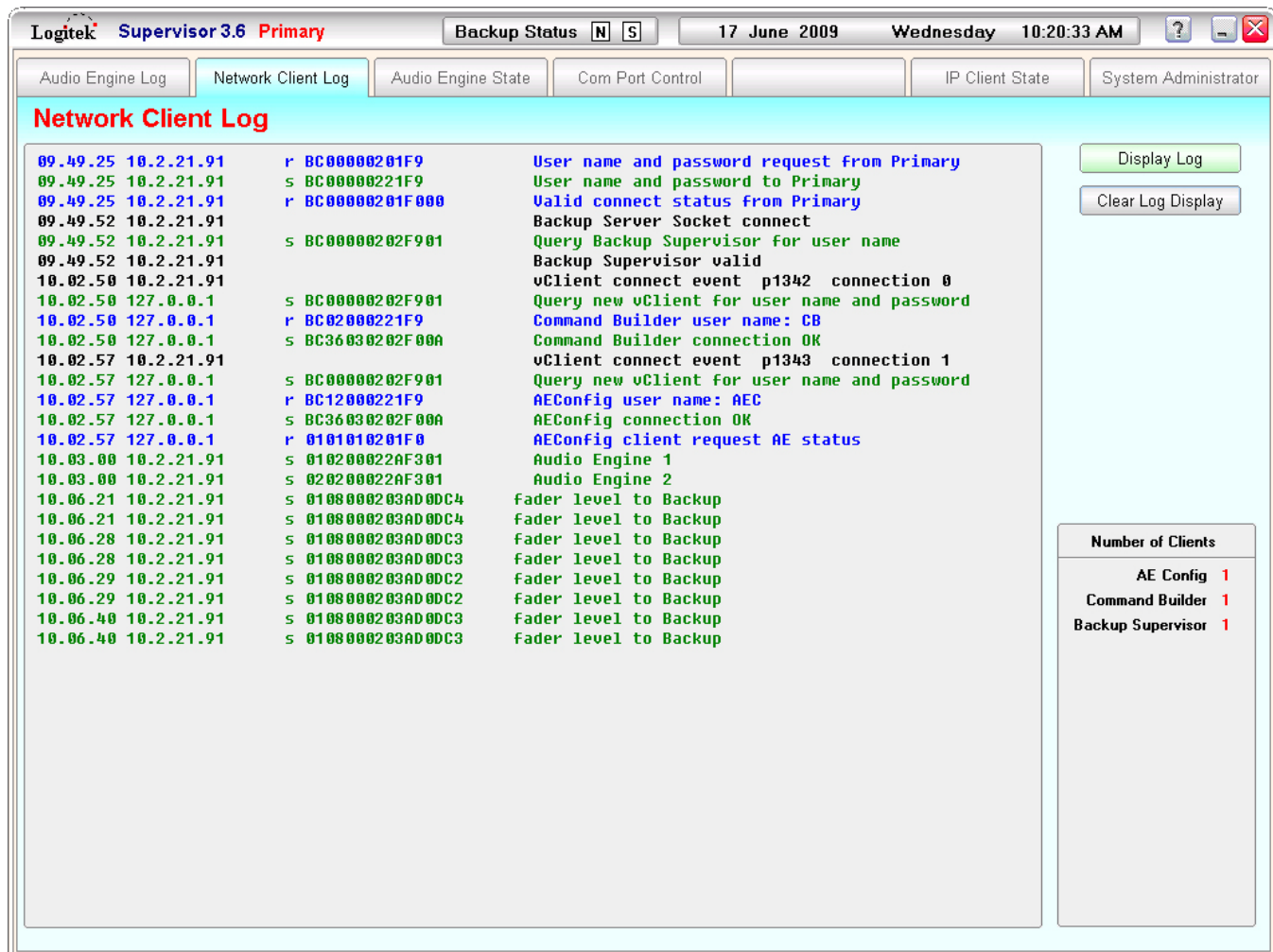


Figure 26 - Network Log page

The **Network Log** page shows communication between *Supervisor* and *vTools* applications. The information is primarily for advanced diagnostics, but is useful for verifying recent activity.

### Display Log button

Toggles display of on-screen **Network Log** – use to pause display. Shown in “ON” state (green).

### Clear Log Display button

Clears log screen – useful when you want to watch the log for new activity.

### Number of Clients frame

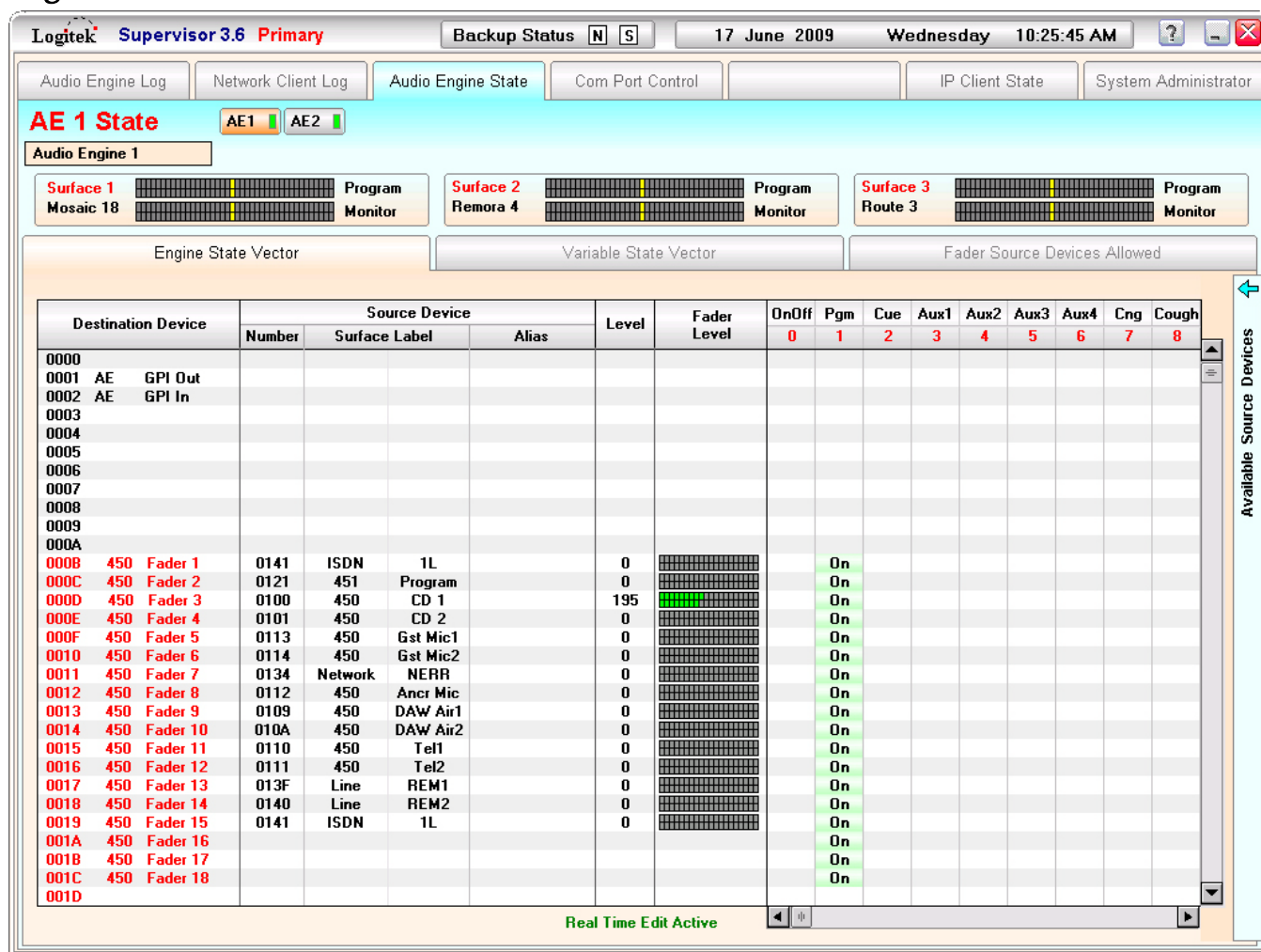
Shows any *vTools* clients connected to Supervisor via TCP/IP, and the number thereof.

## Audio Engine State

This is an advanced diagnostics page, offering a direct link into your **Audio Engine**. You have the ability to control almost every function of the **Audio Engines** here, so proceed with caution. The top section of the screen allows you to select which **Audio Engine** you wish to view/control.

➔ See Chapter 8 for further information on using these pages for troubleshooting.

### Engine State Vector



**AE 1 State** AE1 AE2

**Audio Engine 1**

**Surface 1** Mosaic 18 Program Monitor

**Surface 2** Remora 4 Program Monitor

**Surface 3** Route 3 Program Monitor

**Engine State Vector**

Destination Device	Source Device	Level	Fader Level	OnOff	Pgm	Cue	Aux1	Aux2	Aux3	Aux4	Cng	Cough	
	Number	Surface Label	Alias		0	1	2	3	4	5	6	7	8
0000													
0001	AE	GPI Out											
0002	AE	GPI In											
0003													
0004													
0005													
0006													
0007													
0008													
0009													
000A													
000B	450	Fader 1	0141	ISDN	1L	0							
000C	450	Fader 2	0121	451	Program	0							
000D	450	Fader 3	0100	450	CD 1	195							
000E	450	Fader 4	0101	450	CD 2	0							
000F	450	Fader 5	0113	450	Gst Mic1	0							
0010	450	Fader 6	0114	450	Gst Mic2	0							
0011	450	Fader 7	0134	Network	NERR	0							
0012	450	Fader 8	0112	450	Ancr Mic	0							
0013	450	Fader 9	0109	450	DAW Air1	0							
0014	450	Fader 10	010A	450	DAW Air2	0							
0015	450	Fader 11	0110	450	Tel1	0							
0016	450	Fader 12	0111	450	Tel2	0							
0017	450	Fader 13	013F	Line	REM1	0							
0018	450	Fader 14	0140	Line	REM2	0							
0019	450	Fader 15	0141	ISDN	1L	0							
001A	450	Fader 16											
001B	450	Fader 17											
001C	450	Fader 18											
001D													

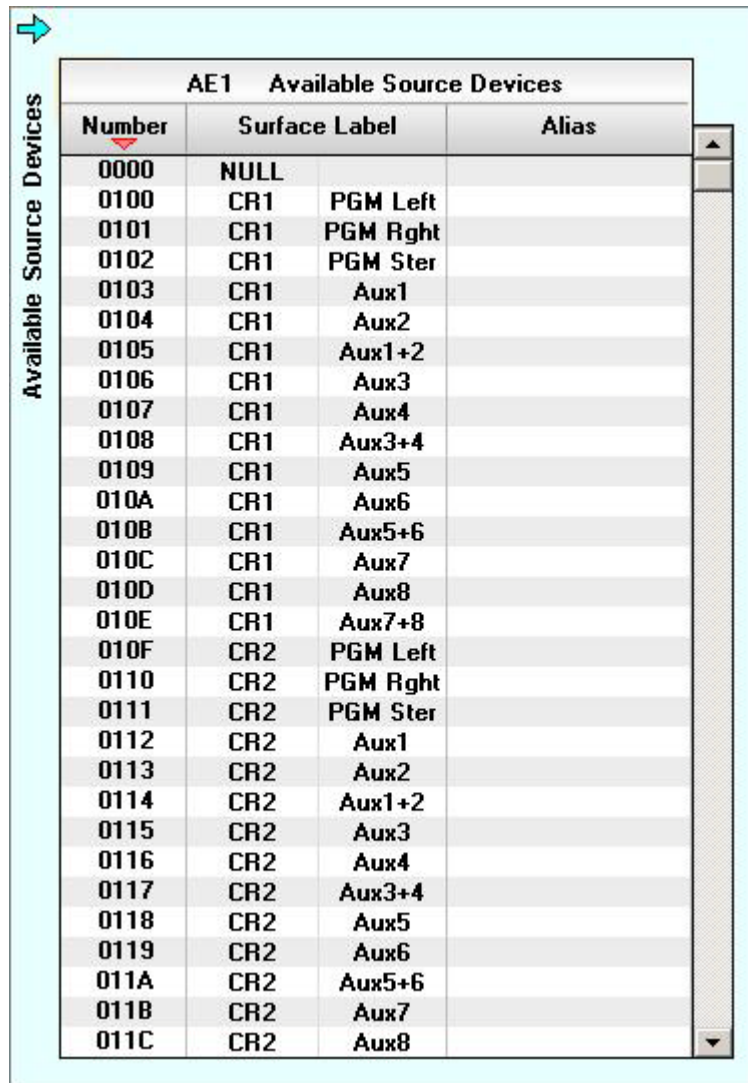
Real Time Edit Active

Available Source Devices

Figure 27 - Audio Engine State showing Engine State Vector page


This page provides an insight into the **Audio Engine**, showing current routes, bus settings, fader levels and meter readings.

- **Surface** meter readings for each port are provided on the top of the screen.
- Fader (input) level is shown if your system is fitted with *SharcAttack* DSP cards.
- By clicking on the value in the Level column, you are able to access the Fader Detail page.
- A “fly-out” **Device Table** is accessed by hovering over the arrow on the right hand side.



AE1 Available Source Devices		
Number	Surface Label	Alias
0000	NULL	
0100	CR1	PGM Left
0101	CR1	PGM Right
0102	CR1	PGM Ster
0103	CR1	Aux1
0104	CR1	Aux2
0105	CR1	Aux1+2
0106	CR1	Aux3
0107	CR1	Aux4
0108	CR1	Aux3+4
0109	CR1	Aux5
010A	CR1	Aux6
010B	CR1	Aux5+6
010C	CR1	Aux7
010D	CR1	Aux8
010E	CR1	Aux7+8
010F	CR2	PGM Left
0110	CR2	PGM Right
0111	CR2	PGM Ster
0112	CR2	Aux1
0113	CR2	Aux2
0114	CR2	Aux1+2
0115	CR2	Aux3
0116	CR2	Aux4
0117	CR2	Aux3+4
0118	CR2	Aux5
0119	CR2	Aux6
011A	CR2	Aux5+6
011B	CR2	Aux7
011C	CR2	Aux8

Figure 28 - Available Source Device “fly-out”

-  **TIP:** If you wish to edit Audio Engine state from within Supervisor, ensure the *Allow Real Time State Change* option is ticked on the *System Setup – Special Functions* page. Otherwise you will only be able to view the *Audio Engine State*, but not see or change any of the detail.

## Engine State Vector – Fader Detail - Fader

This page provides an insight into the Fader, showing the current source device, assigned busses, fader level, meter readings, trim, mode and pan.

- The currently routed source device is shown at the top of the screen.
- The Fader can be turned ON or OFF by clicking the appropriate button on the Fader Tab.
- The Fader level can be viewed, and adjusted, by dragging the fader up or down.
- Fader (pre/post) level is shown if your system is fitted with *SharcAttack* DSP cards.
- Bus assignments can be viewed, and adjusted, by clicking the tick boxes.
- Mode can be viewed, and adjusted, by clicking the tick boxes.
- Bus assignments can be viewed, and adjusted, by clicking the tick boxes.
- Trim level can be viewed, and adjusted, by dragging the knob left or right. To zero the level, click on the **Zero** button.
- Pan can be viewed, and adjusted, by dragging the knob left or right. To center the level, simply click on the **Center** button.

The **Fader Detail Page** is shown in Figure 29 below.

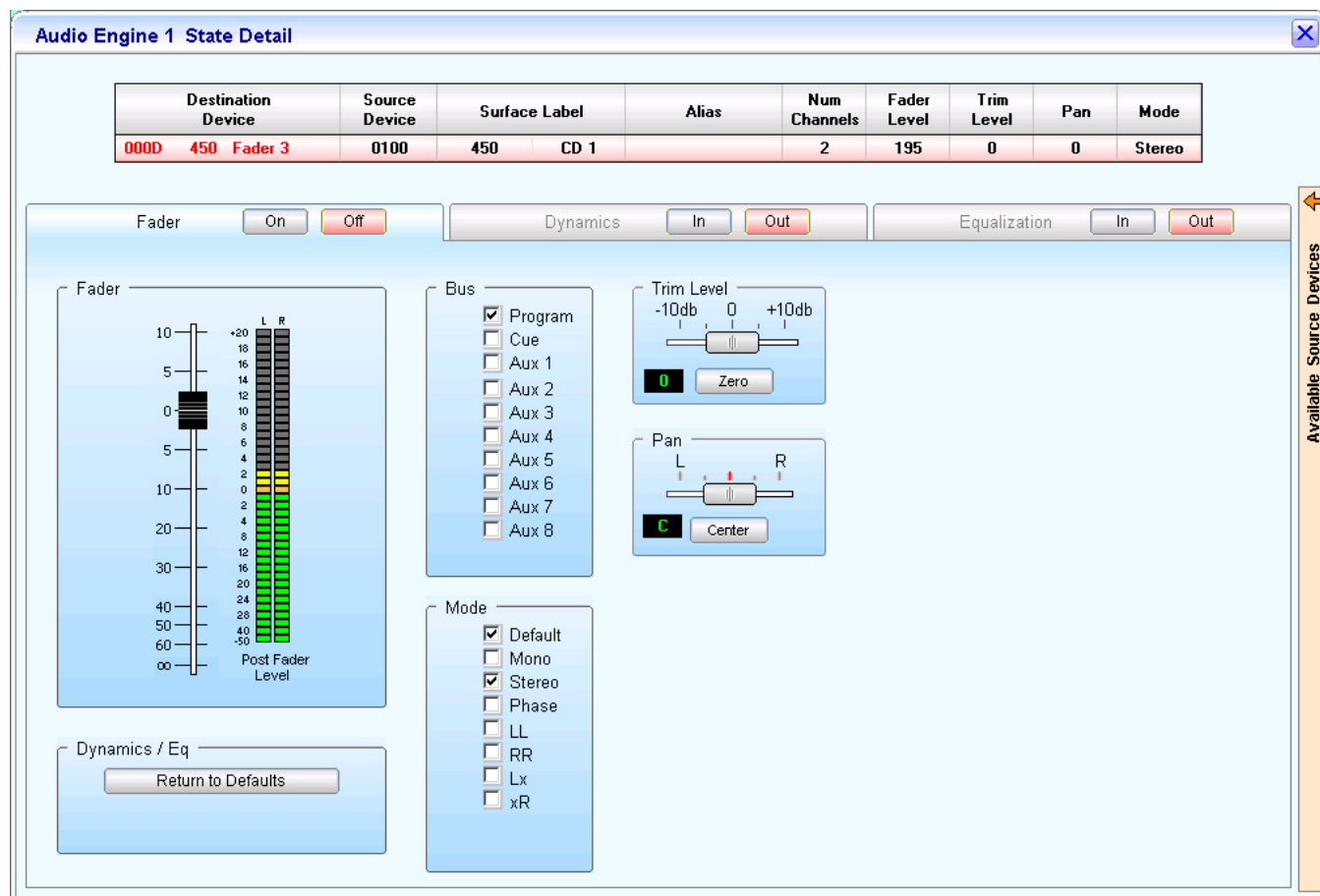


Figure 29 - Fader Detail page



## Engine State Vector – Fader Detail – Dynamics

This page provides an insight into the Fader Dynamics, showing the current source device, Fader level and Limiter and Compressor values.

- The currently routed source device is shown at the top of the screen.
- Dynamics can be set to IN or OUT by clicking the appropriate button on the **Dynamics** Tab.
- The Fader level can be viewed, and adjusted, by simply the fader up or down.
- Fader (pre/post) level is shown if your system is fitted with *SharcAttack* DSP cards.
- Under the **Reset Dynamics** section, you can undo the current changes and/or return to defaults.
- Limiter Threshold, Ratio and Release can be viewed, and adjusted, by dragging the knob left or right.
- Compressor Gain, Threshold, Ratio, Attack and Release can be viewed, and adjusted, by dragging the knob left or right.
- The Dynamics settings are shown in the Graph to the right, and constantly updated as the values change.

The **Fader Dynamics Detail Page** is shown in Figure 30 below.

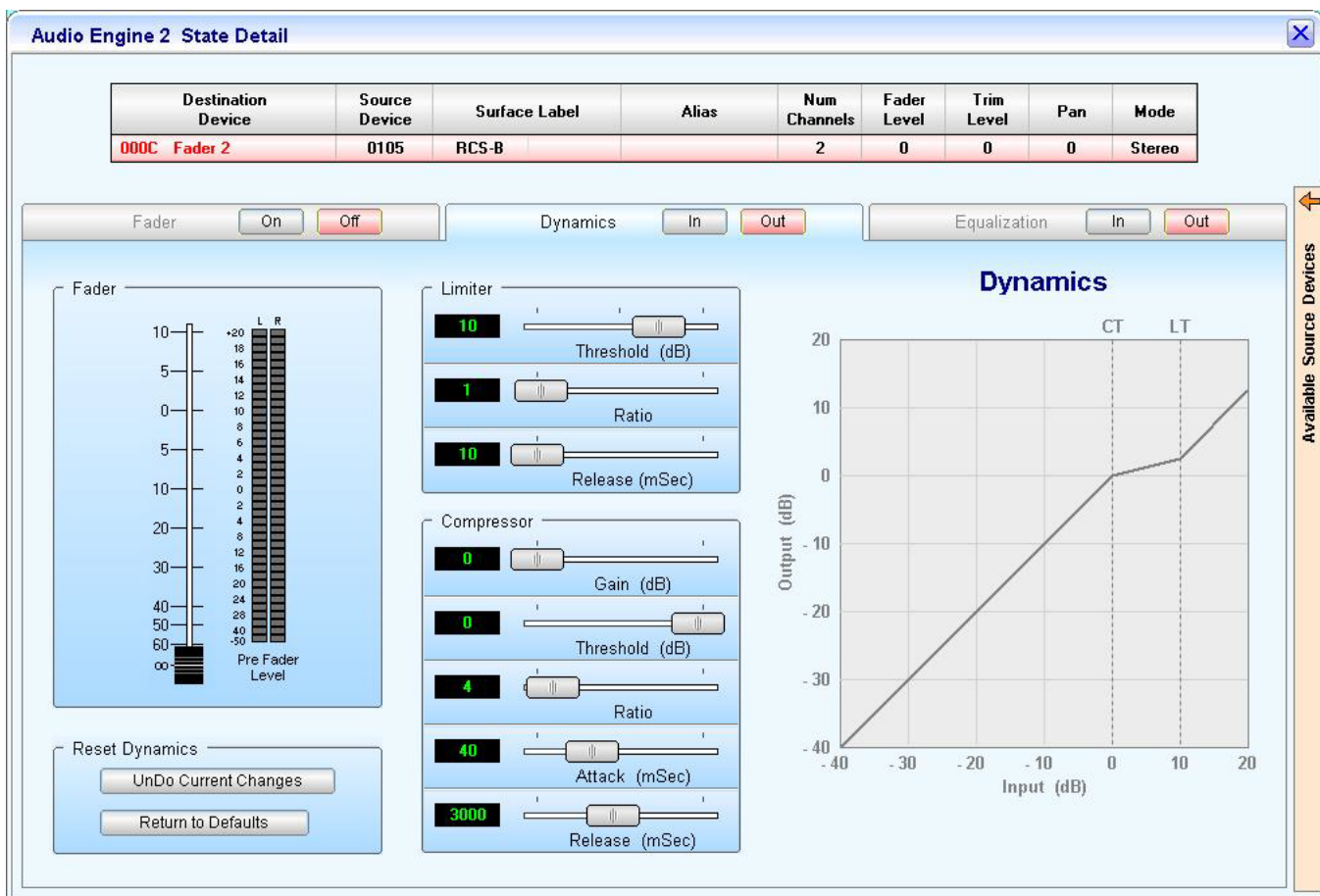


Figure 30 – Fader Detail Dynamics



## Engine State Vector – Fader Detail - Equalization

This page provides an insight into the Fader Equalization, showing the current source device and Hi, Hi Mid, Low Mid and Low Range values.

- The currently routed source device is shown at the top of the screen.
- Equalization can be set to IN or OUT by clicking as appropriate on the **Equalization** Tab.
- Under the **Reset Equalization** section, you can undo the current changes and/or return to defaults.
- Hi Range Frequency & Gain can be viewed, and adjusted, by dragging the knob left or right.
- Hi Mid Range Frequency, Gain & Bandwidth can be viewed, and adjusted, by dragging the knob left or right.
- Low Mid Range Frequency, Gain & Bandwidth can be viewed, and adjusted, by dragging the knob left or right.
- Lo Range Frequency & Gain can be viewed, and adjusted, by dragging the knob left or right.
- Equalization settings are shown in the Graph to the right, and updated as the values change.

The Fader Equalization Detail Page is shown in Figure 31 below.

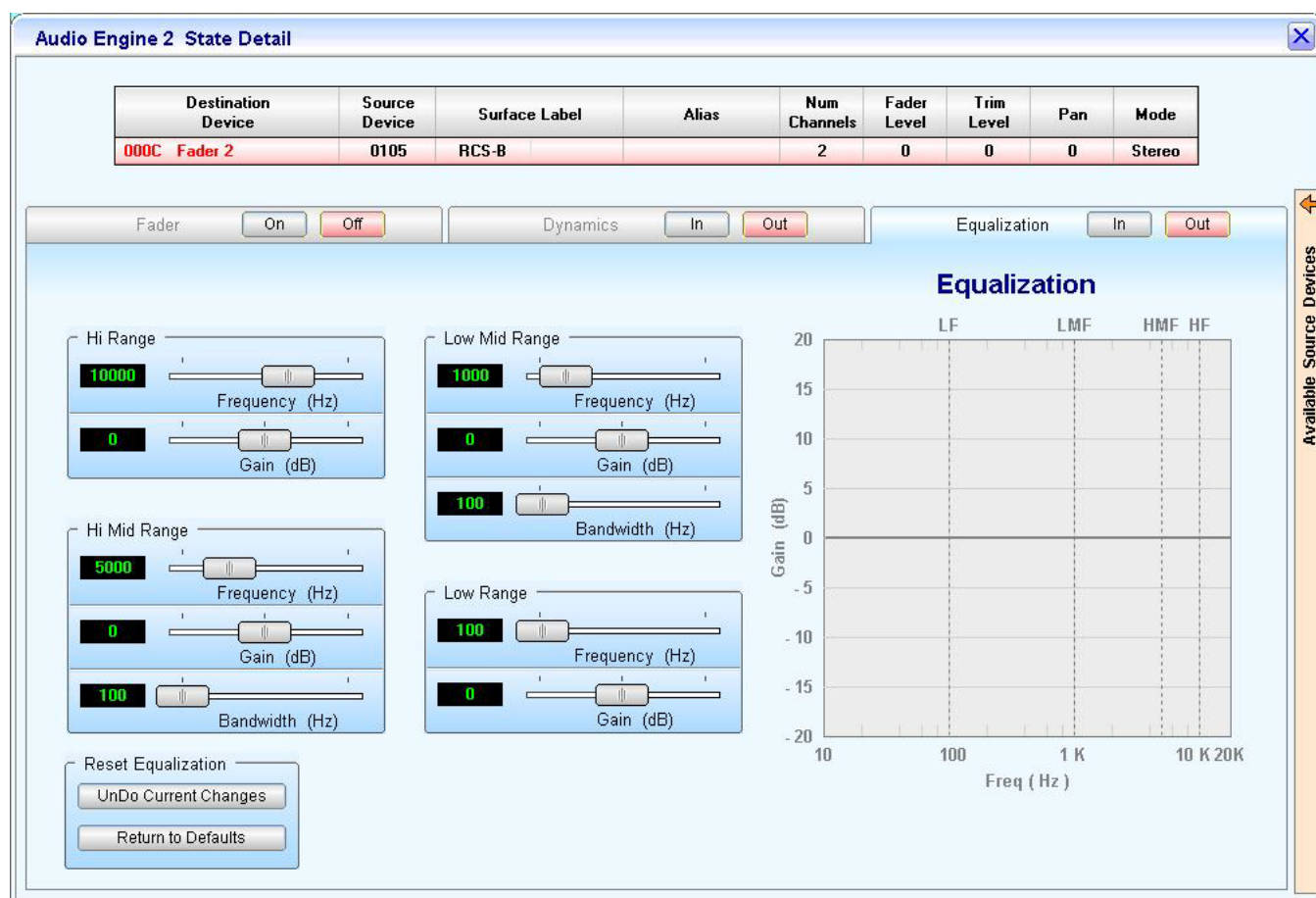


Figure 31 - Fader Detail Equalization

## Variable State Vector

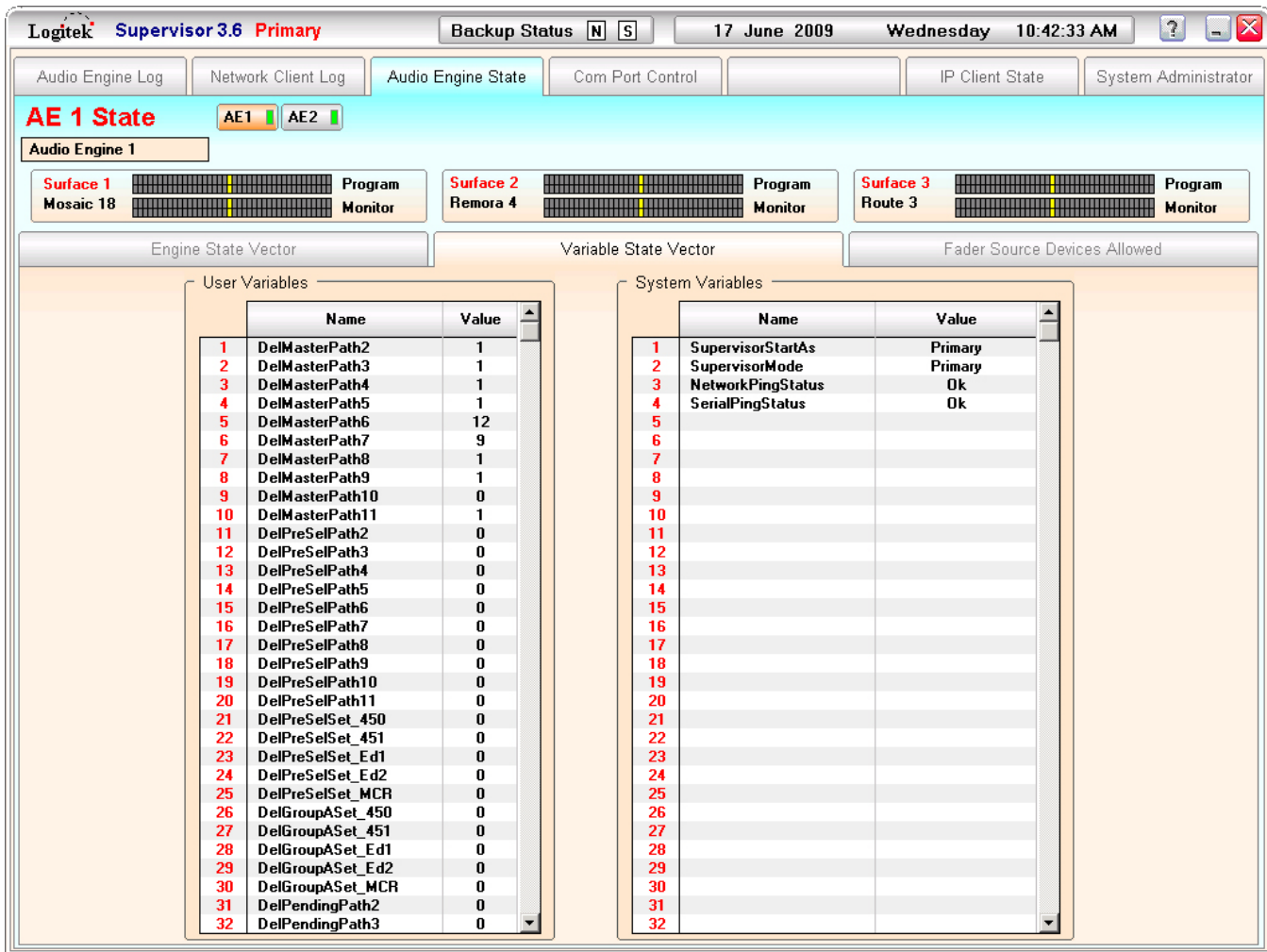
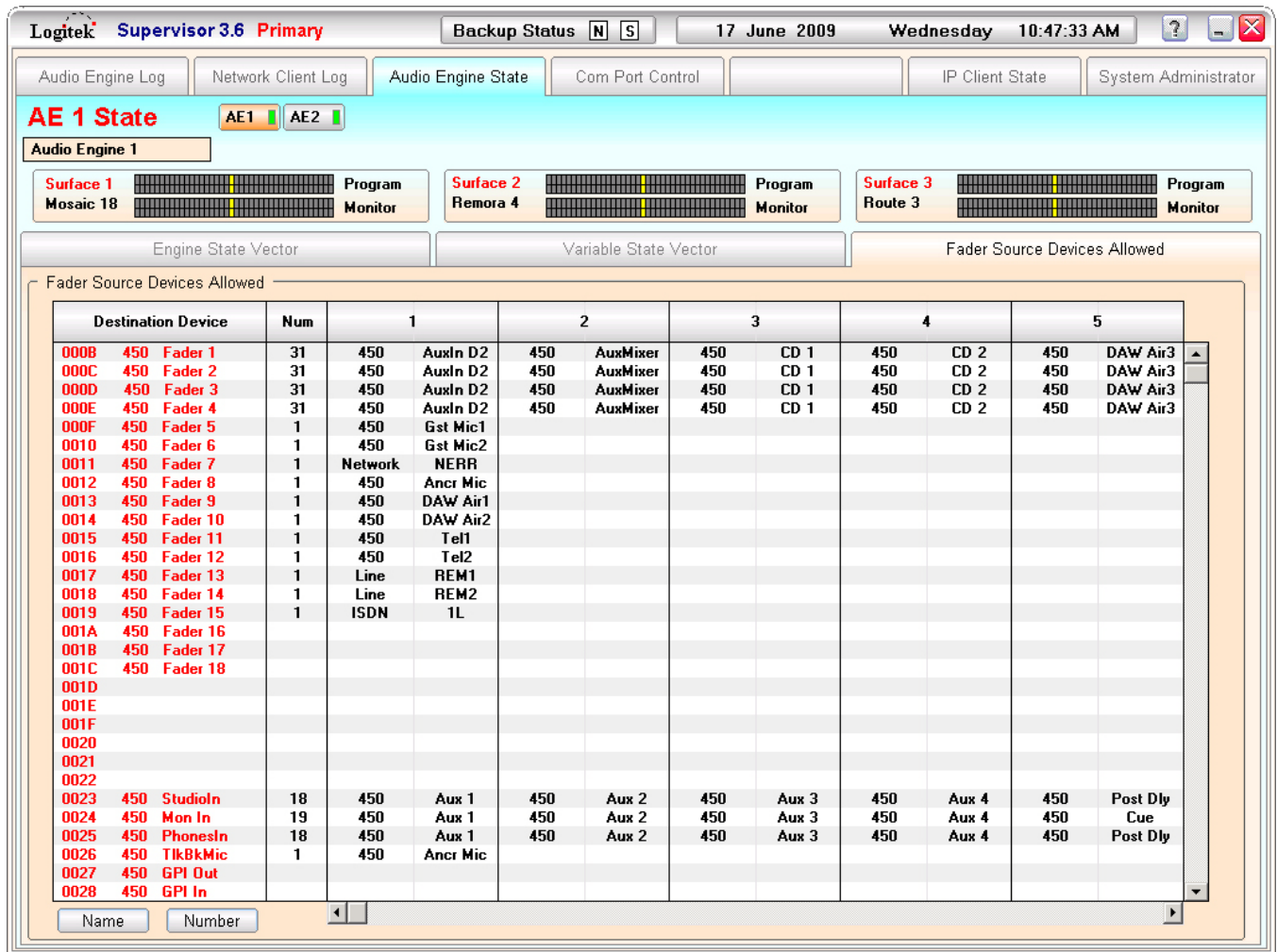


Figure 32 - Audio Engine State showing Variable State Vector page

This page shows a list of **User** and **System Variables** and their current value. This is useful for debugging and troubleshooting **Triggers**. The values are read only.

- **User Variables** are allocated in **Trigger Tables** produced with *CommandBuilder*.
- **System Variables** are hard coded into *Supervisor*.

## Fader Inputs List



**AE 1 State** AE1 AE2

Audio Engine 1

Surface 1 Mosaic 18 Program Monitor

Surface 2 Remora 4 Program Monitor

Surface 3 Route 3 Program Monitor

Engine State Vector Variable State Vector Fader Source Devices Allowed

Destination Device	Num	1	2	3	4	5
0008 450 Fader 1	31	450 AuxIn D2	450 AuxMixer	450 CD 1	450 CD 2	450 DAW Air3
000C 450 Fader 2	31	450 AuxIn D2	450 AuxMixer	450 CD 1	450 CD 2	450 DAW Air3
000D 450 Fader 3	31	450 AuxIn D2	450 AuxMixer	450 CD 1	450 CD 2	450 DAW Air3
000E 450 Fader 4	31	450 AuxIn D2	450 AuxMixer	450 CD 1	450 CD 2	450 DAW Air3
000F 450 Fader 5	1	450 Gst Mic1				
0010 450 Fader 6	1	450 Gst Mic2				
0011 450 Fader 7	1	Network NERR				
0012 450 Fader 8	1	450 Ancr Mic				
0013 450 Fader 9	1	450 DAW Air1				
0014 450 Fader 10	1	450 DAW Air2				
0015 450 Fader 11	1	450 Tel1				
0016 450 Fader 12	1	450 Tel2				
0017 450 Fader 13	1	Line REM1				
0018 450 Fader 14	1	Line REM2				
0019 450 Fader 15	1	ISDN 1L				
001A 450 Fader 16						
001B 450 Fader 17						
001C 450 Fader 18						
001D						
001E						
001F						
0020						
0021						
0022						
0023 450 StudioIn	18	450 Aux 1	450 Aux 2	450 Aux 3	450 Aux 4	450 Post Dly
0024 450 Mon In	19	450 Aux 1	450 Aux 2	450 Aux 3	450 Aux 4	450 Cue
0025 450 PhonesIn	18	450 Aux 1	450 Aux 2	450 Aux 3	450 Aux 4	450 Post Dly
0026 450 TlkBkMic	1	450 Ancr Mic				
0027 450 GPI Out						
0028 450 GPI In						

Name Number

Figure 33 - Audio Engine State showing Fader Inputs List page

This page shows a list of the allowed inputs for each fader on the **Audio Engine**. The allowed inputs are set in the configuration uploaded to the **Engine** and cannot be changed on this screen.

To check a fader, find it in the vertical fader/devices list and then scroll left-to-right through the allowed inputs. The mnemonics are shown as they appear on the surface and in the same order (alphabetical).

As per the **Engine State Vector** page, there are four color codes in the DSP Channel column:

Red	Port 1 Surface
Green	Port 2 Surface
Blue	Port 3 Surface
Black	Output Router

## Com Port Control

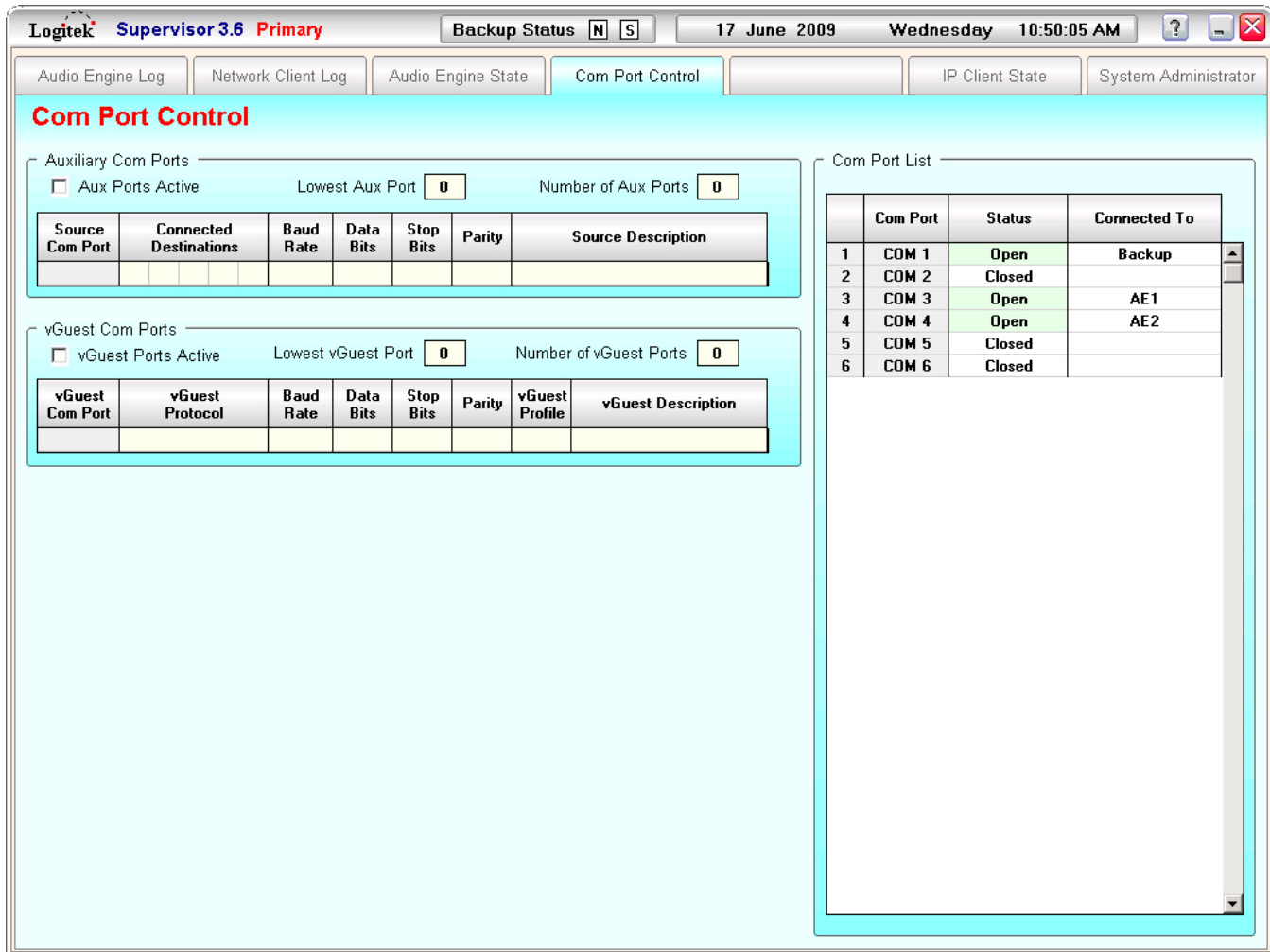


Figure 34 - Com Port Control page showing Aux Com ports in use

This page is a status view of the Com Ports used by *Supervisor*.

### Auxiliary Com Ports frame

This frame shows a matrix of Com Ports used by *Supervisor* for RS232 routing functions. The source port is shown on the left, with destination ports and settings on the right.

### vGuest Com Ports frame

This frame lists any Com Ports that are being used by *vGuest* (customer applications) to connect to *Supervisor* via RS232.

### Com Port List frame

This frame provides a list of each Com Port used by *Supervisor* and what it is doing.

## IP Client State

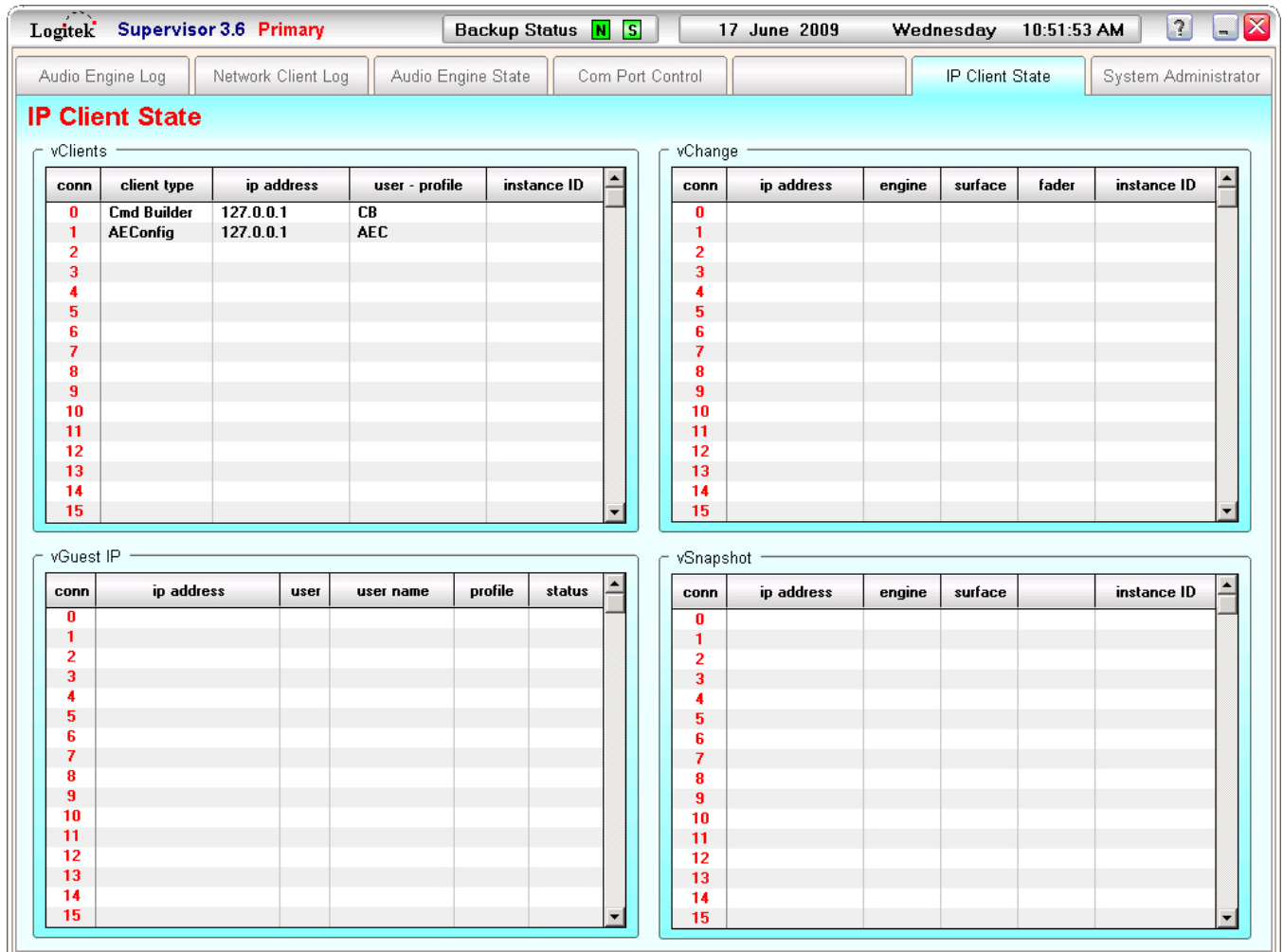


Figure 35 - vClient State page

The **IP Client State** page is used primarily for advanced troubleshooting of the *vTools* applications.

### vClients frame

Lists the *vTools* applications that are connected to *Supervisor*, along with usernames and IP addresses. Useful for detecting “rogue” use of the *vTools* within your network.

### vGuest IP Clients frame

Lists the *vGuest* (third party/customer) applications that are currently connected to *Supervisor*.

### vChange frame

Lists the *vChange* applications that are connected to *Supervisor*.

## vSnapshot frame

Lists the *vSnapshot* applications that are connected to *Supervisor*.

## System Administrator

Figure 36 - System Administrator pages

The **System Administrator** pages are for setting up *Supervisor*. Access can be password protected if you desire. The following sections describe the settings available and what they are for.

## System Setup page

<b>Administrator Password</b>	Use this to lock out non-administrators from configuring <i>Supervisor</i> settings
<b>Supervisor Program Start As</b>	The default mode <i>Supervisor</i> should start in on this computer
<b>Supervisor Process Priority</b>	The process priority <i>Supervisor</i> has within Task Manager. Default is <b>High</b>
<b>Local Supervisor Computer</b>	IP addressing is read from the highest network card, base port is editable
<b>Serial Number</b>	Used for obtaining answer code for <i>Premium vTools</i> license from <b>Logitek</b>
<b>Copy to Clipboard</b>	Copies Serial Number for easy insertion into email to <b>Logitek</b>
<b>Com Port to Other</b>	If used, the serial port to the other computer for <i>Dual Supervisor</i>
<b>Computer A / B</b>	For display purposes only – when <i>Supervisor</i> starts it will show A or B
<b>Other Supervisor Computer</b>	The name OR IP address of the other computer for <i>Dual Supervisor</i>
<b>Audio Engine Buffer Status</b>	Debugging tools for issues with by Trigger processing
<b>Trigger Table</b>	Details of currently running Trigger Table
<b>Language</b>	The language for date & time display in <i>Supervisor</i>
<b>Data Source</b>	The source from which <i>Supervisor</i> will receive information.
<b>Audio Engine Controller</b>	Sets the Controller Card type, so pings are sent correctly in <i>Dual Supervisor</i>
<b>vGuest Functions</b>	If using <i>vGuest</i> apps, this will echo <i>Supervisor</i> commands to those apps
<b>Capture/Recall Reload Files</b>	Use this to reload any <i>vSnapshot</i> clients currently connected
<b>vScreenPlayer Reload</b>	Use this to reload any <i>vScreenPlayer</i> clients currently connected
<b>Alarms Display Reset</b>	Use this to clear any alarm dialog boxes displayed



## Software License page

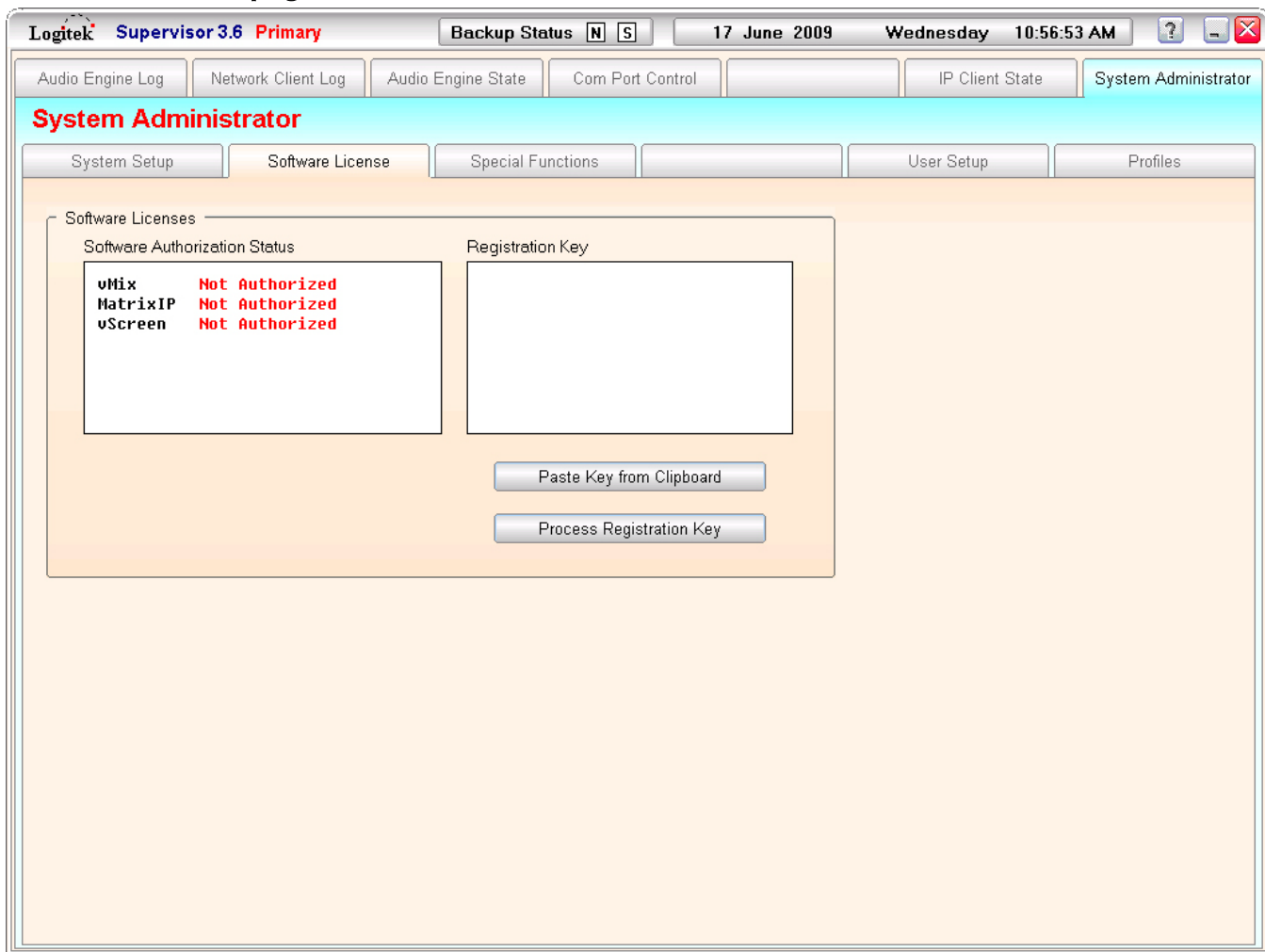


Figure 37 - Software License Page

The software license page is where the licensing of the *Premium vTools*, *vMix*, *MatrixIP* and *vScreen* happens.

After purchasing the *Premium vTools* from **Logitek**, you will need to copy the Serial Number from the **System Administrator** page (shown in the previous Section). Use the **Copy to Clipboard** button, and paste this value into the email you send to **Logitek**. The email address to send to is:

support@logitekaudio.com

You will receive a return email with the answer code inside. Copy the answer code and then use the buttons listed below to complete the registration.

**Paste Key from Clipboard**  
**Process Registration Key**

Use this to import the answer code sent by email from **Logitek**  
Processes the Answer Code and enables the license for *Premium vTools*



## Special Functions page

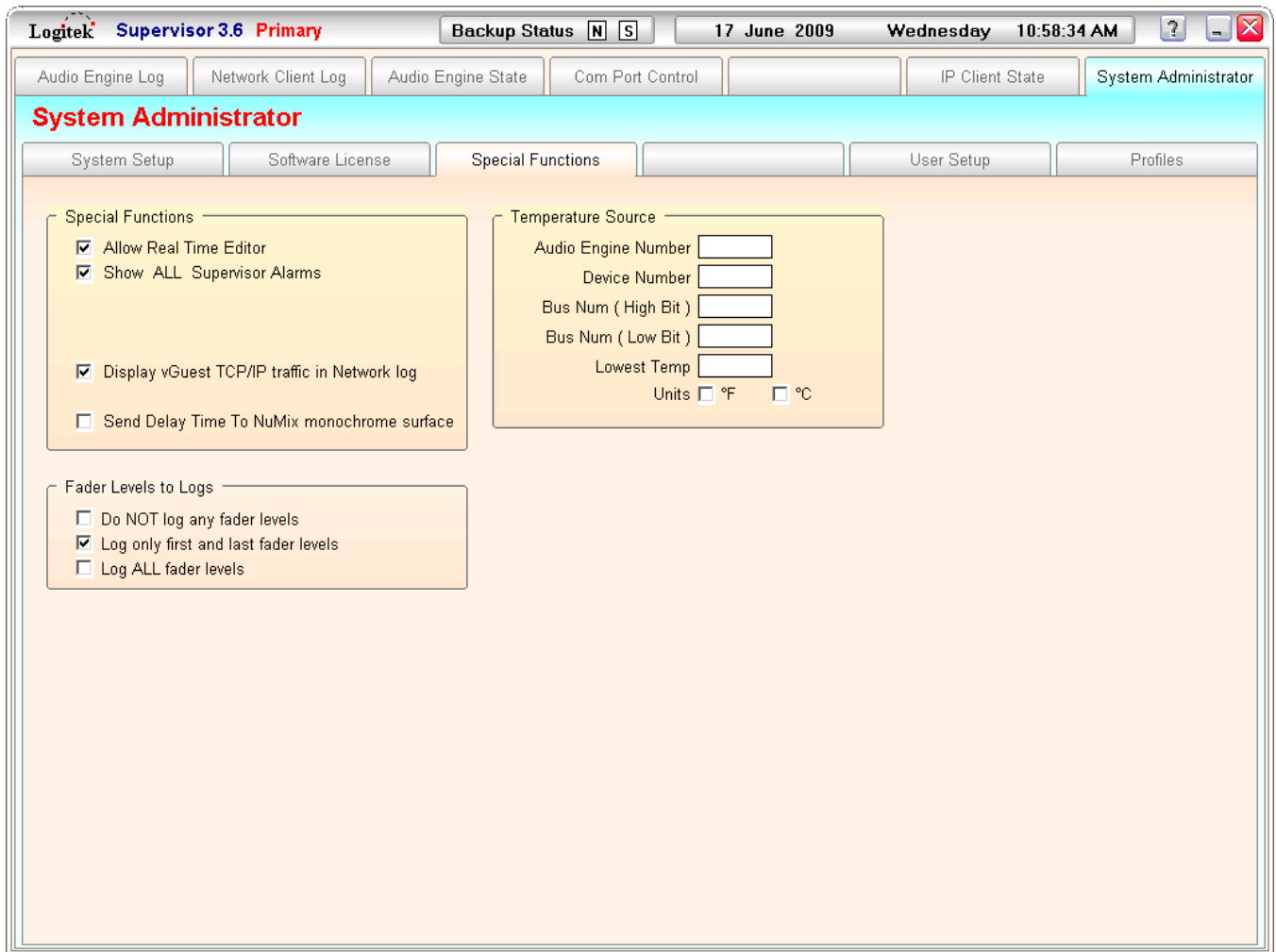


Figure 38 - Special Functions Page


<b>Allow Real Time Editor</b>	Allows direct changes to <b>Audio Engines</b> on the <b>Dynamic State Vector</b>
<b>Show all Supervisor Alarms</b>	Toggles whether dialog boxes for alarms are displayed in <i>Supervisor</i>
<b>Display vGuest TCP/IP...</b>	Toggles whether TCP/IP traffic from <i>vGuests</i> is logged to Network Log
<b>Send Delay Time to Numix</b>	Sets whether <i>Supervisor</i> sends Talk Delay time display to Numix I <b>Surfaces</b>
<b>Fader Levels</b>	Set to None (do not log); first and last (recommended); or all

**TIP:** The option to enable/disable Automatic COM Port Reset was removed in version 3.5. Automatic COM Port Reset is now an internal function in *Supervisor*.

### Special Functions page – Temperature Source

*Supervisor* can read the temperature from a BCD encoded electronic thermometer, connected to a set of GPI inputs on an **Audio Engine** or **Surface**. The thermometer should provide an integer (whole number) reading, which is binary (BCD) encoded. The device outputs are connected to a sequential block of GPI inputs and configured in *Supervisor* as follows:

<b>Audio Engine Number</b>	The <b>Audio Engine</b> that has the temperature device connected
<b>Device Number</b>	Decimal device number of GPIs (2=Engine, 28=Pt 1, 50=Pt 2, 99=Pt 3)
<b>Bus Num (High Bit)</b>	The starting bus (GPI) number of the HIGH / most significant bit
<b>Bus Num (Low Bit)</b>	The ending bus (GPI) number for the LOW / least significant bit
<b>Lowest Temp</b>	An offset that sets the minimum temperature output when all bits are off
<b>Units</b>	Set to Fahrenheit or Centigrade

 **TIP:** This function has been used successfully with custom made (kit) devices. We aren't aware of any off-the-shelf models, but check your local electronics store.

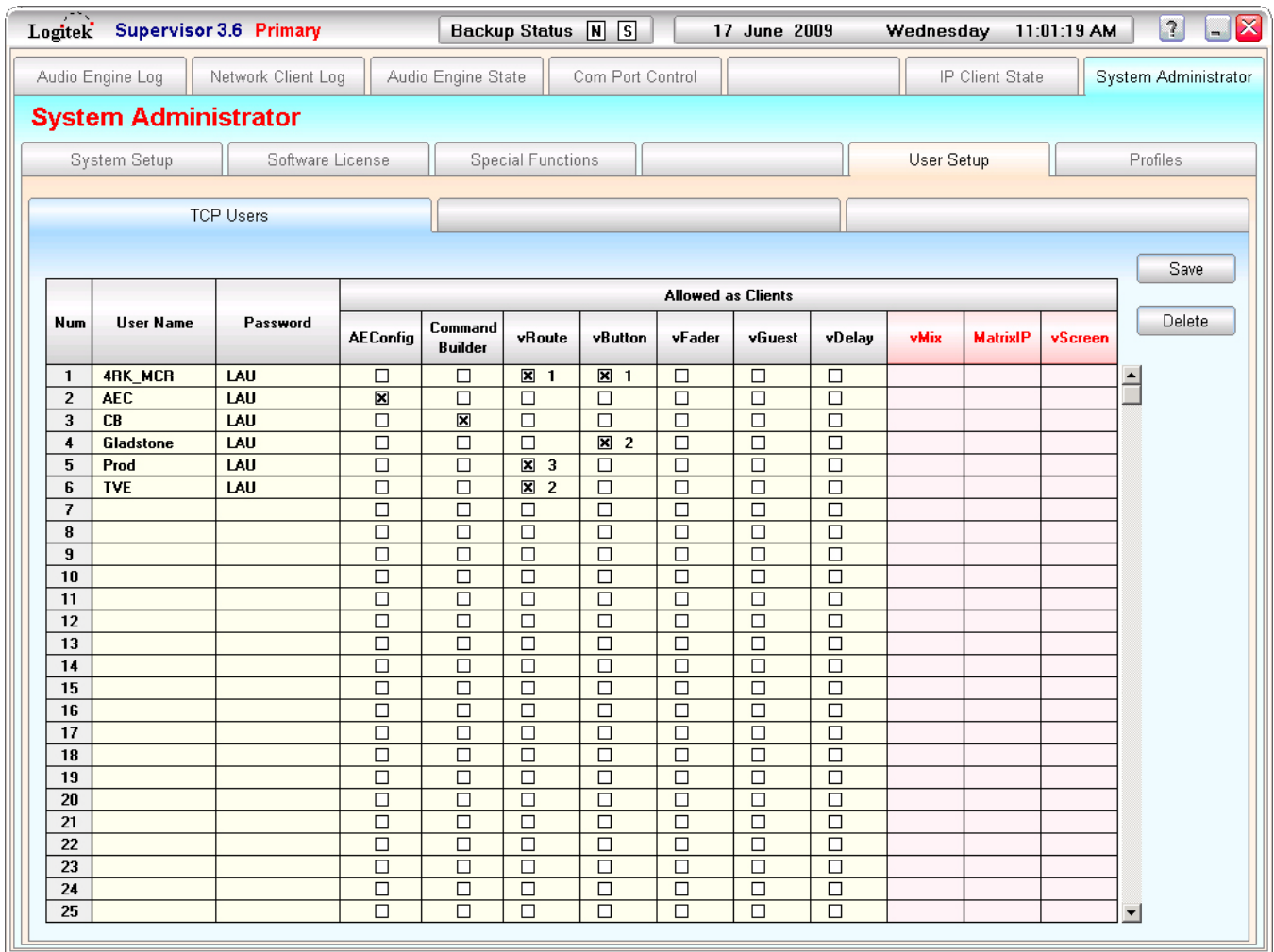
When you test the temperature device, note that *Supervisor* will only update the display once per minute. This is to stop continually changing data when the temperature is on the edge between two integer numbers. It is recommended the temperature device only change its output a few times per minute at most.



The GPI inputs on the **Audio Engine** are not refreshed when the **Engine** is restarted. If you reset or restart the **Audio Engine**, please reset the temperature device so all GPIs are set correctly again. This does not apply if **Surface** GPIs are used, as these will be refreshed on **Audio Engine** reset.

↪ *See the **CommandBuilder Reference Manual** for information on displaying temperature.*

## User Setup



Num	User Name	Password	Allowed as Clients									
			AEConfig	Command Builder	vRoute	vButton	vFader	vGuest	vDelay	vMix	MatrixIP	vScreen
1	4RK_MCR	LAU	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
2	AEC	LAU	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
3	CB	LAU	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
4	Gladstone	LAU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
5	Prod	LAU	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
6	TVE	LAU	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/> 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
7			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
8			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
9			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
10			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
11			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
12			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
13			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
14			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
15			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
16			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
17			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
18			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
19			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
20			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
21			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
22			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
23			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
24			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
25			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			

Figure 39 - User Setup Page

This screen is used to setup usernames and passwords to login to *Supervisor*. Every client application that connects to *Supervisor* must authenticate to gain access. Depending on your organization's security policies, you may choose a very easy, simple structure; or rigorously enforce the use of passwords.


You can have one login that allows access to all applications, or use individual usernames for more granular control.

The usernames also control which **Profile** is used for *vTools* applications. If you are using more than one profile, you will need to setup multiple logins for that vTool. You can have up to 128 usernames.

The **User Setup** and **Profile** pages have been significantly improved over prior versions of *Supervisor*. The **Profile** data is now stored in *Supervisor*, rather than the client, centralizing configuration data and making updates easier.

To setup or edit a user:

1. Click in the row you wish to edit, or in a blank row to add a new user.
2. The selected row is now highlighted red.
3. Click in the **User Name** field and type the text.
4. Click in the **Password** field and type the text. This field is optional, but some *vTools* require password logins.
5. Use the checkboxes to allow the *vClient* and configuration applications for that login.
6. When you click a *vClient* box, a 0 will appear next to the checkbox. This refers to the profile (from 1 to 15) used by that login.
7. Click the **Save** button to commit your changes.

 **TIP:** It is strongly recommended that you use a password. This is especially important if you are using *vTools* to interact with multiple sites, as it will drastically reduce the chances of accidentally changing settings at the wrong location.

## Profiles

**Profiles** contain setup information used by *vTools* applications. In *Supervisor 3.x* all profile information is stored by *Supervisor*. In previous versions, some profile data was stored on the local computer where the *vTool* was run from, which could make administration a little more difficult.

The specific settings for each *vTool* are covered in the *vTools User's Manual*. The following notes apply to profiles for all *vTools*.

- Each channel/fader/button of a *vTool* needs a **DSP Hex Address**. This can be either the same address as a physical **Surface** (to allow remote control), or an unused device elsewhere on the system (to give additional virtual surfaces).
- Your site's **Logitek Device Reference Table** will provide more information on **Device Numbers**. There is a brief summary at the back of this manual. You can also get **Device Numbers** from the **Audio Engine State** page in *Supervisor*.
- In addition to a **Device Number**, an **Audio Engine** number is also required. This is the **AE** you are using for this **Profile**. Most *vTools* (except *vMix*) will let you use devices from multiple **Audio Engines**. *vMix* only uses one **Audio Engine**, as it replicates a single console surface.
- Generally all other settings are self-explanatory, such as labels & text, and settings checkboxes.
- There are 15 **Profiles** available per *vTools* application. Click the tab across the top to select the tool and select a profile number from the right hand side.
- You can also copy and paste entire profiles to speed up the setup process.
- Don't forget to save your changes after editing, using the **Save All** button.

When you want to use a profile, you need to supply a login which has been assigned that profile number. This is done in the **System Administrator** ➤ **User Setup** tab, described on the previous pages.

The following images show the complete list of Profile pages. These are *vRoute*, *vButton*, *vFader*, *vGuest*, *vDelay*, *vMix*, *MatrixIP* and *vScreen*.



*vFader* is included with the purchase of *vMix 3.6* which can be purchased separately from **Logitek Electronic Systems** or your reseller.

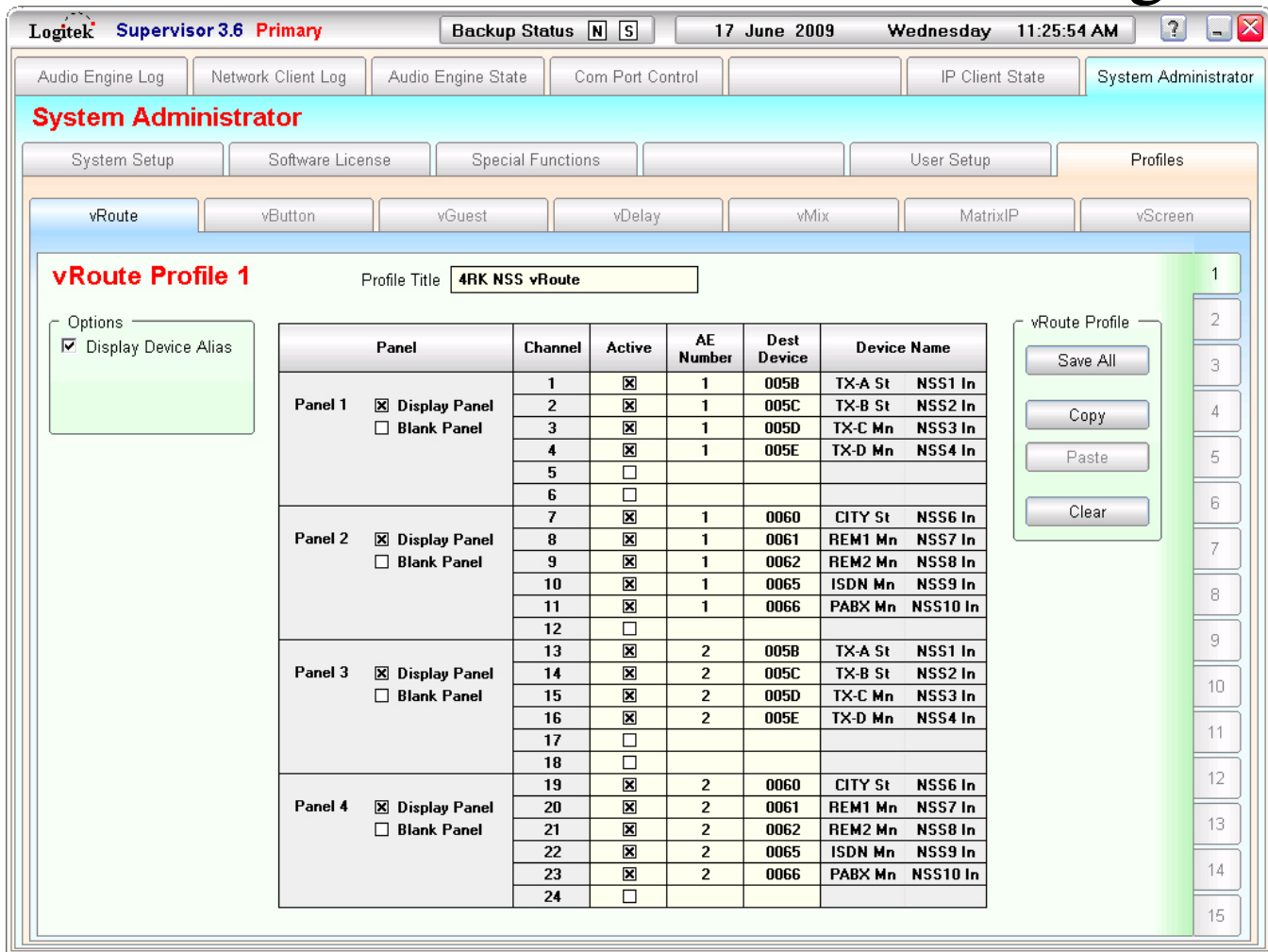


Figure 40 - vRoute Profiles Page

➔ For more information on individual settings for the vRoute Profile Page, see the vRoute chapter in the vTools Reference Manual.

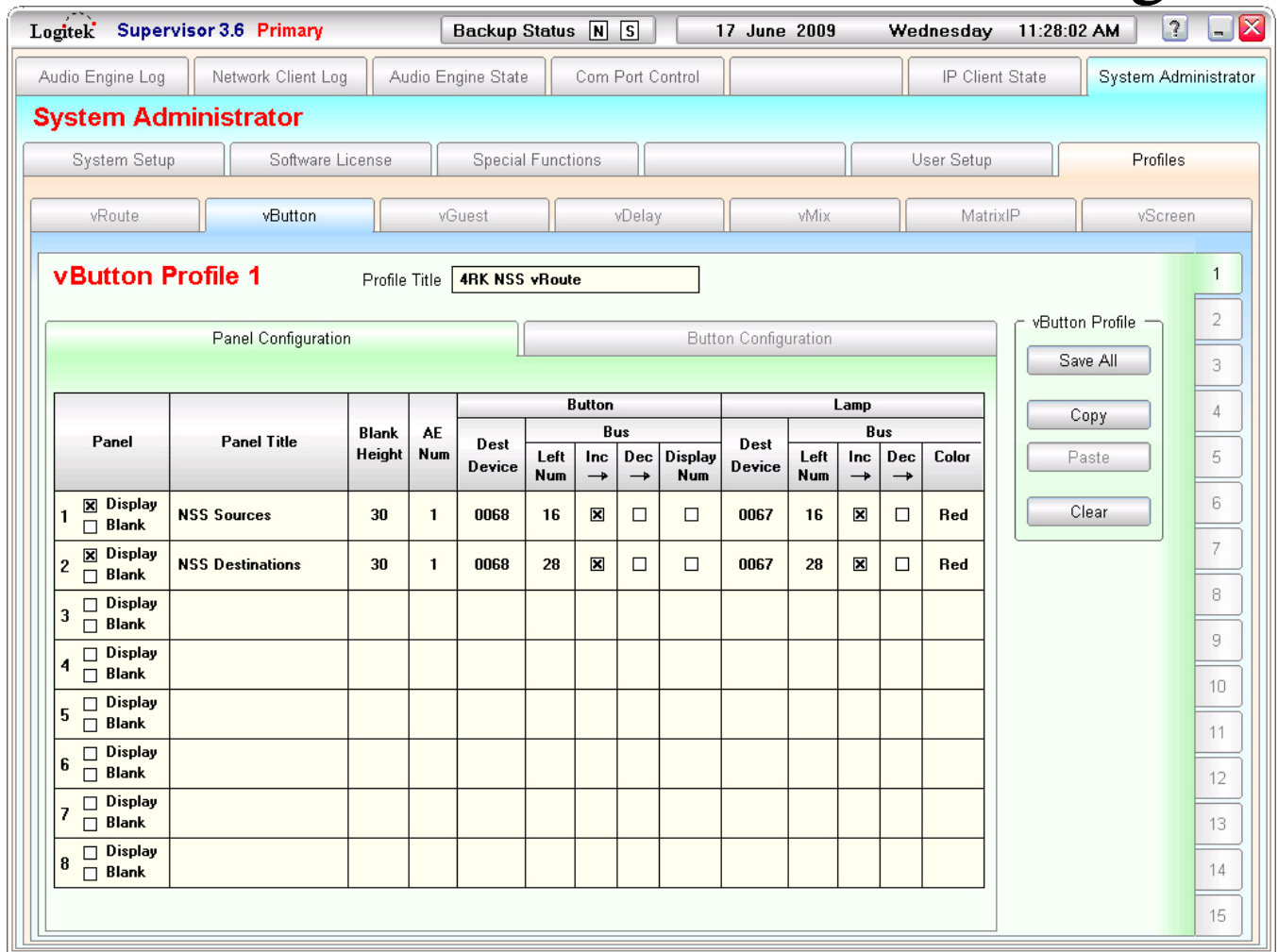


Figure 41 - vButton Profile Page

➔ For more information on individual settings for the vButton Profile Page, see the vButton chapter in the vTools Reference Manual.

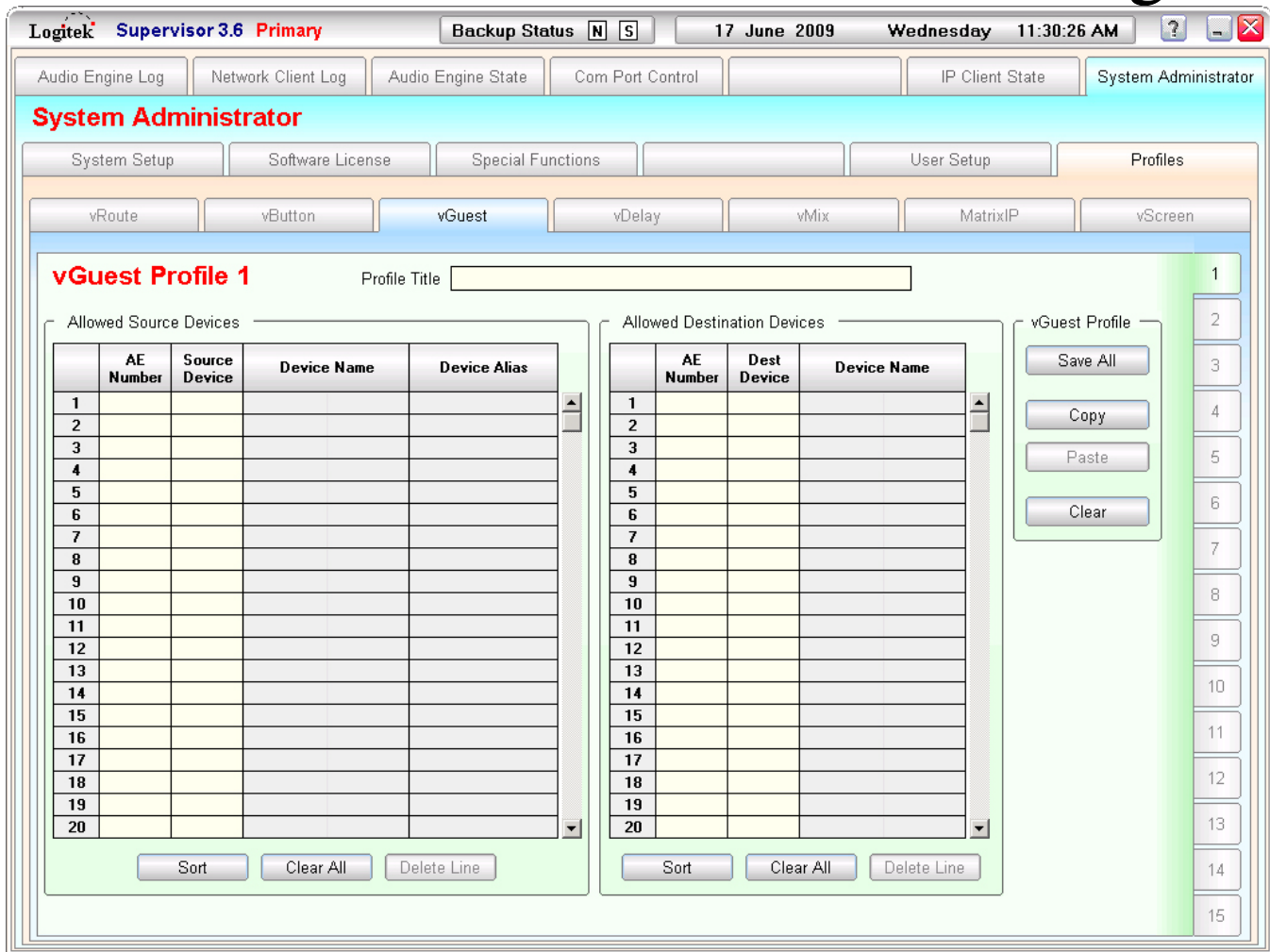


Figure 42 - vGuest Profile Page

➔ *For more information on individual settings for the vGuest Profile Page, see the vGuest Appendix in the vTools Reference Manual.*



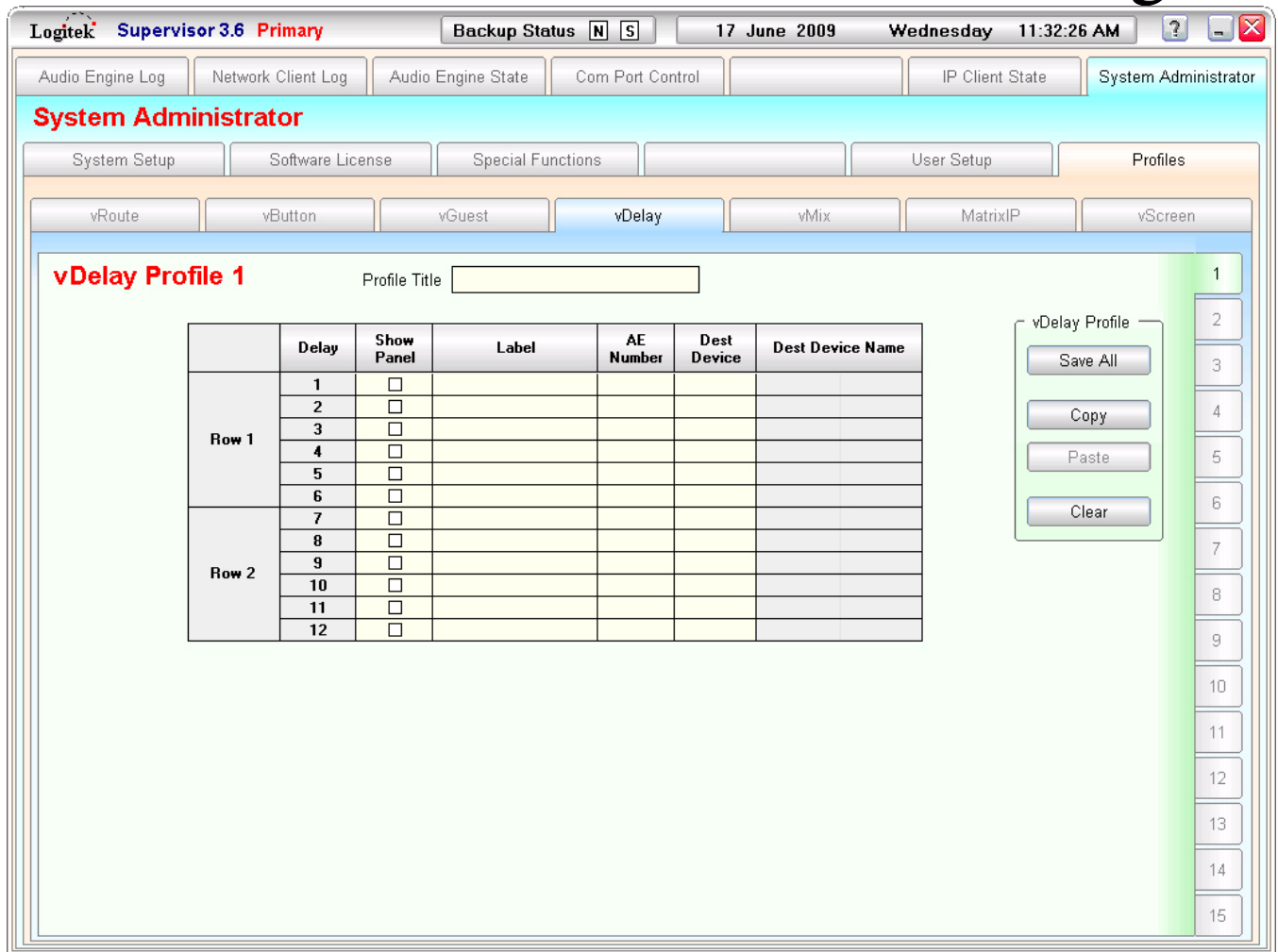


Figure 43 - vDelay Profile Page

- ➔ For more information on individual settings for the vDelay Profile Page, see the vDelay chapter in the vTools Reference Manual.

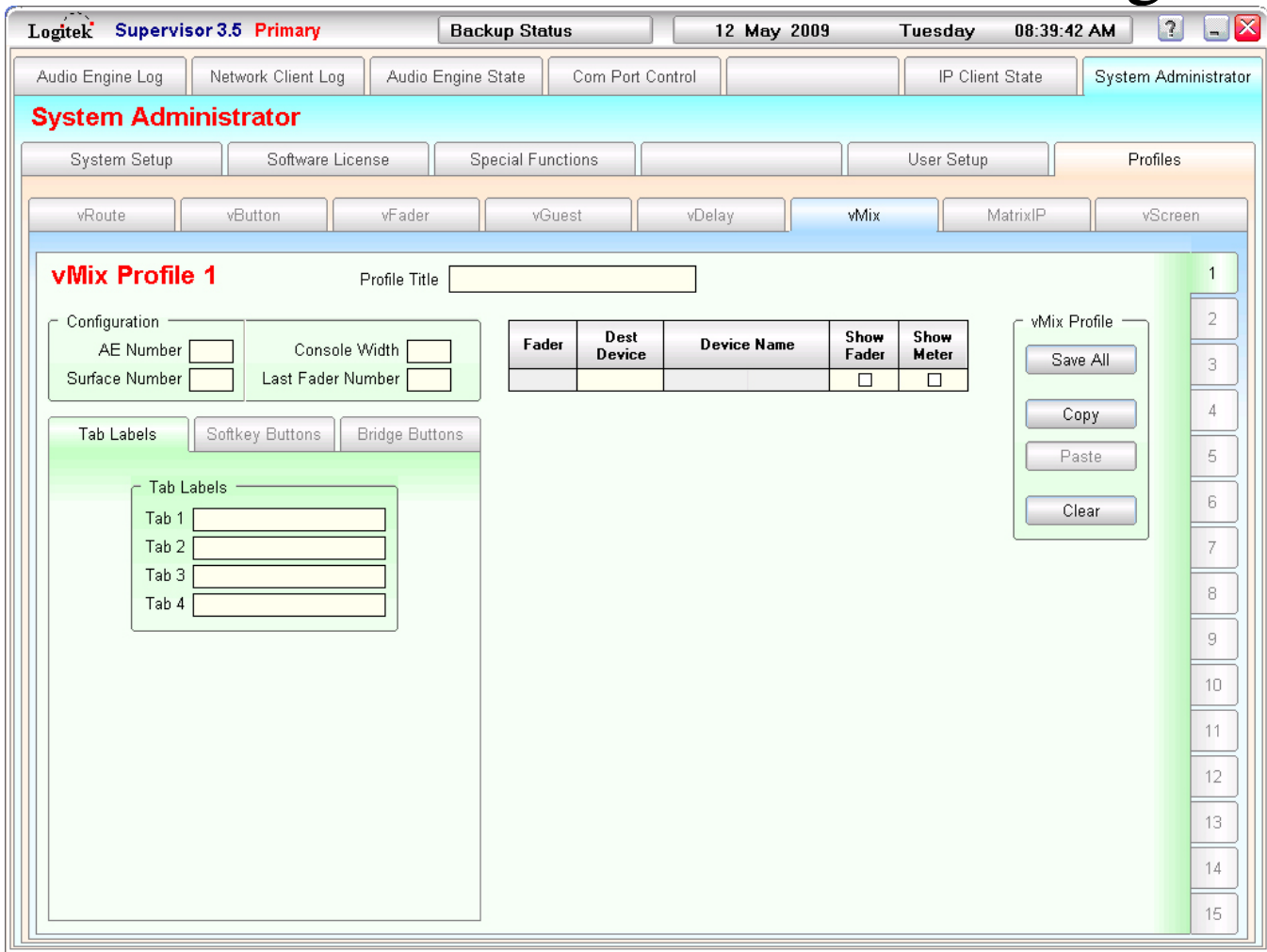


Figure 44 - vMix Profile Page

➔ *For more information on individual settings for the vMix Profile Page, see the vMix chapter in the vTools Reference Manual.*

Logitek Supervisor 3.5 Primary Backup Status 7 May 2009 Thursday 10:54:01 AM System Administrator

Audio Engine Log Network Client Log Audio Engine State Com Port Control IP Client State System Administrator

System Setup Software License Special Functions User Setup Profiles

vRoute vButton vFader vGuest vDelay vMix MatrixIP vScreen

**MatrixIP Profile 1** Profile Title Test MatrixIP

Button	Destination			Show Button	Show Meter			Allow Effects	Allow Gain
	AE Number	Dest Device	Device Name		None	Mono	Stereo		
Layer 1	1	1	005B TX-A St NSS1 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input checked="" type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	2	1	005C TX-B St NSS2 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input checked="" type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	3	1	005D TX-C Mn NSS3 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	4	1	005E TX-D Mn NSS4 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	5	1	005F SPR1 Mn NSS5 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	6	1	0060 CITY St NSS6 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input checked="" type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	7	1	0061 REM1 Mn NSS7 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	8	1	0062 REM2 Mn NSS8 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	9	1	0065 ISDN Mn NSS9 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input checked="" type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	10	1	0066 PABX Mn NSS10 In	<input checked="" type="checkbox"/>	<input type="checkbox"/> None	<input checked="" type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Layer 2	1			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	2			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	3			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	4			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	5			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	6			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	7			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	8			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	9			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	10			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
Layer 3	1			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	2			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>
	3			<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/> Mono	<input type="checkbox"/> Stereo	<input type="checkbox"/>	<input type="checkbox"/>

MatrixIP Profiles

Save All Copy Paste Clear

Options

☒ Save New Alias ☒ Use OB mode

Monitor Crosspoint

AE Num 1 Dest Device 0000

Layer Title

1 Layer 1 2 Layer 2 3 Layer 3

Figure 45 - MatrixIP Profile Page

➔ For more information on individual settings for the MatrixIP Profile Page, see the MatrixIP chapter in the vTools Reference Manual.

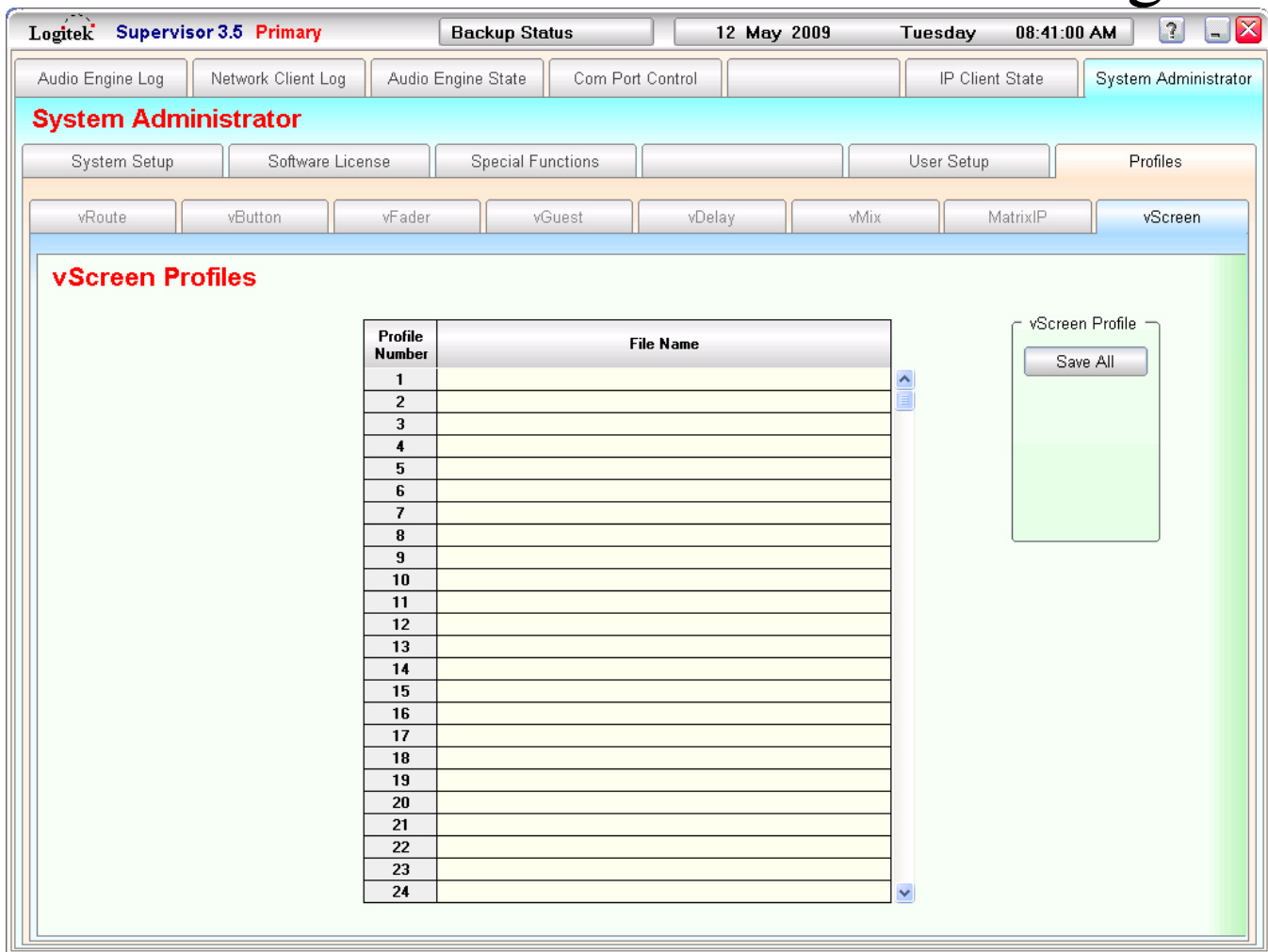


Figure 46 - vScreen Profile Page

➔ *For more information on individual settings for the vScreen Profile Page, see the vScreen chapter in the vTools Reference Manual.*

## 8 Troubleshooting with Supervisor

*Supervisor* started life as a diagnostic tool for **Logitek** staff to assist with **Audio Engine** troubleshooting. It was quickly realized that **Logitek** users around the world could make use of *Supervisor* to see inside their systems.

Whilst *Supervisor* today performs many additional control functions, its diagnostic tools give you an insight into your system that other digital consoles may not offer.

### Using the Audio Engine Log Page

The **Audio Engine Log** page is the default screen on *Supervisor* and we suggest you leave this screen up for general monitoring.

#### Pinging Engines

The **Ping All Engines** function is used to check that *Supervisor* can communicate with your **Audio Engines**. This is useful to ensure the PC COM ports are OK, *Supervisor* is running correctly and the **Audio Engines** are functioning. You can also Ping an individual **Audio Engine** by clicking its **Edit** button.

#### Resetting Engines

*Supervisor* can be used to reset an individual **Audio Engine**, which is useful for remote situations where you don't have front panel access. To reset an **Engine**:

1. Select the **Audio Engine** in the **Audio Engine Edit** list.
2. Click the **Edit** button.
3. Choose **Soft Reset** to perform a reload of configuration details; or
4. Choose **Full Reset** to perform a full hardware reset and reset to default routes. This will result in interruption to that **Engine's** audio.


#### Audio Engine Log

The AE Log is a real time view of events happening inside your **Audio Engines**. At busy stations one screen can fill in seconds (or less). Don't panic, the **Audio Engine Log** can also be written to disk for later analysis.

The **Display Log** toggle button will turn the on-screen display on or off – this is useful to pause the log while you examine an item.


The **Clear Log Display** button is a useful function that allows you to clear screen ready to observe further commands.

The **Audio Engine Log** is also a useful way to troubleshoot communication issues. If you press a button on a surface, you should see an event register on this page.

-  **TIP:** Fader level changes can produce hundreds of lines in the log. You can suppress fader level logging altogether, or set *Supervisor* just to log “first and last” movements. This is the recommended setting, as it shows where the fader started and where it finished, without all the lines in between. You can change these settings in the *System Administrator* page.

## Running Init Triggers

The **Run Init Triggers** button is used to tell *Supervisor* to execute the **Init Trigger** held in its **Trigger Table**. The effect of doing this depends on what is in your **Init Trigger**, which varies from site to site. Generally, the **Init Trigger** is used to put text labels on surfaces, setup clock & temperature displays and reset other functions to a pre-defined state.

-  **TIP:** *Supervisor* automatically executes the **Init Triggers** on startup, however it no longer executes **Init Triggers** when new **Triggers** are uploaded. In this instance you must manually execute if desired.

## Using the Network Client Log Page

The **Network Client Log** page is similar to the **Audio Engine Log**, but instead of logging activities on the **Audio Engines**, it tracks the network side of *Supervisor*. This includes configuration updates from *AEConfig* and *CommandBuilder*, *Dual Supervisor* status updates and anything the *vTools* get up to.

The information here is probably only of interest to advanced users, but it is helpful to see what activity is happening between *Supervisor* and other **Logitek** network applications.

The **Network Client Log** includes a box to show the number of client applications connected.

## Using the Audio Engine State Page

The **Audio Engine State** page is one of the most powerful digital console diagnostic tools available! You can see the state of every route, fader and button in your system. You can also see live bus meters, and with **SharcAttack** DSP cards input meters as well. And to top it off, you can perform routes, fader movements and bus changes all on-screen in real time.

To a new user, this page will seem a little bit daunting at first. But it's worth spending some time with the **Audio Engine State** page – it can save time and make your life easier, particularly during installation.

### Viewing the Engine State

- Select the **Engine State Vector** tab.
- There is an AE# button for each **Audio Engine** on your system. Don't forget to click the **Engine** you want first.
- The **Current Engine State** contains a list of DSP Channels, which have a corresponding input listed against them.
- Each colored section in the list represents one of the control surfaces on the Audio Engine, starting with Port 1 listed in red from channel "000B" as Fader 1.
- The **Device Table** is a "fly-out" window that shows the **Devices** in your system, their corresponding **Device Number** in hex, and an **Alias** if set. **Devices** are all the inputs and outputs on a particular **Audio Engine**. To access the **Device Table**, hover the mouse over the arrow on the right hand side of the **Current Engine State**.

This requires a little bit of knowledge of the **Logitek** architecture. The resources below will help.

- *See the Logitek Audio Engine Reference Manual for more architecture information.*
- *See Appendix D for a summary of common devices and busses.*

## Performing Routes and Adjusting Faders

You can change the input to a fader, router crosspoint or monitor section right from within *Supervisor*. To perform a route (input change):

1. In the **Current Engine State** frame, select the fader you wish to change. It will highlight.
2. In the **Device Table** “fly-out” frame, find the input you wish to route. Inputs are listed with their device number next to them. On 8 character systems, some **Devices**, like “Program”, will appear more than once per surface so you may need the device number to distinguish them.
3. Select the input to route. It will highlight. Click again to perform the route.
4. You will notice the **Surface Label** in the **Current Engine State** will change to the new input.
5. When you have finished, select the NULL input at the top of the list.

To adjust a fader:

1. In the **Current Engine State** frame, find the fader you wish to change.
2. Double click the fader value (a number from 0 to 255) to bring up the editor screen.
3. Fader, trim, pan and mode can all be adjusted in real time, as if you were at the console.
4. If you have a **SharcAttack** DSP card on that port/fader, you can also adjust the Dynamics and EQ using the other tabs on that screen. Again, these changes will happen in real time.

🔊 **TIP:** You must have the **Allow Real Time Editor** enabled to make changes on the **Dynamic State Vector** tab. See *System Administrator ➤ Special Functions*.

Each fader also has a meter shown if there is an input routed. This is an input level meter (pre-fader) similar to what you see on the console if you have a *SharcAttack* DSP card. If you do not have a *SharcAttack* DSP card on that port, the meters will appear but will not show any level.



## Checking & Changing Busses

On the **Current Engine State** frame, you will see the **Busses** that apply to each fader/device. A **Bus** can either be on or off. **Busses** include the PGM, AUX1, etc mix busses on the console and are also used for GPI, lamp and button status.

This section allows you to check the state of bus settings and change them in real time.

To change a bus:

1. Select the appropriate device and bus number in the grid, it will highlight.
2. Click the **Bus** to toggle it on or off. You can continue to click to change the toggle.

The standard PGM and AUX1-8 mix busses are labeled across the header row above each column. BUS0 is the master bus (eg fader on/off switch) for that device, PGM is BUS1, CUE is BUS2 and the AUX busses start at BUS3. Higher bus numbers (16+) are often used for relays, lamps and buttons.

➔ *See Appendix D for a summary of common devices and busses.*

## Checking Variable Status

If your **Trigger Table** makes use of variables, the **Variable State Vector** provides an insight into the current values of user & system variables.

**User Variables** are set inside triggers and are commonly used to store active scenes, device routes and other information.

**System Variables** are controlled by Supervisor and are not configurable by the user. These provide status values that can be read by Triggers, or used to trigger events.

## Viewing Fader Inputs

The **Fader Inputs List** tab shows a list of faders and the allowed inputs for that fader. They are presented in the same order as the user sees in the alpha-sorted list on a control surface. The allowed inputs for a fader are set in *AEConfig's Surface Settings* pages.

## Decoding Supervisor Log Files

One of the great things about having *Supervisor* watch over your **Audio Engines** is that all this information can be written to log files. As you can imagine, the log files are not the sort of thing you read every day, but when you've had a problem and you want to get to the bottom of it, the log files are an enormous help.

The log files have certainly helped **Logitek** get "off the hook" when operators descriptions of problems at customer sites have stretched the truth or omitted important information. We hope you can get the same usefulness out of the log files if things go wrong.

Following is a description of the log files kept and some basic details on how to decode them. As parts of the log files require knowledge of the **Logitek Command Protocol**, please don't hesitate to contact **Logitek** or your value-added reseller for assistance with decoding the information.

### Enabling Logging

Logging is enabled by default. It cannot be disabled.

### Finding the Log Files

Inside your *Supervisor* program directory, you will find two folders:

**AECmmLog**   Contains the Audio Engine communication log files  
**NetworkLog**   Contains the Network log files

Inside these folders, a log file exists for each day. These files are not deleted by *Supervisor*, so it pays to do a clean out every once in a while, subject to disk space. The log files can easily run into many megabytes per day on a busy system, but given today's hard drive sizes, this is probably of little concern.

### Decoding the Log Files

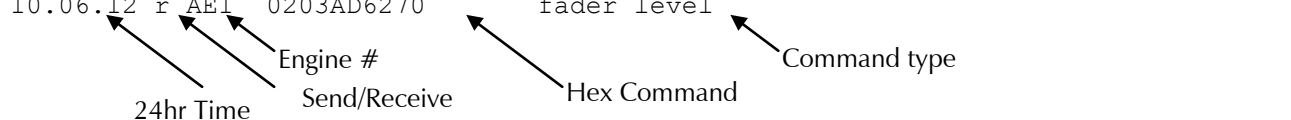
If you open up the **Audio Engine Comms Log** for a particular day, you will see time-stamped events from your system, with a description of the event. Where relevant, the hex data for the command is included.

A sample from a log file follows on the next page.

💡 **TIP:**   *Supervisor* does not perform any housekeeping on the log files. You will need to periodically delete or archive the log files contained in the *Supervisor* directory.

16.56.15	s	AE1	0204B40D00BE	route from Supervisor
16.56.16	s	AE1	0204B40D00BE	route from Supervisor
16.56.20	s	AE1	0205AE0B0E004A	equalization high mid bandwidth from Supervisor
16.56.20	s	AE1	0205AE0B0C1324	equalization high mid freq from Supervisor
16.56.20	s	AE1	0205AE0B0F03CF	equalization low mid freq from Supervisor
16.58.43	s	AE1	0203B20E16	channel on from Supervisor
16.58.43	s	AE1	0203B30E16	channel off from Supervisor
10.06.10	s	AE1	0203AD6260	fader level
10.06.12	r	AE1	0203AD6270	fader level

24hr Time      Engine #      Send/Receive      Hex Command      Command type



To make sense of the hex commands above, you will need two things – a copy of the **Logitek Command Protocol** and the applicable **Device Reference Table** for your site and DSP cards.

Until you become more familiar with the system, you might prefer to contact **Logitek** for assistance.

If you're brave, keep reading for an introductory lesson.

## Basic Command Protocol

The **Logitek Command Protocol** is used by the **Audio Engines** to communicate with control surfaces and *Supervisor*. It uses commands in hex with a well defined communication protocol.

Let's analyze the following 5-byte command:

0203B26503                      (02 03 B2 65 03 when spaced out)

<b>Byte 1</b>	02	Start command (always "02")
<b>Byte 2</b>	03	Number of bytes to follow in this sequence
<b>Byte 3</b>	B2	The Command ("B2" is channel on)
<b>Byte 4</b>	65	The Device in hex (65 is Port 3 Headphones In)
<b>Byte 5</b>	03	The Bus in hex (03 is BUS3, which controls talkback return muting to headphones)

➔ *See also Appendix D for a summary of common devices and busses.*

## Common Protocol Commands

<b>B2</b>	Channel On
<b>B3</b>	Channel Off
<b>AD</b>	Fader Level
<b>AE</b>	Effects Level
<b>B4</b>	Input assign (route)

➔ *See also Appendix D for more protocol commands.*

## 9 Application Notes

*Supervisor* is an excellent diagnosis tool, to give you a window inside your **Logitek Audio Engines**.

However, *Supervisor* can do much more than just solve problems. Following are some application notes to help give you an idea of what you can do with this powerful software.

**Triggers** are the core power of *Supervisor* and are covered in much more detail in the *CommandBuilder* manual. Please see the Application Notes chapter of that manual for many more examples of what your system can do.

### Triggers

**Triggers** are events that are fired when something happens inside your **Audio Engine**. Almost all events that occur in your system can have a **Trigger** written for them. Common triggers are set on:

- Button presses
- Fader routes (inputs changed)
- GPIs going on or off
- Bus assignment changes

Inside a **Trigger** is a block of code that executes a command set that you define. The possibilities are endless. **Triggers** allow you to perform commonly used functions like:

- Remote control record devices
- Scene changes on the console
- Intercoms
- On-air delegation
- Delay control

Every station that uses *Supervisor* has a unique set of **Triggers** written to suit their needs exactly. These **Triggers** can be developed by station Engineering staff or a by a **Logitek** integrator.

**Logitek** has developed a simple, yet powerful, **Trigger** programming language.

↪ *For more information on Triggers, see the Logitek CommandBuilder Reference Manual.*

### vTools

*vTools* are virtual control surfaces for your **Logitek Console Router System**. These differentiate **Logitek** systems from other digital consoles, as they allow your facility to be controlled in software, from inside your station or anywhere in the world.

*vTools* link into *Supervisor* and only need an IP connection, username, password and profile to connect. This suite of tools provides the ability to replicate, or remote control physical surfaces, or add new control surfaces without buying hardware.

The **Logitek vTools** suite allows you to setup virtual faders, button boxes, routers, delay controllers, and even entire consoles. The on-screen representation looks just like the physical devices the *vTools* emulate. And you can add touch screen capabilities to make it even easier.

➔ *For more information on vTools, see the Logitek vTools Reference Manual.*

## Serial Router

*Supervisor* can also function as a fully featured RS232 router. If you need versatile control over serial data, *Supervisor* is here to help. Instead of purchasing an external RS232 router, you can have single or bi-directional serial routing inside *Supervisor*, controlled by **Triggers**. All you need is sufficient available serial ports on your *Supervisor* PC.

➔ *For more information on Supervisor COM Port Control, see Chapter 7.*

## Clock & Temp Display

*Supervisor* can display accurate time and temperature information to the text screens on your consoles. *Supervisor* obtains the time from the Windows clock, which should be synchronized to an authoritative time source.

*Supervisor* can receive current temperature from a BCD encoded thermometer device. The number of bits used, lowest temperature and units are configurable. *Supervisor* just expects to see an integer BCD value, with the appropriate offset. You can use **Engine** or **Surface** GPI inputs to connect the external thermometer (GPIs must be sequential).

Setting up the displays is done in *CommandBuilder*.

➔ *For more information on thermometer setup, see Chapter 7.*

## Custom Applications

If you need to control your **Logitek Console Router System** from your own custom software, *Supervisor* can act as a gateway for this. Your application connects as a *vGuest* via TCP/IP and has full access to your **Audio Engines**.

This is useful for connecting external control and scheduling systems, or for writing your own control surfaces.

➔ *For more information on the vGuest Protocol, contact Logitek Electronic Systems.*

## Appendix A Release Notes

### What's New in Supervisor 3.6

This release of *Supervisor* restores support for dual-Supervisor operation.

#### Audio Engine Log page – Audio Engine list

The methodology for assigning COM PORTS to engines has been changed. The previously used drag & drop method was not very intuitive. This has been replaced with buttons for **Assign Com Port** and **Remove Com Port**. To assign a COM PORT to an engine that does not yet have a COM PORT assigned, simply click on the desired COM PORT in the list and then click the **Assign Com Port** button. To remove a COM PORT simply click the **Remove Com Port** button. This new procedure allows the reassigning of COM PORTS without having to shut down and restart *Supervisor*.

#### Audio Engine State page – Audio Engine Vector tab

Enhanced **Fader Detail** page – clicking on the numerical value in the **Level** column of a fader device will open the **Fader Detail** page. This page has been redesigned and enhanced with new features. *Supervisor* is now aware of the surface type, as defined on the hardware page of the engine configuration file, and constructs the **Fader Detail** page to display the features available to that surface type (i.e. *Artisan* or *Mosaic/Remora/Numix*). Also, a “fly-out” **Available Source Devices** list has been added to allow the current source to be changed without having to go back to the **Engine State Vector** page.

- Fader Tab
  - A larger input level meter has been added to the fader section
  - Channel On/Off controls have been added to the tab header
  - A Return to Defaults button has been added to clear all EQ and Dynamics settings on the channel
  - The Mode of the channel is displayed and may be changed using the check-boxes
  - Current Bus assignments are displayed and may be changed using the check-boxes
  - Input Trim value is displayed and may be changed using the slider
  - Pan Setting is displayed and may be changed using the slider
  - Aux A and Aux B levels and Aux Bus assignments are displayed and may be changed using the sliders & check boxes (*Artisan* only)
  - Input Delay is displayed and may be changed using the slider (*Artisan* only)
- Dynamics Tab
  - Layout has been redesigned and all sliders are now horizontal
  - Graphic display of Dynamics settings has been added
  - Graph changes color to reflect the In or Out (bypass) status
  - Two “undo” buttons have been added

- Undo Current Changes returns the settings to the values they were when you entered this page
- Return to Defaults returns the settings to factory defaults (clears dynamics settings)
- Equalization Tab
  - Layout has been redesigned and all sliders are now horizontal
  - Graphic display of EQ settings has been added
  - Graph changes color to reflect the IN or OUT(bypass) status
  - Two “undo” buttons have been added
    - Undo Current Changes returns the settings to the values they were when you entered this page
    - Return to Defaults returns the settings to factory defaults (clears EQ settings)

## IP Client State page

All *vClient* applications associated with this release now generate an “instance ID” when they connect to *Supervisor*. This helps to identify multiple instances of the same type of *vClient* (*vButton*, *vRoute*, etc.) when reconnecting to *Supervisor* in the event of a *Supervisor* crash. The instance ID along with the IP address and username/profile combination (where applicable) is displayed in the appropriate grid on the **IP Client State** page.

Note: Some *vClients* are restricted to single instances per engine and surface (i.e. *vChange*, *vSnapshot*).

## System Administrator page – System Setup tab

- A display box has been added to show the allowable TCP/IP Port Range. The low end of the range will always be the number entered by the user in the Base TCP/Port PORT value box (usually 10200). The high end of the TCP/IP PORT RANGE will always be the base port + 12. This range of ports should be allowed through any firewall applications you may have running on the *Supervisor* PC network.
- Reload Buttons - *Supervisor* reads all *vSnapshot* files and *vScreen* design files into memory when it starts to facilitate speedy recall.
  - A button is provided to re-load any *vSnapshot* files (capture/recall) that may have been modified by the user since *Supervisor* was started.
  - A button is provided to re-load any *vScreen* design files that may have been modified by the user since *Supervisor* was started. Note: Only changes that affect data connections (i.e. engine numbers, device numbers, bus numbers, etc.) require the design to be re-loaded. Aesthetic changes (i.e. colors, positions, size, etc.) do not require a reload.

## System Administrator page – Profiles tab

A few of the profile setup pages have been modified to support new features added to the *vClient* applications. For completeness, these changes are referenced here as well as in each of the *vClient* release notes. Please see the individual *vClient* release notes for details of these changes.

- *vRoute* – no changes
- *vButton*
  - Panel Configuration Tab
    - Added ability to select ascending (L to R) or descending (L to R) bus numbers. This allows the application to mimic the button positions of an NSOFT module mounted horizontally.
  - Button Configuration Tab
    - Added ability to hide or show individual buttons
    - Each button now has two lines of text for labeling
    - Added support for up to 8 panels of 12 buttons each
- *vFader* – no changes
- *vGuest* – no changes
- *vDelay*
  - Added ability to show/hide individual control panels
  - Added Label field to allow user to identify control panel
- *vMix* – no changes
- *MatrixIP* – no changes
- *vScreen* – no changes



*vFader*, *vMix*, *MatrixIP* and *vScreen* profile pages are only accessible if a valid software license key has been purchased and properly installed in *Supervisor*. Please contact **Logitek Electronic Systems** or your reseller for more information.



## Release Notes

### Installing/Upgrading using Setup3.6

A step-by-step procedure for upgrading or installing *Supervisor* is detailed in Chapter 4.

↪ *See the following Release Notes for a list of issues fixed.*

### Known Issues

There are no known issues with this release:

### Resolved Issues

The following issues have been solved from prior releases:

1. Support for Backup *Supervisor* has been re-introduced.

## Release History

Following is the maintenance release history for this version of *Supervisor*. For the latest updates and release notes, consult the **Logitek Audio** website.

Executable Name	Version	Date	Notes
Supervisor3.6	3.6.1.0	04-May-09	▪ v3.6 Release
Supervisor3.6	3.6.2.0	27-May-09	▪ Fixes a bug where TALK MAX and PAN commands from CommandBuilder were not being recognized in triggers.
Supervisor3.6	3.6.3.0	04-Jun-09	▪ Fixes clock problem when Primary Supervisor is restored. ▪ Fixes a bug in reading the Matrix IP profile that caused Supervisor to hang during startup.


## Appendix B Multiport Serial Cards

Following is a list of multiport serial cards known to work well with *Supervisor*. As manufacturers tend to replace products every few years, some models listed below may have been superseded. Check with your supplier for an alternative product.

### Recommended Cards

We recommend a PCI serial card for best results. Some USB adaptors are now also recommended. The primary criterion of the USB to Serial adaptor is the ability to always return the same COM Port Number if the USB connection is interrupted.

Some success has been reported with current Ethernet to Serial adaptors, but in-house testing is yet to find a current XP-compatible device that works well enough to recommend. Ethernet switches can often cause problems with these devices in a busy network environment.

 **TIP:** Non-recommended USB-serial adaptors may be used for occasional use (ie troubleshooting with a laptop) but are not recommended for permanent installations.

## Tested Manufacturers & Models

The following cards and adaptors have been used successfully at **Logitek** sites. This is not necessarily a comprehensive list of cards that will work.

### PCI Cards - Control

Product	Link
RocketPort uPCI Octacable DB9	<a href="http://www.control.com/products/specs/specs.asp?product=99096-3">http://www.control.com/products/specs/specs.asp?product=99096-3</a>
RocketPort uPCI Quadcable DB9	<a href="http://www.control.com/products/specs/specs.asp?product=99095-6">http://www.control.com/products/specs/specs.asp?product=99095-6</a>
RocketPort uPCI Octacable RJ45	<a href="http://www.control.com/products/specs/specs.asp?product=99099-4">http://www.control.com/products/specs/specs.asp?product=99099-4</a>
RocketPort PCI 4-Port RJ	<a href="http://www.control.com/products/specs/specs.asp?product=98301-9">http://www.control.com/products/specs/specs.asp?product=98301-9</a>
RocketPort PCI 8-Port RJ	<a href="http://www.control.com/products/specs/specs.asp?product=96350-9">http://www.control.com/products/specs/specs.asp?product=96350-9</a>

### PCI Cards - SIIG

Product	Link
CyberSerial 4S Plus	<a href="http://www.siig.com/product.asp?pid=611">http://www.siig.com/product.asp?pid=611</a>
CyberSerial 4S	<a href="http://www.siig.com/product.asp?pid=610">http://www.siig.com/product.asp?pid=610</a>
CyberSerial Dual	<a href="http://www.siig.com/product.asp?pid=170">http://www.siig.com/product.asp?pid=170</a>

### USB to Serial Adaptors - ByteRunner Technologies

Product	Link
USB-COM-M	<a href="http://www.byterunner.com/byterunner/product_name=USB-COM-M">http://www.byterunner.com/byterunner/product_name=USB-COM-M</a>
USB-COMi-M	<a href="http://www.byterunner.com/byterunner/product_name=USB-COMi-M">http://www.byterunner.com/byterunner/product_name=USB-COMi-M</a>

### USB to Serial Adaptors - B&B Electronics

Product	Link
USOPTL4	<a href="http://www.bb-elec.com/product_family.asp?FamilyId=355">http://www.bb-elec.com/product_family.asp?FamilyId=355</a>

## Appendix C Supervisor Configuration Files

*Supervisor* makes use of the following files to store additional data. When using *Dual Supervisor*, the two applications will compare file dates and transfer the most recent files to each other.

### Configuration Files List

These files are stored in the directory along with the application.

<b>.aux</b>	Aux Com ports file
<b>.cpf</b>	Com Port file
<b>.dal</b>	Alias file
<b>.dms</b>	vTrans (Desam version)
<b>.eps</b>	Effects Preset file
<b>.pro</b>	Profiles & Usernames assignment
<b>.sts</b>	System Variables file
<b>.tbx</b>	Trigger Table file
<b>.tno</b>	Trigger Not Active file
<b>.van</b>	User Variables name file
<b>.var</b>	User Variables data file
<b>.vbp</b>	vButton Profiles
<b>.vdp</b>	vDelay Profiles
<b>.vfp</b>	vFader Profiles
<b>.vgp</b>	vGuest Profiles
<b>.vmp</b>	vMix Profiles
<b>.vrp</b>	vRoute Profiles
<b>.vsp</b>	vScreen Profiles
<b>.vxp</b>	Matrix IP Profiles

These files are in a binary format and are not directly editable by the user. As these files contain important configuration information, it is recommended that they are backed up from time-to-time and as major changes are made.

**.tbx**, **.tno**, **.van**, & **.var** files can be deleted and **Triggers** uploaded from *CommandBuilder* to recreate these files. If other files are deleted or become corrupted, the relevant data needs to be recreated in *Supervisor*.

The base file name is dependent on the executable file name (defaults to *Supervisor3.6*). If the *Supervisor3.6* executable is renamed, the base of the above files also needs to be renamed. Alternatively, you can run two different configurations in the one directory, which can be useful during testing. We recommend you only keep one copy of these files and the application on your live *Supervisor* machines.

## Appendix D Device & Command Reference

This section will assist you with decoding device, bus and command codes into the real world of faders, inputs & buttons. Only the common devices and commands are covered, to offer the reader an introduction to using *Supervisor's Audio Engine State* page and **Log** files.

### Introduction to Devices, Busses & Commands

These are the heart of the **Logitek** architecture. You don't need to know them to install, configure and operate a **Logitek Console Router System**, but they are relevant if you are doing troubleshooting or advanced **Trigger** programming.

#### Devices

A **Device** can be an input; an output; or a DSP channel. Everything has a device number, which is composed of a number of hex bytes (and can also be represented in decimal).

Each input on an **Audio Engine** is allocated a device number by *AEConfig* when the input is entered. Likewise, outputs are allocated device numbers when you enter them in *AEConfig*.

DSP channels are fader inputs, mixer outputs and other crosspoints such as monitoring and routers. The DSP channels are also allocated device numbers, but this is done as part of the DSP table that *AEConfig* reads. Each type and major version of DSP card has a different DSP table, and some sites have their own custom tables to achieve certain non-standard functions.

#### Busses

A **Bus** is essentially a "switch" – it can be on or off. Each DSP channel device has a number of busses (128, in fact) to control that device.

On a fader input, the busses control the actual mix busses, which is where the name came from. Eg, the master on/off switch on a fader is BUS0; PGM is BUS1.

On other DSP channels (eg the headphone monitor input), the busses control special functions.

#### Commands

At the heart of your **Logitek Console Router System** is the **Logitek Command Protocol**, which is the set of commands that instructs everything in the system on what to do. **Commands** are sent and received by the **Audio Engines** using this protocol.

A **Command** is a series of hex bytes and is responsible for everything from channels on/off messages, to meter readings sent to the console.

## Common Devices

The **Device** addressing used in your system may vary, but here is the most common configuration. The **Device** number for each port (1-3) is shown in the left three columns, followed by the decimal channel number. The description is shown on the right – note Port 3 has a limited subset of devices.

### DSP Inputs

Device (hex)			Decimal	Description (Port 1/2)	Description (Port 3)
1			n/a	Engine GPI Outputs	
2			n/a	Engine GPI Inputs	
Port 1	Port 2	Port 3			
0b	33	5b	Chan 1	Fader 1	Fader 1
0c	34	5c	Chan 2	Fader 2	Fader 2
0d	35	5d	Chan 3	Fader 3	Fader 2
0e	36	5e	Chan 4	Fader 4	Fader 4
0f	37	5f	Chan 5	Fader 5	Fader 5
10	38	60	Chan 6	Fader 6 / Roc5 #1	Fader 6
11	39	61	Chan 7	Fader 7 / Roc5 #2	Studio In / Guest
12	3a	62	Chan 8	Fader 8 / Roc5 #3	Monitor In
13	3b	63	Chan 9	Fader 9 / Roc5 #4	Surface Relays
14	3c	64	Chan 10	Fader 10 / Roc5 #5	Surface Switches
15	3d	65	Chan 11	Fader 11	Headphones In
16	3e	66	Chan 12	Fader 12	Talkback Mic In
17	3f	67	Chan 13	Fader 13	Cue Direct
18	40	68	Chan 14	Fader 14	Talk Rtn In
19	41	69	Chan 15	Fader 15	Cue In
1a	42	6a	Chan 16	Fader 16	Mon Meter / Router 1
1b	43	n/a	Chan 17	Fader 17	not used
1c	44	n/a	Chan 18	Fader 18	not used
1d	45	n/a	Chan 19	Fader 19	not used
1e	46	n/a	Chan 20	Fader 20	not used
1f	47	n/a	Chan 21	Fader 21	not used
20	48	n/a	Chan 22	Fader 22	not used
21	49	n/a	Chan 23	Fader 23	not used
22	4a	n/a	Chan 24	Fader 24	not used
23	4b	n/a	Chan 25	Studio In / Guest	not used
24	4c	n/a	Chan 26	Monitor In	not used
25	4d	n/a	Chan 27	Headphones In	not used
26	4e	n/a	Chan 28	Talkback Mic In	not used
27	4f	n/a	Chan 29	Surface Relays	not used
28	50	n/a	Chan 30	Surface Switches	not used
29	51	n/a	Chan 31	Cue Direct	not used
2a	52	n/a	Chan 32	Talk Rtn In	not used
2b	53	n/a	Chan 33	Cue / Right Cue In	not used
2c	54	n/a	Chan 34	Mon Meter Input	not used
2d	55	n/a	Chan 35	MixerA Input 1	not used
2e	56	n/a	Chan 36	MixerA Input 2	not used
2f	57	n/a	Chan 37	MixerA Input 3	not used
30	58	n/a	Chan 38	Router 1 In / Delay	not used
31	59	n/a	Chan 39	Router 2 In	not used
32	5a	n/a	Chan 40	Router 3 In	not used

## DSP Outputs

Device (hex)			Decimal	Description (Port 1/2)	Description (Port 3)
Port 1	Port 2	Port 3			
be	dd	f1	n/a	Program Out	Program Out
bf	de	f2	n/a	Aux1 Out	Aux1 Out
c0	df	f3	n/a	Aux2 Out	Aux2 Out
c1	e0	f4	n/a	Aux3 Out	Aux3 Out
c2	e1	f5	n/a	Studio / Guest Out	Studio / Guest Out
c3	e2	f6	n/a	Monitor Out	Monitor Out
c4	e3	f7	n/a	Headphones Out	Headphones Out
c5	e4	f8	n/a	Talkback 1 Out	Talkback 1 Out
c6	e5	f9	n/a	Talkback 2 Out	Talkback 2 Out
c7	e6	fa	n/a	Mix Minus 1 Out	Mix Minus 1 Out
c8	e7	fb	n/a	Mix Minus 2 Out	Mix Minus 2 Out
c9	e8	fc	n/a	Mix Minus 3 Out	Stereo Cue Out
ca	e9	fd	n/a	Mono Program Out	Mono Program Out
cb	ea	fe	n/a	Mono Aux 1 Out	Mono Aux 1 Out
cc	eb	ff	n/a	Stereo Cue Out	Router 1 Out
cd	ec	n/a	n/a	Prefader HP / Mon Mtr	not used
ce	ed	n/a	n/a	MixerA Out (In1+2+3)	not used
cf	ef	n/a	n/a	Router 1 Out	not used
d0	eg	n/a	n/a	Router 2 Out	not used
d1	f0	n/a	n/a	Router 3 Out	not used
d2	n/a	n/a	n/a	Mix- 4+5 Pair	not used
d3	n/a	n/a	n/a	Mix- 6+7 Pair	not used
d4	n/a	n/a	n/a	Mix- 8+9 Pair	not used
d5	n/a	n/a	n/a	Mix- 10+11 Pair	not used
d6	n/a	n/a	n/a	Mix- 12+13 Pair	not used
d7	n/a	n/a	n/a	Mix- 14+15 Pair	not used
d8	n/a	n/a	n/a	Mix- 16+17 Pair / Aux 4	not used
d9	n/a	n/a	n/a	Mix- 18+19 Pair / Aux 5	not used
da	n/a	n/a	n/a	Mix- 20+21 Pair / Aux 6	not used
db	n/a	n/a	n/a	Mix- 22+23 Pair / Aux 7	not used
dc	n/a	n/a	n/a	Mix- 24+25 Pair / Aux 8	not used

→ See the Device Reference Table for your system/DSP card for a complete list.

## Common Busses

<b>BUS0</b>	Channel on/off	<b>BUS10</b>	AUX6 mix bus
<b>BUS1</b>	PGM mix bus	<b>BUS11</b>	AUX7 mix bus
<b>BUS2</b>	Cue mix bus	<b>BUS12</b>	AUX8 mix bus
<b>BUS3</b>	AUX1 mix bus	<b>BUS13</b>	RUN tally lamp
<b>BUS4</b>	AUX2 mix bus	<b>BUS14</b>	Talkback IFB button
<b>BUS5</b>	AUX3 mix bus	<b>BUS15</b>	Fader Start
<b>BUS6</b>	AUX4 mix bus	<b>BUS20</b>	Enable Post-Fader Input Meters
<b>BUS7</b>	Reserved (internal use)	<b>BUS21</b>	Enable Input Meter group
<b>BUS8</b>	Cough Mute	<b>BUS22</b>	Dynamics on/off
<b>BUS9</b>	AUX5 mix bus	<b>BUS23</b>	EQ on/off
<b>BUS16-39</b>	Lamps /buttons (1-24) on NW24 or REM24 button wedge (see prev page for device positions)		

→ See the Device Reference Table for your system/DSP card for a complete list.



## Common Commands

Each command is a series of hex bytes that is specified in the **Logitek Command Protocol**.

The makeup of a command string is:

- Start byte <02> (STX command) to signify a start-of-command.
- Number of bytes, eg <03>, to say how many bytes follow.
- Command byte, eg <B2>
- Data as required

A list of commonly used bus commands is as follows:

Hex	Name	Following Bytes	Example
A2	Relay Pulse	Channel number, Bus (relay) number	02 03 A2 01 0F
AD	Fader Level	Channel number, fader value (0-255 in hex)	02 03 AD 0F C8
B1	Set Flag/Msg	Channel, Type, Mode, Color, Text Bytes	02 04 B1 0E 00 00
B2	Channel On	Channel number, Bus number	02 03 B2 0B 00
B3	Channel Off	Channel number, Bus number	02 03 B3 0B 00
B4	Input Assign	Channel number, two-byte input device	02 04 B4 3A 00 11

This is a very brief introduction to the mostly commonly used commands – those you are most likely to see in the **Audio Engine Comms Log**. The above commands cover the most common user operations, such as turning channels on & off (including bus assignments), changing inputs and adjusting fader levels.

➔ *See the Logitek Command Protocol for a full list of commands and parameters.*

# Appendix E vGuest IP/Serial Commands

## General

Any vGuest program connected to Supervisor's vGuest IP or COM port must be properly registered in order to have Supervisor process commands. Registration requires the proper vGuest profile number in the **System Administrator** section of Supervisor.

Supervisor sends and expects to receive commands as buffers or groups of bytes.

## Setting up the vGuest Profile

1. In Supervisor, click on the **System Administrator** tab, then click on the **Profiles** tab underneath.
2. Select the **vGuest** tab. Select the profile number that you wish to edit.

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Audio Engine Log Network Client Log Audio Engine State Com Port Control IP Client State System Administrator

**System Administrator**

System Setup Software License Special Functions User Setup Profiles

vRoute vButton vGuest vDelay vMix MatrixIP vScreen

**vGuest Profile 1** Profile Title

Allowed Source Devices

	AE Number	Source Device	Device Name	Device Alias
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Sort Clear All Delete Line

Allowed Destination Devices

	AE Number	Dest Device	Device Name
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

Sort Clear All Delete Line

vGuest Profile

Save All Copy Paste Clear

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Figure 47 - vGuest Profile Page

## Profile Title

Enter a Profile Title that describes the purpose of this vGuest. This is not necessary for correct operation, however, it is provided to assist in quickly determining the function of the vGuest Profile.

The *vGuest* profile works in the same fashion for IP *vGuest* clients as the *vGuest* serial.

On the left, enter the Engine Number and Device Number for **Allowed Source Devices**. *Supervisor* will automatically fill in the Device Name and Alias fields. On the right, enter the Engine Number and Device Number for **Allowed Destination Devices**. *Supervisor* will automatically fill in the Device Name and Alias fields.

There is a common misconception that all sources to be used by *vGuest* must be entered into the source side and all destinations used by *vGuest* must be entered into the destination side. This is not necessarily the case. Rather, these lists represent two different modes of operation. It is possible to use both modes of operation at the same time, but only with great care.

## Mode 1 - Allowed Source Devices

When a source is listed in this section, the **Audio Engine** will report to the *vGuest* client any time an Audio Engine command involving that source occurs.

### Example:

An automation computer is `device0100`. Anytime a fader with device 0100 routed to it is turned on, an on command is reported back to *vGuest* in order to trigger a play command on the computer.

In this scenario, the following three sources are assigned in the grid under **Allowed Source Devices**:

```
device0100 - Automation 1  
device0101 - Automation 2  
device0102 - Automation 3
```

When `device0100` is routed to `fader1` on `surface1`, *Supervisor* sends a 54 (route) command out the *vGuest* port to the automation computer, showing that `device0100` was routed to `device000B` on `surface1`.

Most automation systems ignore this, however, when that fader is turned on, *Supervisor* sends a 52 (bus on) command stating that `device0100 bus0` is on. Automation systems with a Logitek interface will take that command and use it to start playing the cut. Likewise, when the fader is

turned off, *Supervisor* sends a 53 (bus off) command stating that device0100 bus 0 is off. If the automation system is set to act on this, it could stop playing the cut.

No matter what fader device0100 is routed to, a bus on command will send the 52 command for device 0100 and a bus off command will send a 53 command for 0100. This enables the operator to route the automation computer to any fader on the console and still have the remote starts follow. In this scenario, the other two payout cards would follow for device0101 and device0102.

## Mode 2 - Allowed Destination Devices

When a destination is listed in this section, the *vGuest* client can route any source to that destination. Destinations can be faders (device000B to device0022), Router 1/2/3 in (device0030 - device0032), Mixer A 1/2/3 in (device002D - device002F), or any output card (device006E and higher).

The automation system can then, by sending a command via *vGuest*, execute a route command to send any source to the destinations listed in the Allowed Destination Device list. In addition to this, the automation system can send bus on and bus off commands to those destinations via *vGuest* and *Supervisor* will send any bus on/off commands performed by the surface or triggers that involve those destinations, back to the automation system via *vGuest*. Any destinations not specified in the ***Allowed Destination Devices*** list are filtered out.

→ ***See the Available Commands section below for more information on the commands that can be used.***

### Example:

In this scenario, the following five destinations are assigned in the grid under ***Allowed Destination Devices***:

device000B - Fader 1  
device000C - Fader 2  
device000D - Fader 3  
device006E - Output to Transmitter  
device006F - Output to Recorder

The automation system can then send a command to route any source to faders 1, 2, or 3, as well as any source to the Transmitter and a Recorder. When faders 1, 2, or 3 are turned on or off, the information is returned back to the automation computer. Bus on/off commands are turned on and off on the outputs (6E and 6F) when 52/53 commands are issued. As those outputs do not have

any assigned bus commands in the engine, it is possible to use those busses as virtual GPIs to keep track of tallies within their automation system.

The automation system can also send text commands to the faders to print text on the consoles if the faders are included in the ***Allowed Destination Devices*** list.

➔ ***See the Available Commands section below for more information on the commands that can be used.***

## Mode 1 & 2 - Using Both Modes

Using both modes is complex, but possible.

### Example 1:

When device0100 is routed to device000B (Fader 1), Supervisor reports that device0100 has been routed to device000B. When the fader is turned on, *Supervisor* reports a 52 command for both device0100 and device000B. When these double commands are issued, it is very easy to introduce circular logic and therefore problems.

For best stability, do not route items in the source list to the destination list. This avoids having duplicate commands sent back to your automation system.

When using both modes simultaneously, it is strongly recommended to do some prior planning around what needs to be accomplished. When remote starts for automation when live are required, only items in the Allowed Source Devices are required.

If remote starts for automation and the ability to route automation directly to transmission are required, the following example may be of assistance.

### Example 2:

Allowed Source Devices

device0100 - Automation 1  
device0101 - Automation 2  
device0102 - Automation 3

Allowed Destination Devices

device006E - output to transmission

Devices in input settings but not in the vGuest profile

device0103 - duplicate of Automation 1 (same input pins) - not assigned to surface

device0104 - duplicate of Automation 2 (same input pins) - not assigned to surface

device0105 - duplicate of Automation 3 (same input pins) - not assigned to surface

→ *See the **AEConfig Reference Manual** for more information on configuring extra inputs.*

When routing macros, it is best to configure the automation system to route the duplicate inputs to transmission. This allows remote starts while live, routing when automated, and no duplicate messages.

→ *See the **Available Commands** section below for more information on the commands that can be used.*



If attempting to do a complex combination of console text messages, remote starts and routes to outputs via the same vGuest connection, please contact **Logitek Electronic Systems** or your reseller to discuss any possible issues that may arise.

## Setting up the vGuest COM Port

1. In *Supervisor*, click on the **COM Port Control** tab.
2. Locate the **vGuest Com Ports** section on the left.
3. With **vGuest Ports Active** unchecked, enter in the COM port number of the lowest port that will be used for vGuest.
4. In the **Number of vGuest ports** box, enter the number of COM ports to be used for vGuest.



All vGuest COM ports must be blocked together in sequential order. The block may appear before the engine COM ports.

5. Once the Lowest vGuest Port number and **Number of vGuest Ports** have been entered, *Supervisor* will fill in the grid below with the settings for the port.
6. Double click on the line you wish to edit, and set the baud rate, data bits, stop bits, parity, and vGuest Profile number you wish to associate with the connection on that COM port. *Supervisor* will only accept vGuest commands for sources and destinations selected in the vGuest profile.
7. Click **OK** to close the edit window.

Once all vGuest COM ports have been configured, check the **vGuest Ports Active** box, then close and restart *Supervisor* to open the ports.

## Setting up vGuest IP

vGuest IP uses standard a Username and Password associated with a vGuest Profile. The application then logs into *Supervisor* using the Username and Password as created.

→ *See Chapter 4 for information on the creation of Users, Passwords and Profile associations.*

## Operation

Any vGuest program connected to *Supervisor's* vGuest IP or COM port must be properly registered in order to have *Supervisor* process commands. Registration requires the proper vGuest profile number in the **System Administrator** section of *Supervisor*.

## Available Commands

*Supervisor* will process only the following subset of **Logitek** Protocol v2 (LP2) commands for *vGuests*:

51H	81	Relay Pulse
52H	82	Turn On
53H	83	Turn Off
54H	84	Input Assign
55H	85	Input Mode
56H	86	Fader Level
5CH	92	Write Text



The above commands use a different command number than would be used if the command was sent directly to the **Audio Engine**. *Supervisor* will apply the relevant translation to the LP2 command expected by the Engine.

Any communications from non-registered *vGuests* are ignored by *Supervisor*. All allowed commands must follow the LP2 command structure exactly.

Commands from registered *vGuests* will be processed only if their **Destination Device** number is in the sending *vGuest* profile. **Destination Device** numbers greater than or equal to 0100H must be one of the **Device** numbers in the **Allowed Source Devices** list. The location of these **Device** numbers can be limited to a specified surface if that surface number is given in the command. Using surface number equal to 0 will cause all surfaces to be checked for the **Device** number. **Destination Devices** less than 0100H must be one of the DSP channels in the **Allowed Destination Devices** list.

Commands from the **Engine** or Triggers from *Supervisor* will be sent to a *vGuest* only if the command's **Destination Device** number is in that *vGuest* profile.



## vGuest Commands

Following is the list of supported commands and the format for each command structure.

To build a command, lookup each byte in order (sequence #) adjusting the values where applicable. To be a valid command, the number of bytes to follow must be correct. Where a default value is shown, this is for reference only and these byte values must still be set.

<00> denotes a byte in hex. All decimal values must be converted to hex.

### 51h - Momentary Relay Closure

*Momentarily turns on selected relay. Duration can be specified in 50ms increments.*

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<07>	Bytes to follow	
3	<51>	Command = Relay Pulse	
4	<e#>	AE Number	
5	<d#>	Device Number – High	High Byte
6	<d#>	Device Number – Low	Low Byte
7	<s#>	Surface Number = 00	Always <00> for this command
8	<b#>	Bus (Relay) Number	<01> to <19> Number of relays depends on surface type
9	<dt>	Data = Duration x 50ms	<00> to <FF> Number of milliseconds in 50ms increments <00> = 500ms

The following example will momentarily close Relay 15 on the Engine 2 relay bank:

```
02 07 51 02 00 01 00 0F 00
```

The following example will momentarily close Relay 10 on the Engine 2 relay bank for 200ms:

```
02 07 51 02 00 01 00 0A 04
```

**TIP:** This command is only applicable to GPI Outputs (relays).

**TIP:** If the duration of the pulse is set to <00>, a 500ms pulse will be sent.

## 52h - Turn on

*Turns the selected fader channel, bus, relay, switch or setting ON.*

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06>	Bytes to follow	
3	<52>	Command = Set On	
4	<e#>	AE Number	
5	<d#>	Device Number – High	High Byte
6	<d#>	Device Number – Low	Low Byte
7	<s#>	Surface Number	<00> to <03> Use <00> if Device Number < 0100
8	<b#>	Bus Number	<00> to <FF> See Bus Number reference list for common mix busses

The following example will turn on Engine 7, Surface 1, Fader 1 (device 00 0B):

```
02 06 52 07 00 0B 00 00
```

The following example will assign Engine 4, Surface 2, Fader 5 to the Aux1 bus:

```
02 06 52 04 00 37 00 03
```

**TIP:** The main ON/OFF button (bus0) must also be set to ON as shown above for the audio to actually pass from the input device to the Aux1 output bus unless independent bus switching has been enabled.

The following example will turn on source “Hard Disk 1” on Engine 3, Surface 1. Hard Disk 1 has a .device number of <0123>:

```
02 06 52 03 01 23 01 00
```

The following example will close (turn on) Relay 9 on the Engine 2 relay bank:

```
02 06 52 02 00 01 00 09
```

## 53h - Turn off

*Turns the selected fader channel, bus, relay, switch or setting OFF.*

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06>	Bytes to follow	
3	<53>	Command = Set On	
4	<e#>	AE Number	
5	<d#>	Device Number – High	High Byte
6	<d#>	Device Number – Low	Low Byte
7	<s#>	Surface Number	<00> to <03> Use <00> if Device Number < 0100
8	<b#>	Bus Number	<00> to <FF> See Bus Number reference list for common mix busses

The following example will turn off the main bus (bus0) of Engine 3, Surface 3, Fader 4:

```
02 06 53 03 00 5E 00 00
```

## 54h – Input Assign

*Assigns a physical, network or DSP source to a destination physical, network or DSP output.*

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<08>	Bytes to follow	
3	<54>	Command = Assign	
4	<e#>	AE Number – Dest	
5	<d#>	Dest Device – High	High Byte
6	<d#>	Dest Device – Low	Low Byte
7	<s#>	Surface Number	<00> to <03> Use <00> if Device Number < 0100
8	<e#>	AE Number – Source	Must match destination Engine Number above
9	<s#>	Source Device – High	<00> to <FF>
10	<s#>	Source Device – Low	<00> to <FF>

**TIP:** With Version 3.x of the Audio Engine, the engine number must be the same for the source and the destination.

The following example will assign source number <02 34> to destination <00 6E> on Engine 5:

```
02 08 54 05 00 6E 00 05 02 34
```

## 55h – Input Mode

*Sets the mode on the selected channel fader.*

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06>	Bytes to follow	
3	<55>	Command = Mode	
4	<e#>	AE Number	
5	<d#>	Device Number – High	High Byte
6	<d#>	Device Number – Low	Low Byte
7	<s#>	Surface Number	<00> to <03> Use <00> if Device Number < 0100
8	<dt>	Data = Mode Type	<00> to <06> <00> = Stereo <01> = Mono <02> = Phase <03> = LL <04> = RR <05> = Lx <06> = xR

The following example will set Mode to Left on Engine 2, Surface 1, Fader 9:

```
02 06 55 02 00 13 00 03
```

## 56h – Fader Level

*Sets the main fader level of the selected device. The DSP processor converts this into the actual gain.*

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<06>	Bytes to follow	
3	<56>	Command = Level	
4	<e#>	AE Number	
5	<d#>	Device Number – High	High Byte
6	<d#>	Device Number – Low	Low Byte
7	<s#>	Surface Number	<00> to <03> Use <00> if Device Number < 0100
8	<dt>	Data = Fader Level	<00> to <FF> See LP2 Command Reference for dB gain conversion table <00> = zero <c3> = unity <ff> = +10dB


The following example will set the Fader Level on Engine 1, Surface 1, Fader 5 (device 00 0F) to 200:

```
02 06 56 01 00 0F 00 C8
```

## 5Ch – Write Text

This command will write text to a LCD display.

Seq	Byte	Description	Notes
1	<02>	Start byte	
2	<##>	Bytes to follow	8 + number of characters in text string (in hex)
3	<5C>	Command = Write Text	
4	<e#>	AE Number	
5	<d#>	Device Number – High	High Byte
6	<d#>	Device Number – Low	Low Byte
7	<s#>	Surface Number	<00> to <03> Use <00> if Device Number < 0100
8	<l#>	Line Number	See the individual control surface manuals for line number definitions
9	<c#>	Starting Column Number	The starting column positions are 1 to 33 on Numix series surface for small font
10	<ma>	Message attribute	<00> to <FF> See table below
11	<t1>	First text character	<00> to <FF> Standard ASCII Character set (not all characters may be supported)
n	<tn>	Last text character	<00> to <FF> Standard ASCII Character set (not all characters may be supported)

 **TIP:** Not all control surfaces and vTool programs support all features.

The following example will send “Next” to First Line Position 1 of Surface 1, Fader 1, Overwrite, Normal video, White:

02 0C 5C 03 00 0B 00 00 00 00 4E 65 78 74

The following example will send “Next” to Second Line Position 3 of Surface 1, Fader 2, Insert, Normal video, Red:

02 0C 5C 03 00 0C 00 01 02 81 4E 65 78 74

Message Attribute	Data Bits
Bit 7 – Display Mode	0 = Overwrite Text      1 = Insert Text
Bits 6 & 5 – Video attribute	0 = Normal      1 = Flash continuously      2 = Reverse (reserved for future)
Bits 2, 1 & 0 – Message Text color (same as Message Indicator command format)	0 = White 1 = Red 2 = Yellow 3 = Green 4 = Cyan 5 = Magenta