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ASTi SYNAPSE Voisus Server Manual

Document: DOC-01-SYN4-VS-1

Product Name: ASTi Synapse Voisus Server

Description: Network Voice Communications System

Part Number:



ASTi Synapse Voisus Server Manual

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ASTi

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1.0. INTRODUCTION

1.1. Overview

Synapse Voisus Server is an affordable, client-server based simulated radio and intercom communications solution. The server is dedicated to heavy simulation processes and extends the powerful ASTi Radio environment to Voisus thin clients running on customers' PCs. Voisus clients conserve CPU resources, maximize reliability and minimize maintenance (server-centralized software updates). The Synapse Voisus Server has elegant administration, simply download the client application from the server, remotely configure, and operate.

The server is a Telestra with the full-fidelity ASTi Radio environment. Server also features a DIS Interface (HLA optional) and a network link to Voisus clients. Voisus Server is configured using Studio.

The Voisus client is a communication operator GUI panel with remote IP audio. The client application is downloadable using the Remote Management System web interface.

Configuration and operation is easy with three simple steps:

- 1. Point your web browser at the Telestra to access the Remote Management System and download the client.
- 2. Use Studio to remotely configure the network and clients' access to ASTi radios.
- 3. Communicate using the client GUI.

Synapse Voisus Server features:

- Voisus Client supports single-user ASTi operator
- Remote configuration using Studio
- Variety of client GUIs available: Voisus standard, SINCGARS and other MIL radios, and VBS2 overlay, Custom GUIs available, contact ASTi for details.
- Client includes a GUI comm panel providing access to multiple ASTi radios and intercoms
- Voisus Server is inter-operable with Synapse Workstation (integrating hardware-based operator stations) and Synapse Radio Bridge (integrating live radio traffic).

Here is a live-virtual-constructive (L-V-C) application example for an ASTi Synapse Voisus Server integrated with a Synapse Workstation, Radio Bridge, Telestra-based flight simulator and an ACE Studio master control station. Capabilities realized:

- Links geographically disperse facilities
- Provides interoperable voice comms by linking diverse environments (simulators, computers, live-field comms)
- · Provides centralized exercise management



Figure 1: Synapse Application Example

Voisus Server's network-centric architecture is highly scalable; simply connect more client positions to the IP network and centrally manage using the Voisus Server. Client-based operators can be located wherever there is access to the network.

Voisus Server features:

- Flexible and Scalable Architecture: Configure server modules to meet custom requirements.
- Interoperable: Inter-operates with full fidelity radio simulations.
- Deployable out-of-the-box: Connect, configure, operate.
- **DIS/ HLA Compliant:** Synapse is inter-operable with a vast array of simulators, data analysis and data logging tools.
- Simple to Install: Modular/ click-together, all-Ethernet installation.
- **Simple to Run**: Even novice users can exploit the capabilities of ASTi's powerful and intuitive ACE software.
- Robust and Reliable: Industrial hardware, Intel Quad Core CPU, Realtime LinuxTM OS.

2.0. GETTING STARTED

2.1. System Hardware

The standard Synapse Voisus Server includes the following components.

Description	SYN-0S	Standard Feature
Telestra	1	Yes
ACE-RIU	1	Yes
Operator headsets, USB adapters and PTT ancillaries	various	Available Separately

2.2. USB Adapters and Headsets

Voisus clients are compatible with the following USB adapters and headsets. All of the listed USB adapters provide built-in sidetone. Sidetone is a critical feature that provides the client operator with an audible indication that they are actively transmitting.

USB Adapters

ASTi Part Number	Manufacturer	Built-In PTT	Compatible Headsets
USB-RADIUS-010	ASTi	Yes	Specific Telex (see list)
USB-P-DA40	Plantronics	No	All Plantronics H-Series (see list*)
USB-P-SHS2355	Plantronics	Yes	All Plantronics H-Series (see list*)

Headsets

Note: Some headsets require USB adapters. The logitech (HS-LG-G35) does not require an adapter.

ASTi Part Number	Manufacturer	Stereo** Mono	Ear Cups
HS-TX-PH-44R5	Telex	Stereo	Dual, light weight
HS-TX-HR-2R5	Telex	Stereo	Dual, noise isolation, medium weight
HS-P-H251	Plantronics	Mono	Single, light weight
HS-P-HW261N	Plantronics	Mono	Dual, light weight
HS-P-SHR2083-01	Plantronics	Mono	Dual, noise isolation, medium weight
HS-LG-G35	Logitech	Stereo	Dual, noise isolation, heavy weight

** Stereo headsets are recommended for use with Voisus-VBS2 plugin.

Speakerphones

ASTi Part Number	Manufacturer	Features
USB-P-P420	Plantronics	Mic mute and volume controls, active echo cancellation, and auxiliary head- phone jack

Note: Plantronics sales literature states that Plantronics USB adapters are compatible with all Plantronics H-Series headsets. ASTi has tested and validated Voisus clients using the listed Plantronics headsets.

Plantronics[®] is a registered trademark of Plantronics, Inc.

TelexTM is a trademark of Telex Communications, Inc.

2.3. System Hardware Installation

2.3.1. Network Configurations

Voisus Server utilizes three application network traffic links:

- Studio: Central management station
- DIS*: Inter-Server (or inter-simulator) communications
- Voisus: Server-Client communications
- *Distributed Interactive Simulation (DIS), IEEE-1278 standard

Figure 2 shows the most basic network configuration for the Voisus Server system. All three application links share a common IP network. The benefit of this configuration is simplicity.



Figure 2: Common Network Configuration

See note on following page.

Note: ACE Studio provides centralized, network-based tools that are used to configure and manage Synapse systems. There are two Studio packages available:

- Studio VM (virtual machine) is provided with every Synapse system. Studio VM is a software-only product that installs on customer-furnished Windows[®] or LinuxTM computers.
- Studio integrated on a Telestra platform. This preconfigured system is available separately.

One ACE-RIU is required for each Synapse Voisus Server to provide system synchronization.

Figure 3 shows a separate network configuration, with Studio and DIS application traffic on one IP network (DIS) and Voisus application traffic on another network (Voisus). The benefit of this configuration is network traffic management. Using this configuration, traffic segregation eases congestion on each network. Also, computers on each network are isolated from superfluous traffic (for example, Voisus client computers are not subjected to DIS traffic), which conserves processing resources.



Figure 3: Separate Network Configuration

2.2.2. ACE Studio Installation

There are two Studio packages available:

- Studio VM (virtual machine) is provided with every Synapse system. Studio VM is a software-only product that installs on customer-furnished Windows[®] or LinuxTM computers.
- Studio integrated on a Telestra platform. This preconfigured system is available separately.

In addition to the ACE Studio platform, you will need the following items:

- Monitor
- Keyboard
- Mouse
- Power Supply
- CAT5 or CAT6 cable
- Network connection

Follow these steps to install the ACE Studio platform:

- 1. Connect to a monitor, keyboard and mouse.
- 2. Connect ethernet port to an IP network (common with all of the Synapse systems that will be remotely managed by the ACE Studio). See section 2.2.1. for network configuration guidance.
- 3. Connect to power.

2.2.3. Telestra Installation

The Synapse Voisus Server is hosted on the Telestra platform. In addition to the Telestra chassis, you will need the following items:

- Monitor
- Keyboard
- Power cord
- CAT5 or CAT6 cable
- Network connection

Ethernet Port Connections

Port	Connection
Eth0	DIS (Inter-Telestra Comms) Voisus (Telestra - Client Computer Comms)
Eth1	ACENet (ACE-RIU)
Eth2	Voisus (Telestra - Client Computer Comms, Alter- nate Configuration)



Network Ports See chassis labels for ethernet assignment Ethernet labels will be **Eth0**, **Eth1**, and **Eth2**

Figure 4: Network Ports

Please read the Eth0, Eth1, and Eth2 labels on your system to verify the Ethernet locations.

Follow these steps to install the Telestra platform:

- 1. Connect Telestra platform to a monitor and keyboard. Note that a monitor and keyboard are only necessary for initial software configuration.
- 2. Connect the Telestra's Ethernet interface(s) to the Studio management system, the Voisus client computers and the DIS network (linking to other Telestras). See section 2.2.1. for network configuration guidance.
- 3. Connect to power.

2.2.4. ACE-RIU Installation

One ACE-RIU is required for each Synapse Voisus Server to provide system synchronization.

Important: The ACE-RIU in the Voisus Server configuration is not used to produce audio. Do not connect headsets to the device.

Refer to Figure 2 for top level system installation guidance.



Figure 5: ACE-RIU Front Panel



Figure 6: ACE-RIU Rear Panel

In addition to the ACE-RIU, you will need the following items:

- ACE-RIU Power Supply
- CAT5 or CAT6 cable

Follow these steps to install the ACE-RIUs:

- 1. Connect the ACE-RIU Ethernet port (ACENet) to Eth1 on the Telestra, using a CAT5 cross-over cable or a switch and CAT5 patch cable.
- 2. Connect to a furnished 15 volt power supply. *IMPORTANT*: Use only the ASTi furnished power supplies for this purpose. Use of other power supplies may result in equipment damage not covered by the product warranty or degraded product performance.

3.0. SYSTEM SETUP

3.1. ACE Studio Setup

ACE Studio provides centralized, network-based tools that are used to configure and manage Synapse systems. There are two Studio packages available:

- Studio VM (virtual machine) is provided with every Synapse system. Studio VM is a software-only product that installs on customer-furnished Windows[®] or LinuxTM computers.
- Studio integrated on a Telestra platform. This preconfigured, ready-to-use system is available separately.

The following instructions apply to both Studio VM and integrated Studio products.

- 1. Power on the ACE Studio and allow it to boot.
- 2. Log into the ACE Studio:

Username: aceuser Password: aceuser

3. In the top left corner select **System > Administration > Networks**.



4. Check the '**Profile**' box and then select '**Edit**.'

æ	Net	work	Conf	igurat	tion		
<u>F</u> ile <u>P</u> rof	ile <u>H</u> elp	/					
New	Edit Co	j py □	() elete	A	✓ ctivate	X Deactivate	2
Dev <u>i</u> ces	Hard <u>w</u> are	IP <u>s</u> ec	D <u>N</u> S	H <u>o</u> sts			
	You may co physical ha associated	nfigure rdware with a	e netw here single	ork de Multip piece	vices a ble logio of hard	ssociated w al devices ware.	ith can be
Profile S	tatus	Devic	e Ni	cknam	e T	ype	
V s	🗴 Active	💓 etł	n0 et	:h0	E	thernet	
1							
Active pro	file: Comm	on (mo	dified)			

- 5. Select the 'Statically set IP addresses' fill button.
- 6. Enter the IP address and Subnet mask.

₽	Ethernet Device 🛛 🗙			
<u>G</u> eneral <u>R</u> oute <u>H</u> ar	rdware Device			
Nickname: eth0				
✓ Activate device	when computer starts			
Allow all <u>u</u> sers to	o enable and disable the device			
Enable IPv <u>6</u> cont	figuration for this interface			
 Automatically of 	otain IP address settings with: dhcp 💠			
_C DHCP Settings—				
H <u>o</u> stname (option	nai):			
Automatically	obtain <u>D</u> NS information from provider			
Statically set IP a	addresses			
Manual IP Address	s Settings			
A <u>d</u> dress:	10.0.1.112			
<u>S</u> ubnet mask:	255.0.0.0			
Default ga <u>t</u> eway	address:			
Set MTU to: 1				
	🗙 <u>C</u> ancel			

Contact your network administrator for valid IP addresses and subnet masks for the network(s) where the Telestra platform and ACE Studio will be integrated.

3.2. Telestra Setup

- 1. Power on the Telestra and allow it to boot.
- 2. Login with

Username: root Password: abcd1234

3. At the prompt type:

```
ace-net-config -a xxx.xxx.xxx -n yyy.yyy.yyy
```

```
where "xxx.xxx.xxx" is the IP address and "yyy.yyy.yyy" is the net-
mask.
```

This sets the IP address and netmask for **Eth0** which is used to access the Remote Management System (RMS) via a browser to complete the network setup.

4. Optional: For more network setup options type:

ace-net-config -h

5. Reboot the Telestra to activate the changes.

Once you have configured the Telestra IP address, you can use ASTi's web-browser based Remote Management System (RMS) interface to make subsequent changes to the Telestra network settings.

3.2.1. Remote Management System

1. On the ACE Studio or any computer on the network, open RMS by opening the web browser and typing the Telestra IP address in the address bar.



2. In RMS, navigate to the **Configuration** > **Network Devices** page and select the **'Edit Eth0 Config'** link.

Current System: SYN	APSE			
System	SYNAPSE Net	work Device	es	
Status	Interface eth0		Interf	ace eth3
Health	Mac Address: 00:07:B	2:00:66:82	Mac Add	ress: 00:07:88:DC:66:88
Logs Reset / Power	TD 4 Address: 10.2 120	1	Mac Aud	066 Off
Configuration	IP 4 Address: 10.2.129	.1	Status:	Off
Networking	IP 6 Address: fe80::20	7:b8ff:fedc:66b2/64		Edit eth3 Config.
Network Devices	Subnet Mask: 255.255.	0.0		
Option Files	Mode: fixed			
Backup Restore	Edit eth0	Confia.		
Description	Tutouface ath1			
SR & TTS	Interface ethi			
Update System	Mac Address: 00:15:17	:95:13:D0		
Voisus Downloads	IP 4 Address: 172.31.1	02.184		
Projects	IP 6 Address: fe80::21	5:17ff:fe95:13d0/64		
Network	Subnet Mask: 255.255.	0.0		
Targets	Mode: fixed			
ACENet	Edit oth1	Config		
HLA		conng.		
Audio	Interface eth2			
Upload Sound Files	Mac Address: 00:15:17	':95:13:D1		
Spectral Analysis	IP 4 Address: 20.1.1.1			
Archive Recordings	IP 6 Address: none			
	Subnet Mask: 255.0.0	h		
	Maday fixed	,		
	moue: fixed			
	Edit eth2	Config.		

3. Login with

Default Username: admin Password: astirules

Note: There are two modes to choose from either DHCP or Fixed. If you have a DHCP server and select DHCP, an IP address and subnet mask are automatically assigned. Continue with the following steps for fixed mode.

- 4. Enter the Telestra IP address that was previously entered in the Telestra's command line.
- 5. Set the mode to 'fixed.'
- 6. Enter the subnet mask.

7. Select the 'Make Changes' button to apply the IP address and subnet mask.

Current System: SYNAPSE				
System	SYNAPSE Network Configuration: eth0 interface			
Health	Changing these settings m	hay affect your ability to acces	ss this machine!	
Logs Reset / Power	Current Settings	New Settings		
Configuration	Mode	Mode		
Networking Network Devices	fixed	fixed 🛟		
Option Files	IPv4 Address	IPv4 Address		
Backup Restore	10.2.129.1	10.2.129.1	(e.g. 192.168.10.10)	
SR & TTS	Subnet Mask	Subnet Mask		
Update System Voisus Downloads	255.255.0.0	255.255.0.0	(e.g. 255.255.255.0)	
Projects Project Management	Make Changes Cancel			

- 8. Eth1 and Eth2 should remain at the factory default settings. Do not change Eth1 or Eth2.
- Optional: Change the network hostname of the Synapse. Navigate to the Configuration > Networking page, and select the 'Edit Network Config' link. Change the hostname and select 'Make Changes.'

Current System: SYN	IAPSE
System Status Health	SYNAPSE System Networking General Networking
Logs Reset / Power Configuration Networking	Default Route: eth0 Gateway IP: 10.2.0.254 Hostname: SYNAPSE
Network Devices Option Files Backup Restore Description	Nameserver: 10.1.1.1 <u>Edit Network Config.</u> Time Server
SR & TTS Update System Voisus Downloads	Edit NTP Config. Network Tools
Projects Project Management Network Targets ACENet HI A	Enter IP address: 10.2.129.1 (Ping Address)
HBA	1

SYNAPSE Network Configuration

Chang It is re	ing these setting ecommended you	s may affect your ability to access this machine! save all changed data before performing this action
Defaul	t Route	
eth0	\$	Only applies if Gateway IP not specified
Domai	n	
asti-u	sa.com	
Gatew	ay IP	
10.2.0).254	
Hostna	ame	
SYNA	PSE 🗲	
Names	erver	
10.1.1	1.1	
Make C	hanges Cancel	

10.Navigate to the 'System Actions' page (System > Reset/Power) and select 'System Reboot.' The reboot process will take approximately 2 minutes, select the 'Reboot Telestra System Now' button.



3.3. ACE-RIU Setup

- 1. Complete ACE-RIU installation, as described in section 2.2.3.
- 2. Power on the ACE-RIU.
- 3. In RMS, navigate to Network > ACE-RIUs.

The connected ACE-RIU is listed on this page and has a green check mark under the 'Status' column, if there is a red ' \mathbf{X} ' under the 'Status' column there is a problem with the ACE-RIU.

	10	123	A	ASTi Remote Management Systen					
		DATA GPS SA 4 5 6	GFF -			<u>ace</u>			
Current System: SYN	NAPSE4						I	Logged in as admin · Manage Users	- Logout
System Status Health Logs Peset / Power	SYNAF Update S Update I	PSE4 Device Settings: <u>Name Nur</u> Firmware: <u>ACE-RIU</u>	List						
Configuration	1	Device Name	In Layout	E/W Version	Device Number	Latency Mode	Status	Мессале	1
Networking	1 RIU(s)	Device Hume	In Layout	1700 00131011	Device Humber	Latency Plote	otutus	hessage	
Network Devices	1.00(0)	RIU1	61	2.4	1990	Normal	🖌 63	OK, MAC=00:1a:18:00:07:c6	
Description SR & TTS Voisus Downloads								/	1
Projects									
Project Management	t								
Targets ACENet									
Audio									
Spectral Analysis									
Archive Recordings									

4. Select 'Name.' Rename the device to "RIU1" as shown below. Please note that the device name is case sensitive and must match the name in the ACE software.

SYNAPSE4 Update Device Names

 Important - save changes to the layout before pressing submit.

 Device Name
 In Layout
 F/W Version
 Device Number
 Latency Mode
 Status
 Message

 1 RIU(s)
 RIU1
 EI
 2.4
 1990
 Normal
 ¥ E3
 OK, MAC=00:1a:18:00:4

 (Apply)
 Cancel

5. Return to the **System > Status** page and confirm the information for Eth0.

Optional: This page provides a system information section for user contact settings including description, contact email, installation facility, installation location, contact name, contact phone, and installation trainer. If desired, fill in the contact settings to identify your system.

	System	SYNAPSE4	Syste	em St	tatus			
	Status	CPU Load			System Info		Installa	ation Info
	Logs	- Nor	n-realtime	13.2%	RMS Server		Location:	: Luke AFB, AZ
	Reset / Power		Realtime	3.0%	OS Version:	RedHatEnterpriseClient 5.4	Facility:	56th TTW
	Configuration	Mamany Haad			ACE Version:	4.Dev	Trainer:	F-15E
	Networking Network Devices	Memory Used	,		ACE Build:	36320	Contac	t Info
	Option Files	14%	0		ACE Build Date:	06/10/10 03:14 EDT	John Q. F	Public
	Backup Restore	Swap Used			ACE Security Version:	none	(703)555	5-1234 x35
	Description	0%			Current Project:	none	johnq@e	xample.com
	Voisus Downloads				Current Layout:	none [Stopped]	Conta	act Settings
	Projects				Default Project:	SYN4-VS-XX		•
	Project Management				Default Layout:	main [<u>Change]</u> [<u>Remove</u>]		
	Targets				eth0:	10.2.121.10		
	ACENet				wlan0:	none		•
	HLA				Credits:	1000000 [27900 used] [report]		
	Audio							
	Spectral Analysis							
	Archive Recordings							
SR & TTS Voisus Downloads Projects Project Managemen Network Targets ACENet HLA Audio Upload Sound Files Spectral Analysis Archive Recordings				Current Layout: Default Project: Default Layout: eth0: wlan0: Credits:	none [Stopped] SYN4-VS-XX main [<u>Change</u>] [<u>Remove</u>] 10.2.121.10 none 1000000 [27900 used] [<u>report</u>]	Conta	Act Settings	

6. Close the browser.

Hint: To open RMS from ACE Studio, right-click on the SYN4-VS-XX icon and select RMS.



4.0. SYSTEM SOFTWARE CONFIGURATION

The first step toward successful setup and integration of a Synapse system is coordination between all Synapse sites to ensure that critical communications parameters are defined. Follow the steps in this section to ensure proper configuration.

All software is pre-installed during factory system integration. Should you need to re-install the system software, please refer Appendix A: Cold Start.

4.1. Creating a Layout in ACE Studio

Navigate to Accessories > ASTi > ACE Studio to open ACE Studio.



Step 1: Open Project

1. In the top left corner of the window, select **Project > Open**.



2. Expand the name of your system (SYNAPSE4) by selecting the side arrow. This displays all the projects located on the system.

		Open Project	×
💠 💻 🛅			
Target	Version	Status	
▼ SYNAPSE4	4.25	idle	
SYN4-VS-32-A			
Done			
			🗙 Cancel 🏼 🎾 Open

3. Select the project called SYN4-VS-32. This will open the Project.



Note: In the remainder of this document the left column of folders is referred to as the 'Tree View.' The graphical layout view is referred to as the 'Icon View.'

4. In the Tree view, click on the 'SYN4-VS-32' folder. In the Icon view, right-click on 'main' layout and select 'Clone'. Rename the project accordingly. This will keep your factory layout intact for future reference.



5. In the tree view, click on the new layout that was cloned from 'main'.



Step 2: Set DIS Gateway

- 1. In the Tree view, select the Servers folder.
- 2. In the Icon view, double-click the DIS Gateway. This opens the DIS Gateway window.
- 3. Fill in the DIS version number: 4, 5, or 6.
- 4. Select Eth0 for the interface and fill in a port number. The default port number is 53000.

Note: All of the Synapse systems on the DIS network must share a common DIS UDP Port number.

- 5. Next to '**main**' enter the multicast or broadcast address. This sets the outgoing destination address for packets on the DIS port.
- 6. Then select 'Ok'.



Step 3: Set the Domain

Important: Although the original 'main' layout was cloned and replaced, the Helper/Builder icons (Domain, CommPlan, Operators, Radios, etc.) in the new layout are still connected to the 'main' layout. If you make changes to any of the Helper/Builder icons in the new layout, the 'main' icons will also have these changes. In order to maintain the original layout, it is important to clone and replace the new layout Helper/Builder icons.

- 1. In the Icon View, right-click the Domain icon and select 'Clone and Replace' and rename it.
- 2. Double-click the **Domain** icon.
- 3. Under 'Add Domains' select 'DIS' and enter the DIS Exercise ID number.

Note that Synapse sites can only inter-communicate if they share the same DIS exercise ID.

4. Select to 'Set IDs to Last Two IP Octets' to automatically set the Site and App IDs.

Each Telestra on the network must have a unique set of DIS IDs.

MyLayout	<u>^</u>	
	Domain Editor - domain	
Names HLA		
Add Domains:	Domain Info: Name: DOMAIN1 Comment: Set the Exercise ID, Site and App (Host) IDs DIS:	
	X <u>C</u> ancel ✓ Apply	<i>ф</i> <u>о</u> к

Step 4: Set up the Comm Plan

Note: Comm plan will have pre-filled libraries for customer ease.

- 1. In the Icon View, right-click the Comm Plan icon and select 'Clone and Replace' and rename it.
- 1. Double-click the Comm Plan icon to open it.
- 2. Select the Net folder and then select the 'net' list.

Important: Do not change the Net names in the list.

- 3. Configure each Radio Net with a Frequency, Waveform, Crypto, Frequency Hop, and Satcom.
- 4. Configure each Net with a Frequency and Waveform.
- 5. Select 'Ok.'

		Co	mmplan Editor - C	ommPlan			_
	e = 🗊						Expan
nPlan	Name	Frequency(Hz)	TxFrequency(Hz)	WAVEFORM	CRYPTO	FREQHOP	SATCOM
Eill	NET01	101,000,000		waveform.FM-MULAW	crypto.CIPHER1	Off	Off
Net	NET02	102,000,000		waveform.FM-MULAW	crypto.CIPHER1	Off	Off
net 🗈	NET03	103,000,000		waveform.FM-MULAW	Off	Off	Off
Waveform	NET04	104,000,000		waveform.FM-MULAW	Off	Off	Off
Crypto	NET05	105,000,000		waveform.FM-MULAW	Off	Off	Off
Freqhop	NET06	106,000,000		waveform.FM-MULAW	Off	Off	Off
Receivergain	NET07	107,000,000		waveform.FM-MULAW	Off	Off	Off
Satcom	NET08	108,000,000		waveform.FM-MULAW	Off	Off	Off
	NET09	109,000,000		waveform.FM-MULAW	Off	Off	Off
	NET10	110,000,000		waveform.FM-MULAW	Off	Off	Off
	NET11	111,000,000		waveform.FM-MULAW	Off	Off	Off
	NET12	112,000,000		waveform.FM-MULAW	Off	Off	Off
	NET13	113,000,000		waveform.FM-MULAW	Off	Off	Off
	NET14	114,000,000		waveform.FM-MULAW	Off	Off	Off
	NET15	115,000,000		waveform.FM-MULAW	Off	Off	Off
	NET16	116.000.000		waveform.FM-MULAW	Off	Off	Off

Step 5: Set Up the Radios

- 1. In the Icon View, right-click the Radios icon and select "Clone and Replace" and rename it.
- 2. Double-click the Radios icon to open it.
- 3. Under '**Radio Name**' select "Radio: XXX" where "XXX" is the radio name. Under Settings set the Domain by selecting the '...' box, select the Domain from the drop down list.
- 4. Under Exercise ID select 'Set IDs from Domain.'
- 5. Set the Entity ID and Radio ID.
- 6. Select the Fill, Crypto Library, and World Position.
- 7. Under Voisus Info., check the 'Lock' box if you would like to disable the Voisus client's ability to change the radio state.

	Radio Helper 🛛 🗙									
Radio Group Info:										
Group Name: Radios										
Add Radios:	General Advanced									
Radio Name	Info:									
RADIO:RADIO01	Name: RADIO:RADIO01									
RADIO:RADIO02	Comment: No Comment									
RADIO:RADIO03	Cottings.									
RADIO:RADIO04	Setungs.									
RADIO:RADIO05	Domain: Exercise1									
RADIO:RADIO06	Exercise ID: 1									
RADIO:RADIO07	 Set IDs from Domain 									
RADIO:RADIO08	O Set IDs Manually									
RADIO:RADIO09	Site: 121 App: 10 Entity: 1 Radio: 1									
RADIO:RADIO10	Marking Field:									
RADIO:RADIO11										
RADIO:RADIO12	Fill: fill.RADIO01									
RADIO:RADIO13	Crypto Library: 1:Crypto									
RADIO:RADIO14	World Position:									
RADIO:RADIO15										
RADIO:RADIO16	HHT Info:									
RADIO:RADIO17	П ННТ									
RADIO:RADIO18	Identifier: RADIO01									
RADIO:RADIO19										
RADIO:RADIO20										
RADIO:RADIO21	Voisus Info:									
RADIO:RADIO22	Default net: 1:NET01 🜩									
	Cancel Update									

Step 6: Set up the Voisus Channels

- 1. In the Icon View, right-click the Channels icon and select 'Clone and Replace' and rename it.
- 2. Double-click the Channels icon to open it.
- 3. Select an Client under 'Channel Name.'
- 4. Set the **Configured Radios** number. This sets the number of radios the operator will have access to. Voisus clients can have a maximum of 16 radios and VBS2 clients can have up to 8 radios maximum.
- 5. Select the Radios that were configured previously in the Radio Helper.
- 6. Set the **Rx/Tx**. ASTi recommends setting most radios to Rx, multiple radios set to Rx/Tx may cause confusion.
- 7. Set the **RX/TX Lock**. Lock prohibits the operators ability to change the Rx/Tx status.

For example, Operator 1 has access to 3 radios. Two of those radios are Rx only and are locked. The operator cannot transmit on these two radios. The third radio is unlocked, therefore the operator can change the Rx/Tx settings, if desired.

8. Set the Net Lock. Lock prohibits the operators ability to change the Net for that position.

Only Client_01 is configured with 4 radios in the default project, complete the configuration of the other clients.

			Channe	al H	elper					
Channel Group Info (* i	ndicat	es require	ed field):							
Group Name* : Channels										
Add Channels:		OP	ННТ	SIN	CGARS	VO	ISUS			
Channel Name		Voisus	Info							
RIU:Req_Timing		Name:	Client_01							
VOISUS:Client_01		Config	ured Radios	4	\$					
VOISUS:Client_02		POSN	RADIO	1	RX/T	X	RX/TX LOC	K	NET LOCK	
VOISUS:Client_03		1	RADIO01	¢	RX	\$	UNLOCKED	÷	LOCKED	\$
VOISUS:Client_04		2	RADIO02	ŧ	RX	\$	UNLOCKED	ŧ	LOCKED	\$
VOISUS:Client_05		3	RADIO03	\$	RX	\$	UNLOCKED	\$	LOCKED	\$
VOISUS:Client_06		4	RADIO04	\$	RX	\$	UNLOCKED	\$	LOCKED	•
VOISUS:Client_07		5	Select Badio		OFF					
VOISUS:Client 09										
 VOISUS:Client_10		6		-			UNLOCKED	÷	UNLOCKED	-
VOISUS:Client_11		7	Select Radio	÷	OFF	÷	UNLOCKED	÷	UNLOCKED	÷
VOISUS:Client_12	-	8	Select Radio	\$	OFF	÷	UNLOCKED	÷	UNLOCKED	\$
🔶 🛅 🗖		q	Select Radio	1 ÷	OFF	\$	UNLOCKED	÷	UNLOCKED	١

Step 7: Map the Clients

		Voisu	s Clie	ent Edi	tor		×	
Γ	Configura	ation (* <i>requi</i>	red fi	elds)				
	Name*:	VOISUS_CL	IENTS					
	Port*:	35551			(one pe	r Target		_
	Channel							
	SYN4-VS	5-32 \$] →	Chan	nels	\$		VOISUS_CLI ENTS
	Client Maj	pping						
	Opera	ator Name		IF	Address			RIU1
	Client_0	1	+	10.2.1	21.10			
	Client_0	2	++	10.2.1	37.134			
	Client_0	3	++	10.2.1	41.33			
	Client_0	4	••	10.2.1	15.22			
				🗙 Car	ncel	Updat	e	

1. Double-click the Voisus PC icon to open the Voisus Client Editor.

- 2. Set the Name such as "Voisus_Clients."
- 3. Set the **Port** number. Default port is 35551.

Note: ASTi recommends using the default port number unless a different one is required.

- 4. In the Channel box, select the Project and Channels Helper name.
- 5. In the Client Mapping box, add each client PC's IP address.

Note: IP addresses are optional, a blank IP field represents an "open" slot that any "unlocked" client can connect to over the network. Only one client at a time can connect to a slot.

6. Select "Update."
Step 8: Map the ACE-RIU

1. Double-click the ACE-RIU icon to open the ACE-RIU Editor.

ACE-RIU Editor	
Configure (* required fields)	
Name: * RIU1	_
ACE-RIU: * RIU1	
Location: Used to Sync Timing	VOISUS_CLI ENTS
Telestra: * SYN4-VS-32	
Channels 4 🗘 (allocated in pairs)	RIU1
A Channels	()
B Select Group ↓ → Select Channel ↓	I
C Select Group ♦ → Select Channel ♦	
D Select Group ↓ → Select Channel ↓	
🗙 Cancel 🖉 Update	

- 2. Set the **Name** to "RIU1." Please note that the device name is case sensitive and must match the name set in RMS.
- 3. Select the ACE_RIU present on the network.
- 4. Optional: Set the location of the ACE-RIU.
- 5. Select the Telestra the ACE-RIU is mapped to.
- 6. In the **Channel** box, select the Channels Helper name and the corresponding operator for each channel.
- 7. Select "Update."

Step 9: Save and Install

Save Install ACE STUDIO Project Project Lay ut Tools Admin Help D × 5 • 🖄 SYN4-VS-32-A:SYNAPSE4.loci 🔻 Icon View Text MyLayout MvLav 📰 main Channels Domain

1. Select to Save and Install the layout and start using it immediately.

Hint: If for some reason the Domain or Commplan are not attached to your Telestra in the Layou

Configure (* required fields) Name: * SYN4-VS-32 Target: CORE SIM SERVER SM TESTING OTHER Select Select Commplan: load Waveset Crypto-Generic CommPlan Mathplan: mathplan Mathplan: Domain Add Helpers Helper: Select		Telestra	Editor		
Name: * SYN4-VS-32 Target:	Configure (* <i>requir</i>	ed fields)			
Target: CORE SIM SERVER SM TESTING OTHER Select Ioad Image: Crypto-Generic Sound Repo: Crypto-Generic Image: CommPlan Image: C	Name: *SYN4-VS-	32			
Iarget: CORE SIM SERVER SM TESTING OTHER Select Select Sound Repo: Crypto-Generic Waveset Crypto-Generic Waveset Commplan: CommPlan Mathplan: mathplan Add Helpers Helper: Select Channels/Channels radios/Radios					
Select Select Select Ioad Sound Repo: crypto Waveset Crypto-Generic Waveset Crypto-Generic Ocommplan: CommPlan Mathplan: mathplan Add Helpers Image: Select Channels/Channels radios/Radios	larget:				
Select Select Sound Repo: crypto Waveset Crypto-Generic Waveset CommPlan Mathplan: Mathplan Mathplan Mathplan CommPlan Mathplan Mathplan Mathplan Mathplan CommPlan Mathp	CORE SIM SERV	ER SM 1	TESTING	OTHER	
Sound Repo: crypto Waveset Crypto-Generic Waveset Crypto-Generic Ocmmplan: CommPlan Mathplan: mathplan Mathplan: Domain	Select				
Image: Crypto Image: Crypto-Generic Waveset Crypto-Generic Image: CommPlan Image: CommPlan	🖏 Load:	load		•	
Waveset Crypto-Generic Waveset Crypto-Generic Commplan: CommPlan Mathplan: mathplan Domain: Domain Add Helpers Image: Select Channels/Channels radios/Radios	Sound Repo:	crypto		•	
Add Helpers Add Helpers Helper: Select		Committee C			
Commplan: CommPlan Mathplan: mathplan Mathplan: Domain Add Helpers Add Helper: Select Channels/Channels radios/Radios	waveset	Crypto-G	eneric		
Image: mathplan Image: mathplan	Commplan:	CommPla	an	•	
Add Helpers Melpers Image: Select Image: Channels/Channels radios/Radios	🗄 Mathplan: mathplan				
Add Helpers	Domain:				
Add Helpers					
Helper: Select Channels/Channels radios/Radios	Add Helpers				
channels/Channels radios/Radios	Helper: Selec	:t		• • •	
radios/Radios	channels/Chann	els			
	radios/Radios				
		ſ			

Hint: If for some reason the Domain or Commplan are not attached to your Telestra in the Layout, you can reassign them to the Telestra under the '**Telestra Edit**' as shown below.

2. For VBS2 only, proceed to Appendix D for the Voisus-VBS2 Plugin installation.

5.0. VOISUS CLIENT

Voisus client is a communication operator GUI panel with remote IP audio. The client application is downloadable using the Remote Management System web interface.

Voisus client software features the following:

- Select up to 16 radios per operator
- Remote configuration and management of all clients using ACE Studio
- Runs on RedHat® Enterprise Linux® or Windows® workstations
- Includes a GUI comm panel providing access to multiple ASTi radios and intercoms
- Support for a variety of headsets and PTTs
- Built-in test for headset and microphone
- Variety of client GUIs available: Voisus standard, SINCGARS and other MIL radios, and VBS2 overlay, Custom GUIs available, contact ASTi for details.

5.1. Client System Requirements

The Voisus software runs on a computer with an Ethernet network connection. See the table below for supported operating systems.

Operating System	Requirements
RedHat [®] Enterprise Linux [®] 5.3 or 5.4 (32 bit)	GTK, ALSA, libusb and libprotobuf
CentOS 5	
Windows [®] XP (32 bit)	SP2 and SP3 with .NET Framework 2.0 or 3.5 installed
Windows [®] Vista	.NET Framework 2.0 or 3.5 installed
Windows [®] 7	.NET Framework 2.0 or 3.5 installed

The minimum system requirements include:

- Intel Pentium 4 1.3 GHz or better
- 1 GB RAM
- 10/100 Ethernet card (client side only)
- mouse
- USB 2.0 port (available for connection to USB adapters and headsets)
- keyboard
- monitor (recommended minimum resolution of 1280 x 800)
- · Telestra on the network with simulated radios or intercoms

5.2. Choosing an Audio Device on the Client

On the client PC you must select the audio device that Voisus should utilize. This will vary depending on the operating system. Plantronics devices will show up as "DA40 Adapter" and the radius device as "ASTi Radius".

5.2.1. Linux Default Audio Device

If you are using a Linux OS navigate to System > Administration > Sound card Detection and ensure that the proper audio device is selected as the "**Default audio card**."

6		Audio configuration	
Sound	est Settings S	ystem	
Defau	lt audio devices	5	
► Defa	ult audio card:	Ensoniq ES1371 [AudioPCI-97]	
Defa	ult PCM device:	ES1371 DAC2/ADC	
ALSA	olugins		
	isable specific o	card configuration	
Audio	cards order		
Inde	x Card		1 Up
0	Ensoniq ES13	371 [AudioPCI-97]	- Dow
			-

5.2.2. Windows Default Audio Device

If you are using a Windows OS, navigate to the Control Panel > Sounds and ensure that the proper audio device is selected as the default Windows **"Playback"** and the default **"Recording"** device for the microphone and the speaker.



6.0. CLIENT SOFTWARE INSTALLATION

Download the Voisus client software on the workstation using ASTi's Remote Management System (RMS). Navigate to RMS using a standard web browser on any workstation with the same network (LAN/WAN) as the Telestra. Open the web browser and in the address field type:

http://xxx.xxx.xxx/

where "xxx.xxx.xxx" is the IP address assigned to the Telestra's Eth0 interface.

After pointing the browser to the Telestra, RMS will respond by displaying the System Status screen. Navigate to the Configuration > Voisus Downloads page and select the Voisus link that corresponds to your system, either Linux or Windows. Follow the installation section below that corresponds to your operating system.

II	Pai	1 2 DATA GP	ASTi Remote	Management System
			x . § . 5 ⁵ 777 / / //////////////////////////////	
Suctom			oisus Downloads	Login
Status	STRAF			
Health Logs	The Voisus dow See product do	nloads availa	able on this page are for use with ASTi's S 1 for system requirements.	ynapse Voisus Server (P/N: SYN4-VS-XX).
Reset / Power				
Networking	Windows	Version	Operating System	Size
Network Devices	Client	v5.2.8-2	Windows XP/Vista/7 (32/64 bit)	17.17 MB
Option Files	Linux Client	v5.2.8-2	Red Hat Enterprise Linux 5.4+ (32 bit)	8.74 MB
Backup Restore Description	VBS2 Plugin	v5.2.8-2	Windows XP/Vista/7 (32/64 bit)	11.63 MB
Radio Remote Ctrl				
SR & TTS				
Terrain Voisus Downloads				
Projects				
Project Management				

Figure 7: RMS Voisus Downloads

6.1. Linux Installation

First download the Voisus client for Linux from RMS as described in the previous section to the desktop.

- 1. Open a command prompt by selecting Applications > Accessories > Terminal.
- 2. Follow the RMS instructions as shown below.

How to install the Linux (self-extracting) file

Follow these instructions:

 Change the permission of the file you downloaded to be executable. Type: chmod a+x voisus-comm-<version>.bin
 charging refers to Voisus client version you just downloaded

<version> refers to Voisus client version you just downloaded.

For Example: To install voisus-comm-v5.2.8, above command will become chmod a+x voisus-comm-v5.2.8.bin

 Become the root user by running the su command and entering the root password. At the terminal: Type: su

Enter the root password and press enter.

3. Run the self-extracting binary Type:

./voisus-comm-<version>.bin
When the installation has completed, you will see the word Done.

aceuser@localhost:/home/aceuser	
<u>File Edit View Terminal Tabs H</u> elp	
	-
/sbin/ldconfig: /usr/lib/libinidict.so.l is not a symbolic li	nk
(shis () deepfing (use () ib () ib second as a d is not a sumbalis) i	- 1
/sbin/tdcontig: /usr/tib/tibrnepipe.so.0 is not a symbolic ti	пк
10:asti-license	
#######################################	
ll:ace-voisus-lib	
#######################################	
12:ace-voisus-vrc	
######################################	
13:ace-voisus-main	
14.ace-voisus-comm-gui	
Done.	=
[root@localhost aceuser]#	*

4. The installation is now complete. Please reboot your computer so settings can take effect.

3. Navigate to Applications > Internet > Voisus.

Subject Applications	System 🤪 🥸
Second Accessories	
🔺 ASTi 🔹	
b Graphics	
🕎 Internet 🔹 🕨	🗩 Voisus
😵 Office 🔹	Contacts
🕼 Sound & Video 🔹	🥙 Email
👰 System Tools	😻 Firefox Web Browser
Add/Bemove Software	👰 Internet Messenger
W Addition ove Software	- 💮 IP Telephony, VoIP and Video Conferencing

4. Set the network settings for the Telestra. Set the IP address of the Telestra.

📮 Network Settings 🗙
Enter an IPv4 Address for the Voisus Server (e.g. 192.168.1.1):
10.2.125.2
🗙 <u>C</u> ancel 🖉 <u>O</u> K

Depending on the Voisus configuration in ACE Studio, the operators settings window may open to select an operator. If the IP Address field shows "None" then the user may select that Operator Name. If an operator is selected it will show a lock icon. Locked operators are not available. The only exception is the designated Voisus Client system.

Operator Settings					
You are currently connected to 'Chan_Test1'. Select any available operator to connect and get radio settings.					
Lock	Operator Name	Connection Status 🔻	IP Address		
	Chan_Test2	Available	None		
	Op_Test5	Connected	10.2.0.141		
	Chan_Test3	Connected	10.2.125.100		
	Chan_Test1	Connected (you)	10.2.0.124		
6	Chan_Test4	Disconnected	10.2.120.120		
X Cancel					

6.2. Windows Installation

Install .NET Framework 2.0 or 3.5 if using a Windows[®] XP system before installing the Voisus client software. Refer to the Microsoft website (http://www.microsoft.com) for information and downloads.

1. Download the Voisus client for Windows from RMS as described in section 6.0 of this document.

		1 2 DATA GP	ASTi Remote	Management System
Current System: SYN	APSE4			Login
System Status Health Logs Reset / Power	SYNAPS The Voisus dow See product do	SE4 Ve vnloads availa cumentation	bisus Downloads able on this page are for use with ASTi's S for system requirements.	ynapse Voisus Server (P/N: SYN4-VS-XX).
Configuration		Version	Operating System	Size
Networking Network Devices	<u>Windows</u> <u>Client</u>	v5.2.8-2	Windows XP/Vista/7 (32/64 bit)	17.17 MB
Option Files	Linux Client	v5.2.8-2	Red Hat Enterprise Linux 5.4+ (32 bit)	8.74 MB
Backup Restore Description Radio Remote Ctrl SR & TTS Terrain Voisus Downloads	<u>VBS2 Plugin</u>	v5.2.8-2	Windows XP/Vista/7 (32/64 bit)	11.63 MB
Project Management				
,				

2. Navigate to the "VoisusSetup_x_y_z.exe" file where x.y.z represents the software revision. Double-click it to begin the installation.



3. The Security Warning window may appear, select "Run" to install the software.



4. The Voisus setup will begin, select "Next" to begin software installation.



5. Select the file location for the Voisus folder and select "Next."

Setup - Voisus	
Select Destination Location Where should Voisus be installed?	voisus
Setup will install Voisus into the following folder.	
To continue, click Next. If you would like to select a different folder, cli	ick Browse.
C:\Program Files (x86)\ASTi\Voisus	Browse
At least 49.6 MB of free disk space is required.	
< Back Next >	Cancel

6. Select "Install" to begin the installation.

Setup - Voisus	X
Ready to Install Setup is now ready to begin installing Voisus on your computer.	voisus
Click Install to continue with the installation, or click Back if you want to review or change any settings.	
Destination location: C:\Program Files (x86)\ASTi\Voisus	•
٠	
< Back Install C	Cancel

7. Select "Finish" to end setup. If "Launch Voisus" is checked, Voisus will automatically open after selecting finish.



8. Otherwise, double-click the "Voisus.exe" icon on the desktop to open Voisus.



9. Set the IP address of the Telestra. The port number must match the port number set in the Voisus Client Editor as shown in Step 7 of Creating a Layout in ACE Studio. If you are unsure of these settings, contact your network administrator.

Note: ASTi recommends using the default port number unless a different one is required.

Network Settings		×
Target		
IPv4 Address:	10.2.142.2	(e.g. 192.168.10.7)
	Cancel OK	
	Cancel OK	

Depending on the Voisus configuration in ACE Studio, the operators settings window may open to select an operator.

Lock	Operator Name	Connection Status	IP Address
	Client_01	Available	
	Client_03	Available	
	Client_04	Available	
i i i i i i i i i i i i i i i i i i i	Client_02 (you)	Connected	10.2.0.196

7.0. STANDARD CLIENT GUI

The Client features audio and control devices that provide a complete operator interface to the DIS network communications environment. The standard Synapse Voisus Server system connects to customer provided Windows or Linux PCs hosting the clients. Client stations may include optional headsets, mics, and PTTs.

The Voisus interface provides runtime communications control settings (volume, sidetone, receive and transmit access) for each net available on the network.

The Voisus Operator settings configured in Studio provide the pre-set values for the Voisus interface. At system startup, these values are automatically loaded into the software application. These settings include:

- **Operator**: The operator name for the client station.
- Radio: Defines the radio or intercoms available to the operator.
- RX/TX: Sets comms status for Receive Only, Transmit and Receive or Off, for each radio.
- **RX/TX Lock**: Grants comms status change privileges to the Client. If locked, it disables the operator's ability to change the comms status (receive, transmit or off) for each DIS radio. This means that the presets loaded from the software configuration cannot be changed by the operator.
- **Net Lock**: Lock prohibits the operators ability to change the Net for that position. This means that the preset nets loaded from the software configuration cannot be changed by the operator.



Once the system starts, the Voisus display shows the operator's communications status, as loaded from the software configuration.

Select each net. Click on the net number to cycle through Receive Only (green), Transmit and Receive (blue), and none (gray).

Receive Only allows the operator to hear audio received on the radio. When a transmission from another radio is received, the entire radio name turns Green. The radio name is illuminated in light green when the audio is active, but the operator isn't actively listening.

Transmit and Receive allows the operator to receive and transmit on the selected radio when the PTT is pressed. Notice when the PTT is pressed, the entire radio name turns blue; this indicates the operator is currently transmitting. The radio name is illuminated in light blue when a shared radio is transmitting but the operator is not transmitting on that radio.

Each operator may individually set the volume of each radio. The sliding bars below each radio control the received audio volume. Slide to the right to increase volume, slide to the left to decrease volume.



7.1. Operator Settings

The Operator Settings allow the user to select any available operator and retrieve radio settings. Operators may be locked by the administrator in the ACE Studio configuration.

Ģ		Operator Settings	×				
You are currently connected to 'Chan_Test1'. Select any available operator to connect and get radio settings.							
Lock	Operator Name	Connection Status 🔻	IP Address				
	Chan_Test2	Available	None				
	Op_Test5	Connected	10.2.0.141				
	Chan_Test3	Connected	10.2.125.100				
	Chan_Test1	Connected (you)	10.2.0.124				
8	Chan_Test4	Disconnected	10.2.120.120				
	Connect						

7.2. Headset Settings

Embedded functionality allows operators to set radio settings such as volume, sidetone and vox levels. There are headset presets for the Plantronics USB headset and a preset for the ASTi Radius. Select the preset for your headset and select "Set Values" then adjust the settings as necessary. Adjust the Earphone, Mic, Vox, and Sidetone settings to a comfortable level using the microphone test.

Vox mode allows for automatic transmission of voice without having to push a PTT button. The Vox is voice activated and is dependent upon the threshold level. The higher the vox level, the louder the voice must be to transmit, i.e. output is active only when the voice level exceeds the threshold. The lower the vox level, the voice is easily transmitted, i.e. output is active at a lower level.

Sidetone volume sets the level for hearing your own voice feedback during net transmissions. Note: In order to hear sidetone, a radio must be enabled, and your headset device must support sidetone (see supported USB Adapters and Headsets).



Figure 8: Headset Settings

To test the headset use the earphone test which plays a sinewave to check the sound device. Run the microphone test to turn the microphone on and verify that it is working properly.

🔡 Headset Test	
Earphone: Microphone:	Test Test
	Close

Figure 9: Headset Tests

8.0. TROUBLESHOOTING

On the Voisus client, under the Voisus options, select the "Log..." to view the status of the Voisus client, specifically the headset status, headset audio and Telestra connection.

Ģ	Log X
Thu 11 Mar 2010 13:57:47 Thu 11 Mar 2010 13:57:48 Thu 11 Mar 2010 13:57:48	Start : Starting Voisus HeadsetConnect : Looking for ASTi headset None. HeadsetConnect : Looking for other USB headset Found. HeadsetConnect : Registering USB ALSA device: hw:1 Connect : Connecting [10.2.139.6:10110 to 10.2.139.2:10110] Connect : Connection opened ReceiveConfig : Configuration received from target.
Thu 11 Mar 2010 13:57:53	SendClientStatus : larget connection established to operator 'Operator'.

There are several RMS Health pages to verify the Voisus software is working properly. Select the Voisus Networking link to view the networking details.



The RMS Voisus Networking page displays the system's overall receive and transmit packets.

Current System: voi	DATA GPS SA EFF DATA GPS SA EFF A 5 6 095 sus-prod-test	ASTI Remote Management System
System Status Health Logs Reset / Power Configuration Networking Network Devices Option Files Backup Restore Description SR & TTS Update System Voisus Downloads Projects Project Management Network Targets ACENet HLA Audio Upload Sound Files Spectral Analysis Archive Recordings	<pre>voisus-prod-test ACE : Top > Voisus Networking Name • Overall • CFI • YoisusUsRtPipe - CFI Monitor - Realtime Executive - Packets received - Packets transmitted - Target Interface t - Target Port</pre>	61826448 301683375 eth0 35551
	ASTi · support@a	sti-usa.com · www.asti-usa.com

In RMS, view the RMS Health page for troubleshooting information under ASTi Realtime > "Voisus Operators".

	1 2	3 FREQ	ASTI R	emote <u>Ma</u>	anagem <u>ent</u>	: Syste <u>m</u>
5li	DATA GP	S SA ERF			000	
in the second second second	A S	6/95			<u>occ</u>	
Current System: vois	us-prod-test					Login
Current System: vois System Status Health Logs Reset / Power Configuration Networking Network Devices Option Files Backup Restore Description SR & TTS Update System Voisus Downloads Projects Project Management Network Targets ACENet HLA Audio Upload Sound Files Spectral Analysis Archive Recordings	us-prod-test Voisus-prod-test Top > ASTi Realtime Voverall ACENet CFI Commplan Framework Mathplan Model PublicationPipe RCE RadioRtUsPipe Realtime Executive SoundRtUsXpool Voisus Operators Voisus Operators VoisusRtUsPipe XpointRtUsPipe XpointRtUsPipe Xpool_RT HF	0 1575804672	System Hea (null) Running	llth	Hide Detail	Login [4649 registered] Stop Refresh
	 Satcom CEI Monitor 					
	 <u>cri Monitor</u> xpoint_rt 	0				
		59000				
_	ASTI	support@ast	ti-usa.com · www.as	ti-usa.com		08:50:00 up 23:10
	ASIT	apporteras	<u></u>	u usa.com		

The RMS Voisus Operator page displays operator details including the connection, number of radios, and the IP address. Select an operator to view operator statistics, these are typically used for ASTi internal debugging.

	1 2 3 FRED	ASTi Remote Management System
ETT A		
the Mannan Ma	UNIA 5 6 SPS	
current System: Vois	us-prod-test	Login
System	voisus-prod-test ACE Sy	stem Health
Status Health	Top > ASTi Realtime > Voisus Operators	[3953 registered]
Logs		Hide Detail Stop Refresh
Reset / Power	Name	
Configuration	V Overall	
Networking	- <u>op1</u> St	atus = Connected, IP = 10.2.141.210, NumRadios = 2
Option Files	- <u>op10</u> St	atus = Connected, IP = 10.2.141.225, NumRadios = 2
Backup Restore	- <u>op11</u> St	atus = Connected, IP = 10.2.141.226, NumRadios = 2
Description	- <u>op12</u> St	atus = Connected, IP = 10.2.141.51, NumRadios = 2
SR & TTS	- <u>op13</u> St	atus = Connected, IP = 10.2.141.228, NumRadios = 2
Voisus Downloads	- <u>op14</u> St	atus = Connected, IP = 10.2.141.229, NumRadios = 2
Projects	- <u>op15</u> St	atus = Connected, IP = 10.2.141.50, NumRadios = 2
Project Management	- <u>op16</u> St	atus = Connected, IP = 10.2.141.231, NumRadios = 2
Network	- <u>op17</u> St	atus = Connected, IP = 10.2.141.80, NumRadios = 2
ACENet	- <u>op18</u> St	atus = Connected, IP = 10.2.141.81, NumRadios = 2
HLA	- <u>op19</u> St	atus = Connected, IP = 10.2.141.82, NumRadios = 2
Audio	- <u>op2</u> St	atus = Connected, IP = 10.2.141.211, NumRadios = 2
Upload Sound Files	- <u>op20</u> St	atus = Connected, IP = 10.2.141.83, NumRadios = 2
Archive Recordings	- <u>op21</u> St	atus = Connected, IP = 10.2.141.84, NumRadios = 2
A contro recordingo	- <u>op22</u> St	atus = Connected, IP = 10.2.141.85, NumRadios = 2
	- <u>op23</u> St	atus = Connected, IP = 10.2.141.86, NumRadios = 2
	- <u>op24</u> St	atus = Connected, IP = 10.2.141.87, NumRadios = 2
	- <u>op3</u> St	atus = Connected, IP = 10.2.141.212, NumRadios = 2
	- <u>op4</u> St	atus = Connected, IP = 10.2.141.213, NumRadios = 2
	- <u>op5</u> St	atus = Connected, IP = 10.2.141.220, NumRadios = 2
	- <u>op6</u> St	atus = Connected, IP = 10.2.141.221, NumRadios = 2
	- <u>op7</u> St	atus = Connected, IP = 10.2.141.222, NumRadios = 2
	- <u>op8</u> St	atus = Connected, IP = 10.2.141.223, NumRadios = 2
	- <u>op9</u> St	atus = Connected, IP = 10.2.141.224, NumRadios = 2
		17:29:54 up 7:50

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8.1. Voisus Networking Error Messages

If an incorrect Telestra IP address or Telestra port is entered, you will get the following message.



If the client tries to connect to a Telestra that is not configured for the client, you will get the following message.



9.0. FAQs

Q: Can client radios interact with all other DIS radios on the network?

A: Yes, including all ASTi systems (Telestra ACE, Telestra 3 MBV, DACS, and PC'ver) and third party radios. Voisus Technology supports all radio types that are supported in ACE software, including AM, FM, VoIP, network intercoms, SATCOM, SINCGARS, and Havequick.

Q: How many client operators can connect to one Telestra?

A: The limitations are determined by the model size and loading on the Telestra. Contact ASTi to discuss your specific requirements.

Q: Do I have to connect my headset to my workstation before starting the Voisus client software?

A: Yes and the default sound device must also be selected.

Q: What is the Voisus software loading on the client and Telestra?

A: The software loading on the client workstation will vary depending on the client PC hardware and the number of active radios, but typically CPU utilization will be between 1-10 percent. The loading on the Telestra with 16 radios/operators is 35 percent.

10.0. CLIENT SECURITY FIREWALL CONFIGURATION

10.1. RedHat Enterprise Linux

If security standards require enabling the firewall, follow the steps below to create a path for the network.

1. Navigate to System > Administration > Security Level and Firewall.

Applications	Places	System 😝 🎯	88	
		🔯 Preferences	•	
		실 Administrati	on 🕨	🥺 Authentication
		🔞 Documenta	tion 🕨	🕙 Date & Time
		🚱 Help		Display
		About GNON	ΛE	曫 Kdump
			·11_	🍅 Keyboard
		🚱 Lock Screer	ı	🐞 Language
		∑ Log Out ace	user	📟 Logical Volume Management
		🕎 Suspend		🎒 Login Screen
		🕑 Shut Down		餐 Network
				Printing
				问 Root Password
				Security Level and Firewall
			Configu	re system security level and firewall rules
				🔆 SELinux Troubleshooter

2. The prompt will ask for the 'root' user password. Enter the root password.

6		Query	×		
Pa	You are attemp requires admir information is ssword for root	iting to run "voisus_main" whi iistrative privileges, but more needed in order to do so.	ch	Ente	r Root password
		X Cancel			

3. The Security Level Configuration screen will open. Select **Firewall > Enabled**.

Security	Level Configuration
Please cho	ose the security level for the system.
Firewall Options	ELinux
Firewall: Enabled	
	□ FTP
	Mail (SMTP)
Trusted services	□ NFS4
induced ben views.	SSH SSH
	🗆 Samba
	Secure WWW (HTTPS)
Dither ports	
✓ <u>4</u>	Apply X Cancel

4. Select the arrow to expand '**Other ports**'. Select the '**Add**' button to add a port. The default port is 35551.

Security	Level Config	uration			
Please choose the security level for the system.					
Firewall Options	ELinux				
Firewall: Enabled				\$	
Trusted services: → Other ports	 FTP Mail (SMTP) NFS4 SSH Samba Secure WW 	W (HTTF	PS)		
Ports		Proto	4	<u>A</u> dd	
17777		udp	B	emove	
35551		udp			
	Apply X	<u>C</u> ancel		₽ <u>о</u> к	

5. Set the port and the protocol to the port used on the Telestra. This is the same port number set during the client installation.

	Add Por	t _ 🔍
Port(s):	35551	
Protocol:	udp 🗲	•
X Cancel		

6. Save changes and close window.

10.2. Microsoft Windows

Firewalls in Windows may vary depending on system requirements, see your system administrator.

During software installation select to "Unblock" ASTi Voisus in the "Windows Security Alert" window.



APPENDIX A: COLD START

Refer to the ASTi Synapse Cold Start and Installation Manual (DOC-01-SYN4-CSI-1), available at:

www.asti-usa.com/support/document/synapse.html

APPENDIX B: SAFETY and HANDLING

This section must be read completely and understood before using the Synapse Workstation. If you are unsure of any information presented please contact ASTi.

The following safety precautions must be observed when performing any operation and maintenance tasks associated with the ASTi Synapse Workstation. These safety precautions are necessary to prevent injury to personnel and damage to equipment.

Warning: Potentially fatal voltages are present in the Synapse Workstation. Before removing, or replacing any component, ensure that ALL electrical supplies have been turned off and electrical power cords disconnected from the platform.

The following disclaimer is provided regarding use of the Synapse Workstation. The disclaimer applies to all parties using the system in any situation or configuration. This disclaimer should be read and understood completely before using the system.

Disclaimer: The Synapse Workstation is a sound production device. The user, by the act of installing and using the Synapse Workstation and any associated equipment such as external amplifiers, headsets, speakers, etc., warrants and represents that he/she is aware that excessive audio levels can cause permanent hearing impairment and that he/she assumes full responsibility for configuring all equipment including hardware and software to achieve safe operating sound pressure levels under all conditions.

Equipment Handling: All platform circuit boards and modules are sensitive to electrostatic discharge (ESD). To avoid damage to system equipment, proper ESD procedures should be followed when handling all equipment. Ensure that all work is performed at a properly grounded ESD work station. In addition, all personnel handling equipment should be properly grounded.

When transporting or shipping individual modules, equipment should be fully enclosed in an antistatic bag. *ASTi is not responsible for equipment damage due to improper handling.*

APPENDIX C: WARRANTY AND CUSTOMER SUPPORT

Warranty

ASTi provides a one year limited warranty on all ASTi equipment covering all parts and labor.

In the case of equipment upgrades, warranty applies to original date of shipment of individual components.

Other commercial equipment purchased or provided such as monitors, amplifiers, speakers, fiber optic links, etc. are also covered under the one year warranty unless otherwise stated.

The warranty does not cover improper equipment handling or improperly packaged returns.

Extended warranties are available. Contact ASTi for details (703) 471-2104.

Repairs and Returns

If it becomes necessary to return equipment to ASTi, please observe the following instructions:

Obtain an RMA number through ASTi's website: http://www.asti-usa.com/support/

When packaging the equipment in question, make sure it is well protected. The device should be properly enclosed in an antistatic bag to prevent possible ESD damage. Failure to properly package the equipment during shipping could void the warranty.

Do not include accessory pieces such as rackmount kids, power supplies or software. Only send items that do not work.

The shipping label must include the RMA number.

Include a description of the problem, point of contact, phone number, return address and unit serial number(s). Failure to include this information could extensively delay the return of the equipment.

Evaluation of equipment is performed free of charge. No work will be done without prior customer approval. Customer is responsible for shipping charges to ASTi for warranty and non-warranty repairs.

If an RMA number is not used within thirty (30) days of issuing date, the request data and number issued will be closed and designated as unused.

Any items received from customers without RMA numbers or appropriate contact information included with shipment will not be tested. After sixty (60) days, ASTi reserves the right to scrap all hardware received in this condition.

If the equipment is not under warranty a Purchase Order will be required to cover the cost of any repairs. ASTi will provide a quote for all non-warranty repair items.

Equipment will be shipped back using Federal Express, unless otherwise directed. If the repair is non-warranty then shipping charges will be billed.

International customers must include the correct product value on all shipping documents. Contact ASTi for proper harmonized tariff codes. The customer is responsible for all duties, taxes and fees incurred in shipment of the equipment.

APPENDIX D: VOISUS-VBS2 PLUGIN INSTALLATION

Virtual BattlespaceTM 2 (VBS2) users can employ ASTi's full-fidelity radio simulation and communications capabilities within VBS2's interactive, three-dimensional training system. Users will gain the enhanced training benefits of a highly realistic simulated radio environment with the introduction of ASTi radios into VBS2. The Voisus-VBS2 Plugin integrates the Voisus client directly into the VBS2 infrastructure.

Each VBS2 player is configured with one or more communication assets such as radios or intercoms. When in a VBS2 mission the player has a Heads Up Display (HUD) showing all the necessary information about their radios including current net selections and transmit/receive status.

The ASTi Voisus-VBS2 Plugin requires a Telestra system and a USB headset. See the table below for the Voisus-VBS2 Plugin supported operating systems.

Operating System	Requirements
Windows [®] XP (32 bit)	SP2 and SP3 with .NET Framework 2.0 or 3.5 installed
Windows [®] Vista	.NET Framework 2.0 or 3.5 installed
Windows [®] 7	.NET Framework 2.0 or 3.5 installed

The Voisus-VBS2 plugin operates with VBS2 versions 1.23, 1.3, 1.4 and 1.5.

Step 1: Install Virtual Battlespace 2

Install Bohemia Interactive's Virtual Battlespace 2. For more information see http://www.bisimu-lations.com.

Step 2: Install Voisus Client

Install the Voisus client by following the installation instructions in section 6.0. Client Software Installation in this document.

Step 3: Install Voisus-VBS2 Plugin

Follow the steps below to install the Voisus-VBS2 Plugin on a Windows[®] OS.

1. Open RMS and navigate to the Voisus Downloads screen. Select the VBS2 plugin.



 Select to save the file. Double-click the downloaded file (VoisusVBS2ManagerSetup_x_y.exe where x_y is the version number).

You may get a warning similar to the screen below depending on your Windows[®] version.

Open B	ixecutable File?
?	"VoisusVB52Plugin_0_1(3).msi" is an executable file. Executable files may contain viruses or other malicious code that could harm your computer. Use caution when opening this file. Are you sure you want to launch "VoisusVB52Plugin_0_1(3).msi"?
	Don't ask me this again
	OK Cancel

3. Select to run the file.



4. Follow the Voisus VBS2 Manager installer. Select 'Next'.



5. Select the location. The default installation path is shown below.

🗩 Setup - Voisus VBS2 Manager 📃 🗖 🔀
Select Destination Location Where should Voisus VBS2 Manager be installed?
Setup will install Voisus VBS2 Manager into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Program Files\ASTI\VoisusVBS2Manager Browse
At least 0.8 MB of free disk space is required.
< Back Next > Cancel

6. Select 'Install.'

🗭 Setup - Voisus VBS2 Manager	
Ready to Install Setup is now ready to begin installing Voisus VBS2 Manager on your computer.	voisus
Click Install to continue with the installation, or click Back if you want to review or change any settings.	
Destination location: C:\Program Files\ASTi\VoisusVBS2Manager	
< Back Install	Cancel

7. Wait as the Voisus VBS2 Manager installs.

🗩 Setup - Voisus VBS2 Manager	
Installing Please wait while Setup installs Voisus VBS2 Manager on your computer.	voisus
Finishing installation	
	Cancel

8. Select 'Finish' and launch the Voisus VBS2 Manager.

🗭 Setup - Voisus VBS2 Manager 📃 🗖 🗙		
vọisus	Completing the Voisus VBS2 Manager Setup Wizard	
ASTi's VoIP solution for Windows®	Setup has finished installing Voisus VB52 Manager on your computer. The application may be launched by selecting the installed icons. Click Finish to exit Setup. I Launch Voisus VB52 Manager	
	Finish	

9. The Voisus VBS2 Manager finds all of the VBS2 installations and missions on the computer. Select to 'Enable Voisus for *X* installations and *Y* missions' if you would like Voisus installed on all VBS2 installations and missions found.

To install Voisus on specific installations and missions select 'Manage installations and missions' and continue to step 10.

🗭 Voisus VBS2 Manager 🛛 🔀
voisus
Voisus VBS2 Manager allows an administrator to enable, disable, or configure Voisus for VBS2 installations and missions. 4 VBS2 installations found. 1 is missing Voisus. 44 VBS2 missions found. 3 are missing Voisus.
Manage installations and missions Enable Voisus for 1 installation and 3 missions

To enable Voisus you must first enter the IPv4 address of the Voisus Server.

Note: If you do not know the IP address you may enter a placeholder address and relaunch the manager at a later time to enter the Voisus Server IP address. The IP address is **required** for communications.

🗭 Voisus VBS2 Manager			
Enter the IPv4 Address of the target Voisus Server.			
1			
Invalid IP Address			
Cancel	Enable Voisus		

10. To install Voisus on specific installations or missions select 'Add VBS2 Installation.' You can also do this to confirm the Voisus VBS2 plugin was installed into the proper VBS2 installation directory.

Confirm your VBS2 installation has active Voisus comms indicated by a green check mark. If there is not a green check, highlight the item and select 'Enable.'



11. To add a VBS2 installation select, 'Add VBS2 Installation' and navigate to the VBS2 installation directory you would like to add.

🗩 Voisus VBS2 Ma	nager - Add VBS2 Installation			×
Navigate to the VBS2 installation directory you would like to add, select VBS2.exe and press "Add".				
Places	Name	Size	Modified	
🔍 Search	🛅 Bohemia Interactive 1.4		11/10/2011	
🛞 Recently Used	Documents and Settings		6/24/2011	
🛅 ASTi	Dintel		8/1/2011	
🛅 Desktop	🛅 Program Files		8/1/2011	
4:) 31/2 Floppy (A:)	Program Files (x86)		8/1/2011	
🖙 Local Disk (C:)	E WINDOWS		8/23/2011	
📣 DVD Drive (D:)	AUTOEXEC.BAT	0 bytes	6/24/2011	
📣 DVD Drive (E:)	CONFIG.SY5	0 bytes	6/24/2011	
🥯 Local Disk (F:)				
🗢 Removable Di				
🗢 Local Disk (P:)				
Add Remove				~
	Car	ncel	Add	
12.Select the 'vbs2.exe' and select 'Add.'

🗩 Voisus VBS2 Ma	nager - Add VBS2 Installation			×		
Navigate to the VBS2 installation directory you would like to add, select VBS2.exe and press "Add".						
	a Interactive 1.4					
Places	Name	Size	Modified	^		
🔍 Search	10 net.log	53.2 KB	Yesterday at 19:29			
🛞 Recently Used	NxCooking.dl	381.3 KB	9/13/2010			
	simscribe-banner.jpg	32.0 KB	Yesterday at 17:08			
Docktop	🕞 SimScribelog.txt	68.4 KB	Yesterday at 19:32			
B Desktop	Uninstall_vbs2.exe	66.8 KB	8/13/2011			
3 /2 Floppy (A:)	BS2.exe	10.0 MB	10/3/2010			
Local Disk (C:)	VB52 LVC Admin Host CNRLog,bat	32 bytes	8/13/2011			
S DVD Drive (D:)	VBS2 LVC Administrator (Windowed).bat	36 bytes	8/13/2011			
S DVD Drive (E:)	VBS2 LVC Dedi Server CNRLog.bat	33 bytes	8/13/2011			
Local Disk (F:)	WBS2 LVC Game.bat	33 bytes	8/13/2011			
Removable Di	VBS2 LVC Game (Windowed).bat	41 bytes	8/13/2011			
Second Disk (P:)	VBS2 LVC Game Dedicated Server.bat	34 bytes	8/13/2011			
	VB52 VTK Administrator.bat	32 bytes	11/10/2011	=		
	VBS2 VTK Dedicated Server.bat	29 bytes	8/13/2011			
	VB52 VTK User.bat	21 bytes	8/13/2011			
Add Remove	VBS2 VTK User (Windowed).bat	29 bytes	8/13/2011	~		
		Canc	el Add			

13.Navigate to the 'Missions (Server Only)' tab. Select the VBS2 missions that you would like to setup with Voisus communications.

🗭 Voisus VBS2 Manager		
Installations Missions (Server Only)		
VB52 Profiles and Missions	Voisus Enabled	Manage Voisus for 28 VBS2 Missions
<my documents="">\VB52\ASTi.VB52Profile</my>	 ✓ 	Manage Volada for 20 VD52 Missiona
	1	Voisus Server IPv4 Address:
	1	10.2.125.5
My Documents>\VB52 Other Profiles\ASTi-XP-tower-admin2\ASTi-XP-tower-admin2_backup.VB52Profile	4	Options:
CMy Documents >/WB52 Other Profiles/BindKeyTest/BindKeyTest /B52Profile		Latching PTT
Any Documents - (VDS2 Other Profiles (Mandar) Mandar, VBS2Profile		Autohide in-game GUI
	1	
		No changes to save,
		Disable Voisus for 28 missions

14. Set the Voisus Server IP address and select to activate the Voisus communications.

Step 4: Disable VBS2 Keybindings Required for Voisus Control

In this step, you will disable the keys that are necessary for Voisus control. You must do this for each VBS2 profile used. This is not for all VBS2 keybindings, only a small subset is required for Voisus.

Important: Disabling the VBS2 keybindings is imperative to the audio quality of the Voisus software.

1. Open VBS2 and navigate to Options > Controls.



- 2. Scroll down the list until you see the following:
 - Previous Channel
 - Next Channel
 - Chat
 - Voice Over Net
 - Push to Talk

Configure controls:					
Show:	All con	trols		\sim	
Look left (Analog) Look right (Analog) Look down (Analog) Device (Analog) Previous channel Next channel Chat Voice Over Net Push to Talk Talk on Global channel Talk on Side channel Talk on Group channel	"Trackii "Trackii "Trackii "Trackii "" "" "Caps L "Caps L	Rot Left" Rot Right" Rot Down" Rot Up" ock" ock"			Scroll
Controler options:		Mouse se	nsitivity:		
Y Axis	Normal	X Axis:	الالاليلاليل		Default
Joystick:	Enabled	Y Axis:			
Start in freelook mode:	Disabled			- IF	ОК
Other					Cancel

- 3. Select "Previous channel" which opens the "Configuring Actions" screen for Previous channel's keybindings.
 - Configure action: Previous channel Prim. Mouse Btn. 2x Prim. Mouse Btn Left Ctrl Mouse left Mouse right Mouse up Mouse down Mouse wheel up Mouse wheel down TrackIR Rot Down TrackIR Rot Left TrackIR +rZ TrackIR Left TrackIR +tY TrackIR +tY TrackIR Rot Up TrackIR Rot Right TrackIR -rZ TrackIR Right Default TrackIR -tY Previous Undo Next OK Press any key or drag & drop to bind it to the action Reserved keys: Esc, F1..F12, 1..0, Crtl Cancel
- 4. Highlight the comma (",") and select "Delete."

- 5. Select "Next Channel" and repeat the two steps above for **Next channel, Chat, Voice over Net, and Push to Talk**. You may choose to map these actions to a different key such as "\".
- 6. After disabling the keys, the key control fields should appear blank as shown below.

Show: All controls	\sim
Look right (Analog) "TrackIR Rot Right"	
Cook up (Analog) "TrackIR Rot Up" Previous channel Vext channel Chat Voice Over Net Push to Talk Falk on Global channel Talk on Group channel Talk on Vehicle channel Talk on Vehicle channel	
Controler options: Mouse sensitivity:	
Y Axis Normal X Axis:	
Joystick: Enabled Y Axis:	
Start in freelook mode: Disabled	
Other	

- 7. Select "OK" when you are finished.
- 8. Continue with step 8a or 8b below depending on your system.

8a. If you are on the host computer or dedicated server close VBS2 and continue with Step 5.

8b. If you are not on the host computer, continue to Step 6.

Step 5: Set up the Dedicated Server

This step is for **dedicated servers only**. Ensure that **Step 3: Install Voisus-VBS2 plugin** is complete with the Voisus comms activated for the mission(s) and VBS2 installation before following the steps below.

- 1. Open VBS2 Admin and open the Mission Editor on the left side of the screen.
- 2. Select the terrain on which the mission is based and open the editor. You must export the mission to networked scenarios and ensure the resulting .pbo file (now with active Voisus comms) is in the proper place.
- 3. Once the terrain is loaded, choose File > Load and select the mission. Once loaded, you should see the mission units overlaid on the terrain.
- 4. Choose File > Save. In the dialog box, enter a mission name, title and description (or leave them as they were). In the Export option, select "Export to Network Scenarios". Once chosen, click "Ok." By default, Export to Network Scenarios will create a packaged mission .pbo file in the following directory:

C:\Bohemia Interactive\VBS2\mpmissions

- 5. Close VBS2.
- 6. By default, a dedicated server will make all .pbo files located in this file available to clients.

C:\Bohemia Interactive\VBS2\mpmissions

However, VBS2 administrators are able to limit which missions are available to play. Check with your VBS2 administrator to ensure that the new .pbo mission file you created in step 4 is in the proper directory and that the dedicated server is configured to allow your mission to be available to clients.

7. Launch the VBS2 dedicated server and use one or more clients to connect to the mission you just created.

Continue to Step 6: Selecting an Operator.

Step 6: Selecting an Operator

The Operator contains the radio assets that are previously assigned in the Voisus Server comm plan configuration, see the 'System Software Configuration' section in this document for more information.

This step must be performed by all VBS2 operators upon opening VBS2 and every time an operator needs to change radio assets. Once selected, an operator will remain active until changed by the user.

1. To open the Voisus options page, press 'Alt +O'. Note: This is the default key combination. However, VBS2 administrators are capable of changing this key combo.

In the Voisus options page the user can:

- View and select available operators
- Change Voisus Server IP address
- Change radio and GUI settings
- 2. Select an operator.
- 3. Press the Ok button.



ASTi Keybinding Map

See Step 4: Disable VBS2 Keybindings for details on how to set up the ASTi keybindings.



VBS2 Client Radio Key



Yellow = Client GUI Name Orange = Actively Tx Blue = Actively Rx White = Idle Net

Nets

Nets are configured in the comm plan by system administrators. Some nets may be locked to prevent users from switching radios. Nets may also be set to receive-only mode. When a radio is in receive-only mode the user is unable to mute or transmit on the radio.

In the example below, "All Call" is locked and also is in receive-only mode.



Voisus-VBS2 Plugin Troubleshooting Procedures

If you are experiencing issues relating to the Voisus-VBS2 plugin, perform the following procedures to determine the source of the problem and find a remedy.

A. General Voisus-VBS2 Plugin Troubleshooting

- 1. If the Voisus-VBS2 GUI reports "No Response from Server", check your mission init.sqf file and make sure that the listed 'Server_IP' matches the network configuration for your Target.
- 2. When upgrading or re-installing VBS2, you will need to un-install and reinstall the Voisus-VBS2 Plugin. To un-install the Voisus BS2 plugin:
 - a. Deactivate all of the missions and installations via Voisus VBS2 Manager.

b. Hand edit the init.sqf files to remove the code between

```
/**** START ASTi VBS2 GUI CODE ****/
```

and

```
/**** END ASTi VBS2 GUI CODE ****/
```

c. Use the Windows control panel Program and Features (for Windows Vista and 7) or Add Remove Programs (for Windows XP) to remove the Voisus VBS2 Manager.

3. The Voisus-VBS2 Plugin installer includes four important elements that are required for proper functionality.

a. Voisus VBS2 Manager

- b. [VBS2 install directory] \ plugins \ ASTiVoisus.dll
- c. [VBS2 install directory] \ My Content \ Add ons \ astivoisus.pbo
- d. C:\Documents and Settings $\langle \underline{vasername} \rangle \langle Voisus \rangle VBS2$ init. file

B. USB/Headset Troubleshooting

1. If you experience any audio problems the first step is to check your audio device settings. For complete details see section **5.2. Choosing an Audio Device on the Client** in this document.

a. Ensure that the proper audio device is selected for both sound playback and sound recording.

- b. Ensure that the Microphone > Advanced audio setting is set to 48 kHz.
- 2. If the headset was unplugged from the USB port:
 - a. Close the client and VBS2. Then plug the headset back in.

Note: It is good practice to plug the headset back into the same plug or you may have to reset the audio devices.

b. Reopen the client and VBS2.

c. If issues persist, check audio settings as described in section **5.2.** Choosing an Audio Device on the Client in this document.

C. Keybindings Troubleshooting

- 1. If you experience the following symptoms, the ASTi keybindings are not set correctly.
 - a. The microphone icon or chat symbol shows up during the VBS2 game.
 - b. The user hears echoing voices.
- 2. Refer to **Step 4: Disable VBS2 Keybindings** in this appendix to reset the keybindings for all VBS2 user profiles that use Voisus.

D. Roles

If there are no operators listed in the Voisus "Available Roles" list continue below.

1. All operators are in use.

a. If trying to connect your client to an operator on the server, and every operator says "Connected" then the user can not connect unless another operator disconnects.

2. All operators are "Locked."

a. If your client is unable to select an operator position in the "Operator Settings" window, check to see if there is a lock symbol in the left column. If a lock is present, then that operator position has been locked down to a certain IP address in the Project Configuration in ACE-Studio. See Step 5: Set Up the Radios in section 4.1. of this document for more information.

E. Dedicated Server Mode

1. The Voisus-VBS2 Plugin interface is not showing up in the VBS2 display.

a. Ensure Voisus client is installed on each VBS2 client computer and the VBS2 server.

b. Ensure the ASTi init.sqf files was added to the proper mission folder and it was exported to Network Scenarios as described in Step 5 sub-step 3.

F. VBS2 Missions

This section applies to software version 4.36 and above.

1. When starting a VBS2 mission, users are presented with the following error message (see message below).

a. Ensure that Voisus has been activated for the VBS2 installation that is currently running.

b. Quit VBS2 and use the Voisus VBS2 Manager to activate the VBS2 installation you are currently using. See the installation steps in this appendix for more information on the Voisus VBS2 Manager. Restart VBS2 and relaunch your mission.



Audio Troubleshooting

Problem: You are experiencing audio breakup specifically deep sounding voice effects and possible client issues.

Solution: Set the audio device advance settings to 48kHz.

This solution is for software versions prior to 4.33 and excludes the 4.31 Information Assurance software version.

Navigate to Properties > Microphone > Advanced and set the audio to 48 kHz. This audio setting is required for record and playback. This is required for microphone and speakers. If it is not set to the proper audio setting you may experience deep sounding voice, audio breakup, and client issues.

Be sure to select the default audio device as well.

If the audio setting for 48kHz is not available, you may need to switch to a different headset, refer to the ASTi recommended list in **section 2.2. USB Adapters and Headsets** of this document. Or contact ASTi to upgrade your software to version 4.33 or above.

🐨 Sound	
Playback Recording Sounds Communications	
Microphone Properties	
General Listen Levels Advanced	
Default Format	
 Select the sample rate and bit depth to be used when running in shared mode. 	
1 channel, 16 bit, 48000 Hz (DVD Quality)	
Exclusive Mode	
Allow applications to take exclusive control of this device	
Give exclusive mode applications priority	
Restore Defaults	
OK Cancel Apply]