

This user manual should be customized for each particular school with Microsoft Word. We would suggest completing the page group names; descriptions of any relay controlled building functions, name descriptions of the schedules, and descriptions of the audio sources (CD player, radio, etc).

In addition, we suggest deleting any sections that do not pertain to features actively being used in the school. For example, if the school is not using a V-PDP panel, remove the section of this manual that discusses its operation.

You may also wish to add some reference to your company name along with contact information.

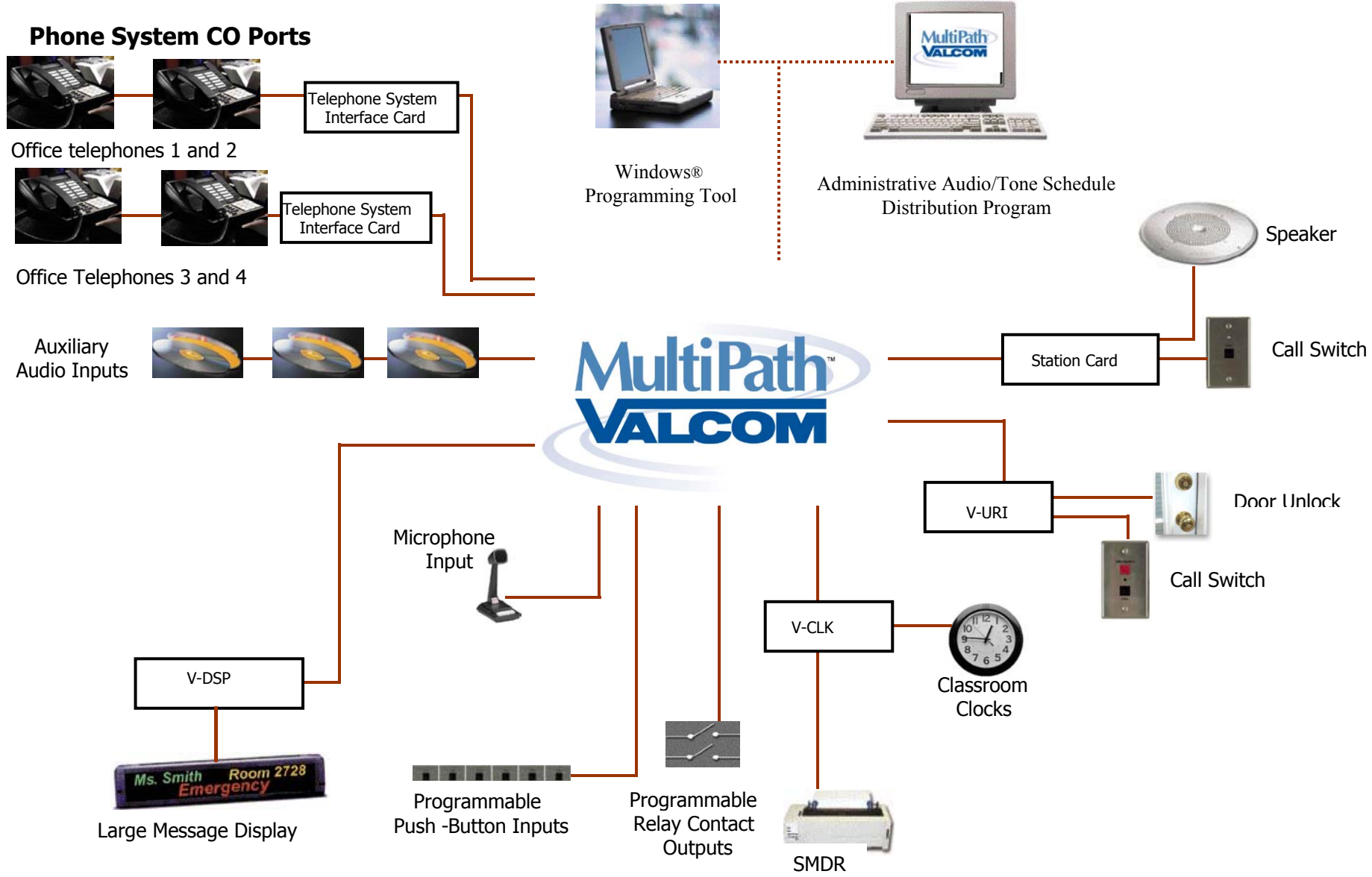
After the document is customized, provide the school with both a color printed copy and an Adobe Acrobat PDF version of the manual. If you do not have the software to create PDF files, let us know and we will do so for you.



User Manual

Revision 1.21a

This document contains company confidential information. Do not distribute any part of this manual without written permission from Valcom Incorporated located in Roanoke, Virginia.



Introduction

Congratulations! Your school is using a state of the art communication system. This system, Valcom MultiPath™, is a microprocessor-based telephone to speaker communication system.

The system allows both calls from office telephones to classroom and hallway speakers *and* calls from classroom speaker locations to the office telephones.

Office phones can simply dial the classroom number to speak to an individual classroom. The teacher in the classroom can respond to the call by directing their voice towards the classroom's speaker. Office phones can also make general one-way announcements to all or selected groups of speakers.

Individual teachers can call the office by simply pressing the classroom's call button. Once a call button is pressed, the office phone will ring and caller ID information will identify which classroom is calling. Multiple calls from multiple rooms are simply queued.

Individual teachers can make emergency calls to the office by simply pressing the classroom's call button 4 times within 3 seconds. Emergency calls are given priority over non-emergency calls.

The system also provides for class change tones (bell schedules), emergency tones, audio distribution and other school system controls.

Page Group Dial Codes
(dial #*xxx for Emergency Page to Group)

Dial Code	Page Group Name
#111	
#112	
#113	
#114	
#115	
#116	
#117	
#118	
#119	
#120	
#121	
#122	
#123	
#124	
#125	
#126	
#127	
#128	
#129	
#130	
#131	
#132	
#133	
#134	

Page Group Dial Codes
(dial #*xxx for Emergency Page to Group)

Dial Code	Page Group Name
#135	
#136	
#137	
#138	
#139	
#140	
#141	
#142	
#143	
#144	
#145	
#146	
#147	
#148	
#149	
#150	
#151	
#152	
#153	
#154	
#155	
#156	
#157	
#158	

Page Group Dial Codes
(dial #*xxx for Emergency Page to Group)

Dial Code	Page Group Name
#159	
#160	
#161	
#162	
#163	
#164	
#165	
#166	
#167	
#168	
#169	
#170	
#171	
#172	
#173	
#174	
#175	
#176	
#177	
#178	
#179	
#180	
#181	
#182	

**Systems Control Dial Codes
Level 2 or 3 Access Only**

Dial Code		Function
#41*	On	
#41#	Off	
#42*	On	
#42#	Off	
#43*	On	
#43#	Off	
#44*	On	
#44#	Off	
#45*	On	
#45#	Off	
#46*	On	
#46#	Off	
#47*	On	
#47#	Off	
#48*	On	
#48#	Off	

**Time Schedule Control Dial Codes
Level 2 or 3 Access Only**

Dial Code		Schedule Name
#51*	On	
#51#	Off	
#52*	On	
#52#	Off	
#53*	On	
#53#	Off	
#54*	On	
#54#	Off	
#55*	On	
#55#	Off	
#56*	On	
#56#	Off	
#57*	On	
#57#	Off	
#58*	On	
#58#	Off	

Dialing #91* from a level 3 office telephone, will provide verbal confirmation of the current system time.

Dialing #90* from a level 3 office telephone, will provide verbal confirmation of the current system date.

Audio Source Control Dial Codes

These dial codes turn the individual audio sources on and off. Distribution of these audio sources is accomplished through the Valcom MultiPath Administration Tool. Music Distribution via switch input will not be controlled via these dial codes.

Dial Code		Audio Source Name
#61*	On	
#61#	Off	
#62*	On	
#62#	Off	
#63*	On	
#63#	Off	

Audio Source Monitor via Telephone Dial Codes

These dial codes allow office telephones to monitor any of the 3 system audio sources or the system microphone (if in use). If sources are not on via dial code or through the Administrative Software Tool, then the user will receive a busy tone.

Dial Code	Audio Source
#65	
#66	
#67	
#68	Microphone (If active)

Other Office Phone Dial Codes

Dial Code	Access Levels			<u>Glossary</u>
	1	2	3	
#110 All Call Page	X	X	X	All Call Page – a one-way announcement to all system speakers.
#35 Temporary Page Group Architectural number, #, ... Architectural number, #, #	X	X	X	
#40* Enable Automatic Relay Operation #40# Disable Automatic Relay Operation		X	X	Temporary Page Group – stations that have been combined for a one-time announcement.
#50* Enable Automatic Time Schedule #50# Disable Automatic Time Schedule		X	X	
#71* Enable Call Forward after time-out #71# Disable Call Forward after time-out	X	X	X	Architectural number – the number that is dialed in order to make an announcement to a particular area or classroom. Same as zone or station number.
#72* Enable Immediate Call Forward #72# Disable Immediate Call Forward	X	X	X	
#73 Call Pickup	X	X	X	Automatic Relay Operation – timed or cycling relay operation.
#94XX Impulse Clock Manual Advance (XX = Minutes)	X	X	X	
##0 Emergency All Call ##1##1 Tornado Tone On ##2##2 Fire Alarm Tone On ##3##3 Emergency Time Tone On ##4##4 All Clear Tone On ##5 Stop Emergency Tones		X	X	Call Forward after timeout – automatic transfer of unanswered calls from one office telephone to another.
##9* Crisis COS Enabled ##9# Crisis COS Disabled		X	X	
*9 Bump Call in Progress *8 Join Call in Progress *7 Join Queue			X	Call Pickup – answering a call from one office telephone that is ringing at a different office telephone.
#91 HHMM Set System Time (Military Time) #90 ZMMDDYY Set System Date (Z = day of week with Sunday = 1)			X	

The following dial codes are for systems utilizing system wiring supervision:

<p>#81* Enable fault detection on detecting stations</p> <p>#81# Disable fault detection on detecting stations</p> <p>#82 Architectural number, #, ... Architectural number, #, # Clear individual station fault indication</p> <p>#83 Clear all fault indications</p>	<p>Requires level 3 access</p>
--	--------------------------------

Answering Calls (Auto Answer Disabled)

Function	Procedure
To Answer a Call	<p>Lift handset. (Point of origin of call can be announced in handset audibly).</p> <p>Press *.</p> <p>Speak to caller.</p> <p>Replace handset.</p>
Examine Call Waiting List (Voice Announce Feature Enabled)	<p>Scroll through the list by momentarily pressing the hookswitch (Flash) after each announcement. A beep will sound indicating the last call on the list.</p>
Connect to a Specific Station on the Call Waiting List	<p>Lift handset.</p> <p>Press hookswitch (Flash) until the desired station number is announced.</p> <p>Press *.</p> <p>Speak to caller.</p> <p>Replace handset.</p>
Ignore Station on Call Waiting List	<p>Press #.</p> <p>Receive dial tone.</p> <p>Dial desired station number.</p>

Function	Procedure
Call Transfer	Press hookswitch (Flash) to place call on hold. Dial administrative to receive call. Third party answers. Press hookswitch (Flash); all parties connected. Hang up - or announce call and hang up.
Conference Calls	Press switchhook (Flash) to place call on hold. Dial administrative to be included in call. Third party answers. Press hookswitch (hookswitch flash); all parties connected.
Bump Call in Progress (level 3 only) (Allows an Administrative Station to interrupt a call in progress and speak to desired station).	Dial desired station #. Receive busy tone. Press * 9. Connected to desired station.
Join Call in Progress (level 3 only) (Allows an Administrative Station to dial a busy station and join in conversation).	Dial desired station #. Receive busy tone. Press *8. Join conversation.
Join Queue (level 3 only) (Allows an Administrative Station to be added to the call queue of desired Administrative Station).	Dial desired administrative station. Receive busy tone. Press *7. Added to call of desired station.

Page Priority

Priority is a very important concept in the Valcom MultiPath system. Many different audio paths may be active in the system simultaneously. Often a speaker will be requested to be the recipient of more than one audio path at a time. Rather than mix all the audio together, the system assigns each type of call a priority, and only allows the highest currently active priority to be heard. As an example, suppose station 101 is listening to a background music source. When a group call page is originated that includes this speaker the music will turn off at the speaker for the duration of the page. And, if during the page a class change tone becomes active, it will override the group page. When the tone ends the page will automatically reconnect, and when the page ends the music will reconnect.

Priorities in the system, from highest to lowest, are:

Emergency handsfree

Emergency all call or tone

Emergency group call

Time tone

Handsfree

All call

Group call

Background music

Incoming Call Priority

Classroom calls placed to office telephones may have different levels of priority. Valcom MultiPath provides for 3 different level of call button priority - normal, urgent and emergency. If you are using caller ID telephones with your system, Valcom MultiPath will provide visual indication of the call priority as shown below:

000-**200**-0100 = Normal call from room 100
000-**300**-0100 = Urgent call from room 100
000-**500**-0100 = Emergency call from room 100

These different levels of priority are used to determine a calls placement in the queue. When multiple calls are queued at an office telephone, emergency calls will be placed at the top of the queue (answered first) followed by urgent calls, and finally normal calls).

Please note that emergency calls may (dependant upon the telephone system) also cause idle office phones to ring with a different (faster) ring pattern and will be displayed on the system large display (if so equipped) in red characters.

System Volume Adjustment

All of the Valcom MultiPath system volume controls have been preset at the factory for optimal levels. If your system speakers feature individual volume controls, these may be used to adjust individual speakers.

Test Rooms

The test room feature is intended to minimize page and tone disruptions in rooms where students have been temporarily assembled for testing (such as SAT tests). Test rooms may be defined via dial code #85 as a sort of temporary page group. When a station is defined as a test room, it will be excluded from all call and group pages except through dial code #36 which will enable a one way call to all test room speakers, emergency all call or emergency group pages. The following dial codes apply:

#36 Page to all "Test" rooms only
#85 Define test rooms Architectural number, #, ... Architectural number, #, #
#86 Reset individual test rooms to normal operation Architectural number, #, ... Architectural number, #, #
#87 Reset all test rooms to normal operation

Level 3 Access is required for all test room dial codes

Test rooms will automatically reset at midnight each day

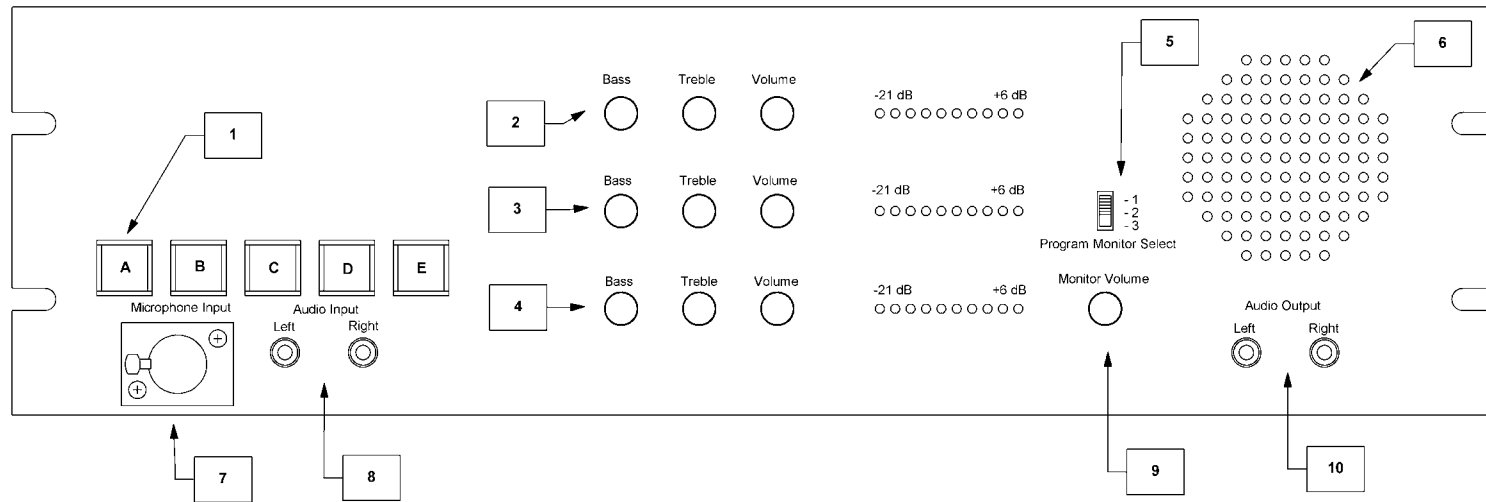


Figure 1 – V-PDP Front View

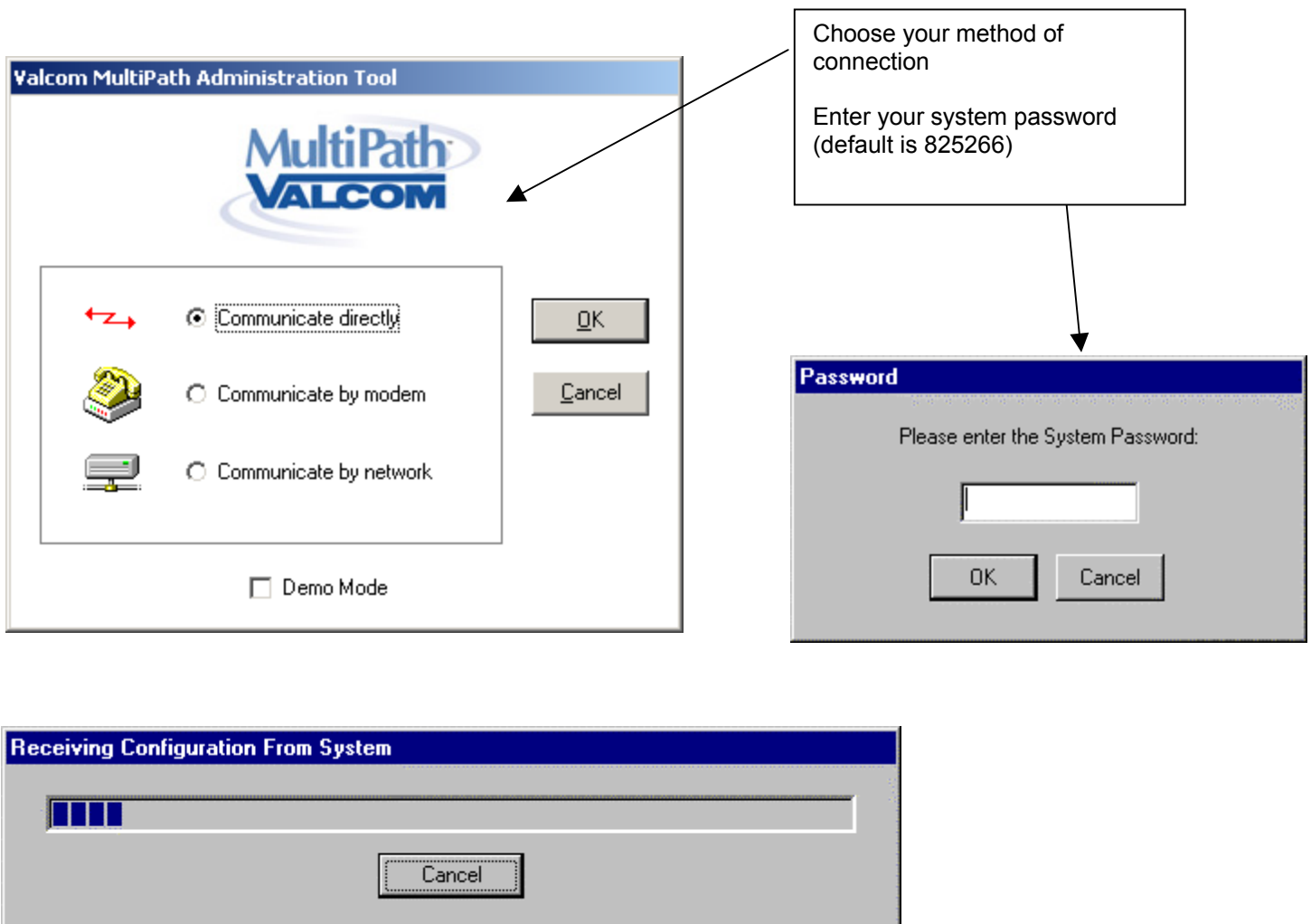
Controls and Features

1. **Manual Emergency Buttons** - Default Settings: (Consult Programming Section to change setting). A - FIRE Tone, B - TORNADO Tone, C - EMERGENCY Tone, D - ALL CLEAR Tone, E - MICROPHONE/ALL CALL PAGE Tone
2. **Program 1 Source** Bass, Treble, And Volume Controls. VU level - Indicated program audio level.
3. **Program 2 Source** Bass, Treble, And Volume Controls. VU level - Indicated program audio level.
4. **Program 3 Source** Bass, Treble, And Volume Controls. VU level - Indicated program audio level.
5. **Monitor Select Switch** - Allow selection of one of the three programs for monitoring purposes.
6. **Monitor Speaker** - Provides audio of the selected program (can be changed by moving the selector switch).
7. **Microphone Input** - Provides mic input for external all call.
8. **Audio Input Jacks** - Provides facilities to input auxiliary program source.
9. **Volume Control for Monitor Speaker** - Sets monitor volume for selected program.
10. **Audio Output Jacks** - Permits connection of external amplifier/monitor.

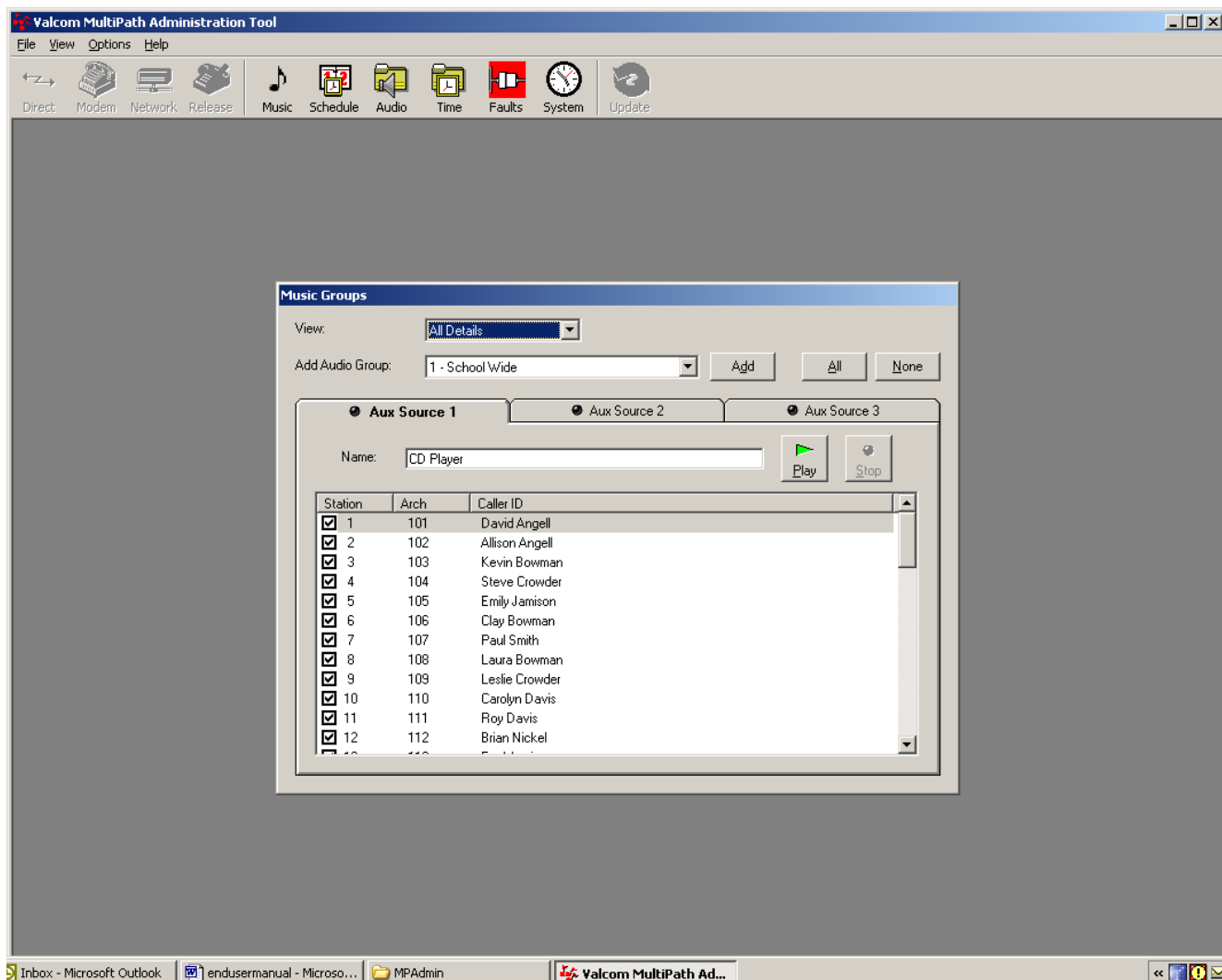
Administration Tool

Valcom MultiPath is a state of the art microprocessor based school communications system. In addition to the user-friendly dial codes used to call the system speakers and to access specific system functions, your Valcom MultiPath system has been provided with a computer based Administration Tool. This user friendly tool is used to set up time schedules for class changes and to distribute audio from any of the 3 possible system music inputs to any or all of the system speakers.

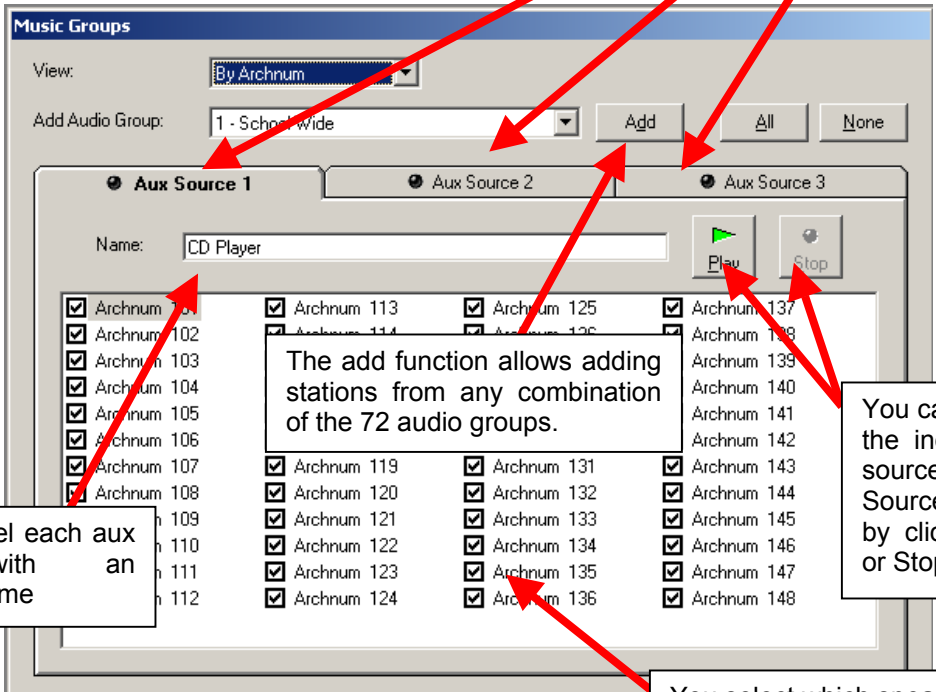
When you invoke the Valcom MultiPath Administration Tool and connect to the system, this is the first screen that will appear:



Once the configuration is received from the Valcom MultiPath System, you're ready to view or change the system audio groups, time schedules, time groups, date and time and to distribute system music sources.



These tabs select which music source input (Aux Source) you want to manipulate.

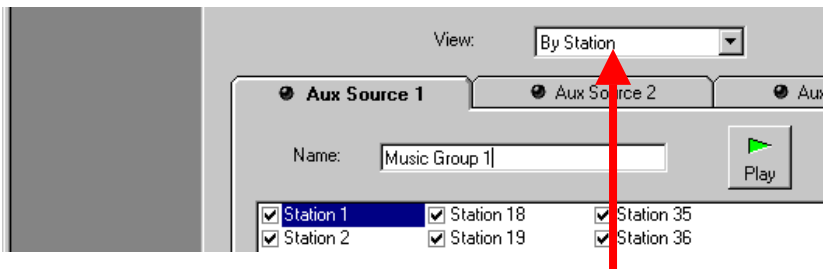


You may label each aux source with an identifying name

The add function allows adding stations from any combination of the 72 audio groups.

You can turn each of the individual music source inputs (Aux Sources) off and on by clicking the Play or Stop Buttons

You select which speakers will receive the music by placing a check mark next to the architectural or station numbers for those speakers.



You have the option to view either the default station numbers, by the assigned architectural number (usually the classroom numbers), by caller ID description or by all with sorting capability.

Fault Detection

If your system uses wiring fault detection, and the integrity of the wiring to your call switches or speakers has been violated, or if any of the system cards suffer communications failure, the following screen will greet you upon invoking the Administration Tool.

Faults Detected

Card Faults - (3 detected)

Date/Time	Description
<input type="checkbox"/> 11/06/2006 11:11:16 AM	Card 3 : (Address 2)
<input type="checkbox"/> 11/06/2006 11:11:16 AM	Card 4 : (Address 3)
<input type="checkbox"/> 11/06/2006 11:11:16 AM	Module 2

Wiring Faults - (10 detected)

Date/Time	Arch	Point	Caller ID
<input type="checkbox"/> 11/06/2006 11:11:16 AM	101	1	David Angell
<input type="checkbox"/> 11/06/2006 11:11:16 AM	102	2	Allison Angell
<input type="checkbox"/> 11/06/2006 11:11:16 AM	103	3	Kevin Bowman
<input type="checkbox"/> 11/06/2006 11:11:16 AM	104	4	Steve Crowder
<input type="checkbox"/> 11/06/2006 11:11:16 AM	105	5	Emily Jamison
<input type="checkbox"/> 11/06/2006 11:11:16 AM	106	6	Clay Bowman
<input type="checkbox"/> 11/06/2006 11:11:16 AM	107	7	Paul Smith
<input type="checkbox"/> 11/06/2006 11:11:16 AM	108	8	Laura Bowman
<input type="checkbox"/> 11/06/2006 11:11:16 AM	109	9	Leslie Crowder

Buttons: All, None, Clear, Clear All, Print, Tone Off

This screen shows system cards that are not properly communicating with the V-CPU4 and all speaker zones that have wiring problems requiring attention. The appearance of this screen is accompanied by a repeating tone through your PC speakers. Users may silence the tone by pressing Tone Off. Once the faults are corrected, checking the box next to the corrected station and pressing Clear will clear faults indications.

Schedules

Each classroom/hallway may be assigned to any or all of the system's 8 time groups. Each of the 8 time schedules (not to be confused with time groups) may be set up to send audio (tone) to any of these 8 time groups at multiple scheduled times.

When you select the Schedules function, the following screen becomes available. This screen allows users to turn schedules off and on and to edit the scheduled events.

Schedule Time Events

Select the schedule that you want to manipulate by clicking the appropriate tab.

You can name each schedule

Check which days of the week you want this schedule to run when automatic schedule operation is active.

Turn the desired schedule off or on with these buttons

If you've disabled automatic schedule operation by using dial code #50# or by forcing a schedule, you can restore automatic operation by clicking here

The Valcom MultiPath system supports up to up to 255 events per schedule (system maximum of 1024 events).

To add an event, simply click Add. To Edit or Delete an event, simply click on the specific event and click Edit or Delete (see next page)

You can easily copy events from one schedule to the next or archive an entire schedule on your computer to reload at a future time (great for seldom used schedules).

Restore Automatic Operation of All Schedules

Copy Events

Time	Relay	Delay	Hz	3 sec	✓	8	Rly	Msg
09:00	02	512 Hz	3 sec	✓			1	6
09:55	02	512 Hz	3 sec	✓				
10:00	02	512 Hz	3 sec	✓				
10:55	02	512 Hz	3 sec	✓				
11:00	02	512 Hz	3 sec	✓				3

When Add or Edit is selected, users simply:

Select when you want the event to occur (24 hour time format).

Select which action you wish to take place at the specified time.

If applicable, select how long you want the action to occur.

Select which of the 8 time groups will broadcast any audible actions by checking any combination of 1 through 8.

Click OK.

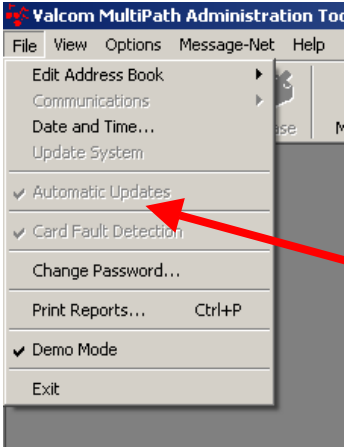
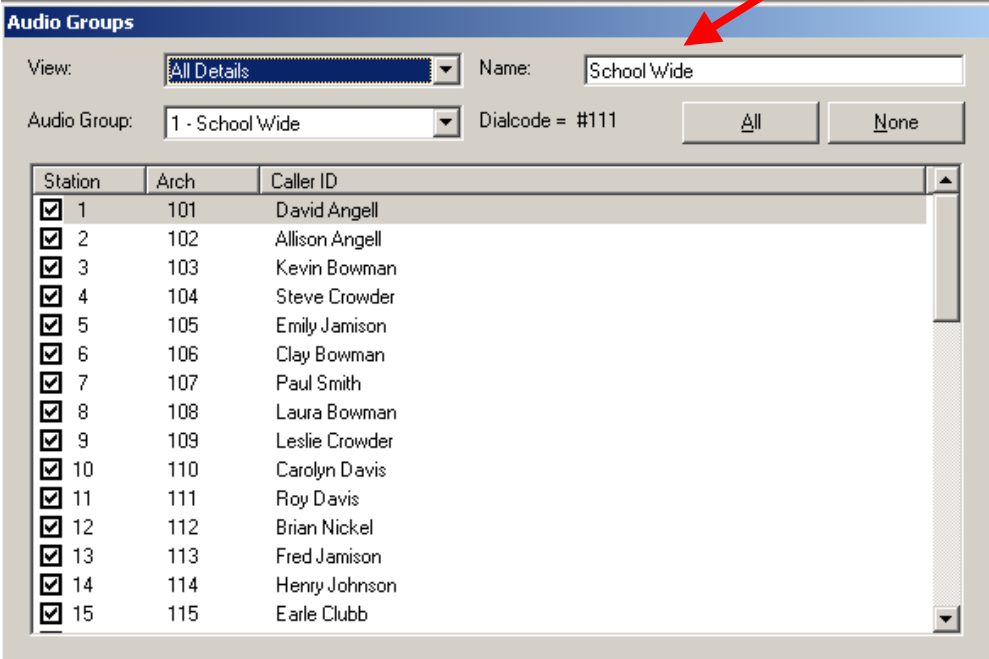
The screen that becomes available when you select the Time Button allows users to select which speakers (by station number or architectural number) will be in the Valcom MultiPath's 8 time groups.

You can name each time group

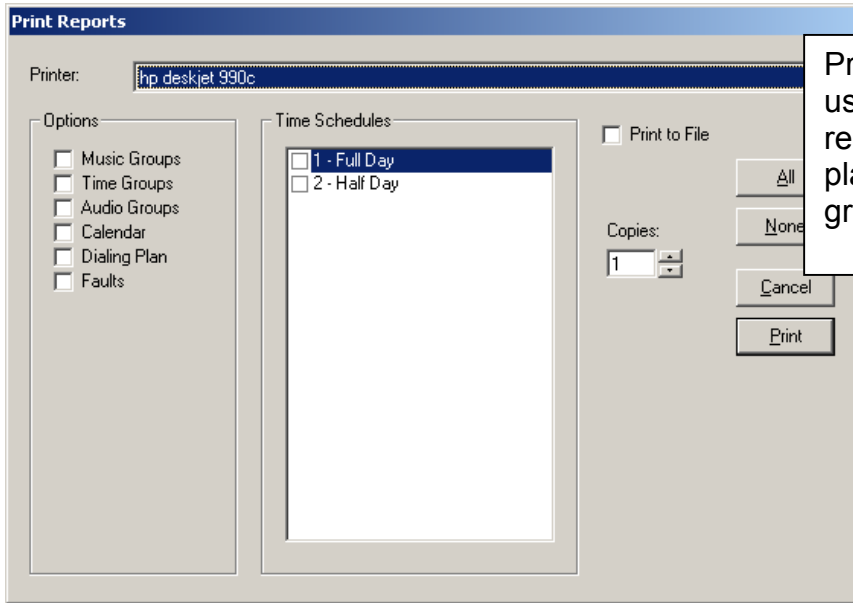
Station	Arch	Caller ID	
<input checked="" type="checkbox"/>	1	101	David Angell
<input checked="" type="checkbox"/>	2	102	Allison Angell
<input checked="" type="checkbox"/>	3	103	Kevin Bowman
<input checked="" type="checkbox"/>	4	104	Steve Crowder
<input checked="" type="checkbox"/>	5	105	Emily Jamison
<input checked="" type="checkbox"/>	6	106	Clay Bowman
<input checked="" type="checkbox"/>	7	107	Paul Smith
<input checked="" type="checkbox"/>	8	108	Laura Bowman
<input checked="" type="checkbox"/>	9	109	Leslie Crowder
<input checked="" type="checkbox"/>	10	110	Carolyn Davis
<input checked="" type="checkbox"/>	11	111	Roy Davis
<input checked="" type="checkbox"/>	12	112	Brian Nickel
<input checked="" type="checkbox"/>	13	113	Fred Jamison
<input checked="" type="checkbox"/>	14	114	Henry Johnson
<input checked="" type="checkbox"/>	15	115	Earle Clubb

The Audio Function allows users to select which speakers (by station number or architectural number) will be in the **Valcom MultiPath's** 72 audio groups.

You can name each audio group



On the File menu, users may edit the address book (used for organizing connection information), set up system communication settings, change the system date and time settings, change the access password, print reports, enable or disable automatic updates, card fault detection or demo mode (used for demonstrating the software).



Printing reports allows users to create a paper record of the system dialing plan, schedules, time groups and audio groups

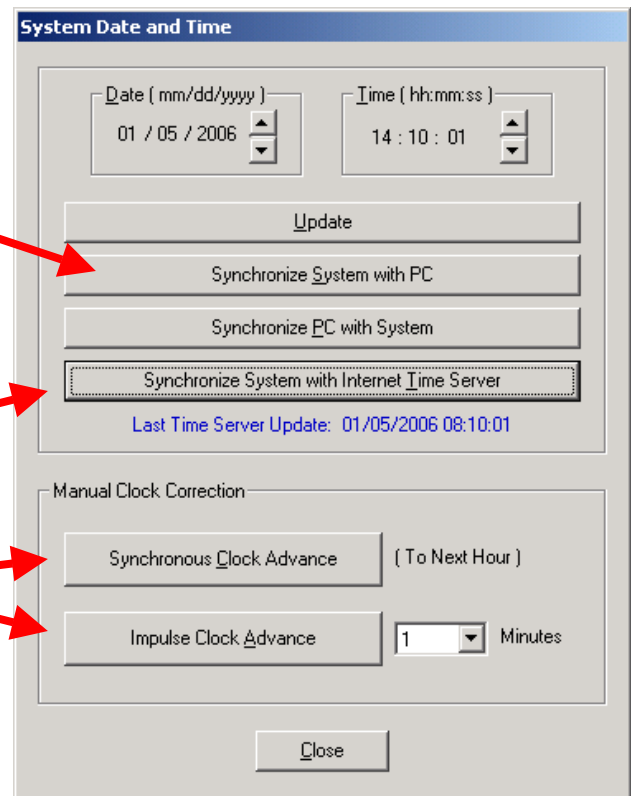
Users may update the system date and time by selecting the System button:

You can opt to set the system time to be the same as your PC's time (Synchronize System) or you can opt to set your PC's time to be the same as the system time (Synchronize PC)

You can opt to synchronize the system time to an Internet time server if an Internet time server has been defined (Options Menu)

You can send manual correction pulsed to synchronous or impulse type clocks (if installed)

Make sure you press update after you adjust the system date or time !!



You can opt to synchronize the system time to an Internet timeserver if an Internet timeserver has been defined. This feature is found under the "Options" Menu).

Time Server

NIST Internet Time Server

Perform Automatic Time Updates

Auto Update Time At: 02 : 45 (HH:MM)

Primary Server IP Address: 129.6.15.28

Primary Server Port: 13

Alternate Server IP Address: 129.6.15.29

Alternate Server Port: 13

Hours Offset From UTC: -5 (Eastern Time)

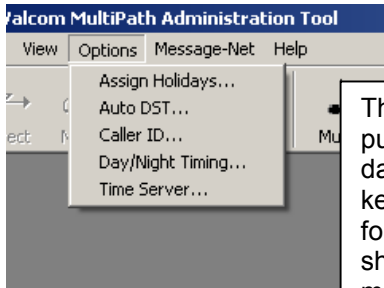
Additional Minutes Offset: 0

[NIST Time Servers](#) Test Server Connections

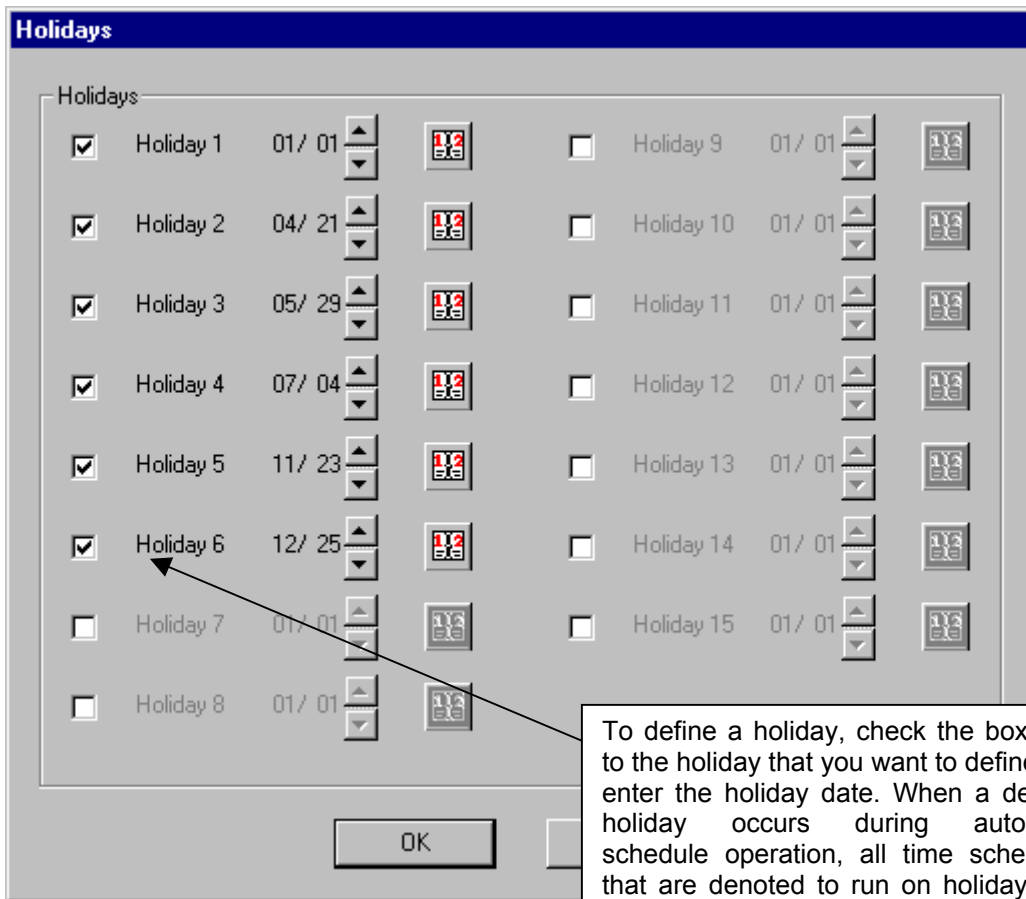
OK Cancel

Click here to find a list of available timeserver URLs

You may add an error to your system time if so desired

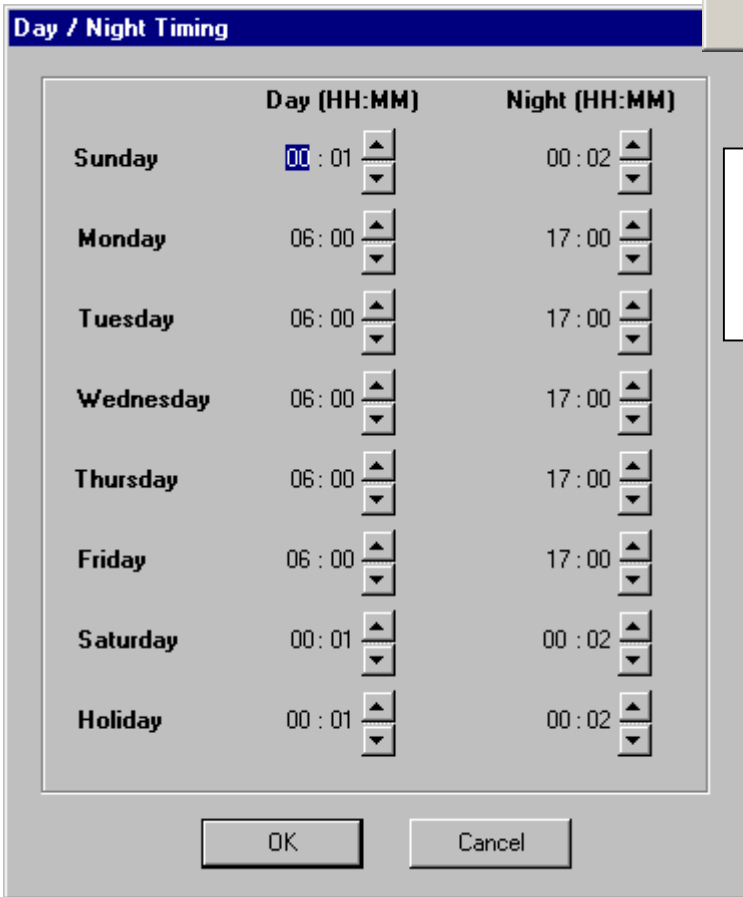
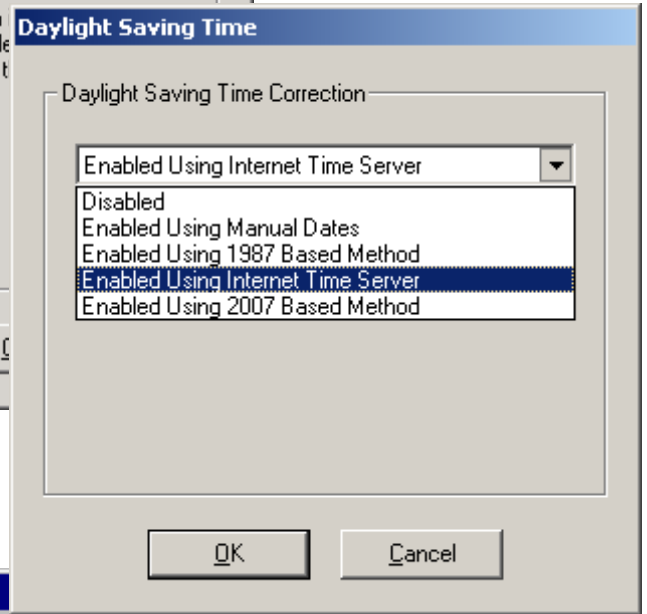
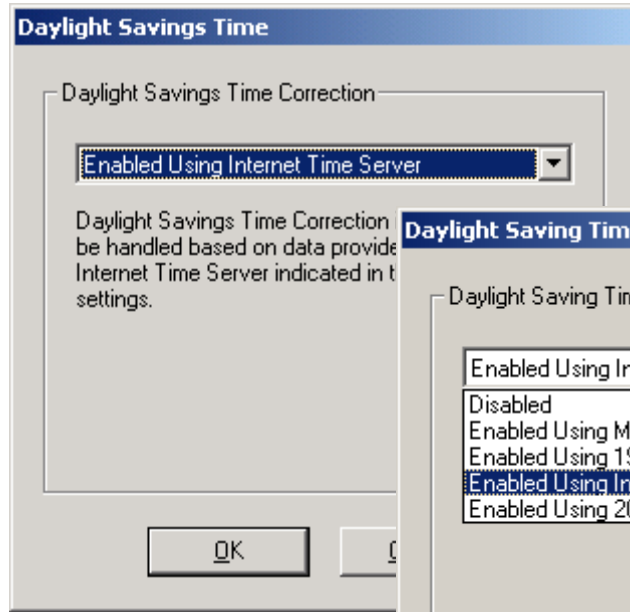


The Options menu allows users to define holidays (for the purpose of automatic time schedule operation), define when daylight saving time begins and ends (for the purpose of keeping the system time correct), modify caller ID descriptions for the stations (up to 15 characters), define when the system should operate in day mode and night mode and to set up or modify time server parameters.



To define a holiday, check the box next to the holiday that you want to define and enter the holiday date. When a defined holiday occurs during automatic schedule operation, all time schedules that are denoted to run on holidays will be active.

Daylight Saving Time may be disabled, automated via calculation, Internet timeserver or by manually entering the dates for the time change. If Internet Time server updates are enabled, manual and date based options will not be available.



You can set up the times that the system will enter day and night mode on a per day basis. This is primarily for the call button class of service programming.

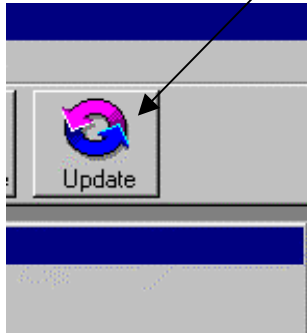
To change Caller ID descriptions, select a station that requires modification and enter a new caller ID description using up to 15 alphanumeric characters. Use the keyboard arrow keys to navigate when changing multiple caller ID descriptions. Press OK when changes are complete.

Caller ID

Caller ID:

Station	Arch	Caller ID
Admin 3	503	Admin 3
Admin 4	504	Admin 4
2	102	Allison Angell
42	142	Auto Body Shop
12	112	Brian Nickel
25	125	Bruce Gabrielso
38	138	Cafeteria
10	110	Carolyn Davis
6	106	Clay Bowman
48	148	Computer Lab
21	121	Dan Smith
26	126	Danny Lynch
27	127	Dave Wetzel
1	101	David Angell
28	128	Debbie Angell
15	115	Earle Clubb
43	143	Electricity Lab

Once the desired updates have been entered in the Administration Tool, users simply press the **Update button** to send the new data to the Valcom MultiPath.



Glossary

Automatic Time Schedules – System time schedules may run in one of 2 modes of operation. When a schedule or schedules is/are forced on via a basic input, only those schedules will be active. *Schedules forced on via basic input will be on until all basic inputs programmed to force schedules are released after which automatic schedule operation will resume.* When a schedule or schedules is/are forced on via a dial code, or through the Administrative Tool, those schedules will be active in addition to the automatic operation of all of the other schedules. Schedules that are forced on will run regardless of which days of the week are associated with them. When *Automatic Time Schedules* are utilized, schedules will run simultaneously following their weekday and/or holiday assignments. Schedules that are forced on via dial code or through the Administrative Tool return to automatic operation at midnight each day. **Note that if an event is still playing on a schedule when the next event on that schedule occurs, then that 1st event is turned OFF before the new event is turned ON. If 2 Schedules play overlapping events, then the 1st event will be momentarily interrupted by the second event.**

Bump call in progress – When an office telephone with level 3 access calls a station that is busy talking to another office telephone, the level 3 phone can connect to the busy station and disconnect the originally connected office telephone by dialing *9.

Confirmation tone – A tone provided to a station speaker indicating that the associated call button has been successfully activated.

Crisis mode – When crisis COS is enabled by dialing ##9* or shorting a designated V-URI input, all calls in queue are dropped. Following this purging of queued calls, only emergency calls will be recognized by the system.

Day/Night Mode – The system allows for different operation during the day than at night. The time that the system enters these time sensitive modes is programmable.

Fault Detection – Beginning with V-CPU4 Firmware release 3.10, it is possible to monitor the MultiPath system for card “loss of communication” faults and for wiring faults. If properly configured for fault detection, fault will be reported in the Administration Tool.

Join call in progress – When an office telephone with level 3 access calls a station that is busy talking to another office telephone, the level 3 phone can connect to the busy station and conference with originally connected office telephone (and the station) by dialing *8.

Join queue – When an office telephone with level 3 access calls an office telephone that is busy, the level 3 phone can join the queue of the busy office telephone *7.

Office phone access levels – Programmable levels of restriction/access that can be assigned to any of the office telephones. Refer to the following chart for details:

Level 1	Level 2	Level 3
Dial any station Zone page All call page Transfer calls Conference calls Manipulate call-in queue Call pickup Call forward Program sources on/off	All Level 1 functions Emergency all call Manual relay control Manual schedule control	All Level 2 functions Bump conversation Join conversation Test Room Commands

Privacy Tone – A tone that sounds over a handsfree talkback speaker every 15 seconds to discourage eavesdropping.

Pre Announce Tone – A tone that sounds over a speaker indicating that the speaker is now active and an announcement will follow.

System Password – A user definable password that is required to allow connection of the Valcom MultiPath Programming Tool or Administrative Tool to the system.

Time Groups – The Valcom MultiPath offers 8 time groups. Any or all of the system stations may be added to any or all of the time groups. These groups are used for the purpose of event distribution (time tones, aux source audio) through the 8 time schedules. **Note – In some versions of Valcom MultiPath, if aux source 1 is enabled, then time group 8 will not be available. If aux source 2 is enabled, then time group 7 will not be available. If aux source 3 is enabled, then time group 6 will not be available.**

Test Rooms – The test room feature is intended to minimize page and tone disruptions in rooms where students have been assembled for testing (such as SAT tests). Test rooms may be defined via dial code #85 as a sort of temporary page group. When a station is defined as a test station, it will be excluded from all call and group pages except through dial code #36 which will enable a one way call to all test station speakers, emergency all call or emergency group pages.

