

WaveStation

Demo Programs for Presenters & Sponsors

When you wish to start the program, click on the icon. You will be asked for a password after entering the password the machine will load the last program which was played.

The following demo programs have been setup on this computer. This document describes the actions of each one of the programs.

Please Do Not Alter These Programs. They Are Needed for Demo's

Program Log	Log Filename	Description
<i>Radio Heatherwood Mixed Music</i>	Basic.BSI	<p>This program schedule log shows a program constructed from individual music files taken from each of the categories.</p> <p>Each item on the schedule is known as an event.</p> <p>The files for each category are kept in separate directories</p> <p>As the events are completed the program will select the next item on the schedule and load it into to one of the three playing decks at the top of the screen.</p> <p>In it's simplest form this is the basic operation of the software.</p>
<i>1960's Cart Test Using 4 A to Z Carts</i>	1960Cart.BSI	<p>To ensure a rotation and randomization of music. All music files for the category 1960's have been divided into four holding boxes (called carts)</p> <p>Each cart contains a list of the music files ie titles A to F, G to L etc.</p> <p>The program log is then laid out in a pattern of each cart in order of A to Z.</p> <p>As the program moves from one event to another it will select one of the music files from each cart and load it into the decks at the top of the screen.</p> <p>As the program progresses down the schedule. The next time it encounters a cart which it has already selected a music file from. It will select a different file and play that.</p> <p>This way music can be rotated randomly and no program will ever be the same.</p> <p>When all tracks have been played in a cart. The program will rotate the playing order of the tracks in the cart and start again.</p> <p>The combination of music being played is endless.</p>

I Want to Construct My Own Programs ?

There is facility here to construct your own programs and experiment. Create your own programs but don't delete any files from the event builder or alter the demo programs listed here.

<i>Cart Compilations</i>	<i>CateCart.BSI</i>	<p>This program log follows on from our previous program.</p> <p>The schedule is constructed from carts from each one of the music categories. Like the 60's they rotate as the schedule moves down.</p> <p>The cart holding the list of music files allows various versions of items to be stored and selected at random. This way you can rotate items of any type.</p>
<i>Test Voice 70's</i>	<i>Voice70s.BSI</i>	<p>This test program brings together the use of carts and the use of specified music tracks with the added facility to provide voice dialogue between events on the schedule.</p> <p>The voice dialogue items are known as voice tracks.</p> <p>A feature of the program allows you to construct specific voice links between items on the schedule and these are then played in order of the schedule.</p>
<p><i>The above shows the basic types of programs which can be achieved. In addition to a basic play operation. Any program or event can be timed to play at a specific time/day/year. The provision of the timer allows endless possibilities, especially programs/events which only need airing at specific times.</i></p>		

The Role of PC's in the Future at Heatherwood

The software and installation of PC's at Radio Heatherwood will be initially to provide an holding service which will be tailored to the locale of the hospital. It will include input from hospital depts wards etc. as well as appropriate external groups. The main software WaveStation will be on one pc delivering the sustaining service. There will be limited access to this PC.

The second PC located in the production area will have a production version of WaveStation on it as well as a full version of a program called Wavecart. The production version of Wavestation is so that you can construct programs on a theme which then via the internal network can be up loaded to the sustaining service PC.

Wavecart is a program described as live assist to broadcasters. This means a keyboard and screen located in each studio will allow you to instantly play via one of the on screen cart machines any music/information file which is on the production machine.

An important software program which will be loaded on the production machine will be a program called Cooledit 2000. This program is very powerful and allows you to create jingles edit interviews mix music and save in any format currently being used. An example of the power of cool edit can be heard any time you play one of the Jingles from mini-disc2. These were all edited in Cooledit2000.

Tutorials on the use of Cooledit are on the machine as well as some tuition will be available from the station engineer. Included in this folder are some text instructions on some of the Cooledit functions.

Glossary

The following Glossary pages are included so that you can become familiar with the terms used by WaveStation and professional audio engineers. The majority of terms are relevant to the use of WaveStation. If you have heard a term and you don't know what it means it may be listed here.

GLOSSARY

ALLSTOP

A macro command with the format ALLSTOP that stops everything. Will step to next event if auto-stepping is ON.

Asynchronous Deck

An additional playback deck in WaveStation, which plays asynchronous audio events such as those activated by a hotkey or trigger. This deck allows you to monitor events that are not listed as a scheduled event in the log. Display or hide the asynchronous deck using the Tools menu.

Automation

The replacement of manual tasks by computerized methods.

AutoStep

A menu command that tells WaveStation to automatically continue to the next line after it has finished playing or executing the current event creating a “stream” or “chain” of events. If AutoStep is “ON” for an event, a “+” mark will be displayed in the “Cue” column. AutoStep can be activated by highlighting an event and hitting the “+” key on your keyboard or by selecting the Auto Start option in the Event Builder for the selected event. Typically you will want AutoStep on for events unless you are using WaveStation in a production studio where you want to play the same line over-and-over again without having to move the “selected” line.

Also, A macro command with the format AUTOSTEP <On/Off> that turns auto-stepping of events on or off.

Auxiliary

Supplementary equipment or features that provide additional capabilities to a basic system. Examples of Auxiliary equipment in WaveStation are the “triggers” or “audition” path (channel) assigned to your sound card (audio device).

Cart

A list of two or more audio events (cuts) to be played in a virtual loop and which are associated with a single event name (cart number). For example, if an advertiser had two audio segments (spots) they wanted to run alternately (in a 50/50 rotation), you would enter both “cuts” in a WaveStation Cart event and they would play alternately. Carts in WaveStation are data lists that contain the names of WAV files, not the actual audio data. Because of this, multiple carts can include the same audio file, without taking up additional hard drive space. These files can be recognized by the extension .CRT. For example, a cart called TEST would actually be a file named TEST.CRT.

Category

A specific type of event in a program log. A group or collection of similar files. Eight categories in WaveStation are predefined. They are App, Audio, Log, Macro, Rec1, Rec2, Script, Text, Video and Vtrack.

Channel

A path in an audio circuit. It can refer to an incoming stream or input, an output, a recording channel or path, playback channel, preview channel, etc.

Configuration Settings

WaveStation's program options that can be modified by the user. Configuration settings tell WaveStation where to look for files, what settings to turn on automatically at startup and what hardware is installed, among other things. They are settings that vary depending on a user's individual requirements and system. Configuration settings are found in the Tools/Program Options menu.

Cool Edit2000 (BSI Product)

A distinct software application that can be launched from within WaveStation. It is a digital audio recorder and editor that allows you to manipulate your audio files. It includes numerous special effects modules and can mix up to 64 tracks together using just about any sound card.

Crash Recovery

A WaveStation option that, when activated, keeps a copy of the current log in memory so that, if a power outage should occur, the log can be reloaded as it was last displayed before the interruption. WaveStation must be placed in your Windows StartUp folder and Event Logging must be ON for recovery to take place. This feature uses extra CPU resources so is only recommended when necessary (for example, if power outages are frequent or expected).

Cue

An indicator. In WaveStation, it is the column in the program log area that shows you how the event (song, command, etc.) is going to behave when its time has come. A cue is also an indicator that tells you where you are within a particular song. For example the "outcue" for a song would be the last few words sung—indicating to the jock that the song is ending. To "cue up" a song means to make sure it's properly set before it's aired. This requires a special "auditioning" circuit or channel on your audio card so you can "preview" sound on one channel while another one is used for broadcasting.

Cut

A song.

Driver (Device Driver)

A file or program that allows your peripheral devices (non-essential hardware) to communicate with your operating system software. It contains the precise machine language required to perform the functions requested by software applications.

Duplex playback/record audio card

Duplex playback audio cards have two channels instead of one for your digital audio to pass through. This means you can do two things at once in terms of playing or recording sound. For example, it provides you with the ability to overlap spots or songs, creating seamless segues.

Editor Mode

See Production Mode.

End Date

The last valid date a particular audio file is scheduled to be used.

Event

An entry in a program log. An event may be Application, Text/Tag, Audio, Macro, Recording, NetShow Scripts, Program Logs, and Video.

Fade

A gradual increase or decrease in volume levels.

FILECOPY

A macro command with the format FILECOPY <SourceFileName, DestinationFileName> that copies a file from one location to another. Example: FILECOPY c:\bsi32\audio\test.wav, d:\audio\test.wav would copy the file test.wav from the C: drive location to the D: drive location specified.

FILEDELETE

A macro command with the format FILEDELETE <FileName> that deletes a file. Example: FILEDELETE c:\bsi32\audio\test.wav would permanently delete the file test.wav from your C: drive.

Hooks

A hook is a segment of an audio cut that contains the most familiar refrain. It is comparable to a movie trailer or preview. Hooks are set like tones in the Info Editor. By marking hooks in your songs, you can then add them to a "hooks cart" to play as a preview of upcoming music.

HotKeys

Shortcut keys. HotKeys give live-assist operators (disk jockeys, news people, etc.) the ability to instantly fire pre-programmed functions, including playing audio files, loading program logs, displaying text files, and launching applications.

I/O Card (Expansion board)

An I/O or Input/Output card is a printed circuit board that plugs into a "port" in your PC and extends the computer's ability to control another peripheral device. In other words, it allows you to communicate with other equipment like satellites, tape recorders and most importantly, the coffee machine. All the boards (cards) that plug into a personal computer's bus are expansion boards, such as display adapters, disk controllers and sound cards

IMPORTLOG

A macro command with the format IMPORTLOG <LogFileName> which imports a program log using the default import filter from setup and then loads it into WaveStation. Example: IMPORTLOG SUN-AM would import a program log SUN-AM and then opens that log in the main window.

Intro Time

The "Intro" or Introduction time is useful for Disk Jockeys who want to "talk up" a song. It is the length of time before the first vocal or music bridge in a song.

Liner

Details given by a Disk Jockey on-air.

Live-Assist

The combination of manual and computerized operation of software.

LOADHOTKEYS

A macro command with the format LOADHOTKEYS <HotKeyFileName> that loads a new HotKeys set. Example: LOADHOTKEYS TESTSET would load a HotKeys set named "testset.key" and it would become the "current" HotKeys set.

LOADTRIGGERS

A macro command with the format LOADTRIGGERS <TriggerFileName> that loads a new triggers set. Example: LOADTRIGGERS AMDRIVE would load a triggers set named "amdrive.trg" and it would become the "current" triggers set.

Macros

Commands with user-defined parameters that lets you control functions such as adjusting the auxiliary and WAV volume of your system, creating programmed fades and setting your system time. They differ from macros used in other Windows applications in that WaveStation macros are not scripts (a recorded series of keystrokes assigned to a single shortcut key), but rather execute single metacommands with user-defined parameters. WaveStation macros are preset and users cannot create new ones at this time.

Memorized Events

Events that have been added to the Memorized Events window list. This window stores frequently used events, which is especially useful for macro or trigger commands that can be complex or tedious to enter repeatedly.

Mixer

A tool used to combine various audio signals into a common output. The WaveStation mixer is designed specifically to let you control the input and output audio volume levels of your system.

MIXFADE

A macro command with the format MIXFADE <MixerChannel, StartVolume, EndVolume, Milliseconds> that creates a fade over time (milliseconds) for a mixer channel. Example: MIXFADE 2,80,20,10000 would fade mixer channel #2 from 80% to 20% level over 10 seconds. Fades can go up or down.

MIXVOLUME

A macro command with the format MIXVOLUME <MixerChannel, Volume> that creates a fade over time (milliseconds) for a mixer channel. Example: MIXVOLUME 3,50 sets the volume for mixer channel #3 to 50%.

Mono

A single digital audio channel (as opposed to stereo).

MSMS

A Microsoft application and platform for streaming compressed audio/video over the Internet and Intranets.

Non-Sequential Start

An option used to start non-audio events that you want to execute at a certain time but that aren't related to the scheduled events in the current program log. For example, if you want to record a program from a satellite feed at a certain time, instead of putting it in a specific slot in the log, you can just put it at the very end of the log and give it a "Non-Sequential Start" start option in the Event Builder.

Overlap (Double, Triple)

Playing multiple audio files at the same time. A double overlap means two files can be heard, a triple means three files can be heard. This capability requires that you have multiple audio playback channels available simultaneously.

Production Mode

A way to run WaveStation on non-licensed or registered machines without the Demo timer. This is provided so users can edit logs and carts remotely. Everything will work in this mode except for audio playback from the Main Decks. Run WaveStation in Production Mode by adding the switch “/production” to the path when WaveStation is launched. To add this to the path, right-click on your WaveStation icon, choose Properties, Shortcut tab. Add a space and then /production after wstation.exe in the Target field.

Program Log

A list of items to be played by WaveStation in chronological order. The log is displayed in the center of the Main Window. Entries, or items, in the log are called Events.

RELAY

A macro command with the format RELAY <PinNumber1, {PinNumber2, PinNumber3, ...} Time=Milliseconds/On/Off> which makes device card contact closure if you have a CIO-DIO24 relay card installed in your system.

Relay Rack (Switcher)

The circuit board in a Switcher Kit.

REM

A macro command with the format REM <text> that places a remark line in the program log. Will auto-step. Example: REM This is a test line

Sampling (Digitizing)

The process of converting an analogue to digital signal is known as digitizing or sampling. With audio, the analogue waveform is chopped into a number of slices per second. At each slice, the amplitude is measured and rounded to the nearest available value. The more chops per second (sampling rate) and the finer the values assignable to the amplitude (dynamic range), the better the representation of the original.

Sample Rate

The rate at which the data in an analog audio signal is extracted to form a digital representation of the sound wave. In a computer, it is impossible to work with an infinite amount of data, which is what would be required if a continuous wave were to be represented digitally inside the machine, so at every possible instant in time we would have the value of the waveform at that instant. For this reason, it is necessary to sample sound wave data. Sampling means breaking a wave at various intervals and using a single value to represent all the values in each interval. By dividing the waveform like this, one second of audio can now be represented by a finite number of values. The sample rate is the number of divisions taken per one second of audio.

SAVELOG

A macro command with the format SAVELOG that saves the current program log with the default name. Example: SAVELOG would save all changes to the Program Log currently in use.

SayTime

Accessory software that allows WaveStation to say the time of day. SayTime is customizable for your own voices and the time statement can include a station header (WKRP News time is...). There is also a macro command with the format SAYTIME.

Sectone

“Sectone” or “Sec Tone” is a broadcast term related to the use of magnetic tape cartridges or carts. Sectone is short for secondary tone and indicates the point, or cue, near the end of a song where it’s OK to begin playing the next event. It is the starting point of the “Segue”.

Segue

A transition between two audio segments. The segue length is the time during which two consecutive audio segments overlap or are played simultaneously. The sectone setting determines the segue length.

SERIAL

A macro command with the format SERIAL <SerialCommand>. It allows you to send a command to the configured serial port. For Example: SERIAL START will send the start command to the device connected to the serial port. The command set depends on you’re your particular equipment and configuration. Check your device manual for available commands.

SETTIME

A macro command with the format

Sound

When two or more objects collide, they produce a vibration or waves of energy in the surrounding air. If the vibration is within a certain frequency range, we sense it in our eardrums as a change in air pressure. Our brain then interprets this as sound. Sound waves move in all directions outward from the original disturbance like the ripples created from a stone dropped in a pool of water. Bigger waves produce more pressure and louder sounds. Smaller waves do the opposite.

When sound is recorded through a microphone, the changes in air pressure cause the microphone's diaphragm to move in a similar way to that of the eardrum. These minute movements are then converted into changes in electrical signals. All sound cards generally produce sound in this way, only in reverse. They create, or play back, sound waves. The changes in voltage are then amplified, causing the loudspeaker to vibrate, which in turn cause air pressure changes, interpreted by humans as sound.

The frequency range of vibrations felt by humans is between 20 and 20,000 cycles per second. This gives us the sensation of pitch, harmonics, tone and overtones. Frequency is measured in Hertz (Hz). One Hertz is one wave repetition or cycle per second.

Sound Card

The expansion board in your PC that enables it to play or record digital audio files. The modern PC sound card contains several hardware systems relating to the production and capture of audio, the main systems capture and replay digital audio and synthesize music. Sound waves from these systems are either produced through an internal FM synthesizer or by playing a digitized, or sampled, sound.

The digital audio section of a sound card consists of a matched pair of 16-bit digital-to-analogue (DAC) and analogue-to-digital (ADC) converters and a programmable sample rate generator. The computer reads the sample data to or from the converters. The sample rate for recording audio can be manipulated from within WaveStation and also in Cool Edit.

SoundHound

An application that manages your audio file database. It sits on your Windows taskbar and can be accessed by double-clicking the binoculars icon. Auto launch and exit functions for SoundHound are in the Tools/Program Options menu in the Playback tab.

Sound Reproduction

The hardware in your sound card has a special chip for converting the analog (continuous time) signal to digital (discrete or sampled) signal called an A/D converter. It also has a reciprocal chip that converts the digital signal from the computer to an analog signal that can be fed to a pair of headphones or to your stereo system, which is called a D/A converter. Even though the sampled signal has far fewer samples than a continuous time analog signal, the D/A convert can reproduce the original analog signal perfectly. This means that the only loss in going from the analog domain to digital, then back to analog again is the loss in higher frequencies (those above 1/2 the sampling rate), and the loss in dynamic range (depending on the quantization level used). Of course, with lower quality components, there will be a loss in the A/D converter during the original analog to digital translation. There can also be a loss in the pre-amplification of the sound card after the signal has been converted from digital back to analog.

Spot

A commercial or advertisement.

Start Date

The first scheduled date for use of an audio file.

Stereo

Two channels playing related audio signals.

Streamer

Audio Logging. Hard disk on-air record/play unit that gives you access to all logged audio via its unique log indexing and audio slider control. Just click on the hour, slide the slider to the exact second you want to hear and listen. Gives you signal verification in minutes without disrupting what's currently being recorded.

Streaming Audio

Audio transmission over a data network. The term implies a one-way transmission to the listener, in which both the client and server cooperate for uninterrupted sound. The client side buffers a few seconds of audio data before it starts sending it to the speakers, which compensates for momentary delays in packet delivery.

Switcher (Router, Relay Rack)

An electronic signal sent from WaveStation to an external device such as a tape recorder or satellite. Switchers are sent through the PC game port or a special I/O card. Depending on the input hardware you install, up to 24 triggers can be programmed to launch various events. The settings for the triggers can be saved as sets. The sets can be changed via the program log so that WaveStation can perform different functions with different sets loaded. This is very useful for stations that use more than one broadcast network.

Switcher Kit

A BSI product that includes the hardware, software and drivers necessary to control external devices through WaveStation. The kit includes an I/O card, a circuit board with 24 external relays

to switch external audio and control lines and all the necessary cables and software. Switcher commands can be executed via the program log, a hotkey or trigger.

Tag

A live “add-on” to a commercial spot. A piece of text typically read by a Jock after a generic commercial which customizes the ad by giving additional local or specialized information.

Time Events

Includes “Timed Start Immediate” and “Timed Start Next” events. These will occur at the time set in the time box (in 24-hour time) regardless of whether something is already playing or not. Time events are indicated by an “@” sign in the “Q” column of the program log with the scheduled time indicated in the “Scheduled” column. Start Next events are similar to Timed Start events, except that they will allow currently playing audio file to finish before they start.

A macro command with the format TIMEEVENTS <Mode=On/Off> which turns timed events on or off. Example: TIMEEVENTS ON would allow timed start events to activate automatically.

Time-Shift Recording

A new feature of WaveStation 3.0 that allows you to playback and record a file simultaneously. This means you can start recording a network program via satellite for example and begin playing it back on-air at a scheduled time even if the program is still recording at the other end of the file. Previously, you would have to wait for the entire recording process to complete, close the file, and then reopen it and play it back. This would often disrupt schedules unnecessarily.

TimeSync

A macro command with the format TIMESYNC <Mode=On/Off> which turns time synchronization on or off. Example: TIMESYNC ON would tell WaveStation to look for a time synchronization trigger according to the TimeSync settings established in the Tools/Program Options/General “System Options” window section.

Traffic System

A software system used to manage commercial scheduling and billing functions.

Triggers

An electronic signal from an external source such as a satellite that is received and interpreted by WaveStation. Triggers are received through the PC game port or a special I/O card. Depending on the input hardware you install, up to 24 triggers can be programmed to launch various events. The settings for the triggers can be saved as sets. The sets can be changed via the program log so that WaveStation can perform different functions with different sets loaded. This is very useful for stations that use more than one broadcast network.

Trigger Kit

A BSI product. The BSI Triggers Kit provides WaveStation with 24 incoming “triggers” to respond to external contact closures from satellite receivers, audio mixers, tape decks and other equipment. The kit includes an I/O card, resistors, connection cable, MINI-37 terminal box and software drivers as well as the installation and wiring manual for I/O card and terminal box.

TRIGGERS

A macro command with the format TRIGGERS <Mode=On/Off> which turns external triggers on or off. Example: TRIGGERS ON would allow external contact closures to start or stop list events via the 15 accessory port on your PC.

Voice Track

A digital audio segment of a voice recording associated with one or more songs (cuts). A voice track can serve as an introduction to a cut (also called “talking up” or making an “intro”), as an announcement after the cut has played (a “back announcement”) or as a “bridge” which gives information about what’s just played and also what’s coming up next.

Wave

See Sound Wave.

Wave file

A standard sound (audio) file in Microsoft Windows. Wave files have the file extension WAV.

Waveform

The shape or frequency and amplitude of a sound wave.

WaveCart

On-screen “Cart machine” that displays up to ten “decks” showing your spots and liners or commercials and giving you instantaneous, crystal clear playback. WaveCart includes a professional digital recorder/editor and supports spot rotation. It can also play more than one spot at a time.

WebConnect

WebConnect is a supporting application for WaveStation that lets you retrieve files of any kind from any remote location using standard email. Simple commands let you send or get files and do a range of other tasks remotely. It can automatically send audit logs or error notifications to any email address. Messages can also be used to change program logs, satellite settings, or virtually any WaveStation command or action. Auto-launch and exit options for WebConnect are in WaveStation's Tools/Program Options/Internet menu.