

# **InfoZone Overview**

A Keywest Technology White Paper  
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InfoZone is not a specific product—it is a system and a method. It's designed to meet the growing need to “get the message out.” The message, however, varies from application to application--person to person for that matter. The market place offers several off-the-shelf semi-solutions, but until InfoZone there was nothing flexible enough for all of the applications and for all of the people.

With the variance in messages there must also be a variance in locations in which the message needs to be seen. Given that the message has to be current and easily modified in order to be effective, the problem becomes tricky to nail down. This can only be resolved by flexible and efficient message transmission. Knowing that moving large amounts of data (as in digital motion video) would be the key to success of any such system—we started there with the Keywest Technology Server Center in Kansas City.

Flexibility has to be carried to multiple display possibilities—Composite video into a cable system; Y/C into a Closed-Circuit Wide-Distribution system; RGBHV at high resolutions for precision on a plasma, or liquid crystal. The hardware platform must deliver anywhere at anytime.

Finally, we can't ignore the bottom line. Every application has a goal—either to generate revenue based on the message (classic advertising), or to provide a service to a community (information dissemination).

Keywest Technology has strategically moved into a unique position to offer InfoZone. Through perseverance and an undying commitment to the customer, Keywest Technology became the leader in information channel technology with the MediaXtreme line. We have the solid foundation in place that is required to undertake a mercurial system, and we have the in-depth relationships with pioneering users in the field that allow leading edge feature development. We heard what the customer wanted...but more, we listened.

## System Components

An InfoZone system consists of three major components: Players, Servers, and Control.

### Players

Players are the hardware platforms and embedded software modules that are mixed and matched for particular applications.

All configurations are PAL-B and NTSC capable.

Hardware Configurations:

#### **MX1**

- 2RU Rack mountable Chassis 19 x 20 x 3.5
- Weight: 20 pounds
- Power Internal Switching
- Outputs: Composite, Y/C RGBHV
- Inputs: Optional Composite Y/C
- Audio: Stereo Audio Out, Dolby© 5.1 support; Stereo Audio Pass-through Inputs (Line Level and Mic Level)



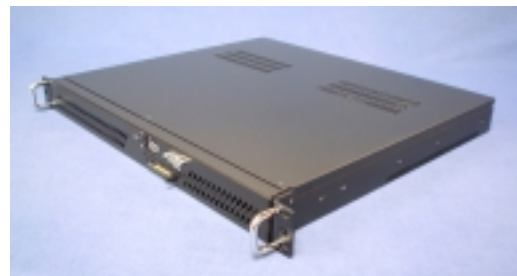
#### **MX3**

- Bookshelf Size: 7" x 2" x 10"
- Weight: 4 pounds
- Power: External 12V Transformer
- Outputs: Composite, Y/C, RGBHV
- Inputs: None
- Audio: Stereo Audio Out, Dolby© 5.1 support; Stereo Audio Pass-through Inputs (Line Level and Mic Level)



#### **MX4**

- 1RU Rack mountable Chassis: 19 x 15 x 1.75
- Weight: 12 pounds
- Power: Internal Switching supply
- Outputs: Composite, Y/C, RGBHV  
Optional SDI, ASI



- Inputs: Optional Composite, Y/C, SDI, ASI
- Audio: Stereo Audio Out, Dolby© 5.1 support; Stereo Audio Pass-through Inputs (Line Level and Mic Level)

## **MX5**

- 1RU or 2RU Rack mountable Chassis
- Weight: 12 pounds or 20 pounds
- Power Internal Switching Supply
- Outputs: Composite, Y/C, RGBHV, Optional SDI, ASI,
- Inputs: Optional Composite, Y/C, SDI, ASI
- Audio: Stereo Audio Out, Dolby© 5.1 support; Stereo Audio Pass-through Inputs (Line Level and Mic Level)

## **Additional Generic Hardware Features and Options**

\*Some configuration combinations may not be feasible

- 10/100 Fast Ethernet
- 1 to 6 Serial I/O (for external device integration)
- 4 USB 2.0
- Optional Firewire (IEEE 1394)
- Optional DVD or CD-R/W Drive
- Minimum 30 GB Internal Storage
- Optional Expanded Hard Drive(s) (up to 500 GB—translates to around 200 Hours of MPEG2 data encoded at 5Mbps (appx DVD quality))
- Optional LCD confidence monitor
- Optional Front Panel control Interface and Indicator
- Optional Keyer (Key graphics and crawls over Live Video)
- Optional Picture-In-Picture (PiP)(Squeeze video into a graphics page)

\*Not all Features and Options are available on all chassis styles. Ultimate chassis selection will depend on size as well as final application. Physical dimensions of optional items will help determine which chassis is used per application.

Each chassis configuration is a rugged, sleek design made for a variety of applications. They are designed to run in controlled, dry, and dust-free environments. However, environmental modifications can be applied for filtering and shock in hostile environments.

Each unit is rated to function from 0 to 70 degrees Celsius—optimum-operating temperature for full capacity is 20 degrees Celsius.

The chassis are designed to be unobtrusive whether attached to the back of a flat panel display with Velcro, or professionally mounted in a cable head-end rack.

## **Player Software Modules**

Each software module is designed to present content on a scheduled basis. The content can be included in a continually rotating Playlist. Multiple Playlists can be loaded into the player. Each Playlist can run as a continual loop, or be scheduled to appear at certain times and or days. Each Playlist can have multiple entries in a schedule.

Special Playlists can be scheduled for emergency or special events (such as 4<sup>th</sup> of July special pages or movies, or maybe community alerts such as “Tune To” notices for emergency action).

Playlist creation is covered more in-depth in the **Control** section of this report.

### **Base Module:**

The base module is capable of playing scheduled graphics pages, or graphic pages with full screen or embedded MPEG video and audio, as well as independent audio tracks (.wav files or .mp3 files) as ambient sound.

### **Crawl Module:**

The Crawl plug-in introduces broadcast quality anti-aliased crawling text. The crawl will key over the graphics pages and/or the MPEG video clips—this produces the national news or sports programming function of bottom of the screen headlines and updates.

With the optional Keyer options, the crawl can be a simple text over live video function for information, cross-channel promotion, video paging, emergency alert and many more applications.

When applied with a PiP option, the crawl can be information and headlines at the bottom of a screen on a banner below a nearly full screen video—popular application on national and local news stations.

### **Logo Module:**

The Logo plug-in brings the capability to brand the channel with a high-quality graphical “bug” logo. Optional motion capability brings in animated logo capability. Common application on current broadcast and cable systems—Keyed over video, logo with motion becomes a very powerful, yet minimally invasive “attention getter” as well as increasing name recognition.

## Other Options/Upgrades:

Other optional future features will include animated background graphics, Macromedia Flash© support, Animated GIF support.

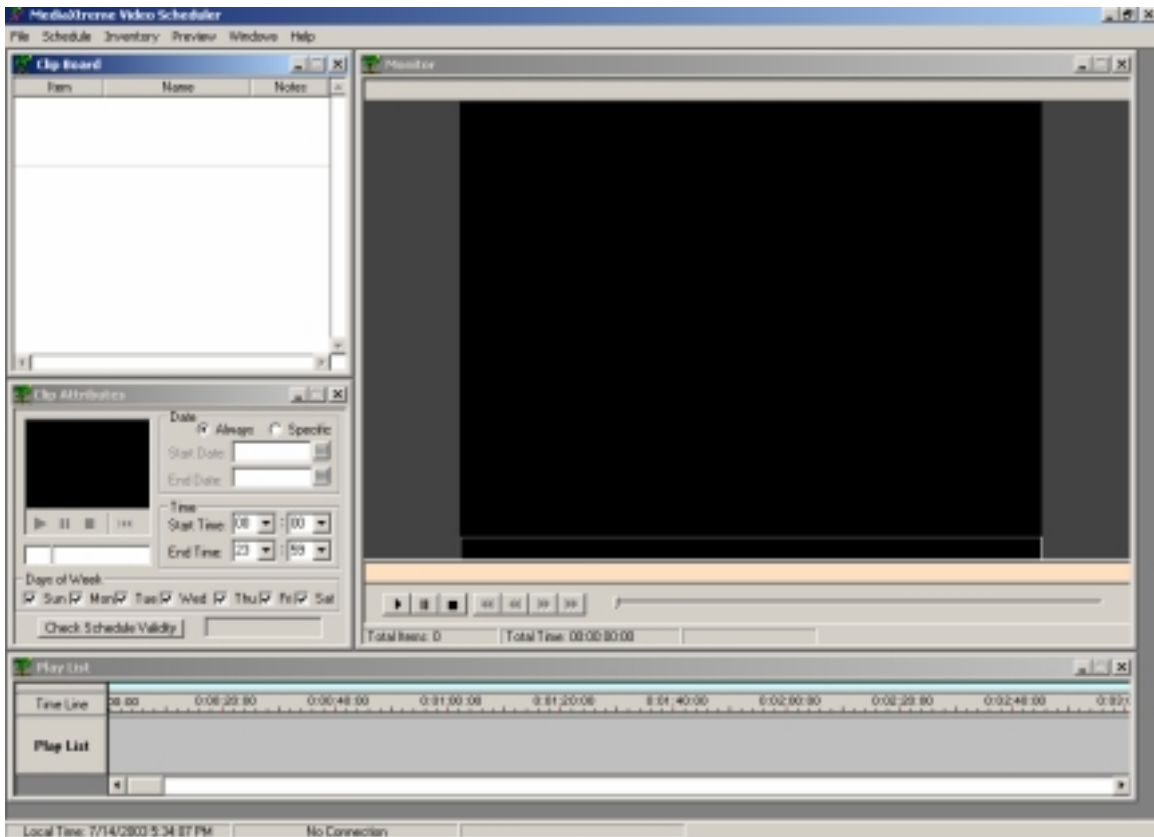
Software modules and plug-ins can be mixed and matched based on application. Also, multiple players can be utilized in the same system—the players can have all the same features or various modules in various locations (see drawing at end of report).

## Control

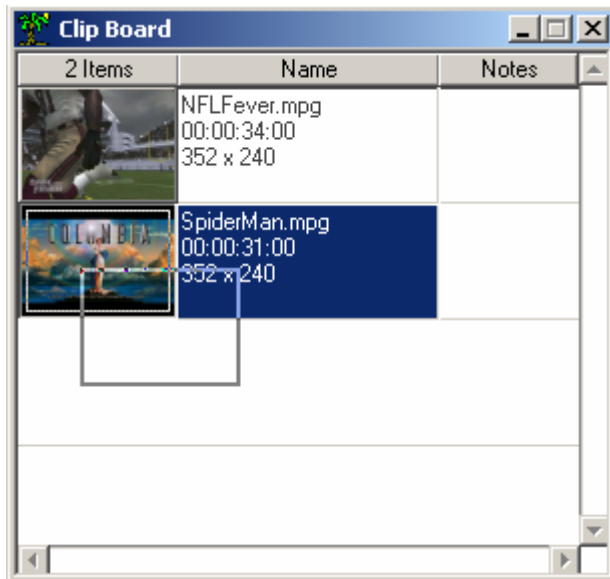
An integral part of any such system is ease of control. A single operator may be responsible for 1 unit in 1 building, or a hundred units in 10 different stores spread over 5 states—or even more. This makes scheduling and controlling imperative.

Control and scheduling consists of organizing data (creating Playlists) and getting that data to appear at the designated player at the designated time (scheduling).

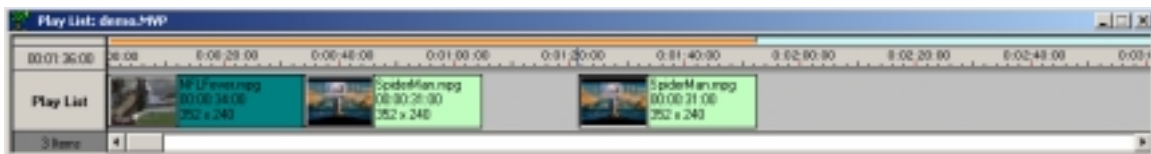
Creating Playlists is accomplished through extremely user friendly drag and drop interfaces (example below).



The operator clicks and imports the data (MPEG video, still pages, audio, logos, crawls) onto a clipboard.



Next, drag the content from the clipboard to the timeline. Saving that timeline creates the Playlist.



Each element of media has it's own timeline—crawls, mpegs, logos, events, pages.

The next step is scheduling. InfoZone scheduling is done via a familiar interface—Microsoft Excel©. Keywest Technology has developed components that work within an Excel spreadsheet to drag and drop large play schedules.

The screenshot shows an Excel spreadsheet with columns labeled A through M. Column A is 'Schedule On', B is 'Sun 1st', C is 'Mon 2nd', D is 'Tue 3rd', E is 'Wed 4th', F is 'Thu 5th', G is 'Fri 6th', and H is 'Sat 7th'. Rows 4 through 31 show time slots from 00:00:00 to 2:00:00. The cells are color-coded: green for most of the grid, yellow for rows 42-45, and black for rows 40-41. To the right of the spreadsheet are several control panels: 'Available Playlist' with a 'Local' button, 'Browse HDDs', 'Available Video Clips' with a 'Local' button, and another 'Browse HDDs' button. At the bottom right is a 'Delete Clip' dialog box with fields for 'Date', 'Start', and 'End', and a 'Check Schedule Validity' button.

Through the use of simple color codes and time elements, an operator can drag their Playlists, MPEG clips, sounds, crawls, logos and such into an easy to read and even easier to modify grid format.



(if the connection could be maintained for that period—not to mention long-distance charges!).

We have that large path open to the data server at Keywest, and we have wider bandwidth roads up to, and exceeding T3 ready to be turned on as required to maintain that speed.

Keywest Technology can expend the resources to monitor high-volume networks as part of the InfoZone agreement. If desired, critical data transfers can be monitored in our data command and control center. This service can be included in the system monthly payment plan.

The Keywest Technology server center is constantly “tweaked” to maintain peak performance and utilizes redundancy to minimize down time. In fact, the data transfer methodology and redundancy work together to assure that data transfer is strongest link in the chain.

The server application and proprietary data management system can be installed on user-controlled servers as well. All of the function remains, however bandwidth control, access control, and process monitoring is maintained by the server owner.

### **Typical System Block Diagram**

The following page is a typical system application.

The main operator can be located anywhere there’s an Internet connection. The operator creates schedules and uploads content to the central server (in the diagram, the Keywest Technology Server Center in Kansas City).

Each schedule the operator uploads contains functional data for each machine as well, such as the report in time (the time the player checks in for a new schedule) and Instant or Standard schedule data.

The schedule contains all the day/time events to play the crawls, logos, pages, movies, as well as external device events such as triggering tape decks or switching switchers.

The operator at this time also starts the ftp media upload to the server’s media storage. This media is any new content (MPEGS, pages, audio files, logos, etc).

At their assigned times, each player checks into the server and downloads any new content. We preserve bandwidth with smart downloads and transfer only the data that has changed.

Remote player maintenance can also be conducted at this time (clear off unused files, clean directories, etc...).

It is key to remember any combination of any number of units can be integrated into a system and controlled all from a single point. If necessary, control can be shared over many locations—a system can be one operator/one player or one-operator/multiple players or multiple operators/multiple players or even multiple operators/one player. The choice is the customer's, and like a fingerprint will be different for everyone.

