

2020



# Advanced Communication System

Revision 2020-1.00

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# ACS

Advanced Communication System

by Valcom

Engineered, Built and Supported in the U.S.A.

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ACS by Valcom is designed to meet the needs of a most small to medium size commercial, government or educational facilities. ACS is designed for easy access through the facility telephone system and/or through dedicated system phones. Great care has been taken to ensure intuitive ease of use via LAN/WAN connected programming and administrative software and a customizable dialing plan. ACS features:

- Easy to Use and Administer
- LAN/WAN Network Accessible
- Easy Dual Path Telephone System Access
- Customizable 1,2,3 or 4 Digit Dialing Plan
- Supports Speaker Call Buttons
- Normal/Emergency/Urgent Call Button Functions
- Enhanced Caller ID
- Windows® Based Setup Software
- Optional Integrated Wire Management
- Easily Expandable from 24 to 72 Page and/or Intercom Zones
- Automatic Talkback Switching
- Two Way Talkback Intercom with Privacy Tone
- Supports Modern 45-Ohm Talkback Speakers or Existing Old-Fashioned 25-Volt Speakers (ACS Model Dependent)
- One Way Paging with Pre-Announce Tone
- 24 Completely Flexible Non-Blocking Audio Groups
- Non-Blocking Dedicated Audio Amplifier per Zone
- Uses Modern Unshielded Twisted Pair Cabling
- Compatible with Most Existing Speaker Wiring
- Design Features Point-Of-Sound Volume Settings
- Integrated Alert Tones
- Integrated Schedule Tones
- Supports Custom Tones and Messages
- Dual Auxiliary Music Inputs
- External Relays for Easy Integration
- Programmable Switch Inputs
- Calendar Based Scheduling with NTP Time Updates
- 8 Programmable Schedules
- Automatic Daylight-Saving Time Adjustment
- Integrated 100-240V 50/60Hz Internal Switching Power Supply
- Convenient and Compact Wall Mount Design
- Synchronous and Digital Clock Correction
- Proudly Engineered, Built and Supported in the U.S.A.

## CPU Card

The ACS CPU Card is the main circuit card in the system. This card provides for the following connections:

- 1) 2 Administration FXS ports. These ports are referred to as Admins or Admin ports and the telephone instrument(s), either dedicated telephones or phone system phones, used to access these ports for intercom or group announcements are referred to as Admin phones or Admin stations.
- 2) Support for 2-wire digital and 59<sup>th</sup> minute clock correction
- 3) 4 relay outputs
- 4) 3 switch (contact closure) inputs
- 5) 100 mbps Ethernet connection for system programming
- 6) 2 monophonic auxiliary audio inputs (for music, line level audio)
- 7) A lo-Z microphone input (for general announcements to all zones)

A convenient I/O block is provided for making connection to the ACS. Alternately, connections may be made with a 25-pair cable and 66M150 punch down blocks that are located within 15 feet of the ACS.

The first 2 pair on the ACS CPU P1 66M150 block provide connections to the facility's telephone system or to dedicated standard analog telephones. Each pair may be connected to either a loop start trunk port (c.o. line port), a FXO port, to a dedicated telephone or to a line position on a multi-line stand-alone telephone.

The 2 auxiliary inputs are inputs for program material such as background music, automated announcements or any 8 to 600-ohm line level unbalanced audio source.

The lo-z microphone input is designed to accommodate a low impedance microphone that may be used for general announcements. If you include a microphone in your system, one of the 3 switch inputs will be used to enable the microphone. This switch input function is available in system programming.

The 3 switch inputs are software programmable to provide such functions as tone activation, reset system time, night ring, activate microphone, force schedule, etc.

The 4 relay outputs are normally open connections that are software programmable to be under manual control, to cycle on and off, to operate following a time schedule/group or to activate following a card fault or an emergency station calling in to an office phone. These relays may also be used to close upon normal or emergency access of groups. These relays are intended to operate slave relays of the appropriate contact rating for your intended purpose. These 8 relays are rated for a maximum load of 2 amps @ 30 volts dc.

There are preset screwdriver adjustable volume adjustments on the on the ACS CPU marked Siren, Telebell, Hi\_Tone, Lo\_Tone, Chime 2, Chime 1 and Mic.

These are factory preset and do not often need to be adjusted.

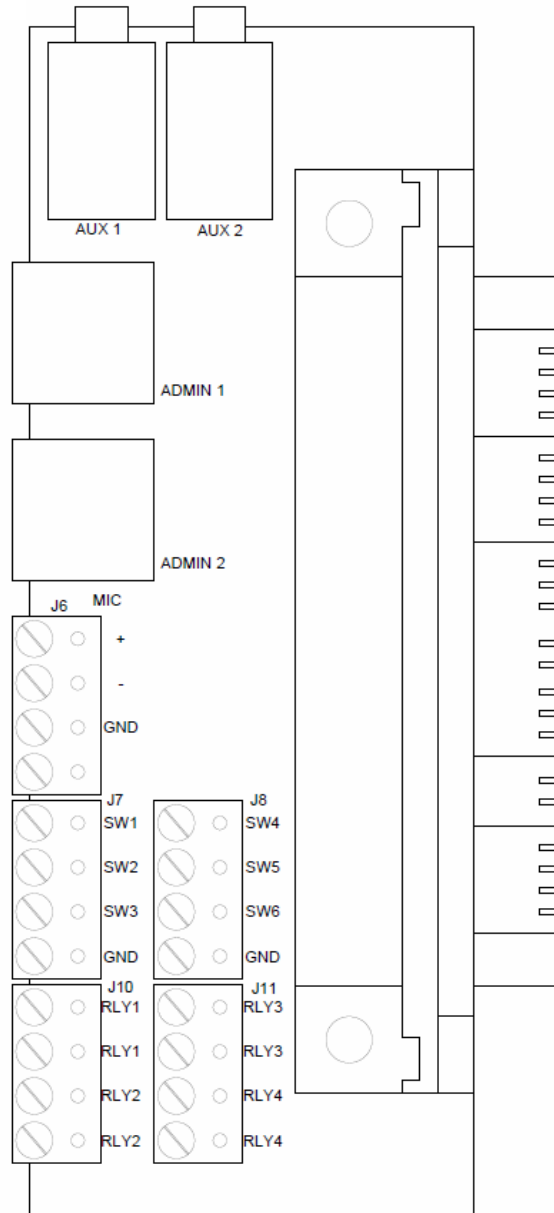
Mic controls the microphone volume; the others adjust as follows.

| <b>Dial Code Function</b> | <b>CPU Board</b> | <b>Programming Tool</b> |
|---------------------------|------------------|-------------------------|
| Fire Alarm                | Siren            | High/Low                |
| Tornado Tone              | TeleBell         | Warble                  |
|                           | Hi_Tone          | 683 Hz                  |
| Emergency Time Tone       | Lo_Tone          | 512 Hz                  |
|                           | Chime 2          | Dual Chime              |
| All Clear                 | Chime 1 *        | Single Chime High       |

\*Controls pre-page alert tone for both station and all call

## CPU Card Amphenol Pinout

|         |           |               |                    |
|---------|-----------|---------------|--------------------|
| Pair 1  | Tip – 26  | White/Blue    | Admin (FXS) 1 Tip  |
|         | Ring – 1  | Blue/White    | Admin (FXS) 1 Ring |
| Pair 2  | Tip – 27  | White/Orange  | Admin (FXS) 2 Tip  |
|         | Ring – 2  | Orange/White  | Admin (FXS) 2 Ring |
| Pair 3  | Tip – 28  | White/Green   |                    |
|         | Ring – 3  | Green/White   |                    |
| Pair 4  | Tip – 29  | White/Brown   |                    |
|         | Ring – 4  | Brown/White   |                    |
| Pair 5  | Tip – 30  | White/Slate   |                    |
|         | Ring – 5  | Slate/White   |                    |
| Pair 6  | Tip – 31  | Red/Blue      | Aux 1              |
|         | Ring – 6  | Blue/Red      | Aux 1              |
| Pair 7  | Tip – 32  | Red/Orange    | Aux 2              |
|         | Ring – 7  | Orange/Red    | Aux 2              |
| Pair 8  | Tip – 33  | Red/Green     |                    |
|         | Ring – 8  | Green/Red     |                    |
| Pair 9  | Tip – 34  | Red/Brown     | Lo Z Microphone    |
|         | Ring – 9  | Brown/Red     | Lo Z Microphone    |
| Pair 10 | Tip – 35  | Red/Slate     | Microphone Shield  |
|         | Ring – 10 | Slate/Red     |                    |
| Pair 11 | Tip – 36  | Black/Blue    | Switch 1           |
|         | Ring – 11 | Blue/Black    | Switch 1           |
| Pair 12 | Tip – 37  | Black/Orange  | Switch 2           |
|         | Ring – 12 | Orange/Black  | Switch 2           |
| Pair 13 | Tip – 38  | Black/Green   | Switch 3           |
|         | Ring – 13 | Green/Black   | Switch 3           |
| Pair 14 | Tip – 39  | Black/Brown   |                    |
|         | Ring – 14 | Brown/Black   |                    |
| Pair 15 | Tip – 40  | Black/Slate   |                    |
|         | Ring – 15 | Slate/Black   |                    |
| Pair 16 | Tip – 41  | Yellow/Blue   |                    |
|         | Ring – 16 | Blue/yellow   |                    |
| Pair 17 | Tip – 42  | Yellow/Orange |                    |
|         | Ring – 17 | Orange/Yellow |                    |
| Pair 18 | Tip – 43  | Yellow/Green  | Relay 1 S          |
|         | Ring – 18 | Green/yellow  | Relay 1 M          |
| Pair 19 | Tip – 44  | Yellow/Brown  | Relay 2 S          |
|         | Ring – 19 | Brown/Yellow  | Relay 2 M          |
| Pair 20 | Tip – 45  | Yellow/Slate  | Relay 3 S          |
|         | Ring – 20 | Slate/Yellow  | Relay 3 M          |
| Pair 21 | Tip – 46  | Violet/Blue   | Relay 4 S          |
|         | Ring – 21 | Blue/Violet   | Relay 4 M          |
| Pair 22 | Tip – 47  | Violet/Orange |                    |
|         | Ring – 22 | Orange/Violet |                    |
| Pair 23 | Tip – 48  | Violet/Green  |                    |
|         | Ring – 23 | Green/Violet  |                    |
| Pair 24 | Tip – 49  | Violet/Brown  |                    |
|         | Ring – 24 | Brown/Violet  |                    |
| Pair 25 | Tip – 50  | Violet/Slate  |                    |
|         | Ring – 25 | Slate/Violet  |                    |



### Supplied CPU Interface

SW 1-3 share a common ground. For example, switch 1 would connect between SW1 and GND

SW 4-6 are not available on the V-ACS

## 45-Ohm Talkback Station Card

This card provides for 24 Stations – with each station supporting one of the following:

- 1) up to two attenuated 45-ohm speakers and a call switch connected through up to 1500 feet of 24 AWG UTP cabling.
- 2) up to two attenuated 45-ohm speakers only connected through up to 1500 feet of 24 AWG UTP cabling.
- 3) one-way self-amplified speakers (output requires proper attenuation)
- 4) an audio feed into auxiliary or TEL LINE input on a central amplifier (output requires proper attenuation)
- 5) a switch (contact closure only – no speaker) input for special purpose signaling
- 6) hands-free 2-way communication from any attenuated 45-ohm speaker location to the office phones.
- 7) the ability to call an office admin phone by pressing the station call button.

***Speaker cards are individually addressed via the hexadecimal rotary switch located on the front of the card. The front of the card is the edge with the Amphenol connector. The card in the cabinet containing the CPU should be factory set to address zero (0); the expansion card should be set to address one (1).***

These cards require 2-amps of current at 24VDC and interconnect via an appropriate length 40-pin ribbon cable.

A convenient I/O block is provided for making speaker and call button connections. Alternately, connections may be made with a 25-pair cable and 66M150 punch down blocks.

*The 45-ohm speakers used with the ACS must have attenuation built-in or must use an in-line speaker volume control. Valcom offers a full line of attenuated 45-ohm speakers.*

*Legacy Valcom V-2924 systems do not use attenuated speakers and provide a different speaker pinout configuration. Contact us for convenient options to facilitate upgrading existing V-2924 installations.*

Note: Disconnect system power before adding or removing the expansion cabinet.

*For retrofits, it is critical to verify the integrity and suitability of existing speakers and cables prior to connection to the ACS. Failure to do so may cause irreversible damage.*

A procedure for assessing field wiring may be found in the [Best Practices and General Troubleshooting Procedures](#).



45 Ohm Talkback P1 Station Card Amphenol Connector (closest to the Hex Address Switch)

|         |           |               |                        |
|---------|-----------|---------------|------------------------|
| Pair 1  | Tip – 26  | White/Blue    | Station 1 Speaker      |
|         | Ring – 1  | Blue/White    | Station 1 Speaker      |
| Pair 2  | Tip – 27  | White/Orange  | Station 1 Call Switch  |
|         | Ring – 2  | Orange/White  | Station 1 Call Switch  |
| Pair 3  | Tip – 28  | White/Green   | Station 2 Speaker      |
|         | Ring – 3  | Green/White   | Station 2 Speaker      |
| Pair 4  | Tip – 29  | White/Brown   | Station 2 Call Switch  |
|         | Ring - 4  | Brown/White   | Station 2 Call Switch  |
| Pair 5  | Tip - 30  | White/Slate   | Station 3 Speaker      |
|         | Ring – 5  | Slate/White   | Station 3 Speaker      |
| Pair 6  | Tip – 31  | Red/Blue      | Station 3 Call Switch  |
|         | Ring – 6  | Blue/Red      | Station 3 Call Switch  |
| Pair 7  | Tip – 32  | Red/Orange    | Station 4 Speaker      |
|         | Ring – 7  | Orange/Red    | Station 4 Speaker      |
| Pair 8  | Tip – 33  | Red/Green     | Station 4 Call Switch  |
|         | Ring – 8  | Green/Red     | Station 4 Call Switch  |
| Pair 9  | Tip – 34  | Red/Brown     | Station 5 Speaker      |
|         | Ring – 9  | Brown/Red     | Station 5 Speaker      |
| Pair 10 | Tip – 35  | Red/Slate     | Station 5 Call Switch  |
|         | Ring – 10 | Slate/Red     | Station 5 Call Switch  |
| Pair 11 | Tip – 36  | Black/Blue    | Station 6 Speaker      |
|         | Ring – 11 | Blue/Black    | Station 6 Speaker      |
| Pair 12 | Tip – 37  | Black/Orange  | Station 6 Call Switch  |
|         | Ring – 12 | Orange/Black  | Station 6 Call Switch  |
| Pair 13 | Tip – 38  | Black/Green   | Station 7 Speaker      |
|         | Ring – 13 | Green/Black   | Station 7 Speaker      |
| Pair 14 | Tip – 39  | Black/Brown   | Station 7 Call Switch  |
|         | Ring – 14 | Brown/Black   | Station 7 Call Switch  |
| Pair 15 | Tip – 40  | Black/Slate   | Station 8 Speaker      |
|         | Ring – 15 | Slate/Black   | Station 8 Speaker      |
| Pair 16 | Tip – 41  | Yellow/Blue   | Station 8 Call Switch  |
|         | Ring – 16 | Blue/yellow   | Station 8 Call Switch  |
| Pair 17 | Tip – 42  | Yellow/Orange | Station 9 Speaker      |
|         | Ring – 17 | Orange/Yellow | Station 9 Speaker      |
| Pair 18 | Tip – 43  | Yellow/Green  | Station 9 Call Switch  |
|         | Ring – 18 | Green/yellow  | Station 9 Call Switch  |
| Pair 19 | Tip – 44  | Yellow/Brown  | Station 10 Speaker     |
|         | Ring – 19 | Brown/Yellow  | Station 10 Speaker     |
| Pair 20 | Tip – 45  | Yellow/Slate  | Station 10 Call Switch |
|         | Ring – 20 | Slate/Yellow  | Station 10 Call Switch |
| Pair 21 | Tip – 46  | Violet/Blue   | Station 11 Speaker     |
|         | Ring – 21 | Blue/Violet   | Station 11 Speaker     |
| Pair 22 | Tip – 47  | Violet/Orange | Station 11 Call Switch |
|         | Ring – 22 | Orange/Violet | Station 11 Call Switch |
| Pair 23 | Tip – 48  | Violet/Green  | Station 12 Speaker     |
|         | Ring – 23 | Green/Violet  | Station 12 Speaker     |
| Pair 24 | Tip – 49  | Violet/Brown  | Station 12 Call Switch |
|         | Ring – 24 | Brown/Violet  | Station 12 Call Switch |
| Pair 25 | Tip – 50  | Violet/Slate  |                        |
|         | Ring – 25 | Slate/Violet  |                        |

## 45 Ohm P2 Amphenol Connector

|         |           |               |                        |
|---------|-----------|---------------|------------------------|
| Pair 1  | Tip – 26  | White/Blue    | Station 13 Speaker     |
|         | Ring – 1  | Blue/White    | Station 13 Speaker     |
| Pair 2  | Tip – 27  | White/Orange  | Station 13 Call Switch |
|         | Ring – 2  | Orange/White  | Station 13 Call Switch |
| Pair 3  | Tip – 28  | White/Green   | Station 14 Speaker     |
|         | Ring – 3  | Green/White   | Station 14 Speaker     |
| Pair 4  | Tip – 29  | White/Brown   | Station 14 Call Switch |
|         | Ring - 4  | Brown/White   | Station 14 Call Switch |
| Pair 5  | Tip - 30  | White/Slate   | Station 15 Speaker     |
|         | Ring – 5  | Slate/White   | Station 15 Speaker     |
| Pair 6  | Tip – 31  | Red/Blue      | Station 15 Call Switch |
|         | Ring – 6  | Blue/Red      | Station 15 Call Switch |
| Pair 7  | Tip – 32  | Red/Orange    | Station 16 Speaker     |
|         | Ring – 7  | Orange/Red    | Station 16 Speaker     |
| Pair 8  | Tip – 33  | Red/Green     | Station 16 Call Switch |
|         | Ring – 8  | Green/Red     | Station 16 Call Switch |
| Pair 9  | Tip – 34  | Red/Brown     | Station 17 Speaker     |
|         | Ring – 9  | Brown/Red     | Station 17 Speaker     |
| Pair 10 | Tip – 35  | Red/Slate     | Station 17 Call Switch |
|         | Ring – 10 | Slate/Red     | Station 17 Call Switch |
| Pair 11 | Tip – 36  | Black/Blue    | Station 18 Speaker     |
|         | Ring – 11 | Blue/Black    | Station 18 Speaker     |
| Pair 12 | Tip – 37  | Black/Orange  | Station 18 Call Switch |
|         | Ring – 12 | Orange/Black  | Station 18 Call Switch |
| Pair 13 | Tip – 38  | Black/Green   | Station 19 Speaker     |
|         | Ring – 13 | Green/Black   | Station 19 Speaker     |
| Pair 14 | Tip – 39  | Black/Brown   | Station 19 Call Switch |
|         | Ring – 14 | Brown/Black   | Station 19 Call Switch |
| Pair 15 | Tip – 40  | Black/Slate   | Station 20 Speaker     |
|         | Ring – 15 | Slate/Black   | Station 20 Speaker     |
| Pair 16 | Tip – 41  | Yellow/Blue   | Station 20 Call Switch |
|         | Ring – 16 | Blue/yellow   | Station 20 Call Switch |
| Pair 17 | Tip – 42  | Yellow/Orange | Station 21 Speaker     |
|         | Ring – 17 | Orange/Yellow | Station 21 Speaker     |
| Pair 18 | Tip – 43  | Yellow/Green  | Station 21 Call Switch |
|         | Ring – 18 | Green/yellow  | Station 21 Call Switch |
| Pair 19 | Tip – 44  | Yellow/Brown  | Station 22 Speaker     |
|         | Ring – 19 | Brown/Yellow  | Station 22 Speaker     |
| Pair 20 | Tip – 45  | Yellow/Slate  | Station 22 Call Switch |
|         | Ring – 20 | Slate/Yellow  | Station 22 Call Switch |
| Pair 21 | Tip – 46  | Violet/Blue   | Station 23 Speaker     |
|         | Ring – 21 | Blue/Violet   | Station 23 Speaker     |
| Pair 22 | Tip – 47  | Violet/Orange | Station 23 Call Switch |
|         | Ring – 22 | Orange/Violet | Station 23 Call Switch |
| Pair 23 | Tip – 48  | Violet/Green  | Station 24 Speaker     |
|         | Ring – 23 | Green/Violet  | Station 24 Speaker     |
| Pair 24 | Tip – 49  | Violet/Brown  | Station 24 Call Switch |
|         | Ring – 24 | Brown/Violet  | Station 24 Call Switch |
| Pair 25 | Tip – 50  | Violet/Slate  |                        |
|         | Ring – 25 | Slate/Violet  |                        |

## 25-Volt Talkback Station Card

This card provides for 24 Stations with each station supporting one of the following:

- 1) 25.5 Volt speakers (up to 1-watt load) and a call switch connected through existing speaker cabling.
- 2) 25.5 Volt speakers only (up to 1-watt load) connected through existing speaker cabling.
- 3) one-way self-amplified speakers (output requires proper attenuation)
- 4) an audio feed into auxiliary or TEL LINE input on a central amplifier (output requires proper attenuation)
- 5) a switch (contact closure only – no speaker) input for special purpose signaling
- 6) hands-free 2-way communication from any 25-volt speaker location to the office phones.
- 7) the ability to call an office phone by pressing the station call button.

***Speaker cards are individually addressed via the hexadecimal rotary switch located on the front of the card. The front of the card in the edge with the Amphenol connector. The card in the cabinet containing the CPU should be factory set to address zero (0); the expansion card should be set to address one (1).***

The hexadecimal rotary switch located near the ribbon cable connector is a one-way audio volume control.

These cards require 2-amps of current at 24VDC and interconnect via an appropriate length 40-pin ribbon cable.

A convenient I/O block is provided for making connection to the Station Card. Alternately, connections may be made with a 25-pair cable and connection blocks suitable for the AWG wire being utilized.

Note: Disconnect system power before adding or removing system cards

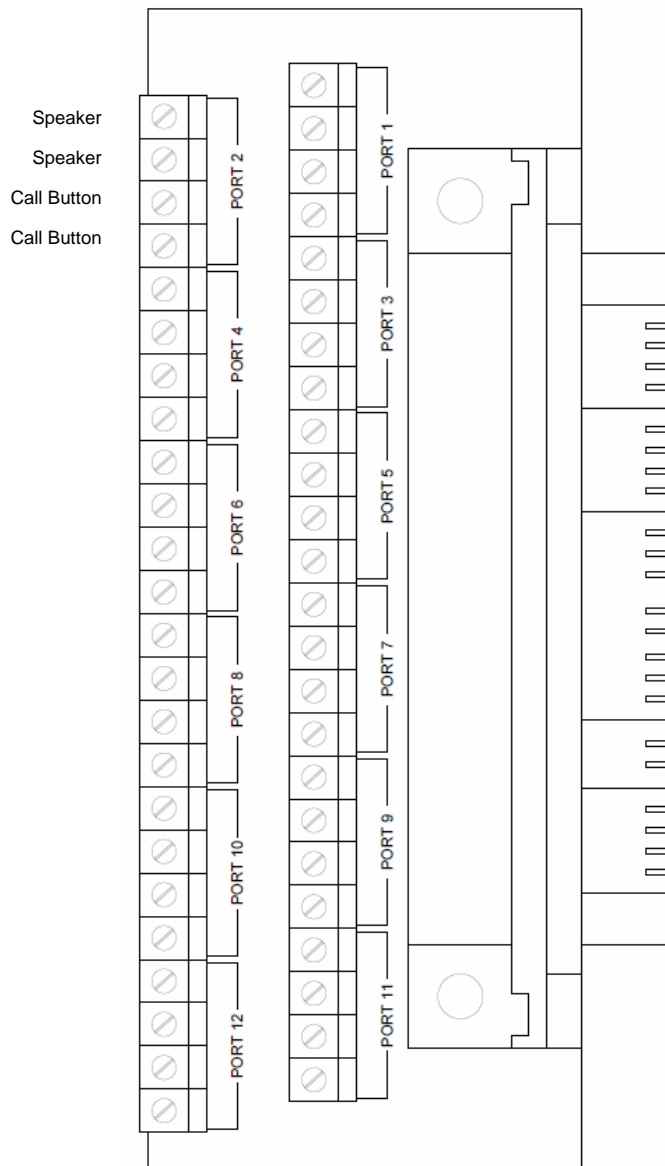
***It is critical to verify the integrity and suitability of existing speakers and cables prior to connection to the 25-Volt Talkback Station Card. Failure to do so may cause irreversible damage.*** A procedure for assessing field wiring may be found in the [Best Practices and General Troubleshooting Procedures](#).

25-Volt Talkback Station Card P1 Amphenol Connector (closest to the Hex Address Switch)

|         |           |               |                          |
|---------|-----------|---------------|--------------------------|
| Pair 1  | Tip – 26  | White/Blue    | Station 1 Speaker        |
|         | Ring – 1  | Blue/White    | Station 1 Speaker        |
| Pair 2  | Tip – 27  | White/Orange  | Station 1 Call Switch A  |
|         | Ring – 2  | Orange/White  | Station 1 Call Switch B  |
| Pair 3  | Tip – 28  | White/Green   | Station 2 Speaker        |
|         | Ring – 3  | Green/White   | Station 2 Speaker        |
| Pair 4  | Tip – 29  | White/Brown   | Station 2 Call Switch A  |
|         | Ring - 4  | Brown/White   | Station 2 Call Switch B  |
| Pair 5  | Tip - 30  | White/Slate   | Station 3 Speaker        |
|         | Ring – 5  | Slate/White   | Station 3 Speaker        |
| Pair 6  | Tip – 31  | Red/Blue      | Station 3 Call Switch A  |
|         | Ring – 6  | Blue/Red      | Station 3 Call Switch B  |
| Pair 7  | Tip – 32  | Red/Orange    | Station 4 Speaker        |
|         | Ring – 7  | Orange/Red    | Station 4 Speaker        |
| Pair 8  | Tip – 33  | Red/Green     | Station 4 Call Switch A  |
|         | Ring – 8  | Green/Red     | Station 4 Call Switch B  |
| Pair 9  | Tip – 34  | Red/Brown     | Station 5 Speaker        |
|         | Ring – 9  | Brown/Red     | Station 5 Speaker        |
| Pair 10 | Tip – 35  | Red/Slate     | Station 5 Call Switch A  |
|         | Ring – 10 | Slate/Red     | Station 5 Call Switch B  |
| Pair 11 | Tip – 36  | Black/Blue    | Station 6 Speaker        |
|         | Ring – 11 | Blue/Black    | Station 6 Speaker        |
| Pair 12 | Tip – 37  | Black/Orange  | Station 6 Call Switch A  |
|         | Ring – 12 | Orange/Black  | Station 6 Call Switch B  |
| Pair 13 | Tip – 38  | Black/Green   | Station 7 Speaker        |
|         | Ring – 13 | Green/Black   | Station 7 Speaker        |
| Pair 14 | Tip – 39  | Black/Brown   | Station 7 Call Switch A  |
|         | Ring – 14 | Brown/Black   | Station 7 Call Switch B  |
| Pair 15 | Tip – 40  | Black/Slate   | Station 8 Speaker        |
|         | Ring – 15 | Slate/Black   | Station 8 Speaker        |
| Pair 16 | Tip – 41  | Yellow/Blue   | Station 8 Call Switch A  |
|         | Ring – 16 | Blue/yellow   | Station 8 Call Switch B  |
| Pair 17 | Tip – 42  | Yellow/Orange | Station 9 Speaker        |
|         | Ring – 17 | Orange/Yellow | Station 9 Speaker        |
| Pair 18 | Tip – 43  | Yellow/Green  | Station 9 Call Switch A  |
|         | Ring – 18 | Green/yellow  | Station 9 Call Switch B  |
| Pair 19 | Tip – 44  | Yellow/Brown  | Station 10 Speaker       |
|         | Ring – 19 | Brown/Yellow  | Station 10 Speaker       |
| Pair 20 | Tip – 45  | Yellow/Slate  | Station 10 Call Switch A |
|         | Ring – 20 | Slate/Yellow  | Station 10 Call Switch B |
| Pair 21 | Tip – 46  | Violet/Blue   | Station 11 Speaker       |
|         | Ring – 21 | Blue/Violet   | Station 11 Speaker       |
| Pair 22 | Tip – 47  | Violet/Orange | Station 11 Call Switch A |
|         | Ring – 22 | Orange/Violet | Station 11 Call Switch B |
| Pair 23 | Tip – 48  | Violet/Green  | Station 12 Speaker       |
|         | Ring – 23 | Green/Violet  | Station 12 Speaker       |
| Pair 24 | Tip – 49  | Violet/Brown  | Station 12 Call Switch A |
|         | Ring – 24 | Brown/Violet  | Station 12 Call Switch B |
| Pair 25 | Tip – 50  | Violet/Slate  |                          |
|         | Ring – 25 | Slate/Violet  |                          |

## 25-Volt Talkback Station Card P2 Amphenol Connector

|         |           |               |                          |
|---------|-----------|---------------|--------------------------|
| Pair 1  | Tip – 26  | White/Blue    | Station 13 Speaker       |
|         | Ring – 1  | Blue/White    | Station 13 Speaker       |
| Pair 2  | Tip – 27  | White/Orange  | Station 13 Call Switch A |
|         | Ring – 2  | Orange/White  | Station 13 Call Switch B |
| Pair 3  | Tip – 28  | White/Green   | Station 14 Speaker       |
|         | Ring – 3  | Green/White   | Station 14 Speaker       |
| Pair 4  | Tip – 29  | White/Brown   | Station 14 Call Switch A |
|         | Ring - 4  | Brown/White   | Station 14 Call Switch B |
| Pair 5  | Tip - 30  | White/Slate   | Station 15 Speaker       |
|         | Ring – 5  | Slate/White   | Station 15 Speaker       |
| Pair 6  | Tip – 31  | Red/Blue      | Station 15 Call Switch A |
|         | Ring – 6  | Blue/Red      | Station 15 Call Switch B |
| Pair 7  | Tip – 32  | Red/Orange    | Station 16 Speaker       |
|         | Ring – 7  | Orange/Red    | Station 16 Speaker       |
| Pair 8  | Tip – 33  | Red/Green     | Station 16 Call Switch A |
|         | Ring – 8  | Green/Red     | Station 16 Call Switch B |
| Pair 9  | Tip – 34  | Red/Brown     | Station 17 Speaker       |
|         | Ring – 9  | Brown/Red     | Station 17 Speaker       |
| Pair 10 | Tip – 35  | Red/Slate     | Station 17 Call Switch A |
|         | Ring – 10 | Slate/Red     | Station 17 Call Switch B |
| Pair 11 | Tip – 36  | Black/Blue    | Station 18 Speaker       |
|         | Ring – 11 | Blue/Black    | Station 18 Speaker       |
| Pair 12 | Tip – 37  | Black/Orange  | Station 18 Call Switch A |
|         | Ring – 12 | Orange/Black  | Station 18 Call Switch B |
| Pair 13 | Tip – 38  | Black/Green   | Station 19 Speaker       |
|         | Ring – 13 | Green/Black   | Station 19 Speaker       |
| Pair 14 | Tip – 39  | Black/Brown   | Station 19 Call Switch A |
|         | Ring – 14 | Brown/Black   | Station 19 Call Switch B |
| Pair 15 | Tip – 40  | Black/Slate   | Station 20 Speaker       |
|         | Ring – 15 | Slate/Black   | Station 20 Speaker       |
| Pair 16 | Tip – 41  | Yellow/Blue   | Station 20 Call Switch A |
|         | Ring – 16 | Blue/yellow   | Station 20 Call Switch B |
| Pair 17 | Tip – 42  | Yellow/Orange | Station 21 Speaker       |
|         | Ring – 17 | Orange/Yellow | Station 21 Speaker       |
| Pair 18 | Tip – 43  | Yellow/Green  | Station 21 Call Switch A |
|         | Ring – 18 | Green/yellow  | Station 21 Call Switch B |
| Pair 19 | Tip – 44  | Yellow/Brown  | Station 22 Speaker       |
|         | Ring – 19 | Brown/Yellow  | Station 22 Speaker       |
| Pair 20 | Tip – 45  | Yellow/Slate  | Station 22 Call Switch A |
|         | Ring – 20 | Slate/Yellow  | Station 22 Call Switch B |
| Pair 21 | Tip – 46  | Violet/Blue   | Station 23 Speaker       |
|         | Ring – 21 | Blue/Violet   | Station 23 Speaker       |
| Pair 22 | Tip – 47  | Violet/Orange | Station 23 Call Switch A |
|         | Ring – 22 | Orange/Violet | Station 23 Call Switch B |
| Pair 23 | Tip – 48  | Violet/Green  | Station 24 Speaker       |
|         | Ring – 23 | Green/Violet  | Station 24 Speaker       |
| Pair 24 | Tip – 49  | Violet/Brown  | Station 24 Call Switch A |
|         | Ring – 24 | Brown/Violet  | Station 24 Call Switch B |
| Pair 25 | Tip – 50  | Violet/Slate  |                          |
|         | Ring – 25 | Slate/Violet  |                          |



Supplied Speaker/Call Button I/O Interface.

Port 1 = Station 1 or 13 . . .Port 12 = Station 12 or 24

## Expansion Cabinets

The ACS Expansion Cabinets provide support for 24 or 48 *additional* talkback stations. They are self-contained units and are intended to be mounted directly beneath the V-ACS main cabinet.

The ACS Expansion Cabinets include speaker connection blocks, a power supply and an extended ribbon cable for connecting to the main cabinet.

To facilitate installing the extended ribbon cable, the power supply in the main cabinet is easily removed thus allowing ribbon cable replacement.

Contact us for information on systems larger than 72 stations.

## One Way Speaker Circuits

When connecting V-ACS speaker circuits to the line level input(s) of Valcom self-amplified speakers/horns or to the line level input of an old-fashioned central amplifier, a suitable attenuator will be required between the speaker circuit output and the line level input.

Suggested Attenuators:

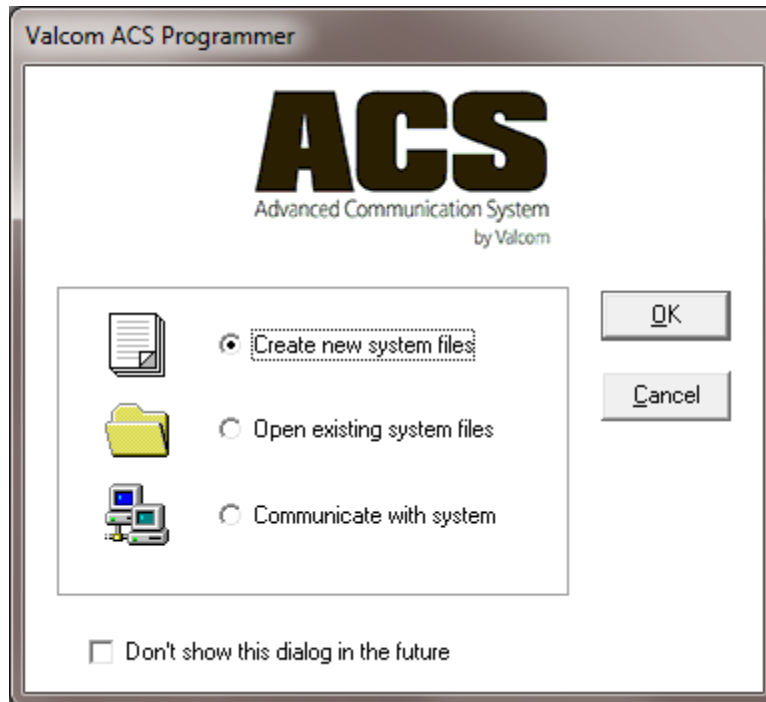
For V-ACS 45-Ohm Systems use a **V-LPT One Way Paging Adapter**

For 25-Volt Systems use a **V-1095 70 Volt Paging Expander** (used for expanding 25, 70.7 and 100-volt speaker circuits)

## Re-using V-2924A Expandable Talkback Intercom speakers and wiring

The Amphenol pinout and audio output of a V-ACS Advanced Communication System varies from that of a V-2924 Expandable Talkback Intercom. A 24-station adapter is available (one per 24 stations) as part number **V-CA2924**.

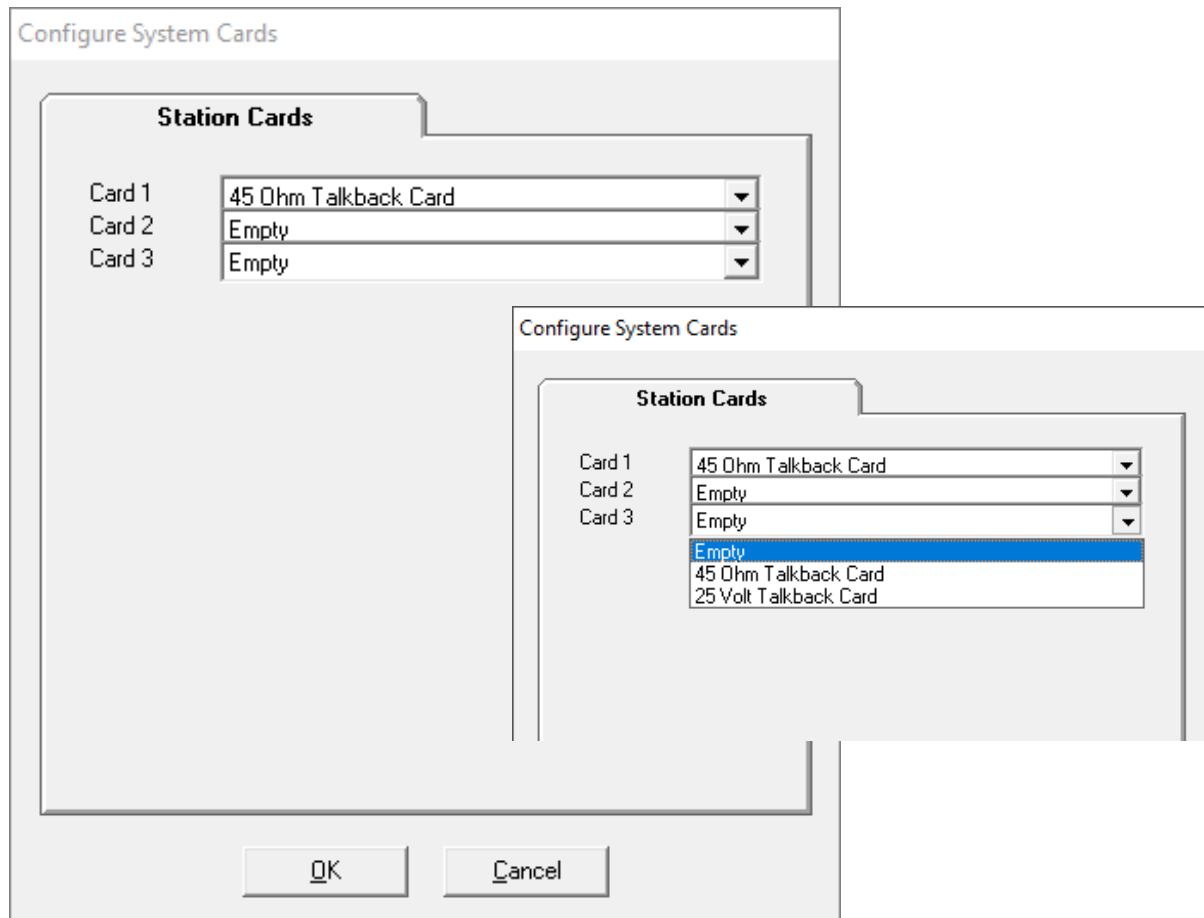
## System Programming



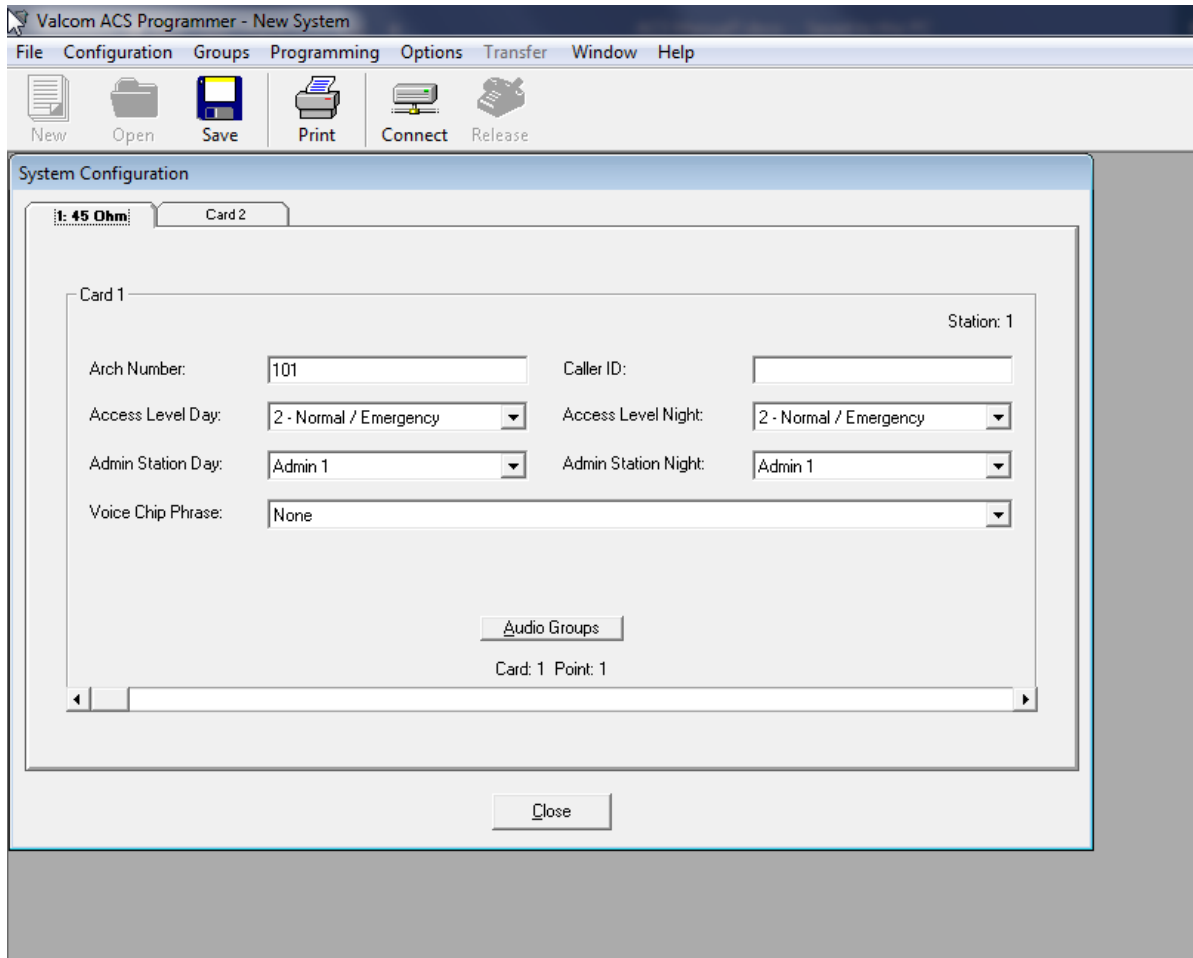
System programming is accomplished with the Valcom ACS Programmer available at [www.Valcom.com/acs](http://www.Valcom.com/acs). The startup screen shown above allows users to:

- a) Create New System Files (for new systems)
- b) Open Existing System Files (to make changes)
- c) Communicate with System (to receive or send files to the system or make real time changes where applicable. The transfer menu is not accessible until communications have been established.)





When creating new system files, users are prompted to identify if their system uses 45-ohm or 25-Volt speakers. Cards 2 and 3 will only be available if the corresponding system expansion cabinet is being utilized.



Each talkback station card offers 24 speaker connections and 24 corresponding call button inputs. Users may call any speaker output by its uniquely assigned numeric Architectural (Arch) Number. Speaker outputs may be also added into any of the system's 24 one-way audio groups for common one-way announcements.

System Configuration

1: 45 Ohm Card 2

Card 1 Station: 1

Arch Number: 101 Caller ID:

Access Level Day: 2 - Normal / Emergency Access Level Night: 2 - Normal / Emergency

Admin Station Day: 2 - Normal / Emergency Admin Station Night: Admin 1

Voice Chip Phrase: 2 - Normal / Emergency

0 - Normal Only

3 - Urgent / Emergency

4 - Overhead Ring

5 - Emergency Only

6 - Ignore

Admin 1

Admin 2

Audio Groups

Card: 1 Point: 1

Close

Call buttons may be programmed for different functionality at 2 different user defined times of the day. This is referred to as “Day Mode” and “Night Mode”. The buttons may be programmed to call either Admin Station (phone) and may exhibit one class of service during each time period. Classes of service include:

**Normal Only** – The button will only generate a Normal Level Call

**Normal/Emergency** – Pressing the button one time will generate a Normal Level Call. Pressing it 4 times within 3 seconds will upgrade a Normal Level Call to, or generate a new, Emergency Level Call.

**Urgent/Emergency** – Pressing the button one time will generate an Urgent Level Call. Pressing it 4 times within 3 seconds will upgrade an Urgent Level Call to, or generate a new, Emergency Level Call.

**Overhead Ring** – The button will ring both Admin 1 and Admin 2, will ring over all speakers. The call may be answered from either Admin phone

**Emergency Only** - The button will only generate an Emergency Level Call

**Ignore** – Call button presses are ignored

For queued calls, Emergency Level calls are answered before Urgent Level calls which are answered before Normal Level Calls. In addition, Emergency Level Calls ring until answered. Normal and Urgent Level calls follow a definable queue timeout parameter.

System Configuration

1: 45 Ohm    Card 2

Card 1

Station: 1

Arch Number:     Caller ID:

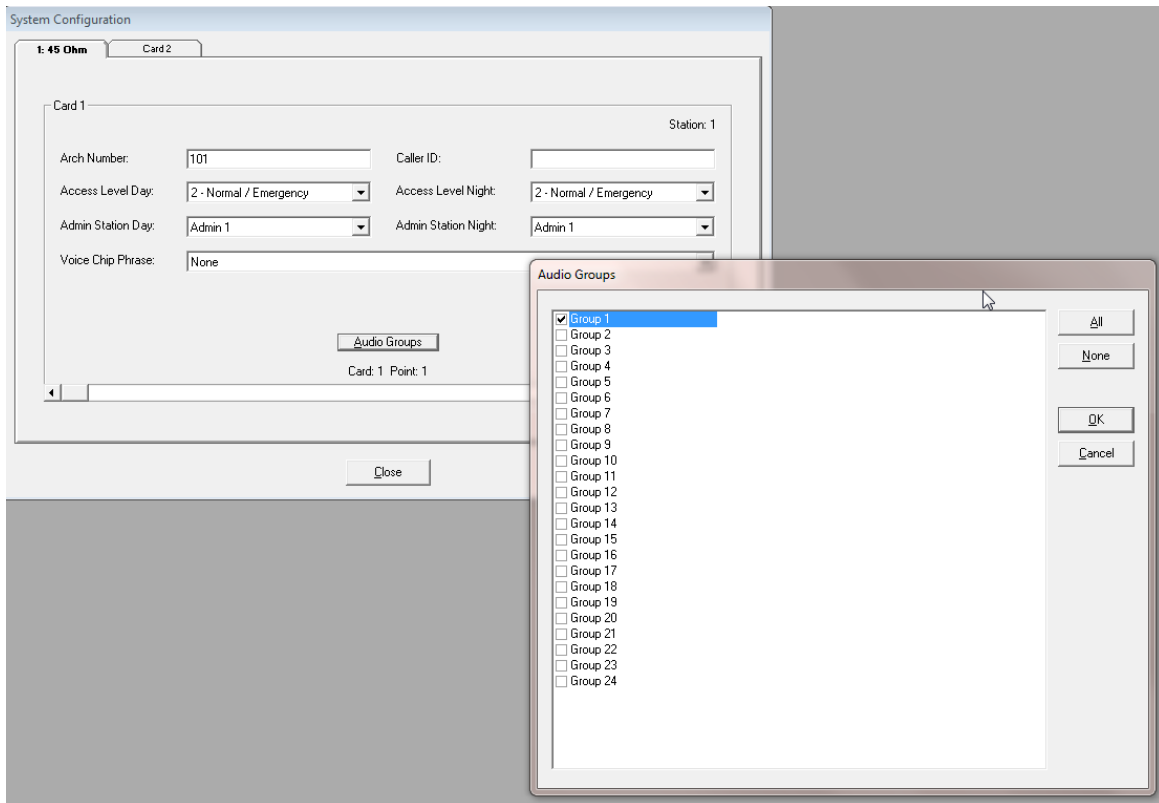
Access Level Day:     Access Level Night:

Admin Station Day:     Admin Station Night:

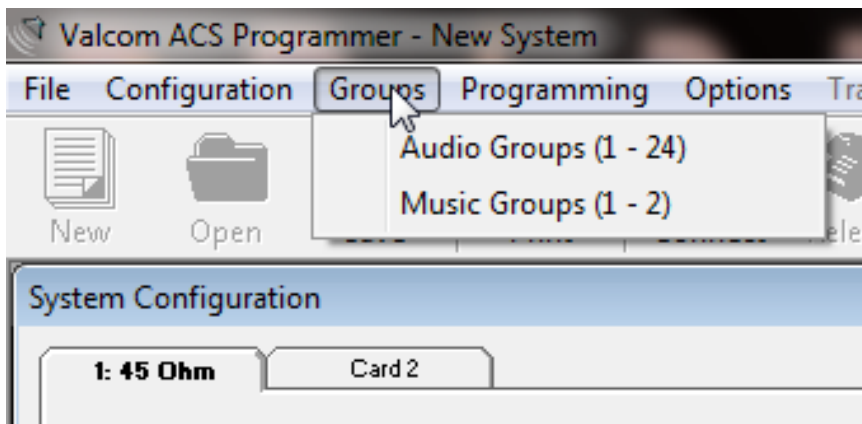
Voice Chip Phrase: 

- None
- 24 - Sunday
- 25 - Monday
- 26 - Tuesday
- 27 - Wednesday
- 28 - Thursday
- 29 - Friday
- 30 - Saturday
- 31 - A.M.
- 32 - P.M.
- 33 - Time Update OK
- 34 - TimeUpdateError
- 35 - LastTimeUpdate
- 36 - EmergencyVerify
- 37 - Call Blocked
- 38 - Call Dropped
- 39 - Zero

The ACS system features the advanced capability of adding custom audio files (Voice Chip Phrases) that be used in a variety of ways. These phrases may be added to individual stations such that, when the station’s call button is pressed and the resulting ringing admin phone is answered, the phrase will be broadcast to the answering party prior to the talkback connection.

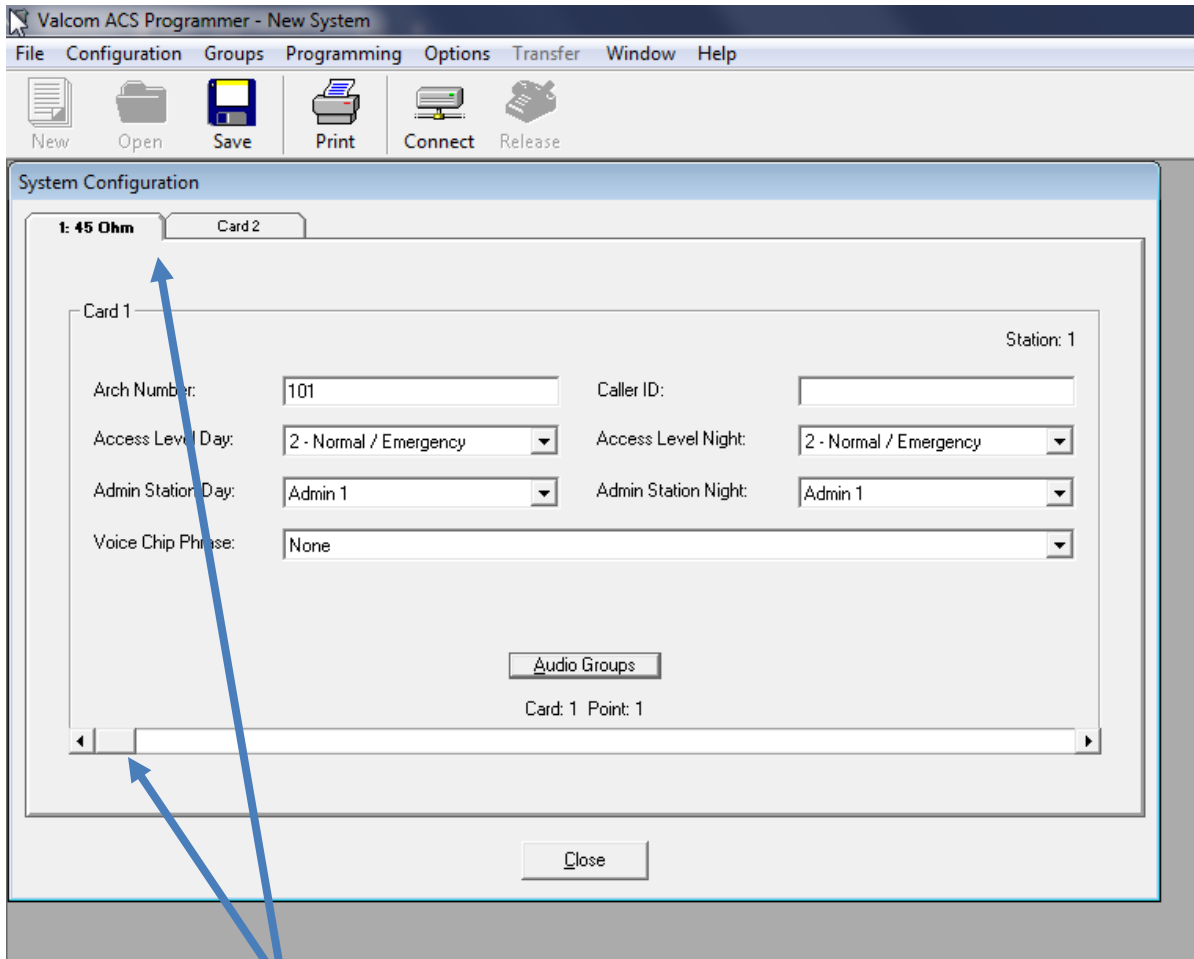


Individual stations may be added to any or all the 24 system audio groups. This may be accomplished on each station's tab (as shown) or via the Groups menu dropdown:

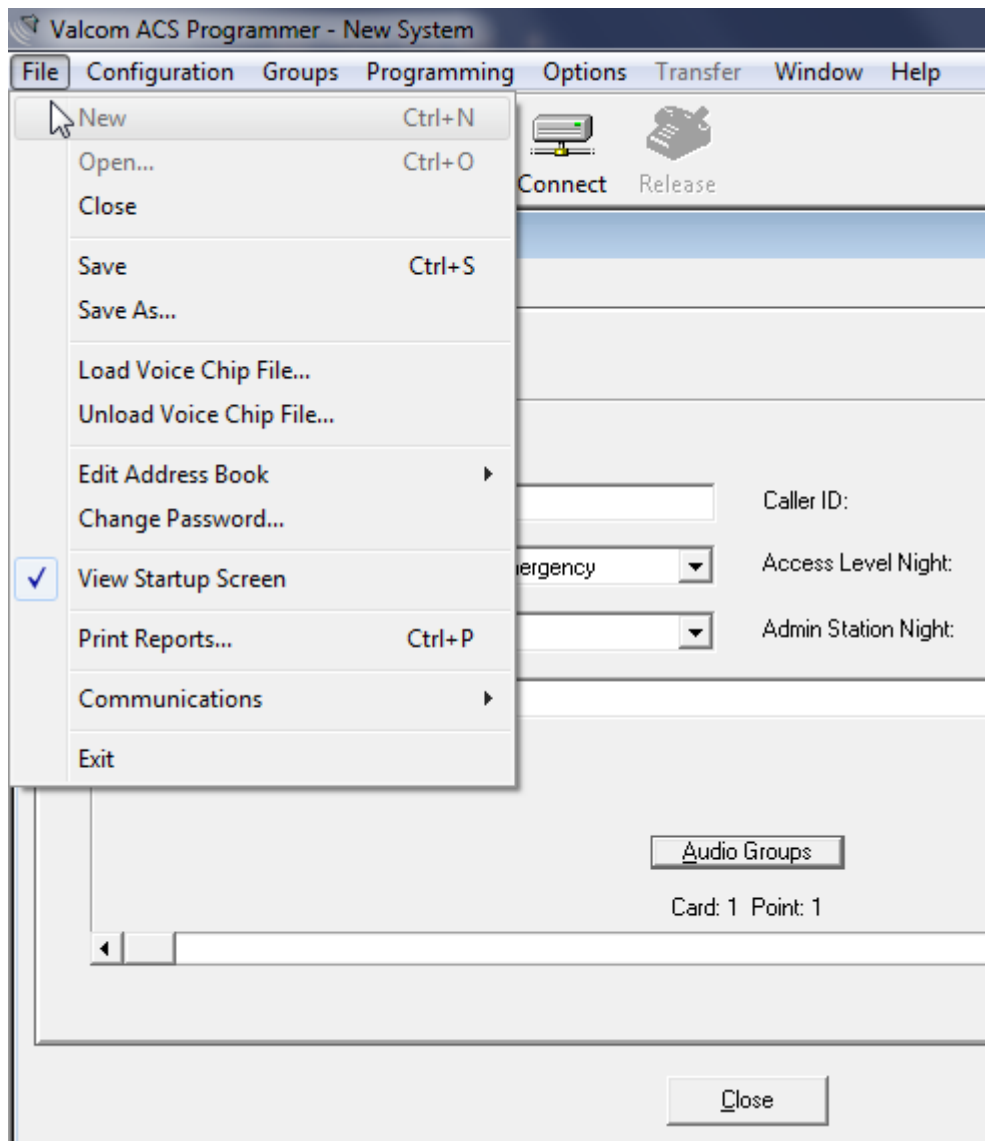


Note that All Call and Emergency All Call are fixed groups that statically include all stations and cannot be modified.

Music Groups are used exclusively for Aux audio distribution via the Administrative Software Tool.

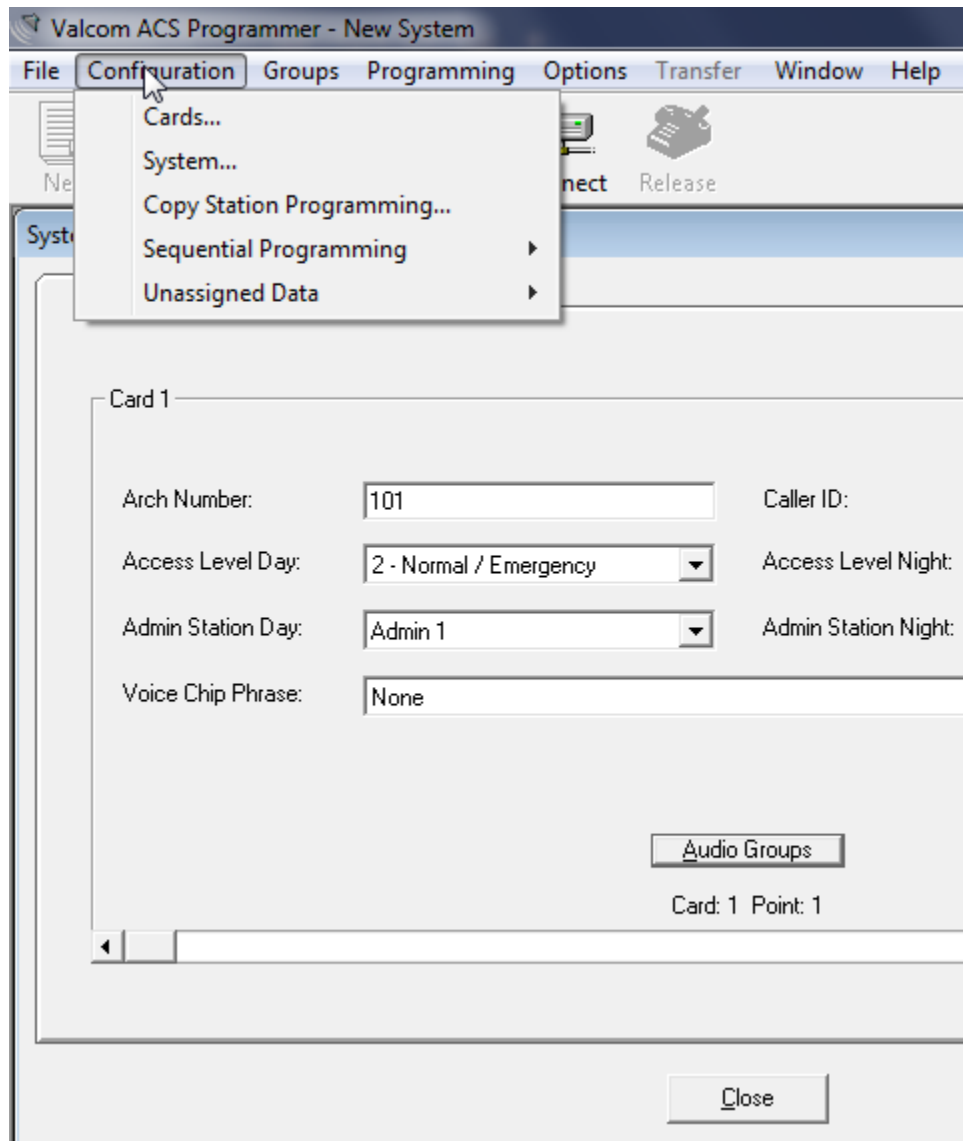


Navigating between stations may be accomplished via the Card tabs using the scroll bar on the card tabs and the Page Up/Page keys on a PC keyboard.



The File menu allows users to create a NEW system configuration program, OPEN a saved system configuration folder, CLOSE the current system configuration (same as EXIT), SAVE the currently loaded system configuration to the most recent saved configuration folder, SAVE the currently loaded system configuration AS a new system configuration folder,

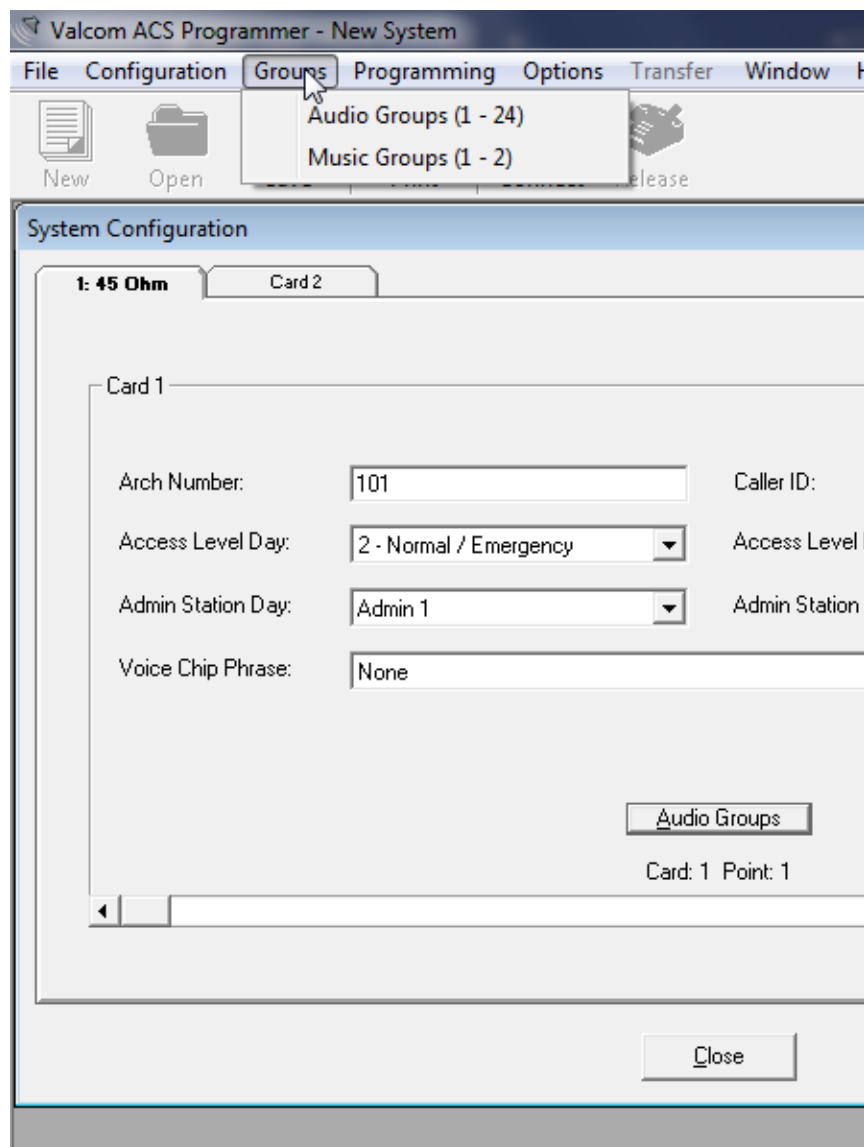
EDIT the address book of network connection settings, CHANGE the password of the Valcom ACS Programmer (default = no password), enable/disable the startup connection screen, print various system reports, establish network COMMUNICATIONS for connecting to a system for programming changes or to view SMDR.



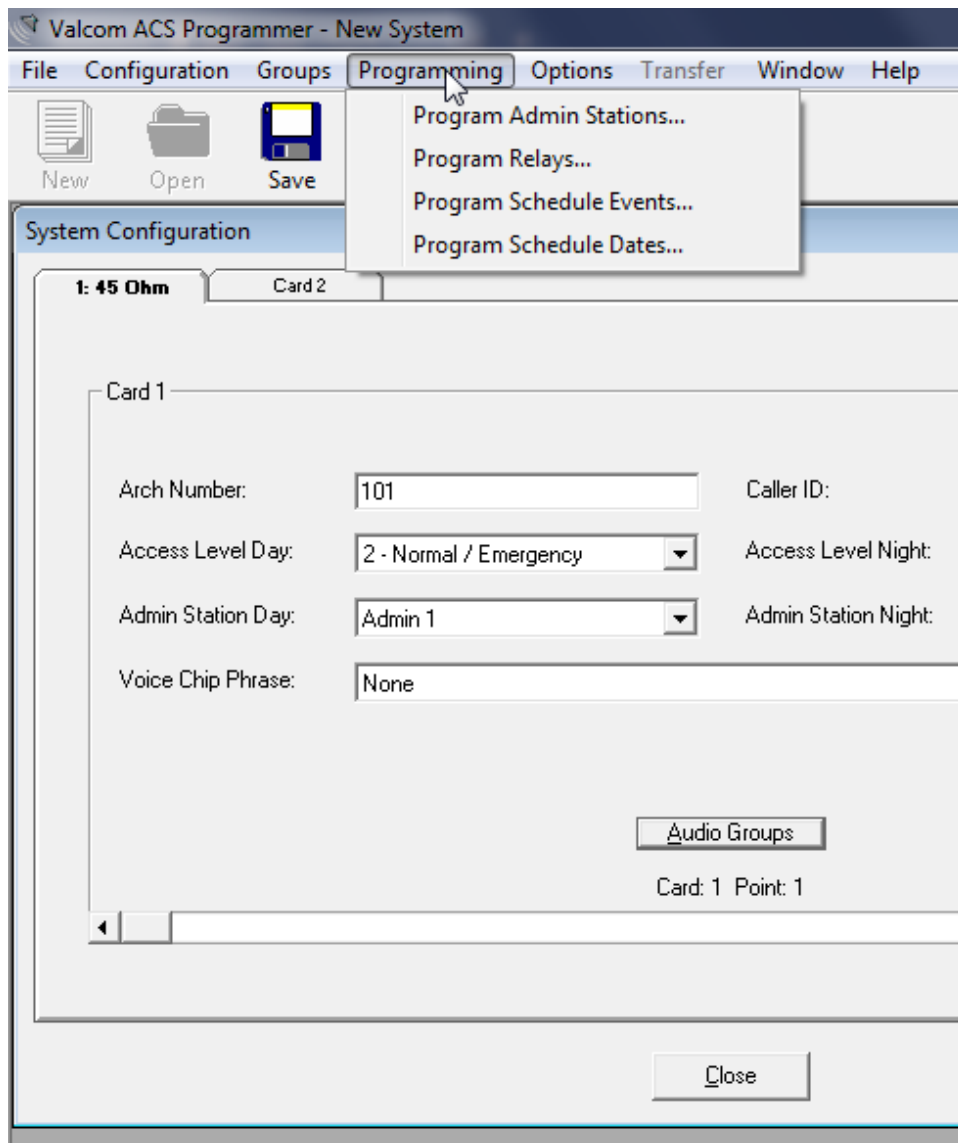
The Configuration menu allows users to:

- a) access the Cards form to add and remove station cards
- b) access the System form to program individual stations
- c) copy station programming between one or more stations
- d) sequentially assign Arch numbers to one or more ranges of stations
- e) find stations that have no Arch number





The Groups menu allows user to create and edit audio groups, accessed through fixed dial codes, and music groups, used for distributing music and controlled through the Valcom ACS Administrator Software.



The Programming menu allows users to program Admin Stations (where telephones or phone system FXO, loop start trunk port or C.O. line ports connect), relays, Schedule Events and Schedule Dates.

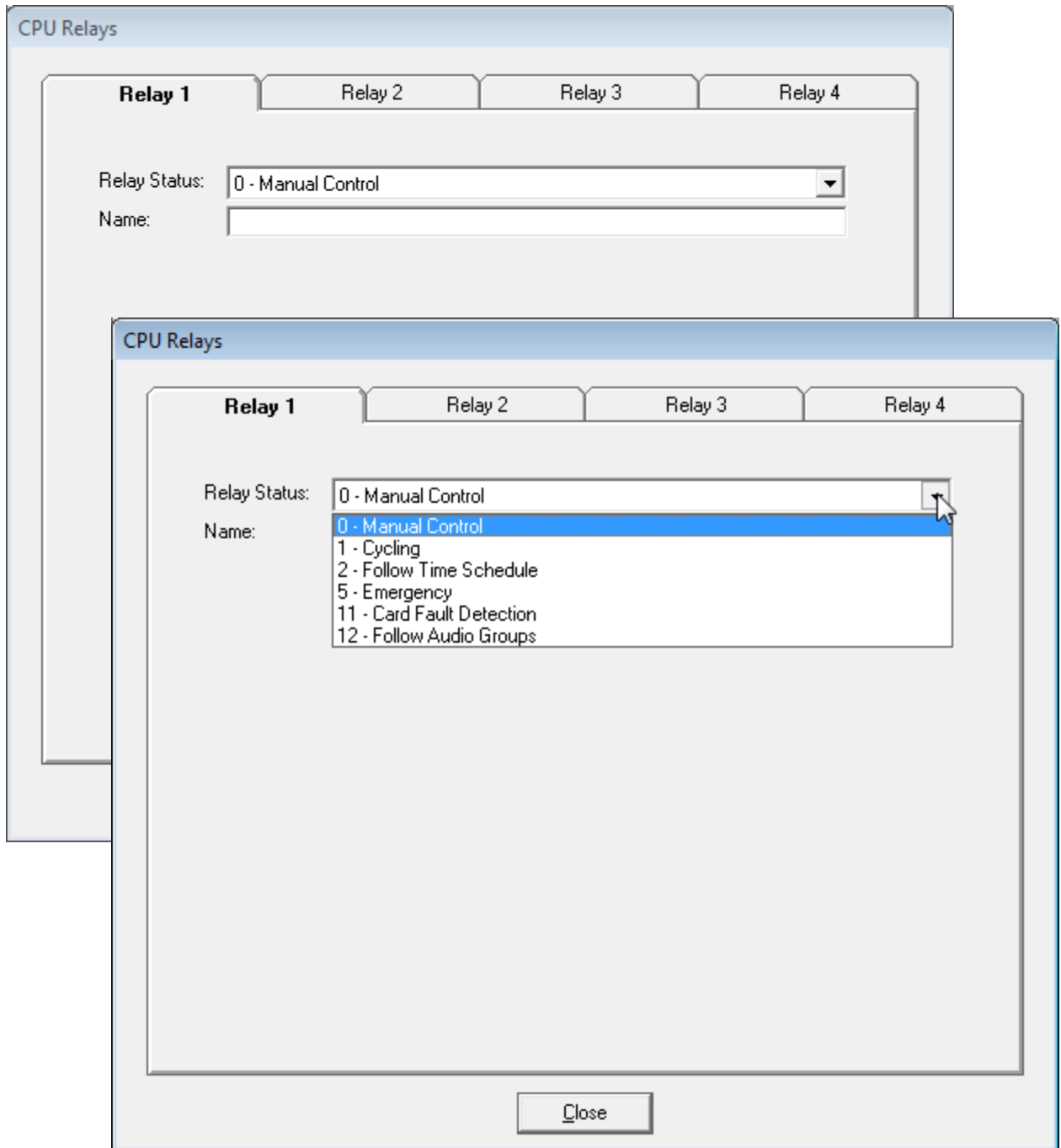
The screenshot shows a software window titled "Admin Stations". It has two tabs: "Admin 1" and "Admin 2". The "Admin 1" tab is active and contains the following configuration options:

- Arch Number: 501
- Auto Answer:
- Voice Announce:
- Voice Chip Phrase: None
- Caller ID: Admin 1
- Use Secondary Admin:
- Access Level: 3
- Use Hunt Group:

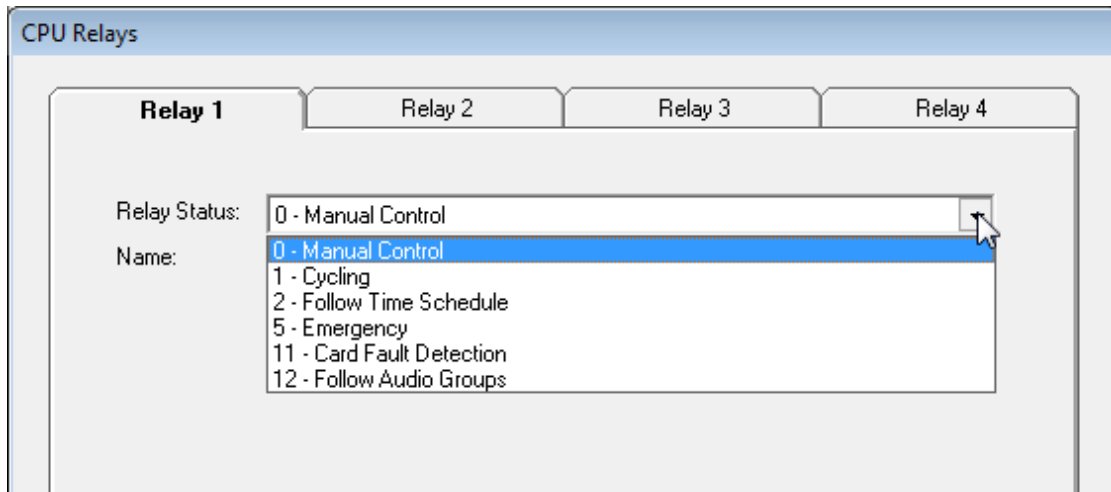
A "Close" button is located at the bottom center of the window.

The 2 system Admin ports must be assigned numeric Arch numbers of up to 4 digits and Caller ID info (up to 15 characters) to facilitate admin phone to admin phone calls. "Auto Answer" and "Use Secondary Admin" should always be selected and "Voice Announce" should only be selected if audible caller ID announcement is desired (not common). Enable "Use Hunt Group" to allow call button invoked calls to automatically ring the second admin phone if the primary admin phone is in use. Level 3 access is the typical setting and allows admin stations to perform all necessary system tasks. For information on advanced options, refer to the Office Phone Dialing Plan section of this manual.

The ACS system features the advanced capability of adding custom audio files (Voice Chip Phrases) that that be used in a variety of ways. These phrases may be added to individual admin stations such that, when the station is called from the second station and the resulting ringing admin station is answered, the phrase will be broadcast to the calling party prior to the talkback connection.



Refer to the following page for information on Relay Programming.

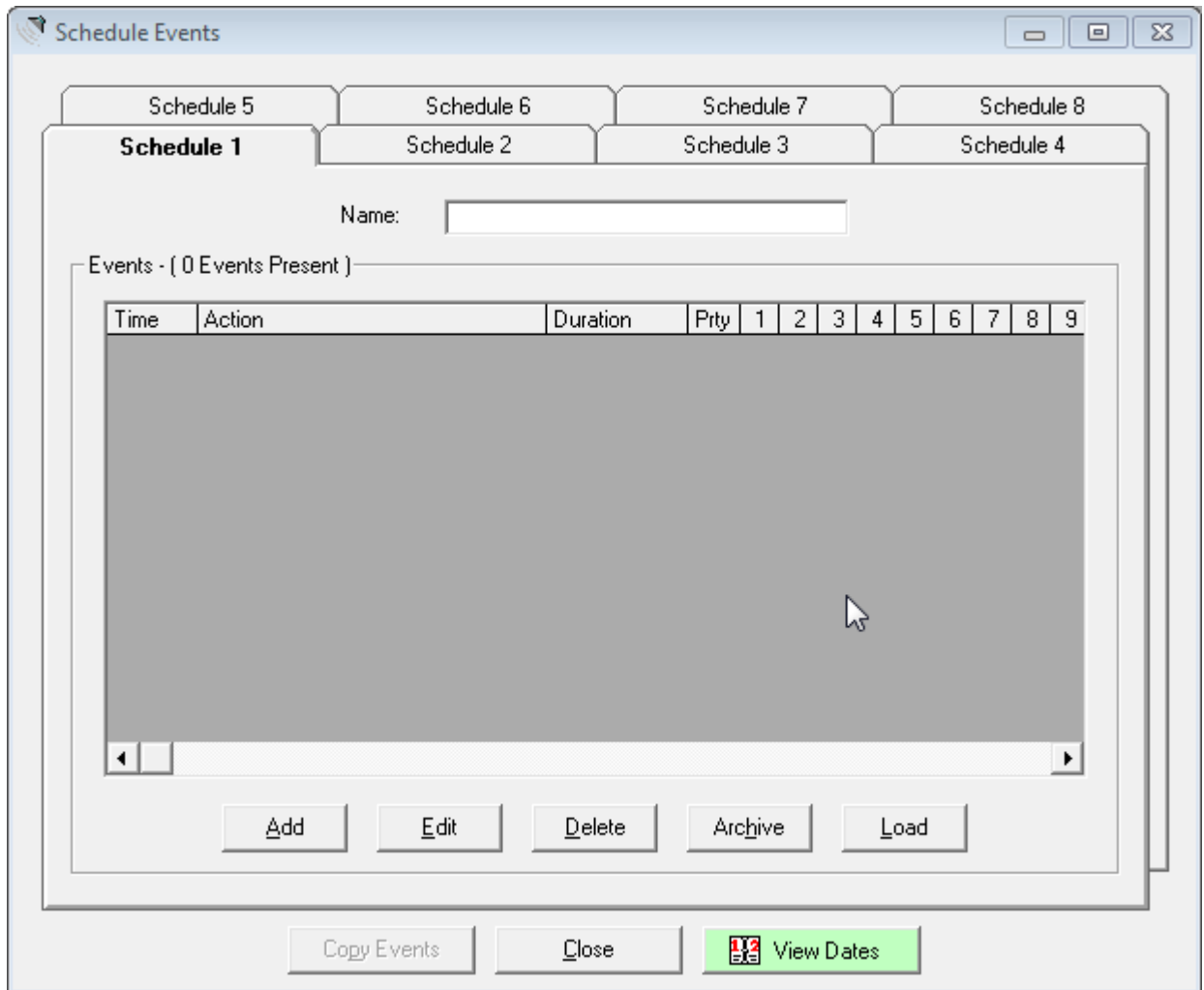


The 4 ACS relays may be programmed:

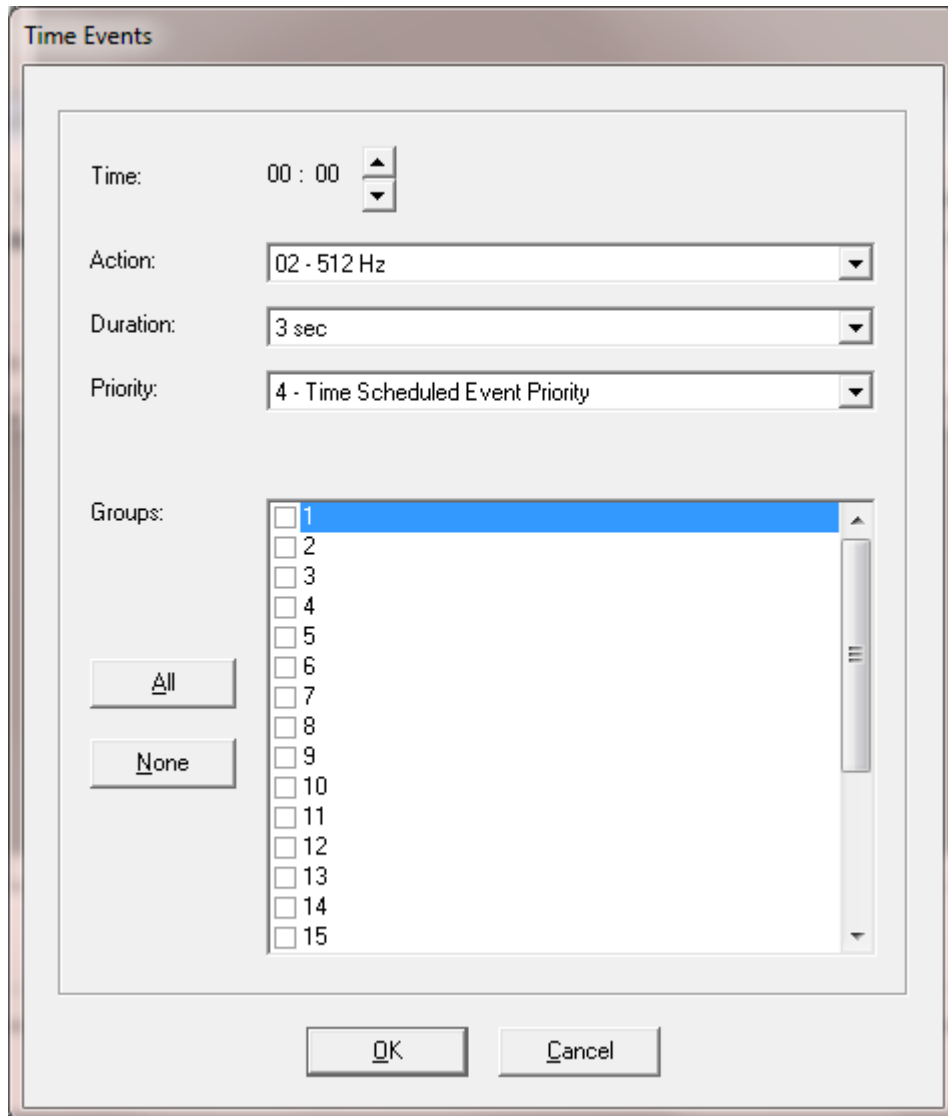
- A) Manual control only – This is the default setting. The relays can always be manually controlled from the ACS Administrator Software Tool or via dial codes (level 2 or 3 admin access level required).
- B) Cycling – Relays may be programmed to cycle off and on during a specified time period and with a specified cadence. This operation may be limited to certain days of the week.
- C) Follow Time Schedule – Relays may be programmed to close and open following the events in any specified time schedule.
- D) Emergency -Relays may be programmed to close whenever a call button initiated emergency call has escalated to announce the calling room number over a group (Options/Emergency).
- E) Card Fault Detection – Relays may be programmed to close when one of the station cards is no longer detected and card fault detection is enabled in the ACS Administrator Software Tool.
- F) Follow Audio Groups – Relays may be programmed to close for the duration of Events, Normal Announcements and/or Emergency Announcements to any or all Audio groups. This is programmed by clicking in a matrix.

In the example of the matrix shown below, the selected relay will close following the duration of scheduled audio to group 1 *and* following the duration of any Normal page connection to group 3.

| Group    | Schedule Event | Normal Page | Emergency Page ▲ |
|----------|----------------|-------------|------------------|
| All Call | ---            |             |                  |
| 1        | •              |             |                  |
| 2        |                |             |                  |
| 3        |                | •           |                  |

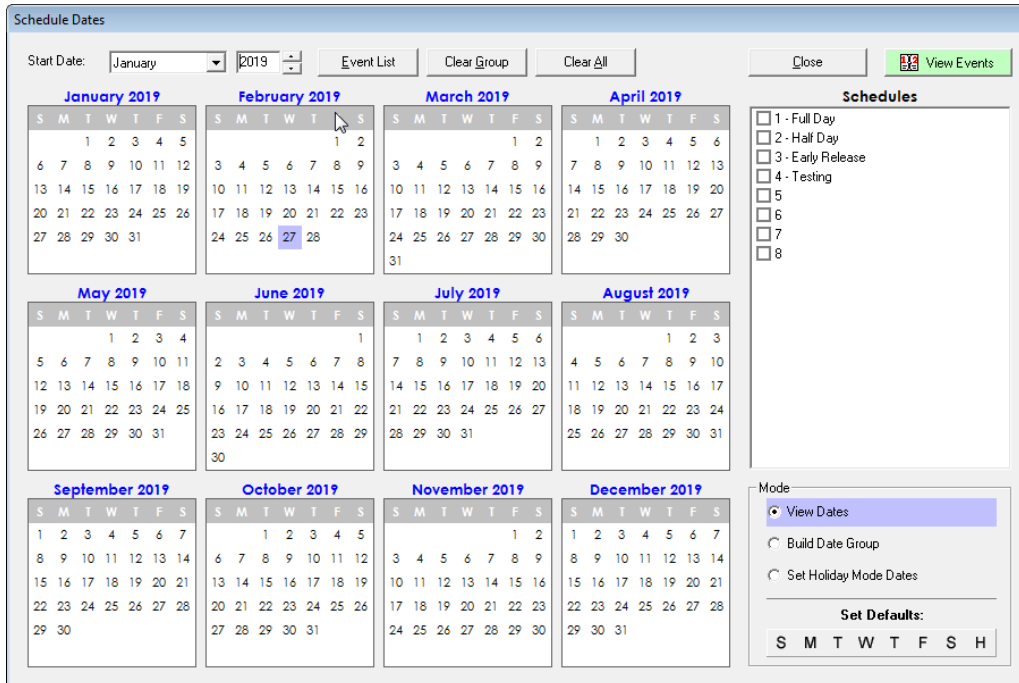


Up to 8 schedules may be named and defined in the ACS system at any time. An unlimited number of schedules may be archived as files and loaded into the system as required. Any combination of the 8 schedules may be selected to run on any given day. Operation of these 8 schedules may be automated based upon a calendar date, or a day of the week. Schedules may also be manually initiated to operate for a single day (forced on). All the schedules are programmed the same way. **Note that if multiple schedules have events at the same time, the events are invoked in order of schedule number. In other words, the event of the lowest numbered schedule will occur first, and the event of the highest numbered schedule will occur last.**



The Add button allows users to add events to schedules. The events may be tones, user loaded audio files, or music directed to one or more audio groups. If the event duration is “continuous”, then a second event with a duration of “off” will be required to end the event.

In general, the default priority will be correct. However, the user has the option to modify the priority for special cases.



Once your schedules are defined, you may assign them to calendar dates, days of the week or holidays.

Typically, the first step in this process is to assign default schedules to operate on days of the week (M, T, W, TH, F, S, S) and holidays.

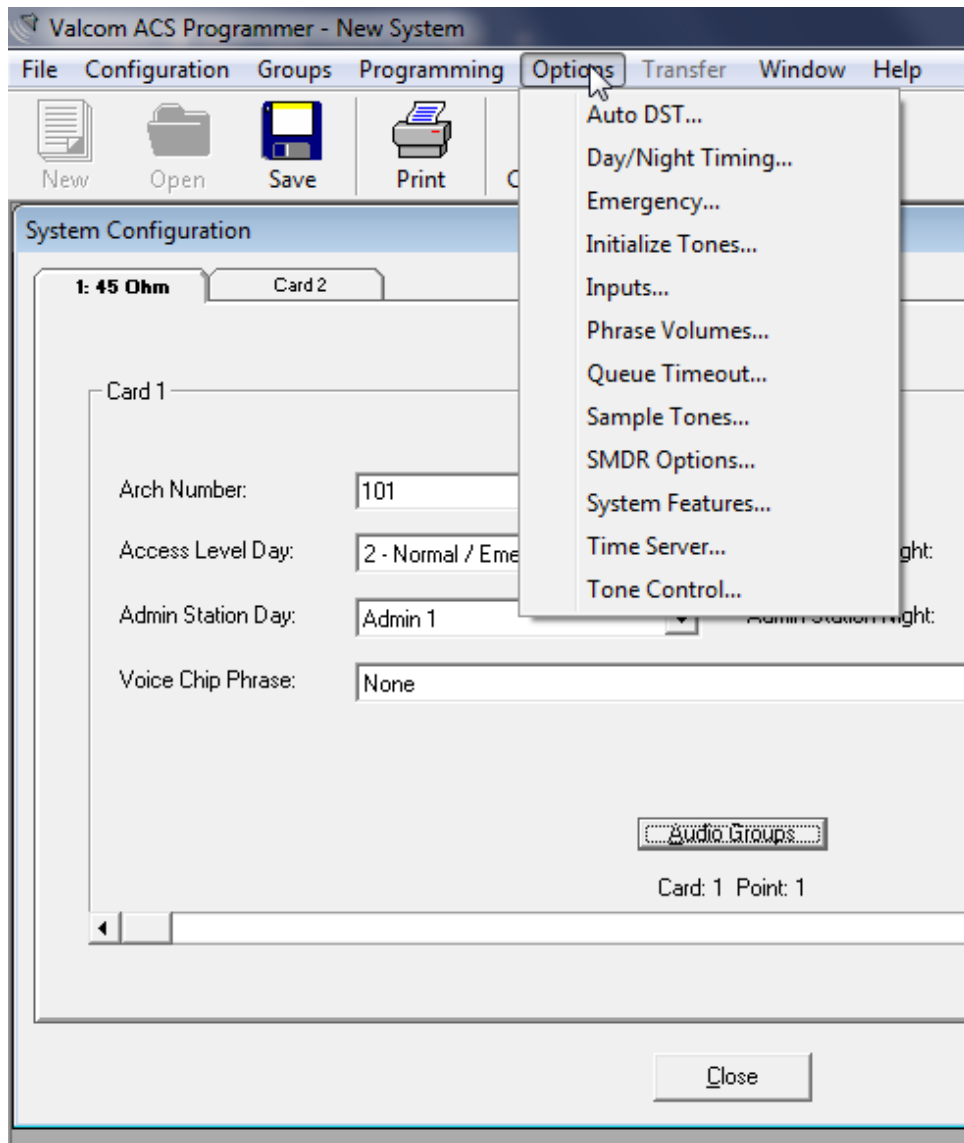
To begin, click a day of the week under “Set Defaults”. Then simply click up to 8 schedules to run on that day of the week. **Repeat this step until default schedules are selected for each day of the week.** The default schedules will operate (up to 8 simultaneously) unless automatic schedule operation is disabled, or they are overridden by a calendar date-based schedule. In order to define which schedules will operate on holidays, click “H” under “Set Defaults” and select the desired combination of schedules.

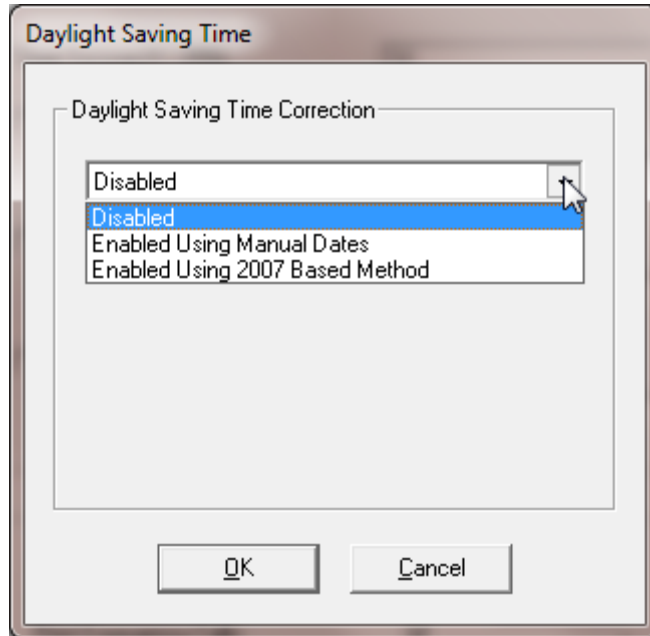
Next, users may assign schedules to dates up to 365 days in the future. In order to assign schedules to specific dates, click “View Dates”, click a date from the calendar, choose up to 8 schedules to operate on that date.

In order to assign the same combination of schedules to multiple dates, click the first date intended to be part of the Date Group and click “Build Date Group”, click multiple additional dates from the calendar and choose up to 8 schedules to operate on the selected dates. You may build up to 366 date groups. **Click “View Dates” to exit “Build Date Group” mode and between building each date group.**

In order to select dates for Holiday Mode operation of cycling ACS CPU relays, Day/Night Timing of Call Switches and other Holiday Mode dependent functions, click “Set Holiday Mode Dates”, click multiple holiday dates from the calendar, optionally choose up to 8 schedules to operate on the holiday dates. **Click “View Dates” to exit “Set Holiday Mode Dates” mode.**



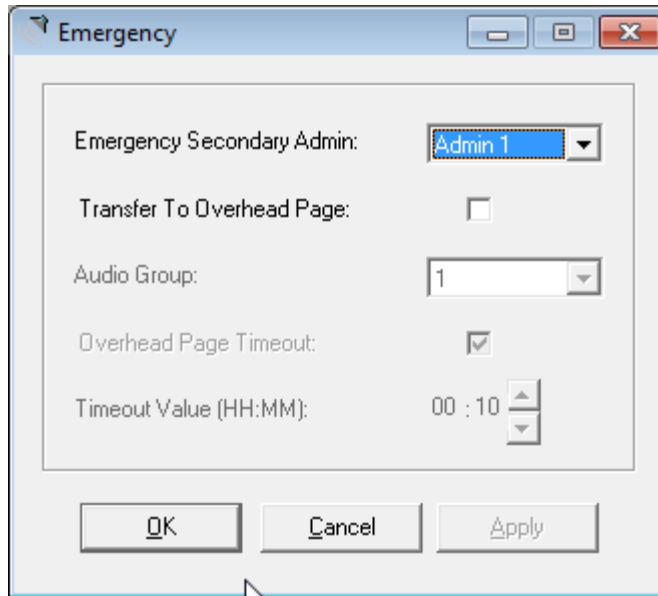




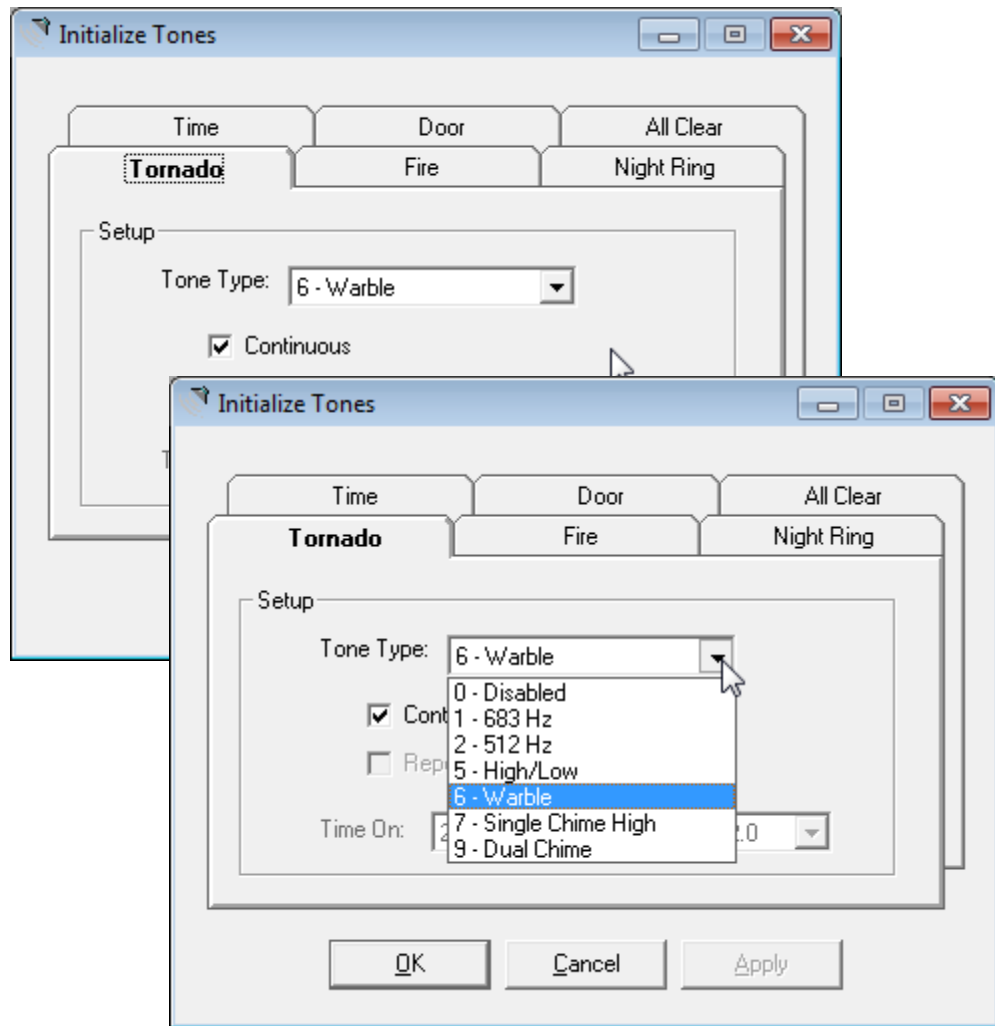
Daylight Saving Time may be automatically invoked via a variety of methods. If time synch is automated via an NTP server, then Daylight Saving Time information will be managed by that NTP server.

|           | Day (HH:MM) | Night (HH:MM) |
|-----------|-------------|---------------|
| Sunday    | 00 : 01     | 00 : 02       |
| Monday    | 06 : 00     | 17 : 00       |
| Tuesday   | 06 : 00     | 17 : 00       |
| Wednesday | 06 : 00     | 17 : 00       |
| Thursday  | 06 : 00     | 17 : 00       |
| Friday    | 06 : 00     | 17 : 00       |
| Saturday  | 00 : 01     | 00 : 02       |
| Holiday   | 00 : 01     | 00 : 02       |

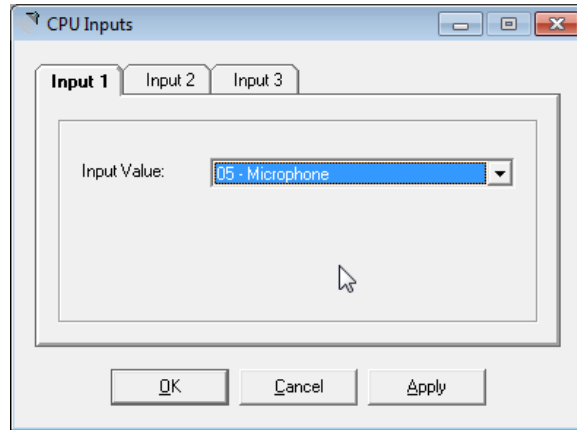
Call button functionality may be programmed to change functionality based upon the time of day or based upon if the day is a user defined holiday (see Calendar). The start of Day mode and Night mode may be defined on a “per day of the week” or “holiday” basis.



Unanswered-call-button-invoked emergency calls will ring until answered. Optionally, Unanswered-call-button-invoked emergency calls may “Transfer To Overhead Page” and speak the Arch number of the calling intercom station over all system speakers. The call may be answered by either Admin phone by answering the phone or dialing the Arch number.



There are references to labelled tones throughout the system. These are invoked by dial codes or CPU switch inputs. These are not user defined WAV files, they are integrated system tones. Users may choose which integrated system tone will be associated with which label and, in some cases, modify the behavior of the tone.



### **Input Function Choices**

Not Used

Activate Fire Tone System-wide

Activate Tornado Tone System-wide

Activate Time Tone System-wide

Activate All Clear Tone System-wide

Activate Microphone Input System-wide

Activate Night Ring Tone System-wide

Activate Door Chime System-wide

Force any schedule ON

Set the system clock to 2 a.m.

Force the system into Crisis Mode\*

Force the system into Night Mode\*\*

Force the system into Holiday Mode\*\*\*

Turn all Aux Inputs Off

Force Aux 1 Input distribution to Music Group 1

Force Aux 2 Input distribution to Music Group 2

Force any audio to play over any audio group at any priority

### \*Crisis Mode

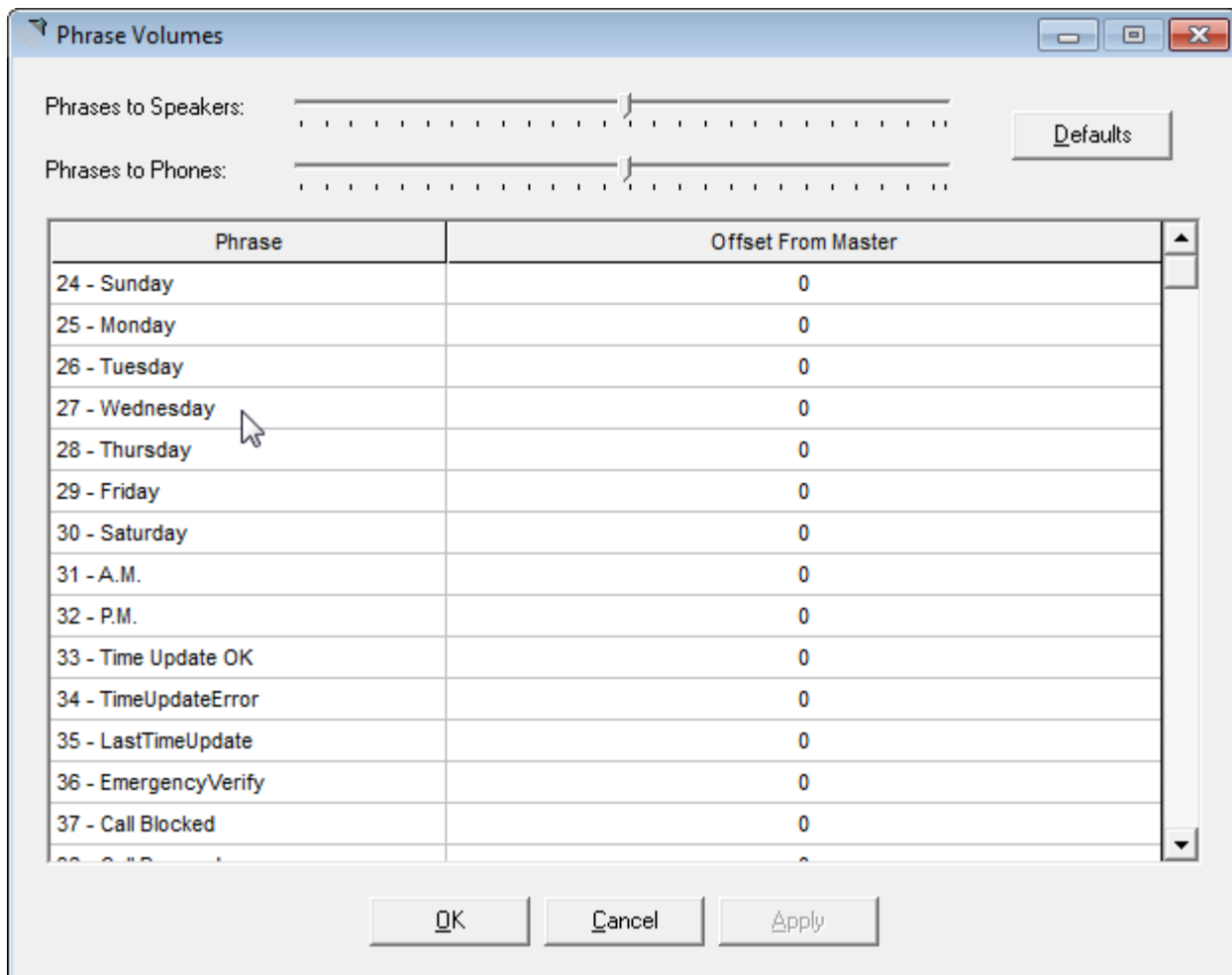
Enabling Crisis COS removes all call button-initiated calls from the call queue and disallows normal level call button-initiated calls until the Crisis COS is disabled. Crisis COS automatically resets at midnight each night if not reset manually.

### \*\*Night Mode

Night Mode forces call buttons to embrace their Night Mode behavior (Call button class of service and admin destination)

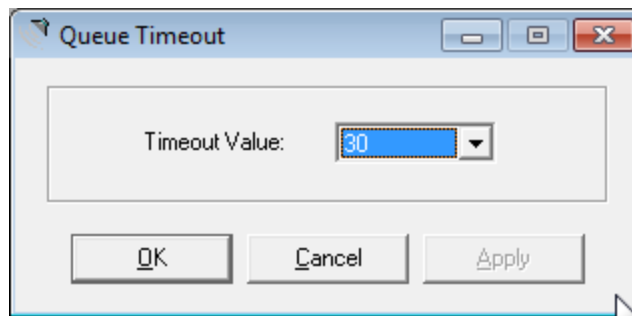
### \*\*\*Holiday mode

Holiday Modes forces schedules and relays to follow their Holiday Mode behavior as if the system entered Holiday Mode via the Calendar.



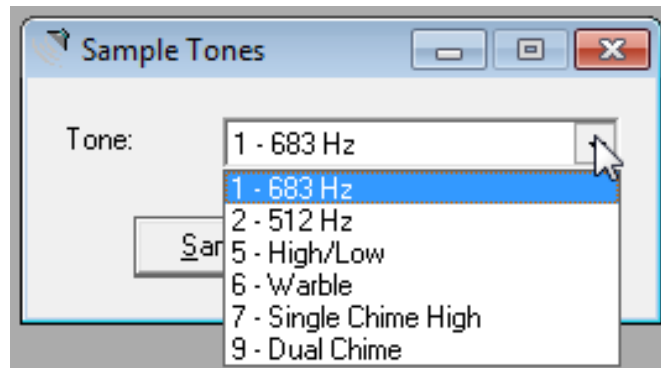
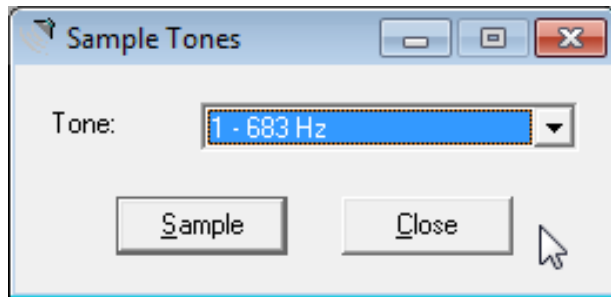
The audio level of most Phrases, or user uploaded WAV files, may be tailored to taste or set to default levels.



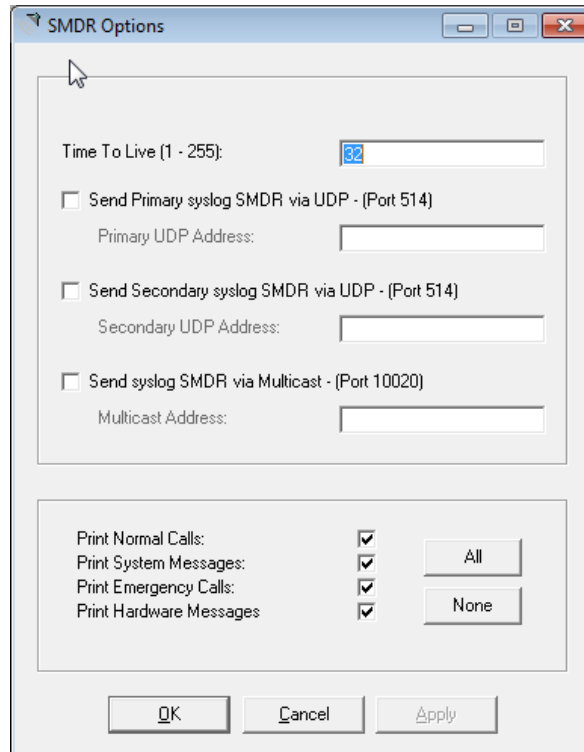


The Queue Timeout is the period (1 to 99 seconds):

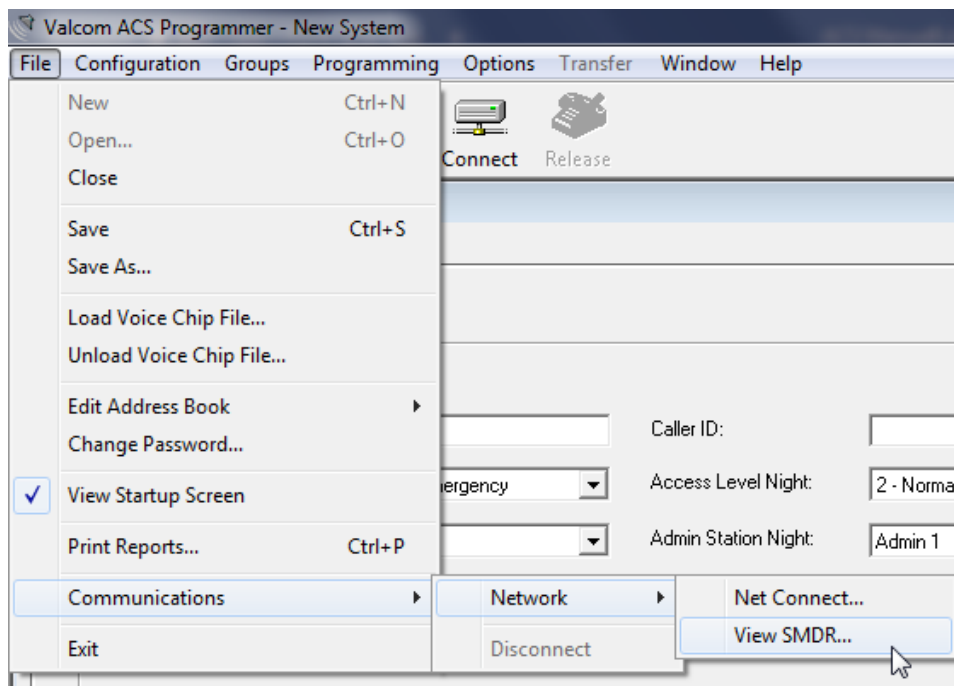
- a) after which a call-button-invoked normal level call will time out
- b) after which a call-button-invoked emergency level call will escalate to Transfer to Overhead Page status (if so opted)

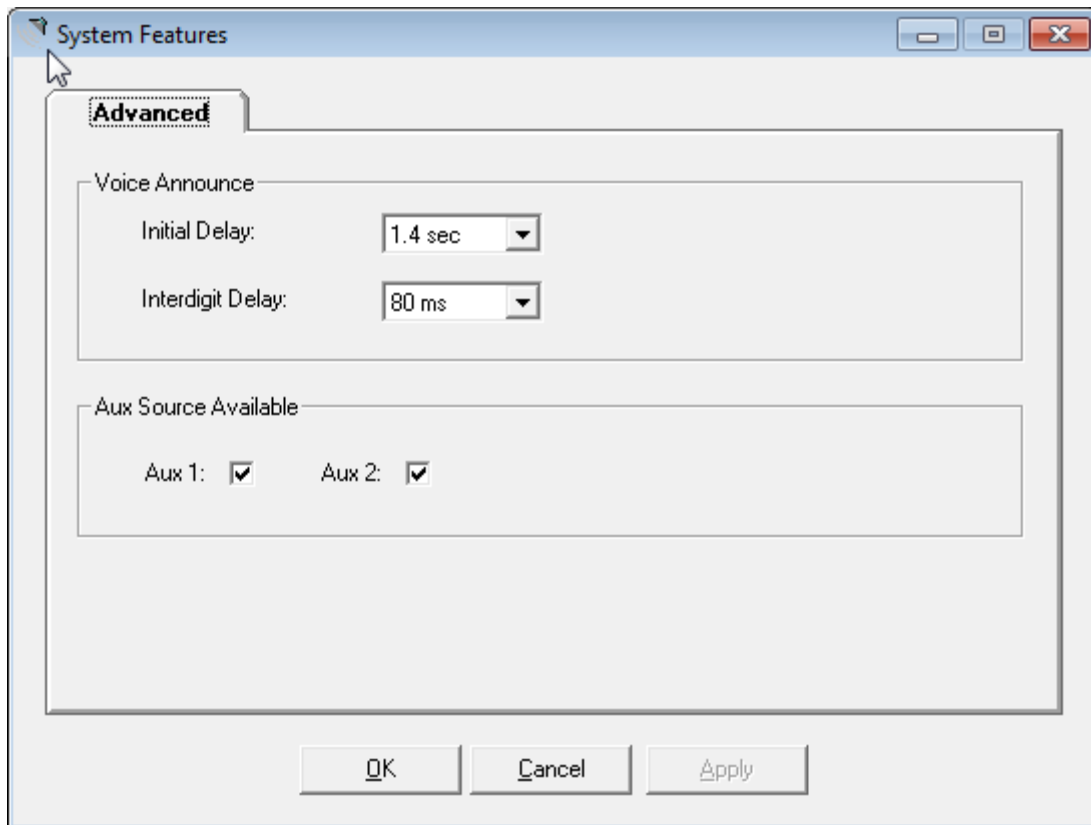


There are references to labelled tones throughout the system. These are invoked by dial codes or CPU switch inputs. These are not user defined WAV files, they are integrated system tones. Assuming that a suitable media program is installed, the Sample Tones menu will play samples of these tones through a PC's speaker.



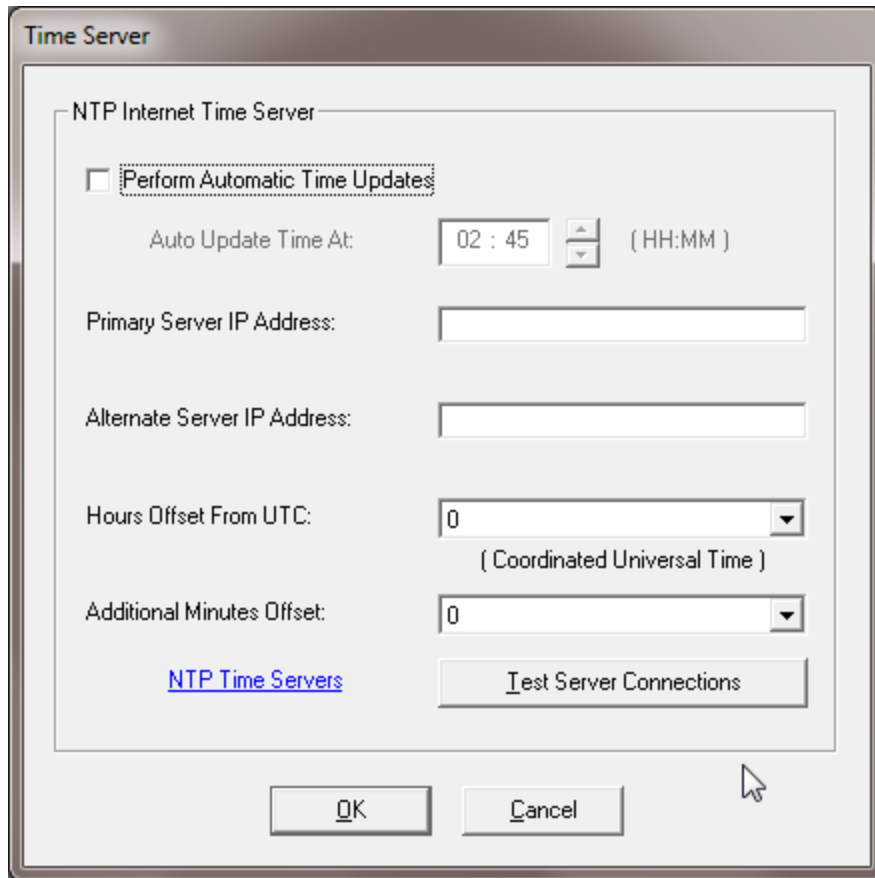
SMDR is System Message Detail Reporting and is a Syslog report of system activity that may be directed to a Syslog server or viewed via the Programming Tool's Syslog viewer on port 514.





System Features allows the user to modify the rate at which the numeric voice generator speaks digits during Voice Announce and Transfer To Overhead Page events.

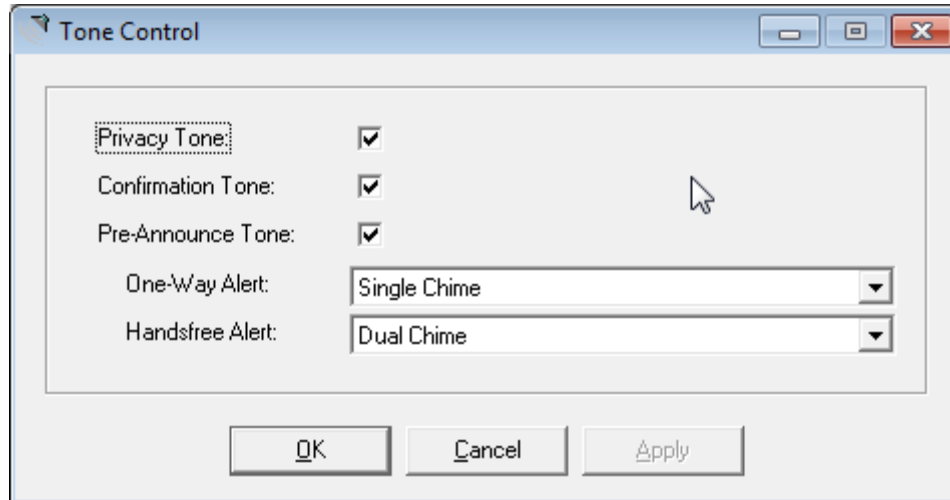
User's may also enable or disable appearance of software-based controls of the Auxiliary inputs to help avoid user confusion in systems that do not include auxiliary background music.



System time and date may be obtained from valid NTP servers on port 123. Check the Perform Automatic Time Updates check box, choose a time of day for the updates to take place and enter the numeric IP address (not a domain name) of a primary and secondary NTP server as well as the time zone offset and any additional offset desired.

The Test Server Connections will force the PC on which the programming tool is installed to attempt to retrieve time.

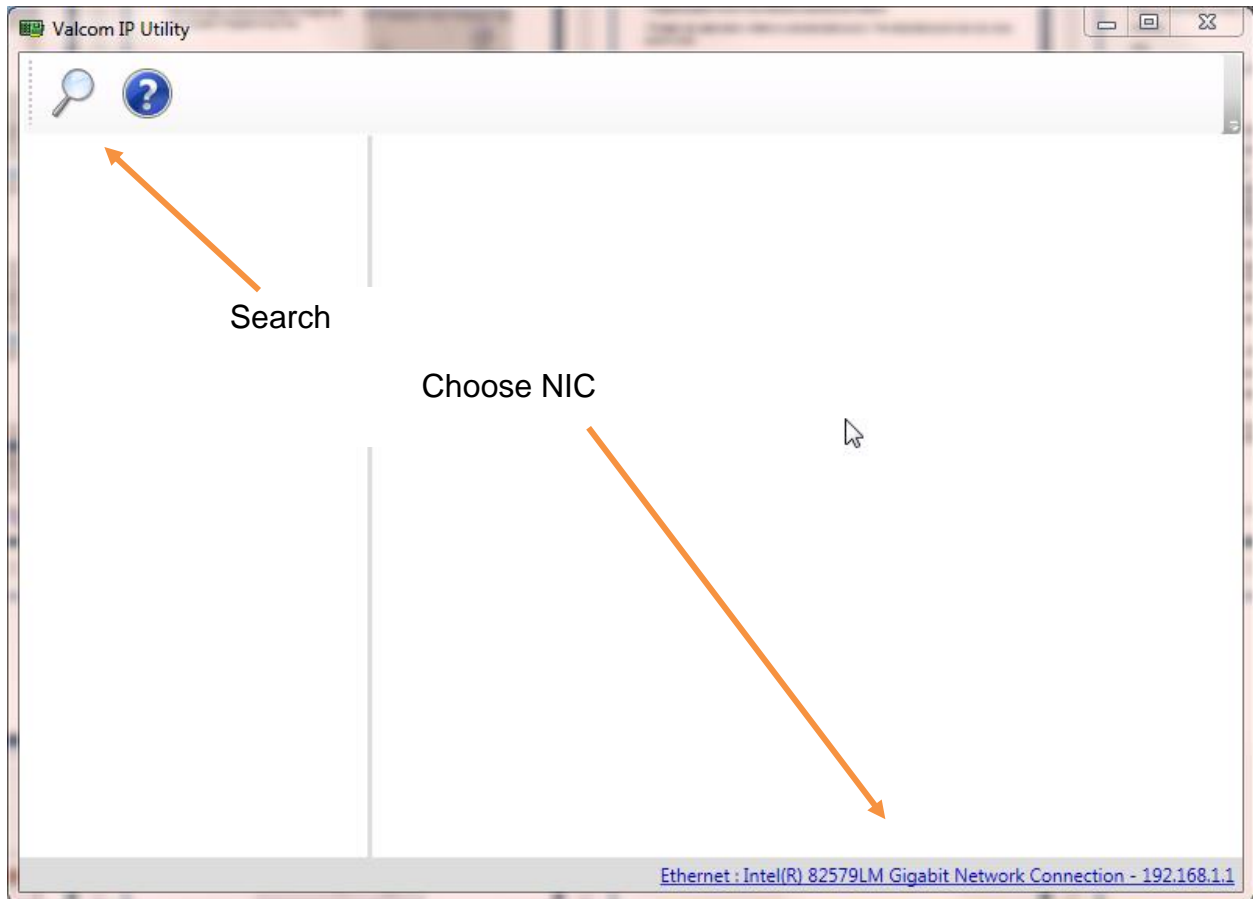
Be aware that even if the test on the PC on which the programming tool is installed is successful, that does not ensure that the ACS actual system will be routable to the NTP server. To test system routing, the Clock icon in the ACS System Administrator may be used to force the ACS to retrieve time from the designated NTP server.



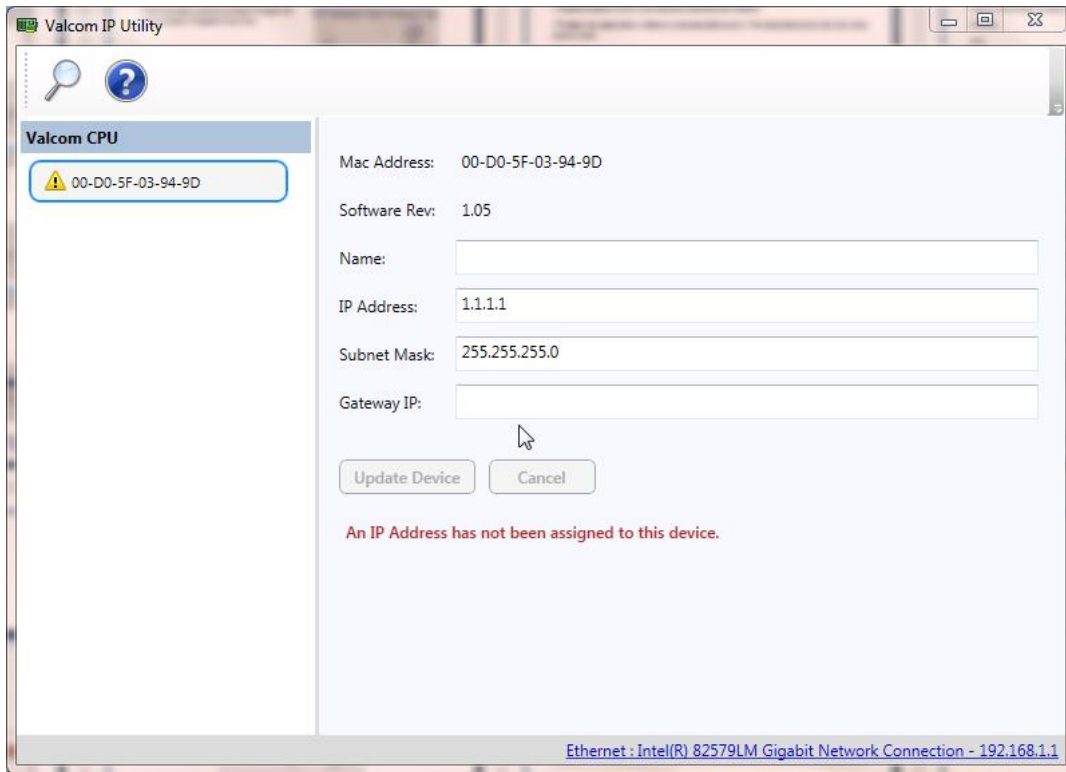
Tone Control allows users to enable or disable:

- a) Privacy tone – a tone repeated every 15 seconds through an active talkback intercom speaker to discourage eavesdropping.
- b) Confirmation Tone – Speaker tone that verifies that a call button has been pressed
- c) Pre-Announce Tone –attention tone broadcast through a speaker prior to an announcement. This tone may be replaced with any user loaded Phrase (WAV file)

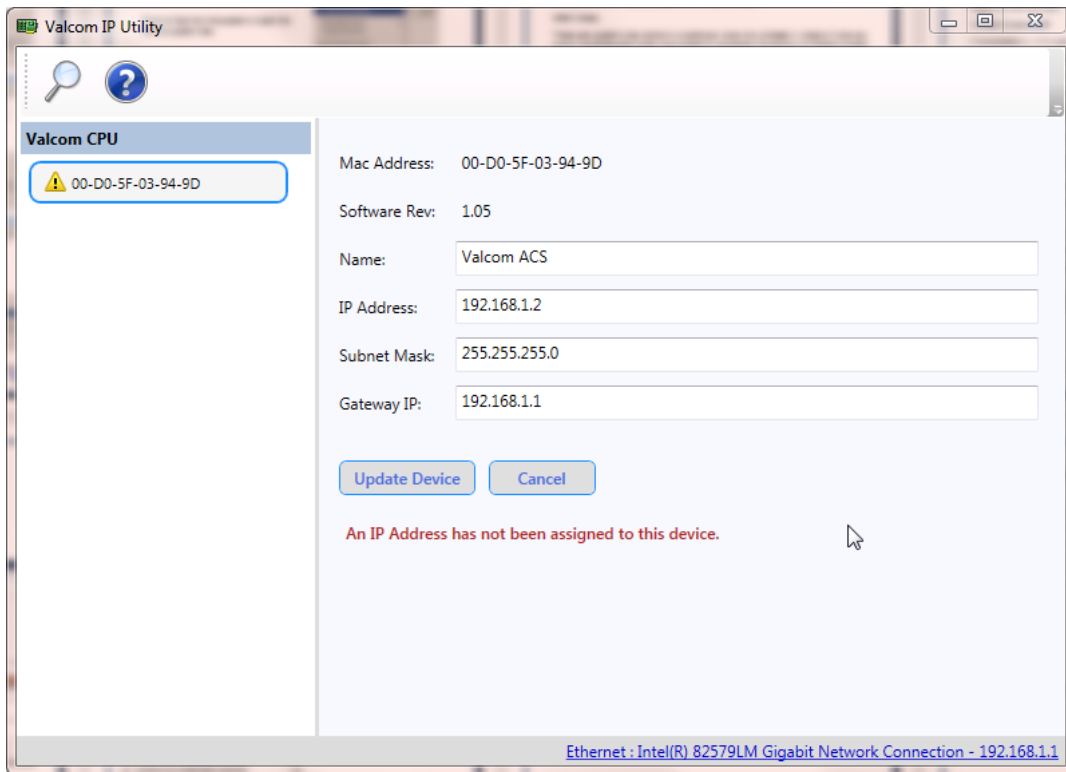
## Setting the IP address



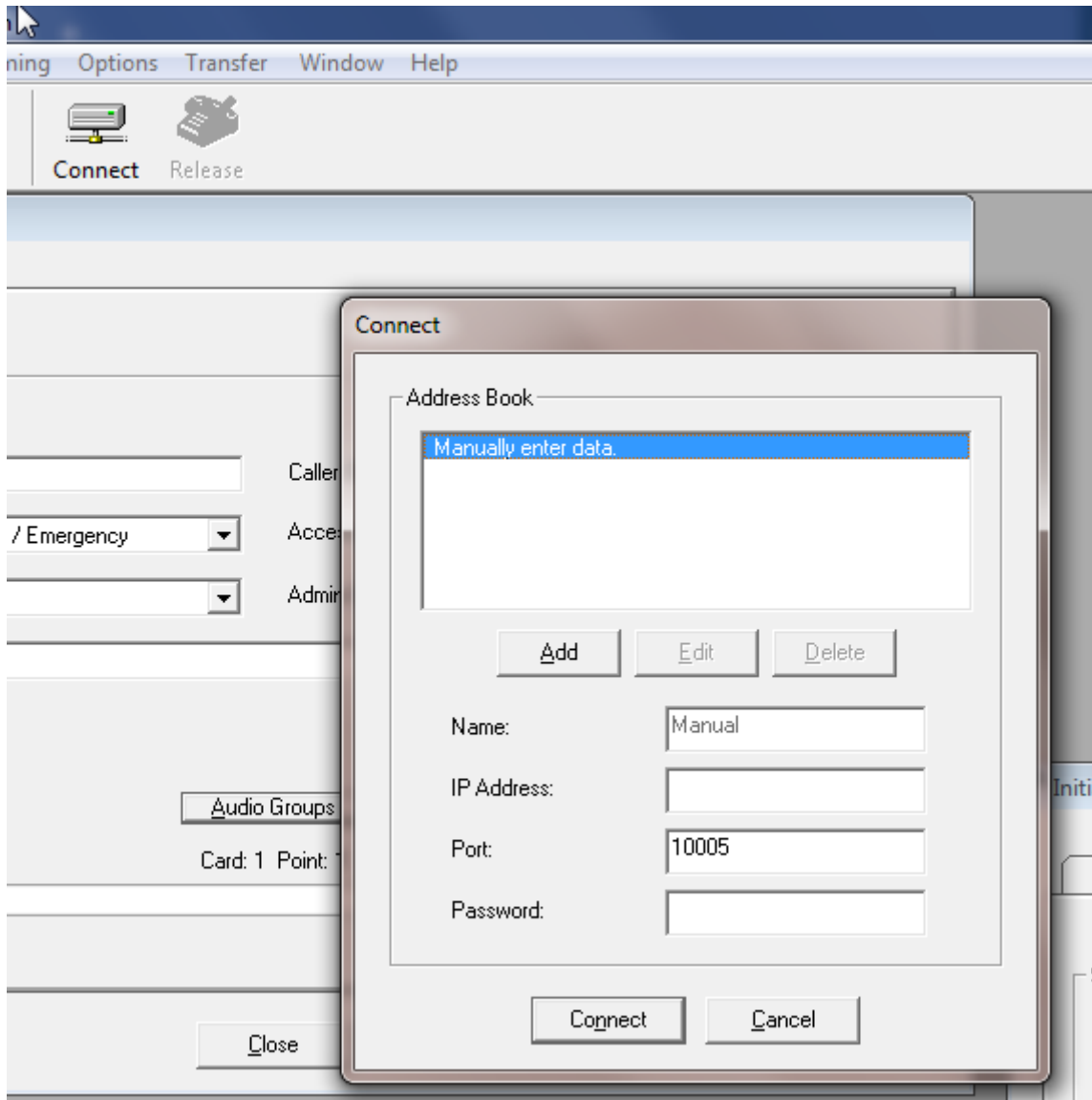
The system IP address is set with the Valcom IP Utility available at [www.Valcom.com/acs](http://www.Valcom.com/acs). Install the Valcom IP Utility, invoke the program, choose the NIC that is being used to communicate with the ACS and click the search magnifying glass.



Once the ACS is discovered, enter the desired network credentials and click “Update Device”





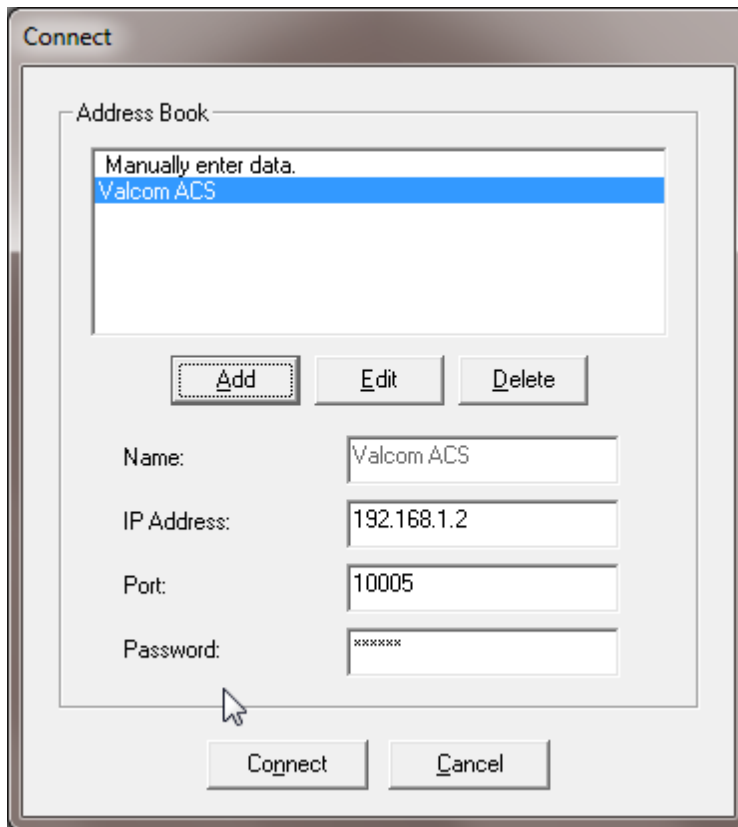


Once the IP address has been assigned, click the “Connect” icon, Click the “Add” button on the Connect form.

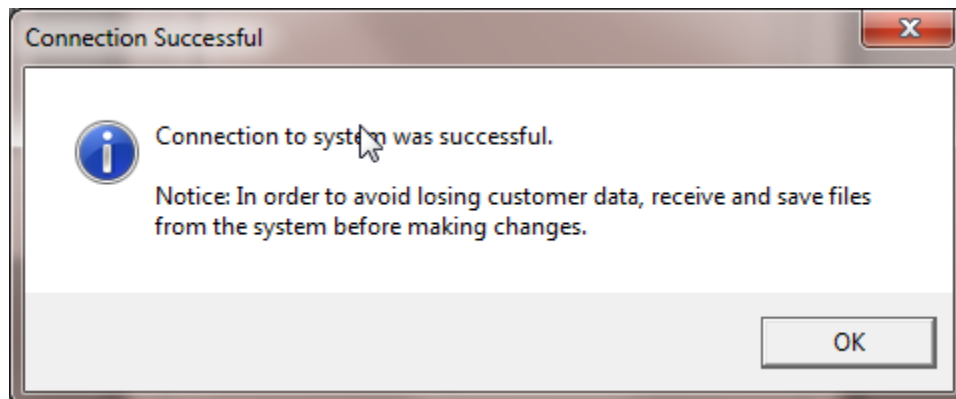
The screenshot shows a dialog box titled "Modify Address". It contains four input fields: "Name:" (empty), "IP Address:" (empty), "Port:" (containing "10005"), and "Password:" (empty). At the bottom, there are two buttons: "OK" and "Cancel". A mouse cursor is positioned over the "IP Address:" label.

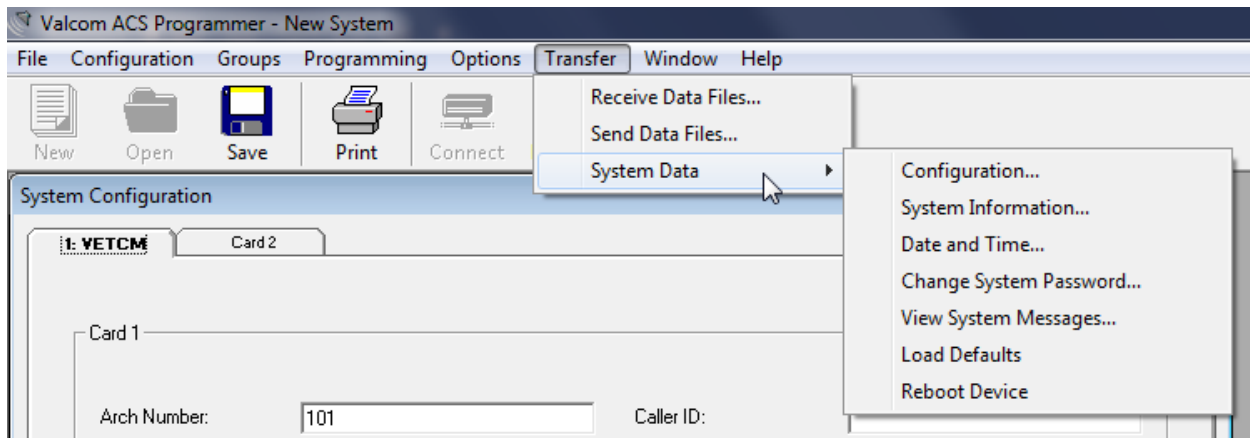
The screenshot shows the same "Modify Address" dialog box, but now the fields are filled: "Name:" contains "Valcom ACS", "IP Address:" contains "192.168.1.2", "Port:" contains "10005", and "Password:" contains "xxxxxxx". The "OK" and "Cancel" buttons remain at the bottom. A mouse cursor is positioned over the "IP Address:" label.

Enter a system name, IP address, port 10005 and the password. The default password is 825266. Click the "OK" button once all entries have been made.



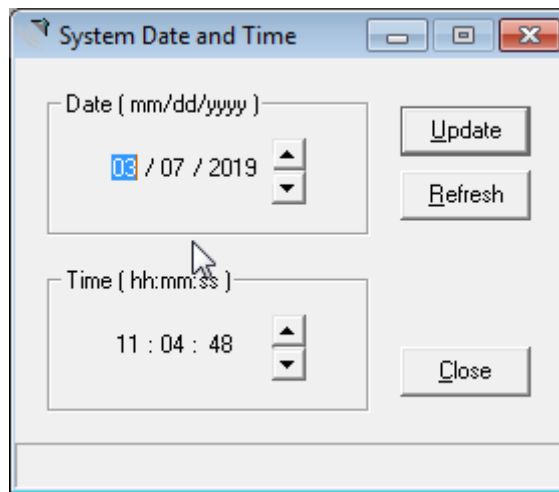
Choose the system name from the Address Book and choose “Connect”



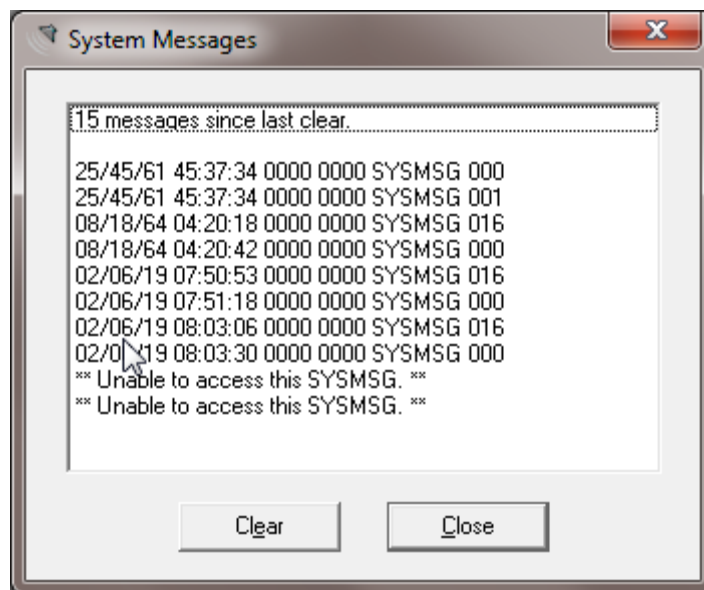


Once connected, the “Transfer” menu becomes available. From here, the currently loaded program files may be sent to the ACS or current ACS programming may be retrieved for backup of modification.





System Time and Date allows manual time and date adjustment, while System messages shows the first 15 system generated messages since initialization.





The system password (default being 825266) may be modified to another numeric password.

Load defaults sets the ACS back to factory defaults and Reboot reboots the system processor.

## Office Phone Dialing Plan

|  | Access Levels |   |   |
|--|---------------|---|---|
|  | 1             | 2 | 3 |
| #110 All Call Page   | X             | X | X |
| #111..134 Page Groups 1..24  | X             | X | X |
| #*111..134 Emergency Page Groups   |               | X | X |
| #35 Temporary Page Group   | X             | X | X |
| Architectural number, #, ... Architectural number, #, #  |               |   |   |
| #36 Page to all "Test" rooms only  |               |   | X |
| #40* Enable Automatic Relay Operation  |               | X | X |
| #40# Disable Automatic Relay Operation   |               | X | X |
| #41..48 Control Individual Relays  |               |   |   |
| * Operate Relay  |               | X | X |
| # Release Relay  |               | X | X |
| #50* Enable Automatic Time Schedule  |               | X | X |
| #50# Disable Automatic Time Schedule (will not reset at midnight)  |               | X | X |
| #51..58 Time Schedule 1..8   |               | X | X |
| * Activate Selected Event List   |               | X | X |
| # De-activate Selected Event List  |               |   |   |
| #61..62 Program Sources 1..2   |               |   |   |
| * ON   | X             | X | X |
| # OFF  | X             | X | X |
| #65..66 Monitor Program Sources 1..2   | X             | X | X |
| If sources are not on via dial code or through the Administrative Software Tool, then the user will receive a busy tone. |               |   |   |



|  | Access Levels |   |   |
|--|---------------|---|---|
|  | 1             | 2 | 3 |
| #71* Enable Call Forward after time-out  | X             | X | X |
| #71# Disable Call Forward after time-out   | X             | X | X |
| #72* Enable Immediate Call Forward   | X             | X | X |
| #72# Disable Immediate Call Forward  | X             | X | X |
| #73 Call Pickup  | X             | X | X |
| #85 Define test rooms<br>Architectural number, #, ... Architectural number, #, #                               |               |   | X |
| #86 Reset individual test rooms to normal operation<br>Architectural number, #, ... Architectural number, #, # |               |   | X |
| #87 Reset all test rooms to normal operation (automatically<br>resets to normal operation at midnight)         |               |   | X |
| ##0 Emergency All Call   |               | X | X |
| ##1##1 Distribute Tornado Tone   |               | X | X |
| ##2##2 Distribute Fire Alarm Tone  |               | X | X |
| ##3##3 Distribute Emergency Time Tone  |               | X | X |
| ##4##4 Distribute All Clear Tone   |               | X | X |
| ##5 Stop Emergency Tones   |               | X | X |
| ##9* Crisis COS Enabled  |               | X | X |
| ##9# Crisis COS Disabled<br>(Crisis mode automatically resets to disabled at midnight)                         |               | X | X |
| *9 Bump Call in Progress   |               |   | X |
| *8 Join Call in Progress   |               |   | X |

## Temporary Page Groups

Using #35, Users may combine stations on-the-fly for an ad hoc audio group announcement.

## Automatic Relay Operation/Control Individual relays

System relays normally follow their preprogrammed functions. This automatic operation may be disabled and reenabled.

## Schedule Control

System schedules normally follow their preprogrammed days and dates. This automatic operation may be disabled and reenabled. Schedules may also be forced to operate on a given day using #51 - #58 commands.

## Program Sources

#61 and #62 commands turn the aux inputs on and off.

## Monitor Program Sources

When audio is being distributed through aux 1 or aux 2, the audio can be monitored via the admin phones

## Test Rooms

When individual stations are defined as "Test Rooms" (#85 dial code), they will not receive normal level audio group announcements or bell tones from schedules. Test rooms may be managed from dial codes and automatically reset at midnight each night.

## Crisis COS

Enabling Crisis COS removes all call button-initiated calls from the call queue and disallows normal level call button-initiated calls until the Crisis COS is disabled. Crisis COS automatically resets at midnight each night

## Join and Bump

When a called station is busy, level 3 admin phones may join the conversation or override the conversation thus bumping the other admin station from the call.

## Call Forward and Call Pickup

Using these codes, when “Use Secondary Admin” is checked under Admin programming, call button-initiated calls may be forwarded after the queue timeout or immediately. Call Pickup allows Admin 1 calls to be picked up by Admin 2 and vice versa.

## Clock Correction

The ACS has a gray DB15 to RJ45 adapter (945703) attached to a daughter board on the ACS CPU. Use a standard Ethernet patch cable to connect this RJ45 to either a V-DCPI Digital Clock Protocol Interface for 2-Wire Digital Correction or to the supplied VM-186 block for 59<sup>th</sup> Minute synchronous correction on the white/blue VM-186 output.

### 59<sup>th</sup> Minute Correction Relay Operation

On 8s from XX:57:54 to XX:58:02

On 14s from 5:57:54 to 5:58:08 (**AM and PM**)

Click [here](#) for clock correction diagrams.

## Programmable Voice Chip Module

The ACS CPU features the ability to store and utilize custom audio. This audio may manually or automatically broadcast over speakers, and in some cases, to administrative telephones.

The CPU can store approximately one hour of custom audio in the form of 8 bit, monophonic, u-law WAV files. Files are loaded from the programming PC via a manufacturer supplied USB A/B cable. One end of the USB cable connects to the USB port on the ACS CPU. The other end of the USB cable connected to a USB port on the programming PC.

The WAV files are loaded into the system through use of the VCMMessageUtil software via the included USB A/B cable.

The VCMMessageUtil software is typically distributed as a ZIP file containing both the VCMMessageUtilSetup installation file and a folder containing the USB driver. It is available on [www.Valcom.com/acs](http://www.Valcom.com/acs).

The USB driver is found in the VCMMessageUtil USB Driver folder and is called USBXpressInstaller.

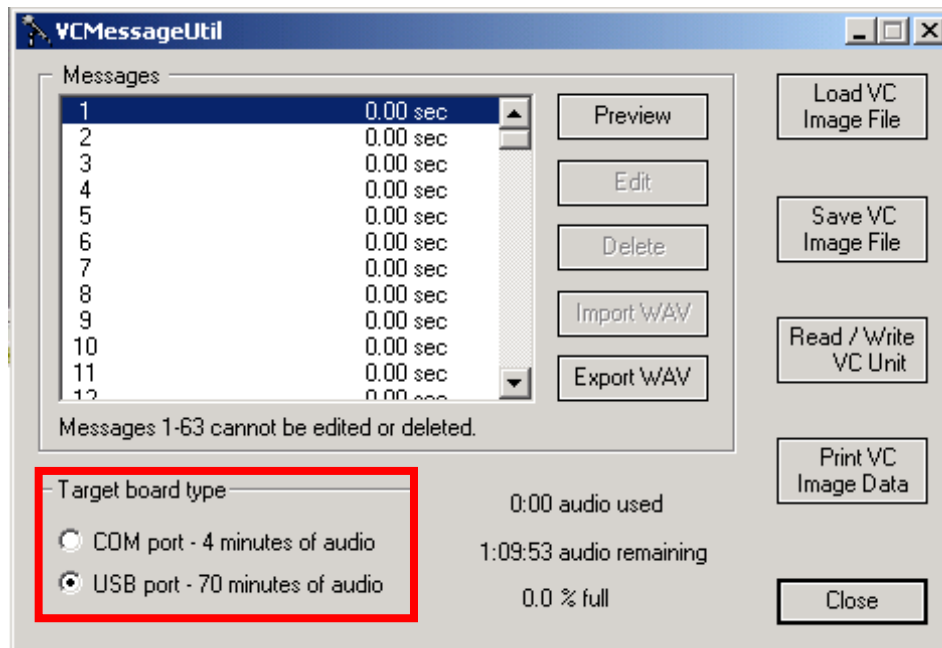


Run the USBXpressInstaller before running the VCMMessageUtilSetup installation file.



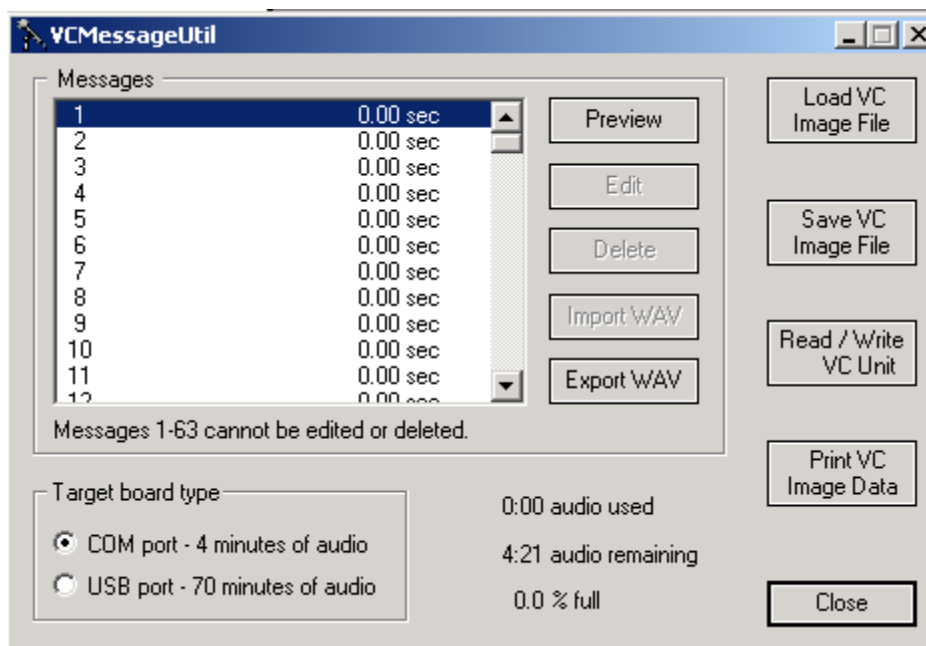
Once these 2 steps are complete, the VCMMessageUtil program will be found under the PC's programs directory.

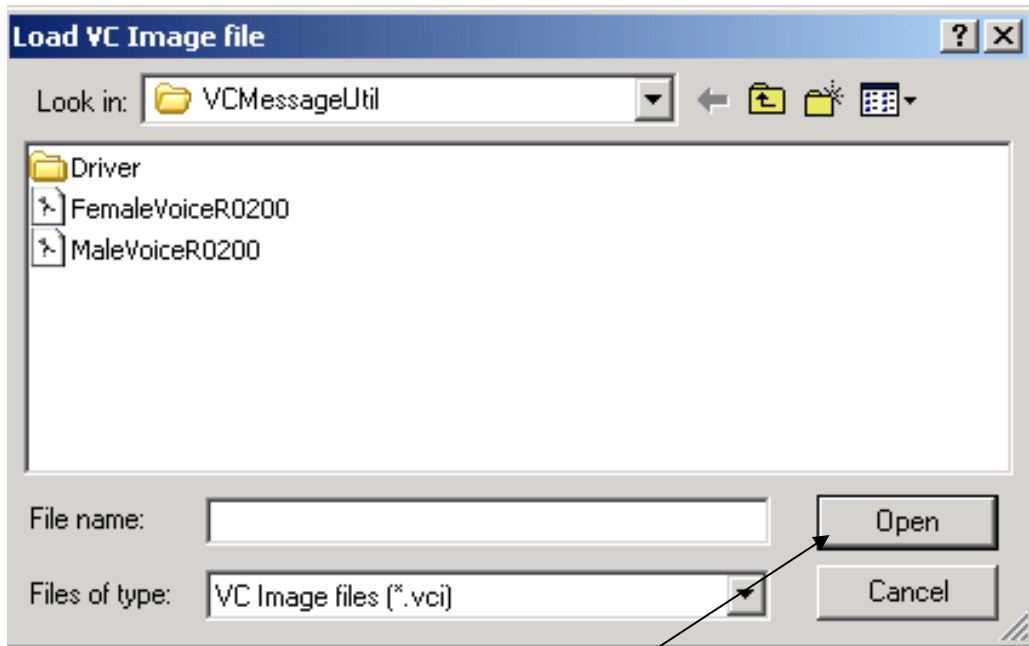
## Choose the Target Board Type of USB port



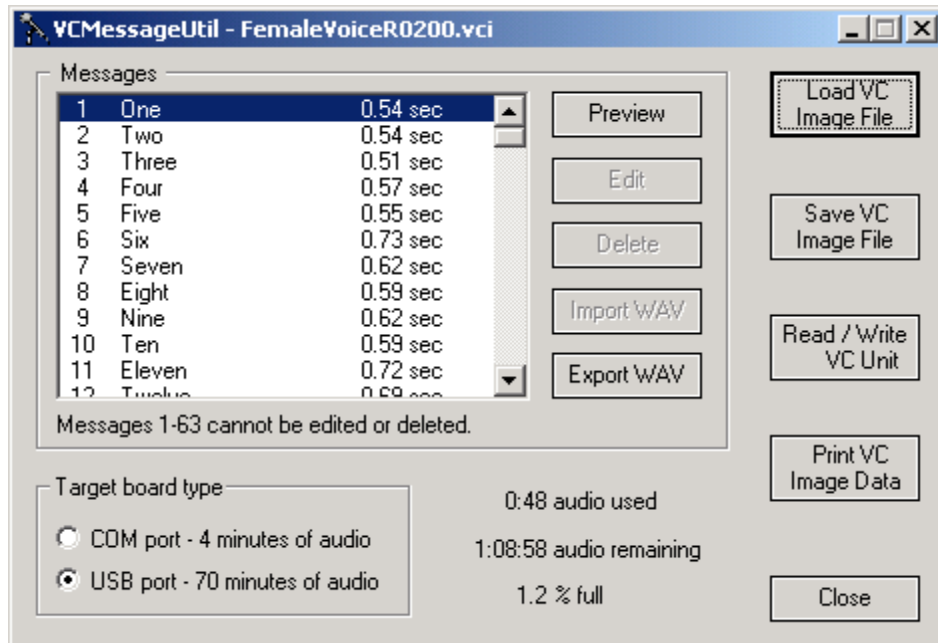
## Load VC Image File

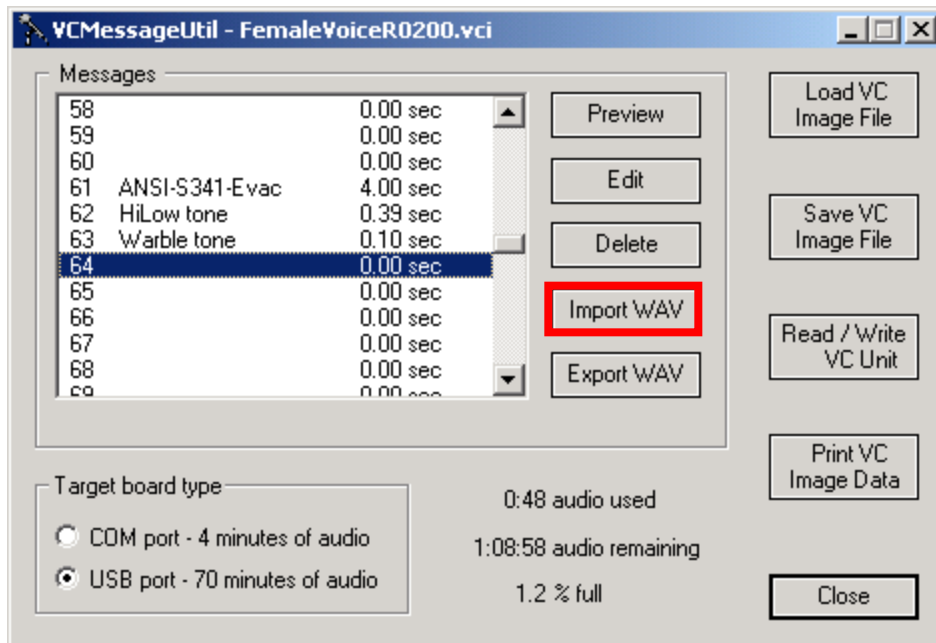
Initially, you will load a default file. Default files include all the voice phrases and some of the tones used by the system. Default files are available with the default phrases spoken by a Female or Male voice.





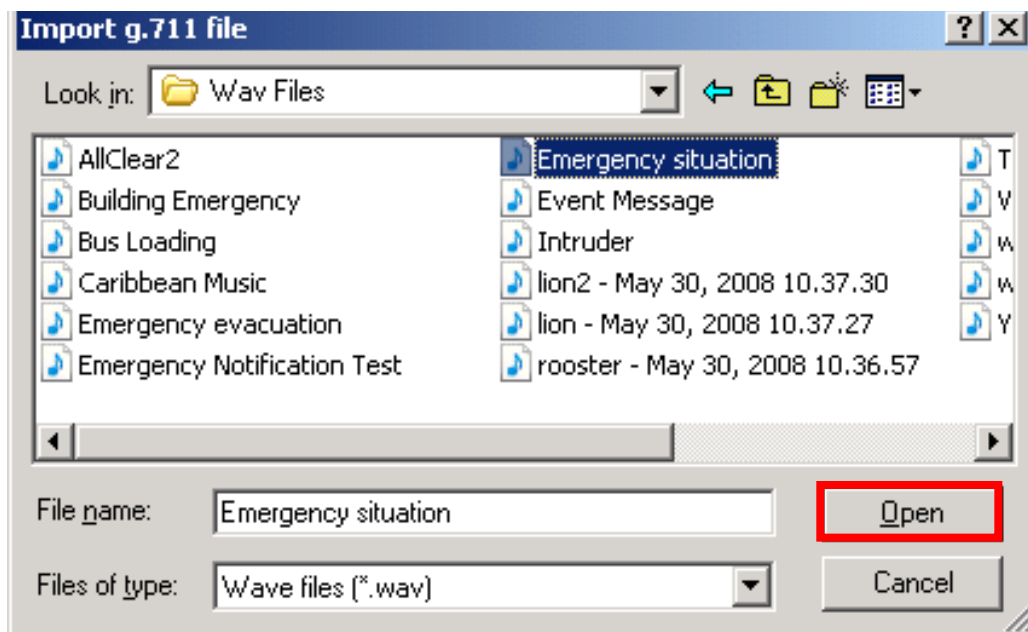
Choose a VC Image File and click Open.



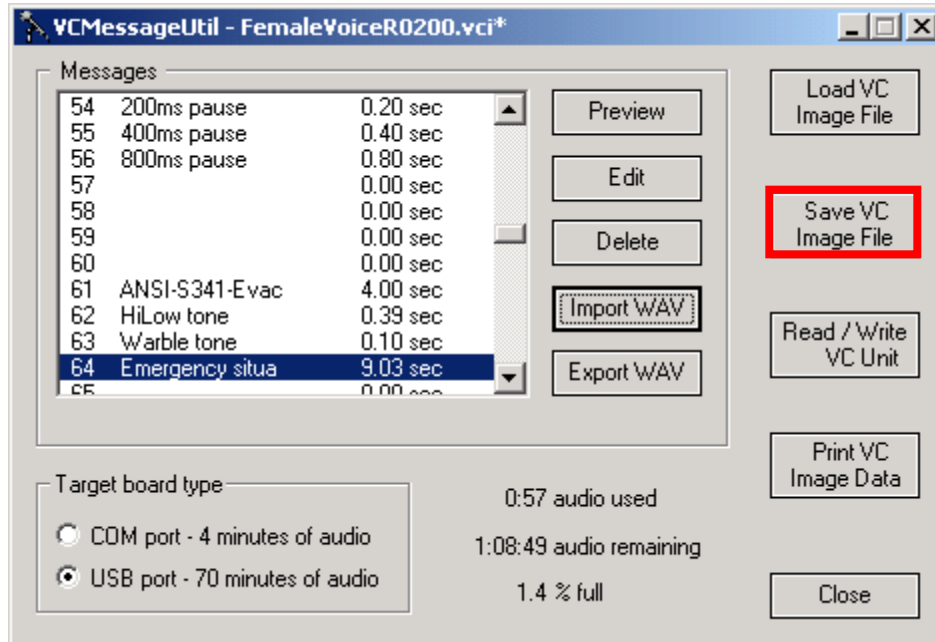


Custom 8-bit u-law WAV files may be loaded beginning at message 64. Choose the message slot you wish to populate and click “Import WAV”.

Browse to the location of the desired WAV file. Select the file and click “Open”.

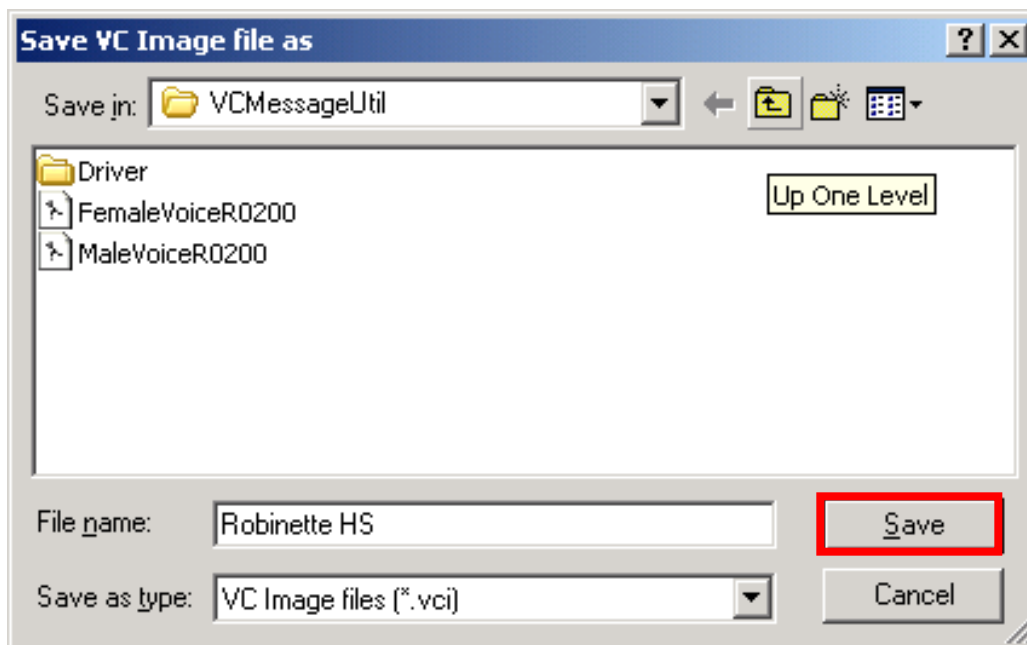


Repeat the above steps until all custom WAV files have been added.

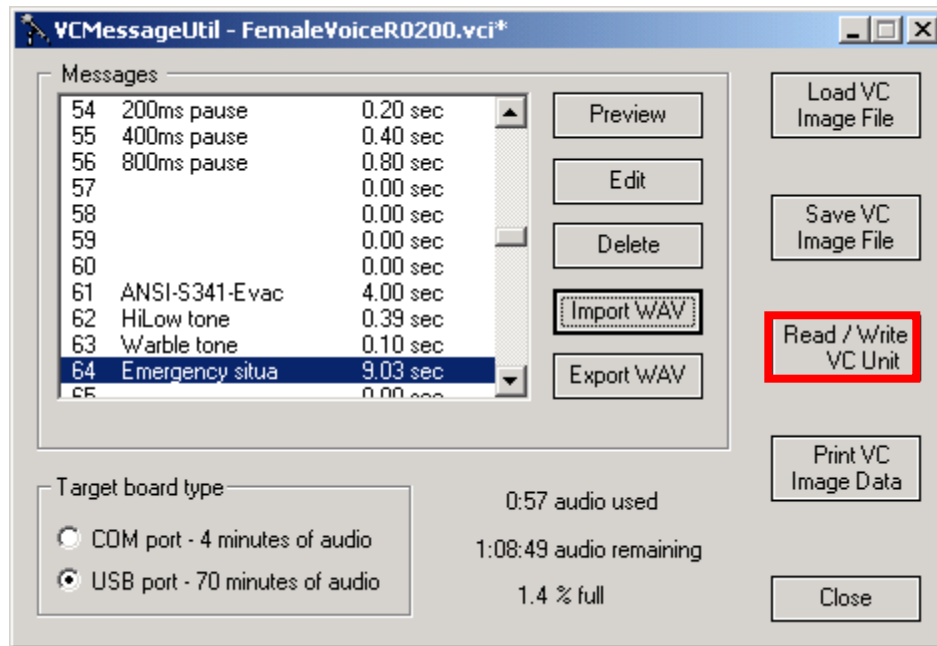


Click “Save VC Image File”, choose a folder and provide your customized VCI file with a unique name.

Click “Save” to save your VCI file.



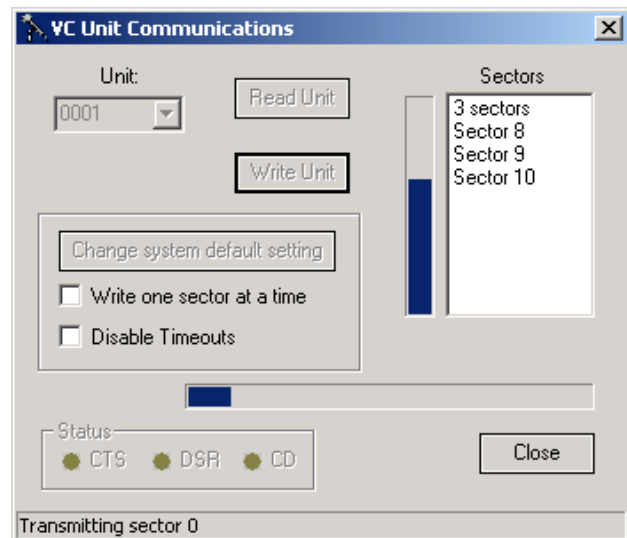
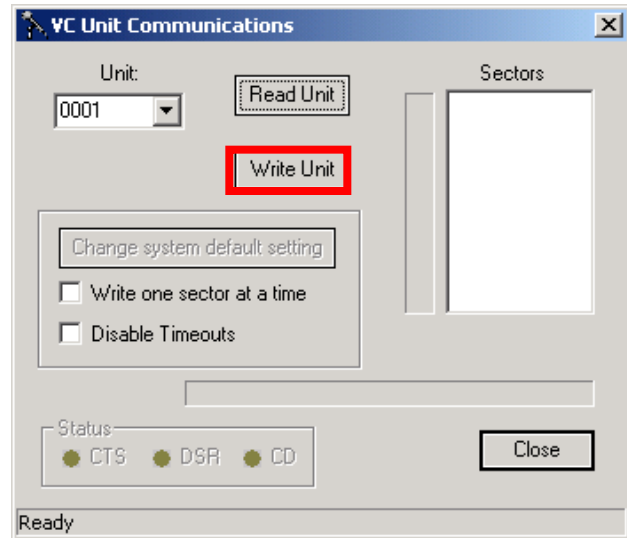




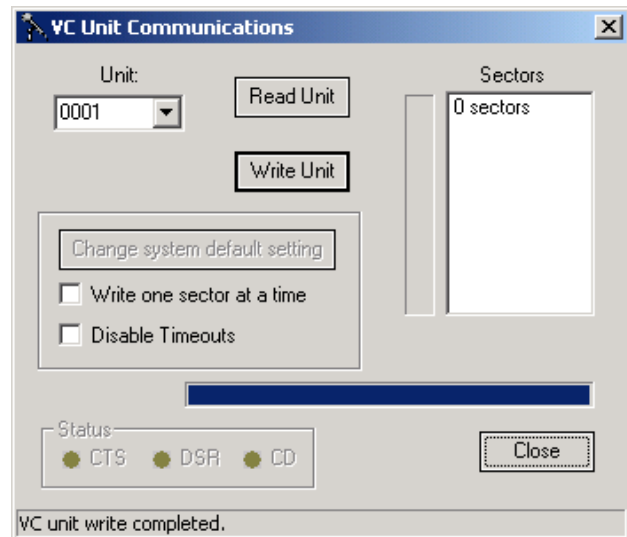
Click “Read/Write VC Unit” to upload the customized VCI file to the ACS CPU

## Upload Process

Click "Write Unit" to initiate the process of uploading the customized VCI file to the ACS CPU.



Write in process.



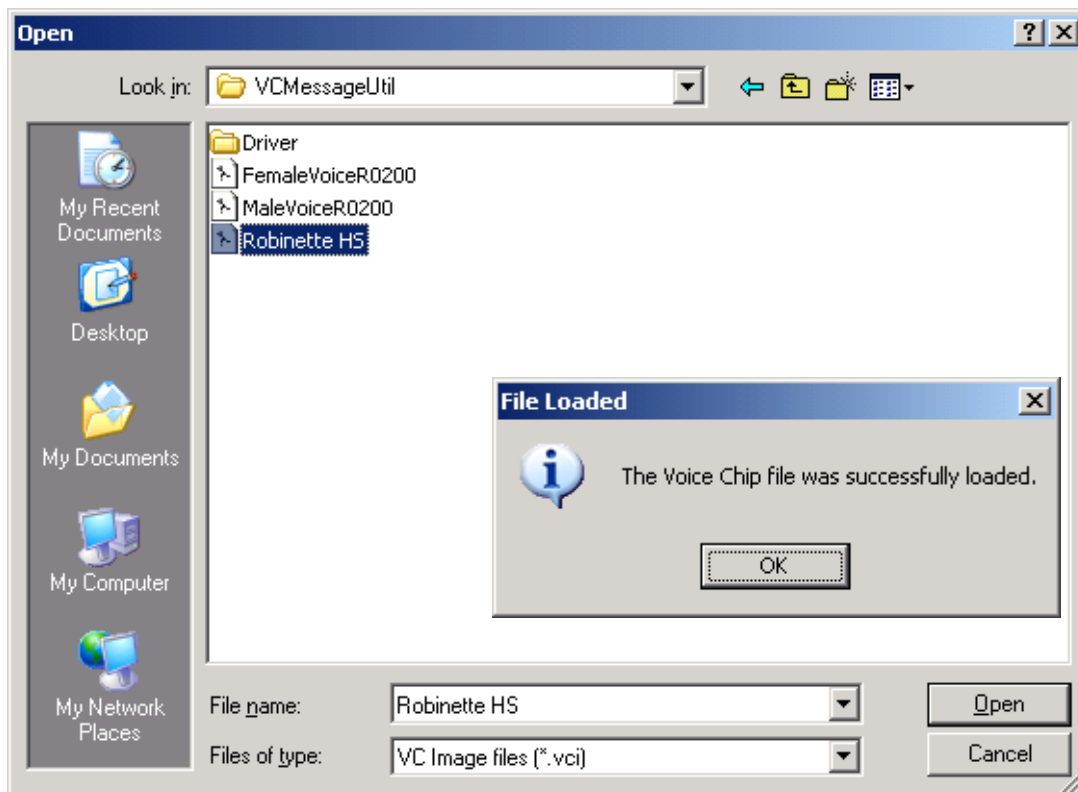
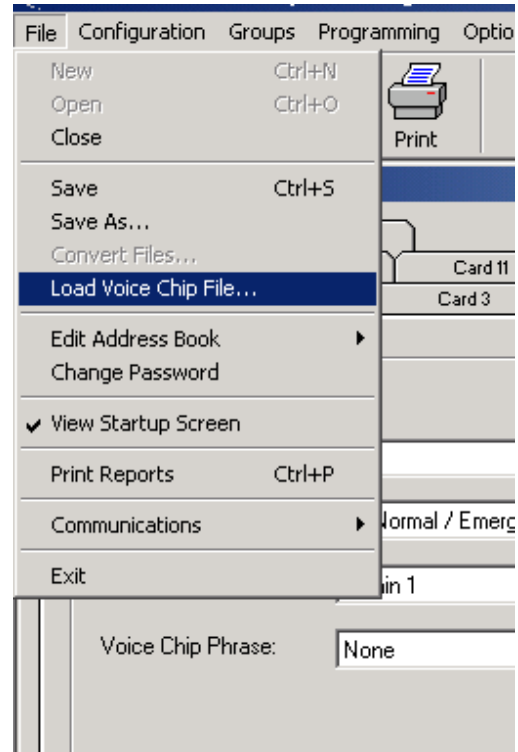
The final step is accomplished through the ACS System Programming Tool.

Invoke the ACS Programming Tool.

Receive files from the system or open the desired system files.

Click "File".

Select "Load Voice Chip File".



## Programmable Voice Chip Module Operational Details

“Phrase” as used below refers to pre-recorded audio. The recorded audio can be voice and/or tone.

### Schedules

A scheduled event may be programmed to play a phrase.

### Alert Tones

There are system-wide options to substitute voice chip phrases in place of one-way and/or handsfree alert tones (one phrase for handsfree, the same or a different phrase for one-way).

### Voice Phrase Dial Codes

The User may play a recorded phrase to a port or page group “on the fly”, by selecting the phrase and destination via dial codes.

### Play a Recorded Phrase – Off hook Mode

Format:

#31

3-digit phrase number 024..127

Page or all call dial code

For example, dialing: **#31 065 #\*112** will make an emergency priority page connection to audio group 2 (#\*112), and then will play phrase number 065. *The connection will remain active until the Office Telephone hangs up.* In addition to the recorded phrase, *the Office Telephone is connected to the speakers during and after playing the recorded voice.* This dial code option may be used to play a custom pre-announce tone before a real-time page, or to let the user speak additional information after playing a recorded announcement.

## Play a Recorded Phrase, with Queue and Repeat

Format:

#32

3-digit phrase number 024..127

Page or all call dial code

Number of plays 1..98

If not entered = 1, If 0 = cancel this request, If 99 repeat until stopped

Replay time #1..#999 (seconds)

If not entered = 30 seconds

For example, dialing: **#32 065 #\*112 5 #60 <hang up>** will make an emergency priority page connection to audio group 2 (#\*112), will play phrase number 065, and will release the page. This will be repeated after 60 seconds, and the sequence will continue until the phrase has been played 5 times.

-The replay time is the *minimum* length of time between repetitions of the phrase

-Timing for the replay may be longer than the time-out period if new phrases are added to the queue, or if multiple phrases are being repeated

-Up to 12 phrases may be queued for play

-New phrase requests will be queued according to the order entered and the page priority

-Priorities, from high to low: Emergency all call, emergency group, all call, group

-New phrases will be played before repeat phrases

-Only one phrase will be played at a time, to avoid missing speakers in overlapping Groups.

-The current phrase will be interrupted if a higher priority request enters the queue; the interrupted phrase will be played in its entirety as soon as possible.

## Cancel a Phrase

Remove all queued occurrences of a phrase and cancel if playing.

Format:

#33

Phrase 024...127

## Clear the queue

Cancel the current phrase and delete all queued phrases.

Format:

#34 (level 3 Office Telephone only)

## Voice Phrase Programming Setup

The Voice Chip Programmer (VCMesssageUtil) is used to send the digitized audio to the ACS CPU.

The Voice Chip programming input in a USB type connector located on the back edge of the ACS CPU. Use the USB cable and drivers provided. The programming PC must have a USB port available for programming phrases.

The Programming Tool obtains the information it needs to enable the voice phrase features by importing phrase names, numbers, and durations from the Voice Chip Programmer's data file (.VCI file).

**Important** – Importing the Voice Chip Image File into the Programming Tool: When the Voice Chip Programmer is used to send a new or modified .VCI file to the system, you **must** also perform the following to fully implement the changes:

1. Use the Programming Tool to "Receive Files" from the system
2. Go to "File", "Load Voice Chip File..." and open the new .VCI file
3. The phrase information is now available within the Programming Tool. Modify Schedule, Alert Tone, and/or Room Number Announcement programming as desired to utilize the voice phrases.
4. Save your files
5. "Send Files" back to the system

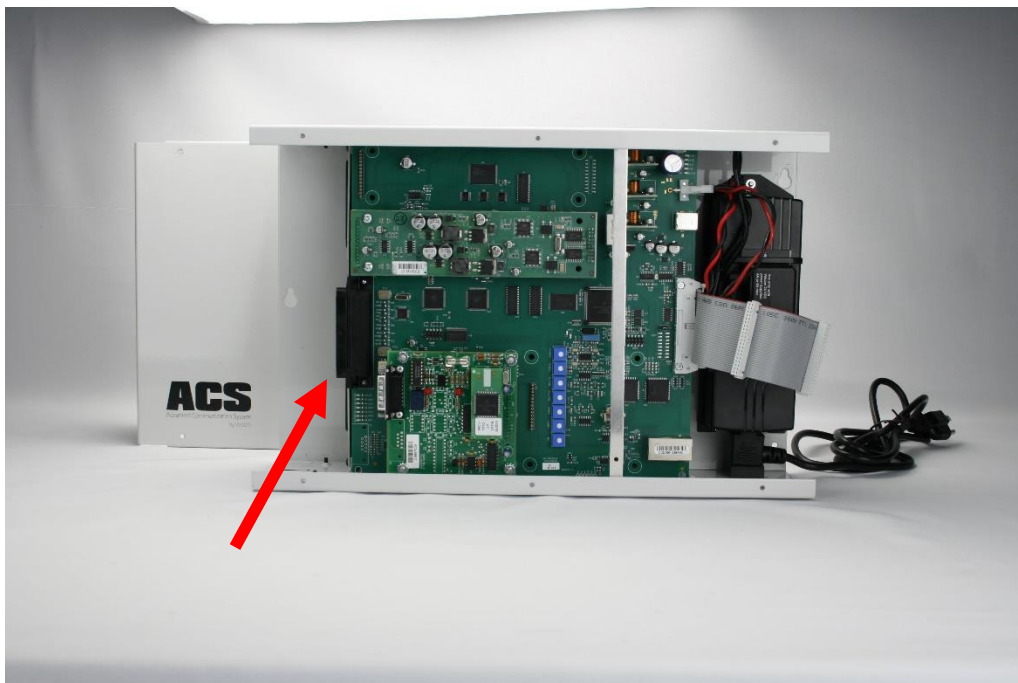
Product Images



Wall Mounted V-ACS Main / Expansion Cabinet



Internal View



Speaker and I/O wiring may be managed internally with the included wire management connection blocks or externally via Amphenol connected 25-pair cables and 66 or 110 style blocks



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