InetTEAM -

InetTEAM_UsersGuide

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Overview

The **InetTEAM** ("Tenant and Engineering Access Module") program has two major components, the **After-hours Module** and the **Engineering Module**. The **After-hours Module** allows tenants to make HVAC and lighting service requests remotely using a web browser or a voice prompted telephone interface. This module generates invoices for each tenant's total billable service, and has numerous other reporting features. All reports are available via the web interface and include **Recent User Activity**, **Configuration Data**, **Scheduled Overrides** (HVAC and lighting) and more. The **Engineering Module** gives engineering staff remote telephone access to the **Building Automation System** (BAS). The user can retrieve and command point values using a voice-prompted interface.

Note: Unless otherwise specified, use the menu tree located on the browser's left side for site navigation. Do not use the browser's Back button.

Hardware Setup - Voice Processor

Connect the USB cable to a USB port on your PC. Connect the phone cable to your phone jack.

Initial Point Configuration

Important: *InetTEAM* works with the system Database in receiving and transmitting system point (variable) information. In order for this communication to take place, the points must be initially configured correctly. This is done through *InetSupervisor's Database Config* utility and the *Points Table* therein. Use the following procedure to verify or accomplish the necessary configuration. *Note: this procedure assumes that system points have already been imported using the procedure in the InetSupervisor Setup manual.*

- Click *Start/Programs/HMI/Database Config*. A small window will open. If you haven't already done so, do the sequence of steps listed here to establish initial configuration via the *Config_Table (Network Name, Interface Name*, etc.). Click *OK* and the main window will open. You may need to log in with username and password for full access. *Database* should be *InetSupervisor* and *Server* should be *(Local)*. *Security SSPI* should be checked.
- Click *View/Choose Points*. The *Points Table* will open. Click *Load* to fill in the table. For convenience, place the six column names listed below first in the table. This is done by clicking the column names in the *SELECT* window that appears in the upper left of the table window. As you select them, they will appear in the box just to the right. When finished, click *Load* and the table will appear with the selected columns listed first, easier to view.
- For each point (IDs automatically assigned at the left edge) that you want to monitor or control, make sure the following table columns are properly setup:
- *IsActive* click to make checkmark black (not grey)
- *LonIsDigital* for all points which assume two states (on or off), click to make checkmark black (not grey)
- *LogicName* enter a descriptive name for the point (an identifier)
- LonDigOn for a digital point. Enter the point value which indicates the point is active (On)
- *LonDigOff* for a digital point. Enter the point value which indicates the point is inactive (Off)
- *IsInetTeam* click to make checkmark black (not grey) for all points that will be monitored or controlled via *InetTeam*.
- EnableScheduling click to make checkmark black (not grey) and activate scheduling.
- Remember to click Update to effect any changes made, before closing the table.
- Important: InetTeam needs to extract meaningful data from the Database. You may need to run InetSupervisor sufficiently long to collect this data, which is directly related to the sampling interval (update period) setup in the Config_Table of the DatabaseConfig utility (click SqlDataBase/Config Table/Load/Refresh in the utility, verify/change the AllPointsUpdateInterval number, which is listed in seconds). Click Update if you make any changes to the Config_Table. To collect fresh data, you'll need to run InetSupervisor longer than the UpdateInterval. To run InetSupervisor, click Start/Programs/HMI/HMI-Main and then Start on the Supervisor window. Click Stop to end the monitoring session when desired. Alternatively, click Refresh All on the InetSupervisor window. You can verify that point values have changed (been updated) by looking under the PointValue column in the Points_Table. If "?" or "(null)" appears for a point that should have data, there is likely a communication problem with the building automation system.

Logging in

Go to http://yoururl/TEAM/login.aspx using Internet Explorer. Enter your user name and password then click Login (FIGURE 1.).

Note: The System Administrator should log in the first time with **User:** "sa" and **Password:** "quark2003". This is the default system administrator account. The default password should be changed prior to putting the system online.



FIGURE 1.

The After-hours Module

The following sections apply to the **System Administrator**. They describe the initial program setup and configuration. Sections 1.0-3.0 should be completed first. Sections 4.0-26.0 should then be used to create tenants, tenant administrators, accounts, and users.

Using **Internet Explorer**, browse to the following sections using the **navigation tree** located on the left hand side of the browser window.

1.0 Account Defaults:

This screen supplies the default data for new accounts.

FIGURE 2.

- Greeting This is the file played when the server answers an incoming call.
- Level Reserved for future use. (Leave a 1 in this field)
- Multiplier Used to apply a discount to the amount billed. The Multiplier is based on an index of 1, the default value. To calculate the Multiplier for a discount, use the following formula:



(EQ 1)

 $\frac{(100-x)}{100} = DiscountPercentage$

For example, to give a 15% discount:

$$\frac{100 - 15}{100} = 0.85$$

So one would enter the number 0.85 in the **Multiplier text box**.

• Minimum On - Used to prevent short-cycling of equipment. The unit of time is hours.

- **Billing Rate** The amount charged per hour for all runtime outside of lease hours. The actual amount charged is determined by the total billable hours accumulated, times any applicable multipliers.
- Lease Hours Runtime accumulated during these hours is not billable. If a day of the week does not have any lease hours, then leave the fields blank.
- Update Click Update to record the data.

2.0 Invoice Header Defaults:

This will be the information placed on all invoices. Navigate to *Defaults*, *Invoice*. All fields except **Upper Comment** and **Lower Comment** comprise the invoice header. These two fields are printed at the bottom of the invoice and are separated by a horizontal line.



FIGURE 3.

• Company - This is the company name

of the property manager or company generating the invoice and receiving payment on the invoice.

- Address The address fields indicate where the payment should be sent.
- **Invoice Prefix** Invoice numbers automatically increment by one each time they are recorded. Use this field to add alphanumeric text to the left of the automatically-generated number.
- Update Click Update to record the data.

3.0 Changing the Default System Administrator Password:

Login as User: "sa" with Password: "quark2003". Navigate to *After-hours/Editors/Users*. Select System Administrators from the top drop down list box. If this is the first time logging in, User: sa is automatically selected. Change the Password text box contents. Include at least one letter in the password. If you do not include at least one letter, the prefix 'sa' will be added to the password, i.e. 1234567 will become sa1234567. Click Submit to save your edits.



Create additional System Administrators using Add. See section 6 for details.

FIGURE 4.

Visit the following sections after completing sections 1-3 above.

4.0 After-hours Module/Editors/Tenants

This is a billing entity that will have **Accounts** and **Users** attached. Click **Add** to create a new tenant or select an existing tenant from the drop down list box. The **Company Name** and **Address** fields specify the invoice destination. The **Contact** fields are informational and are also printed on the invoice.

😋 Afterhours Module	
Editors Accounts	Quark Communications, Inc.
- D Tenants	Company Name: Quark Communications, Inc.
Disers Didavs	Address: 2033B San Elijo Avenue
- Dverrides	#290
Carl Reports C	City: Cardiff
Defaults	State: CA Zipcode: 92007
	Contact Name: Adam Guzik
	Contact Phone: +1 (760) 634-6895
	Co <mark>ntac</mark> t email: aguzik@quarkcommunications.us
	Rate Multiplier: 1

FIGURE 5.

Rate Multiplier - This value will apply exclusively to this tenant and each of this tenant's accounts and users. The Final Billing Rate is calculated as

TM = Tenant Multiplier AM = Account Multiplier UM = User Multiplier

Final Billing Rate = TM * AM * UM * Billing Rate

Use a multiplier value of 1.0 as the default. Any multiplier having a zero value will cause the Final Billing Rate to be zero. (See **Eq 1** on Page 3 for an example of calculating a multiplier).

5.0 After-hours Module/Edit Account:

Navigate to *Afterhours Module*, *Editors*, *Accounts*. Select a tenant using the drop down list box. To add a new account, click the Add new account for the selected tenant link. The new account will have the

	Inet	ΓΕΑΙ	VI: Ec	lit Account			
Afterhours Module	Quark Add new	Communic:	ations, Inc. • the selecte	d tenant			
	Edit	Delete	Points	Name	Wave File	Min Run- Time	Hourly Rate
Overrides	2	×	Points	QCI 2nd Floor AC/Lighting	HVACLighting.wav	1	\$50.00
Engineering Module		×	Points	QCI 2nd Floor Lighting	Lighting.wav	1	\$2.75
■ Defaults		×	Points	QCI Admin Offices Lighting	Lighting.wav	1	\$1.80

values generated by the default template created in Section 1.0 above. To edit an account, click on the icon in the **Edit** column.

FIGURE 6.

- Name This should be a unique and descriptive account name, especially if two different tenants share a floor. Instead of naming an account '2nd floor lighting' call it 'Smith Company 2nd floor lighting'. These precautions are only necessary when naming could be ambiguous.
- Wave File- Users with more then one account are voice prompted by this file.
- Min. Runtime- The shortest duration in hours, for a service request.
- Hourly Rate Amount billed per hour, outside of lease hours and prior to the application of any multipliers.
- Multiplier A discount applied to the billing rate. See Sections 1 and 4.

- **Monday Begin** Beginning of lease hours. Format hh:mm AM/PM where hh = 00 to 12 and mm = 00 to 59.
- Monday End End of lease hours. Format hh:mm AM/PM where hh = 00 to 12 and mm = 00 to 59.
- Tuesday thru Sunday Begin/End See previous two bullets.
- Save your edits by clicking the checkmark in the **Edit** column. You can also abort your edits by clicking the '**X**' in the **Edit** column.
- To delete an account click the 'X' in the **Delete** column. **Note**: Delete accounts only after generating invoices.
- Points Add points to an account by clicking Points in the Points column. The Edit Points screen will appear with two tables. The upper table contains the current account points. Points are added to this table by selecting points from the lower table and then by clicking the checkmark in the Add Point column. The lower table points are pre-designated after-hours points. When using InetSupervisor the points are designated as after-hours points in the InetSupervisor Choose Points table by checking in the IsInetTEAM column. Note: Large numbers of points are displayed on multiple "pages" that are selected by clicking on a page number displayed in the lower right corner of each table.

6.0 Afterhours Module/Editors/Users:



FIGURE 7.

Note: Create Tenants prior to adding Users. Accounts can be added at any time using **Edit** located to the right of the **Accounts** list box.

- Select a tenant using the upper drop down list box.
- Click Add to create a new user for the selected tenant.
- **Password** The password must contain only numbers if the user will log in using telephone/voice access, as telephone keypads generate only numbers. To restrict a user to Internet/Intranet access, include a letter in the password. Passwords are case-sensitive.
- Multiplier A discount applied to the billing rate. See sections 1 and 4.a.
- Login Name Entered on the login screen in the User text box.
- Administrator Check this box to create a Tenant Administrator. A Tenant Administrator is able to Add/Edit/Delete their own users exclusively.
- Record your editing by clicking Submit.

• Accounts - Use Edit to activate the User Accounts screen. Add an account to the user by clicking the checkmark in the lower table's Add Account column. Remove a user's account by clicking the 'X' in the upper table's Delete column. Return to the User edit screen via the Menu Tree (Editors/Users).

7.0 Afterhours Module/Editors/Holidays:

All service on a holiday is billable. The normal lease hours are ignored when calculating the billable runtime.

Afterhours Module Afterhours Module Accounts D Tenants D Users D Verrides Overrides Overrides Createring Module	≤ June 2003 ≥ Holidays 25 26 27 28 29 30 11 02/07/2003 07/4/2003 1 2 3 4 5 6 7 Add >> 07/1/2003 07/4/2003 07/4/2003 07/4/2003 07/4/2003 07/4/2003 07/4/2003 01/01/2004 14 15 15 17 18 19 12 2 28 29 20 1 2 2 28 2 14 5 22 23 0 1 2 2 3 4 5 5	
⊕- `` Defaults	Delete Note: All service on a holiday is billable.	

FIGURE 8.

• Add - Select the holiday

using the calendar. The '<' and '>' arrows are used to navigate through the months and years. Click Add >> to add the selected date to the **Holidays** list box.

- Delete Click on a holiday in the Holidays list box then click Delete to remove the holiday.
- The holiday data is saved automatically.

8.0 Afterhours Module/Editors/Overrides:

A System Administrator can Edit and Delete existing override requests.

FIGURE 9.

- QUARK -😋 Afterhours Module 🔁 Editors Accounts Edit Delete Tenants 🕑 🗙 QCI 2nd Floor Lighting 06-28-2003 06:00 PM 06-28-2003 11:00 PM Users Holidays 🖹 🗙 QCI 2nd Floor AC/Lighting 07-04-2003 03:00 PM 07-04-2003 07:00 PM 07-05-2003 07:00 AM 07-05-2003 04:15 PM OCI 2nd Floor AC/Lighting × + C Reports Engineering Module
 Defaults
- Edit Editing Start Time

and **End Time** can only be accomplished if they have not yet occurred. An **End Time** can be edited even though the **Start Time** has occurred, provided that the new **End Time** has not yet occurred.

• Delete - Overrides can be deleted only if the Start Time has not yet occurred.

9.0 To Do an Override:

- You must be a User. Administrators can not do Overrides.
- Log in over the phone and follow the voice prompts, or
- Log in via the *InetTEAM* login page, and the Editors/Overrides screen will be displayed. Click "Add New Service". Select an account. Enter Start and End dates using the calendars. Select the times using the drop down list boxes. Click Add.

Reporting Functions of the Afterhours Module

1.0 Afterhours Module/Reports/Accounts:

Selecting this link loads an *Adobe Acrobat* .pdf file into your browser. The report contains a detailed list of all accounts sorted by tenant. The file can be saved and printed using the toolbar just above the report. Use the browser's **Back** button to return to the application.

FIGURE 10.

	ARK	AG Grou 2033B San El Sulte 290 Cardiff by the Phone: +1 (7)	Sez C/ 50) 634-6845	s2007	gement	ACCOU	6/4/2003
Blast							
Account	1st Floor HV	AC and Ligh	ting			Account ID:	13
Hourly Rate: Wave File:	\$50.00 HVACLightin	Multiplier: 1 p.way	.00	Minimun On	1.00	Features: 1	
Lease Hours:	Monday 06:00 AM 06:00 PM	Tuesday 06:00 AM 06:00 PM	Wednesday 06:00 AM 06:00 PM	Thursday 06:00 AM 06:00 PM	Friday 05:00 AM 05:00 PM	Saturday	Sunday
Users:	Loladop, Fred	1					
Matter Syst	ems						
Account	1st Floor Lig	hting				Account ID:	3
Hourly Rate: Wave File:	\$3.75 HVACLightin	Multiplier: 1 p.way	.00	Minimun On	4.00	Features: 1	
Lease	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday

2.0 Afterhours Module/Reports/Tenants/Users:

Selecting this link loads an *Adobe Acrobat* .pdf file into your browser. The report contains a detailed list of all users sorted by tenant. The file can be saved and printed using the toolbar just above the report. Use the browser's **Back** button to return to the application.

-QUARK -	AG 2033B Suite 2 Card in Phone	Group Pi I San Elijo Avar 290 7 by the Sea 1: +1 (760) 634	CA 92007	nent	6/4/2003
Quark Communications,	linc.			7EN	IANTS
2033B San Elijo Avenue #290 Cardiff	CA	92007	Contact Adam Guzik Phone: +1 (760) 634-68 email: aguzik@quarko:	95 ommunications.us	Tenant ID: 12 Feature 1 Multiplier: 1.00
Users: Last Name		First Name	Login Name	Password	Use Caller ID
Matter		John Renee	qj rduak55	8 9	No No

FIGURE 11.

3.0 Afterhours Module/Reports/Pending Invoice:

Selecting this link and clicking *Create PDF File* loads an *Adobe Acrobat*.pdf file into your browser. The report contains a detailed list of all completed service sorted by tenant. The file can be saved and printed using the toolbar just above the report. Use the browser's **Back** button to return to the application.

Purge - You can check this box after you have generated (printed) the invoices for delivery to the tenants, and saved copies (either hardcopy or PDF files) for your records. **Caution: Purging invoices deletes them from the InetTEAM record, so make sure they are no longer needed and that they are adequately**

	ARK —	AG Gro 2033B San E Suite 290 Cardiff by the	up Property Mana Bijo Avenue 8 Sea CA 92007	gement	Invok H	e Number: VAC000017
-		Phone: +1 ()	(6U) 634-6840 Fax	: +1 (/80) 634-8296	INVOICI	642003
Natter Syst 508 May Aw Suite 16 Riverside	ense	CA 50	2605	Contact: John Matter Phone: (909) 334-67 email: jomatter@ac	15 (.com	
Start	Stop	User Name	Account	Hours	Rate/Hr	Cost
4/25 18:00	4/27 22:18	ima SA	1st Floor Lighting	40.30	\$3.75	\$151.13
4/24 18:05	4/25 18:00	Ima User	1st Floor Lighting	11.92	\$3.75	\$44.70
				Please pay this	amount:	\$195.83

archived in your records before purging.

FIGURE 12.

4.0 Afterhours Module/Reports/Phone Activity:

Use the **Start Date** and **End Date** calendars to select the date range for the report. The report contains a chronological listing of all telephone activity. Click **Create Report** to load an *Adobe Acrobat* .pdf file into your browser. The file can be saved and printed using the toolbar just above the report. Use the browser's **Back** button to return to the application.

Afterhours Module															
🛅 Editors			St	art Da	ate					Er	nd Da	te			
Reports	<u><</u>		Ju	ne 20	03		≥	≤		Ju	ne 20	03		≥	
Accounts	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	
	25	26	27	28	<u>29</u>	30	31	25	26	27	28	<u>29</u>	30	31	
Pending Invoice	1	2	3		5	6	7	1	2	3		5	6	7	
Phone Activity	8	9	10	11	12	<u>13</u>	14	8	2	10	11	12	<u>13</u>	14	
Web Activity	15	16	17	18	19	20	21	15	16	17	18	19	20	21	
	22	23	24	25	26	27	28	22	23	24	25	26	27	28	
ngineering Module	29	30	1	2	3	4	5	29	30	1	2	3	4	5	

FIGURE 13.

— QUARK —	AG Group Property Management 2033B San Ellip Avanue Suite 290 Cardiff by the Sea CA 92007 Phone: +1 (760) 634-6845 PHONE ACTIVITY	6/4/2003
4/22/2003 10:36:57AM 4/22/2003 10:36:59AM 4/22/2003 10:38:47AM 4/22/2003 10:38:47AM 4/22/2003 10:40:52AM 4/22/2003 10:40:53AM 4/22/2003 10:43:54AM	tepilication Line device selected: Hi-Phone Device tepilication Line device selected: Hi-Phone Device tepilication Line device selected: Hi-Phone Device tepilication linetTEAM Server started tepilication Line device selected: Hi-Phone Device tepilication linetTEAM Server started tepilication line	
4/22/2003 10:45:11AW 4/22/2003 10:45:12AM 4/22/2003 10:45:2AM 4/22/2003 10:45:25AM 4/22/2003 10:48:57AM 4/22/2003 10:51:11AW 4/22/2003 10:51:12AM	pplication Line device selected: Hi-Phone Device pplication InstTEAM Server started pplication Line device selected: Hi-Phone Device splication Line device selected: Hi-Phone Device	
4/22/2003 10:52:20AM 4/22/2003 10:52:21AM 4/22/2003 10:56:44AM 4/22/2003 10:56:45AM	pplication Line device selected: Hi-Phone Device application InetTEAM Server started pplication Line device selected: Hi-Phone Device inclination InetTEAM Server started	

FIGURE 14.

5.0 Afterhours Module/Reports/Web Activity:

Use the Start Date and End **Date** calendars to select the date range for the report. The report contains a chronological listing of all web activity. Click Create Report to load an Adobe Acrobat .pdf file into your browser. The file can be saved and printed using the toolbar just above the report. Use the browser's **Back** button to return to the application.

FIGURE 15.

6.0 Afterhours Module/Reports/Overrides:

Use the Start Date and End **Date** calendars to select the date range for the report. The report contains a chronological listing of all scheduled override activity. Click Create Report to load an Adobe Acrobat.pdf file into your browser. The file can be saved and printed using the toolbar just above the report.



AG Group Property Management

92007 CA

6/4/2003

WEB ACTIVITY

2033B San Elijo Avanue Suite 290 Cardiff by the Sea

login new page new page

logout

logout login new page new page logout

login new page logout

Phone: +1 (760) 634-6845

ima TA

Overrides Overrides

User logged off Ima TA Overrides

Overrides Overrides User logged off

ima SA Edit Tenant User logged off

QUARK –

Matter Systems User: Ima TA 6/4/2003 2:17:38PM 6/4/2003 2:17:38PM 6/4/2003 2:17:43PM 6/4/2003 2:17:56PM

644/2003 2:17:56PM 644/2003 2:18:02PM 644/2003 2:18:02PM 644/2003 2:18:04PM 644/2003 2:26:45PM 644/2003 2:30:05PM

6/4/2003 1:06:41PM 6/4/2003 1:06:42PM 6/4/2003 1:08:04PM

User: Ima SA

Use the browser's **Back** button to return to the application.

FIGURE 16.

A Note On Users:

Users have the ability to Add/Edit/Delete their own overrides and view their scheduled override report. Users do not have access to the **Engineering Module**.

Tenant Administrators:

Tenants designated as Administrators have the ability to Add/Edit/Delete users in their existing accounts. They can view and print reports and also Edit/Delete overrides. Tenant Administrators have access only to their own account information and not any other tenant's accounts.

A Tenant Administrator:

- Does NOT have access to the **Engineering Module**.
- Can Edit and Delete existing override requests.
- Is able to Add/Edit/Delete their own users exclusively.

The Engineering Module

1.0 Engineering Module/Editors/Users:

Use this screen to designate Building Engineers. Click **Add**. Enter first and last name and system password. Remember, use only numbers in the password to enable phone access. Click **Submit** to enter data. Click **Delete** to omit a selected engineer from the record. Click **Cancel** to abort a data entry.

2.0 Engineering Module/Editors/ Point Tree:

The **Point Tree** editing is limited to System Administrators.

The **Point Tree** contains **Nodes** and **Points** arranged in a parent/child configuration representing key data in a BAS. A node is similar to a folder in Windows Explorer and a point similar to a file. **Nodes** can contain other nodes and points. A **Point** is the end of a path and cannot have additional nodes or points attached as children.

FIGURE 17.

Build the tree using **Add New Item**.

QUARK -Afterhours Module 🖻 😋 Bidg 100 Tree text: Valve Position 🗄 😋 Air Handler Unit Editors Point ID: 349 Start/Stop - Discharge Set Point - Discharge Air Temp - Fan Speed Point type: A0 + C) Defaults Logic name: Valve Positi Valve Position Units: SNVT Switch 😋 Bldg 200 Wave file: c:\wavasite\ValvePosition.wav 🕂 😋 First Floor Space Temp Room 31 Wave contents: Vake position Space Temp Room 65 Second Floor Y Space Temp Room 231 Unload wave file: Browse... Save Delete Add New Item C Right Ima SA (22) QUARK -- 🗀 Afterhours Module 🖃 😋 Bida 100 Tree text: Valve Positio 😋 Engineering Module 🗄 😋 Air Handler Unit 🔄 😋 Editors Point ID: 349 -B Start/Stop — Discharge Set Point
— Discharge Air Temp Point type: AO • 🔿 Defaults Logic name: Valve Positi -B Fan Speed Valve Position Units: SNVT_Switch Commandabl - 😋 Bidg 200 Wave file: c:\wav\site\ValvePosition.war



Configure the circular buttons in the box to the bottom right before adding the new item. There are two columns that must be configured. In the left column, select either **Node** or **Point** for the type of item. Then select either **Above, Right** or **Below** for the insertion position of the new item. This refers to the way the "Point Tree" of nodes and points will be constructed, similar to folders and files in Windows Explorer. When adding to the **Right** of an existing node, the new item will be placed below.

The following fields describe Nodes and Points:

• Tree text - This text appears in the point navigation tree as an identifier.

- **Point ID** This field is the **InetSupervisor Point ID** number, assigned automatically when the point was initially imported. This field is blank for a node.
- Point Type AI, AO, DI, or DO. This field contains Node for a node.
- Logic Name Used for reference only, this is the normal BAS point name, likely already assigned when the point was initially configured (Logic Name column in the Points Table of Database Config).
- Units Engineering units. Used mostly for reference, although can be used for complex point types. Currently only the SNVT_Switch type is supported.
- **Commandable** This checkbox determines if a telephone user can remotely command this point. A check enables commanding.
- Wave file Full path for the location of the audio file describing the item. See *Recording a Wave File* below. This is the message played to the user over the phone when they access this node or point. The path to this wave file will appear here automatically when it has been defined via the "*Upload Wave File*" box described below. The user need not enter any data in this field.
- Wave contents For reference only. A textual representation of the Wave File contents.
- Upload wave file Enter the wave file's full path or use **Browse...** to automatically find the path. The file will upload when **Save** is clicked.
- Save Used to save edits.
- Delete Deletes the currently selected item.

Example of Node/Point Setup

We have a three-story building with east and west wings and the Building Automation System is set up accordingly for HVAC and lighting. We'll assign a "base" node first by renaming the default node.

- Click on the default node (folder) to select it.
- We'll give it the building name, *Building 100*, by going to the right in the display in the *Tree Text* box and typing in the desired name, and then clicking *Save*.

Now we'll set up *nodes* for the three floors in the building.

• Click *Building 100* to select it.

- In the lower right in the display, click *Node* and then *Right* and then *Add New Item*. A new node under *Building 100* will appear in the tree.
- In the *Tree Text* box type "First Floor" and click *Save*.
- We do the same thing for the second floor: click *Building 100* to select it, click *Node/Right/ Add New Item*, type "Second Floor" and *Save*.
- Same for the third floor: click *Building 100* to select it, click *Node/Right/Add New Item*, type "Third Floor" and *Save*.
- You can go back later and add data to define the *Wave Files* for these nodes, as described below.

We want nodes on each floor to define the east and west wings of the building, so we do that next.

- In the *Point Tree*, click *First Floor*.
- Click Node/Right/Add New Item, type "East Wing", and Save.
- Click *First Floor* again in the point tree. Click *Node/Right/Add New Item*, type "West Wing", and *Save*.
- This completes the initial setup for the first floor nodes. Do the same thing to set up the second and third floor nodes.
- You can go back later and add data to define the *Wave Files* for these nodes, as described below.

For each floor we need to set up four commandable points: HVAC and Lighting for the East Wing, and HVAC and Lighting for the West Wing.

- In the *Point Tree*, click *First Floor/East Wing*. Click *Point/Right/Add New Item*. A *point* (file) will appear in the tree under the *First Floor/East Wing* node. Type "HVAC" in the *Tree Text* box, and *Save*.
- In the *Point Tree*, click *First Floor/East Wing* again. Click *Point/Right/Add New Item*, type "Lighting", and *Save*.
- Now do the west wing: in the *Point Tree*, click *First Floor/West Wing*. Click *Point/Right/ Add New Item*, type "HVAC", and *Save*.
- In the *Point Tree*, click *First Floor/West Wing again*. Click *Point/Right/Add New Item*, type "Lighting", and *Save*.
- This is the initial set up for the first floor points. Do the same thing to set up the second and third floor points.

• You can go back later and add data to completely define the points. This includes the items defined above (*Point ID, Point Type, Logic Name*, etc.). *Save* is clicked when you've entered all desired information. An example is shown below of the entered data for the *Third Floor West Wing Lighting* point. We enter the known *Point ID*, 381, and the *Point Type*, DO (Digital Output). Then the *Logic Name* assigned when we initially configured this point, "3rd floor west lights". We check the "*Commandable*" box because we want to be able to control these lights via the phone interface. We click "*Browse*" to navigate to our wave file directory and select the file "Room302West.wav" (the user-recorded or pre-recorded wave file that announces this point to a user calling in). Then we click *Save* to enter the information and upload the wave file (the path now appears in the *Wave File:* box). A similar procedure is used for all points the user wishes to monitor or command.



Recording a Wave File

Each node and point must have an associated **wave file**. This file is used as part of the voice menu that is played through the telephone. The wave file format must be PCM 8kHz, 16

Bit, Mono. This is the only format supported by the telephone interface device. Use the procedure below to record a file in Windows 2000.

- Click Start/Programs/Accessories/Entertainment/Sound Recorder.
- Click the red **Record** button to start recording your file. Click the black rectangular **Stop** button when finished.
- Click *File/Save As* on the menu bar.
- •Click Change.
- In the Format: drop down list box, select PCM.

- In the Attributes: drop down list box, select '8.000 kHz, 16 Bit, Mono15kb/sec.'.
- Click **OK** to close the Sound Selection window.
- Select a directory and give the file a meaningful filename. *Outside_air_temp.wav* is preferred over *AI-3.wav*. Descriptive file names make the **Status Monitor** display much more useful.
- Click Save.
- The file can be uploaded to the appropriate node or point using **Browse...** (to the user's .wav directory) on the *Point Tree* screen at the *Upload Wave File* box.

Note: An audio editing program can be used to make file recording easier, eliminating long pauses at the file's beginning or end. This type of program allows visual editing of the auditory content.

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