

Position Triggered Event System Overview

A Keywest Technology White Paper
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Overview

The Keywest Technology Positional Trigger system utilizes standard GPS technology and custom written user applications to create custom playlists based on position of the player.

The Position Trigger system leverages the company's intellectual history and technological experience creating a dexterous video information system. This system provides geographic specific safety information and videos to conveyance passengers as well as geographic specific informational and advertising content capable of generating revenue.

The system built on MediaXtreme technology combined with GPS technology to allow scheduled media playback on any number of monitors. The media content is under complete control of the operator. The content can be static pages, video clips, PowerPoint© presentations, Flash© media, real-time data, audio, as well as interactive emergency displays. The content can also be linked to specific geographic locations. For example, a typical schedule could playback ferry departure and arrival safety information, information about locations of interest along the route and information, and advertisements regarding the destination. All content can be set to GPS triggers so no matter the speed of the vehicle, or time of day, or even if the route varies, appropriate content appears at the exact appropriate time.

All MediaXtreme products, MX1, MX2, MX3, MX5 as well as LogoStar 300 are capable of functioning with Position Trigger Modules.

Perhaps the most important aspect of the system is the interactive emergency module. The operator can trigger an instant or emergency display on all monitors. The operator can further enhance the public safety by directing evacuation routes through the displays.

If desired, the players and displays can show flashing text and colors as well as audio signals to garner the most attention possible.

System Components

The Keywest Technology Position Trigger System is a unique combination of the powerful MediaXtreme and various GPS interface devices. Public Transportation specific command and control. Hardware is adaptable to the configuration required for the location. The base modules are Players, Receivers, 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—suitable for international deployment.

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)



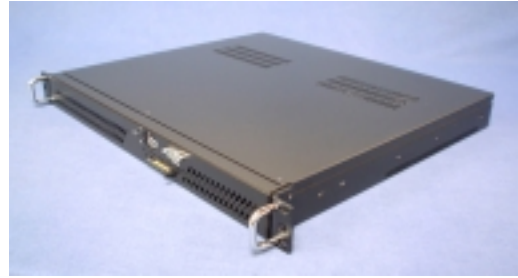
MX2 and 3

- 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)



MX2 & 3 Rack

- 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 live 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 relatively 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.

The chassis expected to be typical for airport systems is the 7” x 2” x 10” bookshelf. This agile platform can mount virtually invisibly to or behind Plasma Display Panels (PDP). By mounting the players at the actual displays, extensive coaxial wiring will not be required throughout the vehicle. Each device will simply require a Cat-5 network connection for data and control if available on-board. Each device may also receive content, trigger lists, and schedules via CD, DVD, or USB Memory Stick.

Player Software Modules

**Note: Not all software modules are available with all hardware versions

Each software module is designed to present content on a scheduled basis and trigger specialized content based on actual GPS data. The content can be included in a continually rotating Playlist that is interrupted by sub-playlists specific to locations or run on an entirely triggered mode. 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 holidays or alerts such as “Stand-by” 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.

Global Positioning Module:

The Global Positioning module loads custom route maps based on player use. Modified maps will be made available for download when required. The user will be able to link specific pages, videos or playlists to specific geographic locations. The GPS triggers will work in conjunction with the normal basic schedule so that updates are quick and easy should routes change or additional requirements appear as advertisers join the program. GPS scheduling will be as simple as mouse-clicking a location along the route which will open a dialog box allowing link to the desired content.

Emergency Evacuation Module:

This module is powerful in reducing threats to public safety by improving safety and security with effective dissemination of information to passengers during an emergency and/or evacuation.

The vehicle operator is able through mouse movements, touch screens or emergency buttons to route the passengers out of the vehicle or to safety stations through the most effective means, as well as route the passengers away from dangers.

The displays will indicate which direction passengers should evacuate and what actions to take—the display could also contain pertinent information such as what type of emergency is underway and hazards to avoid as well as collection points post-evacuation.

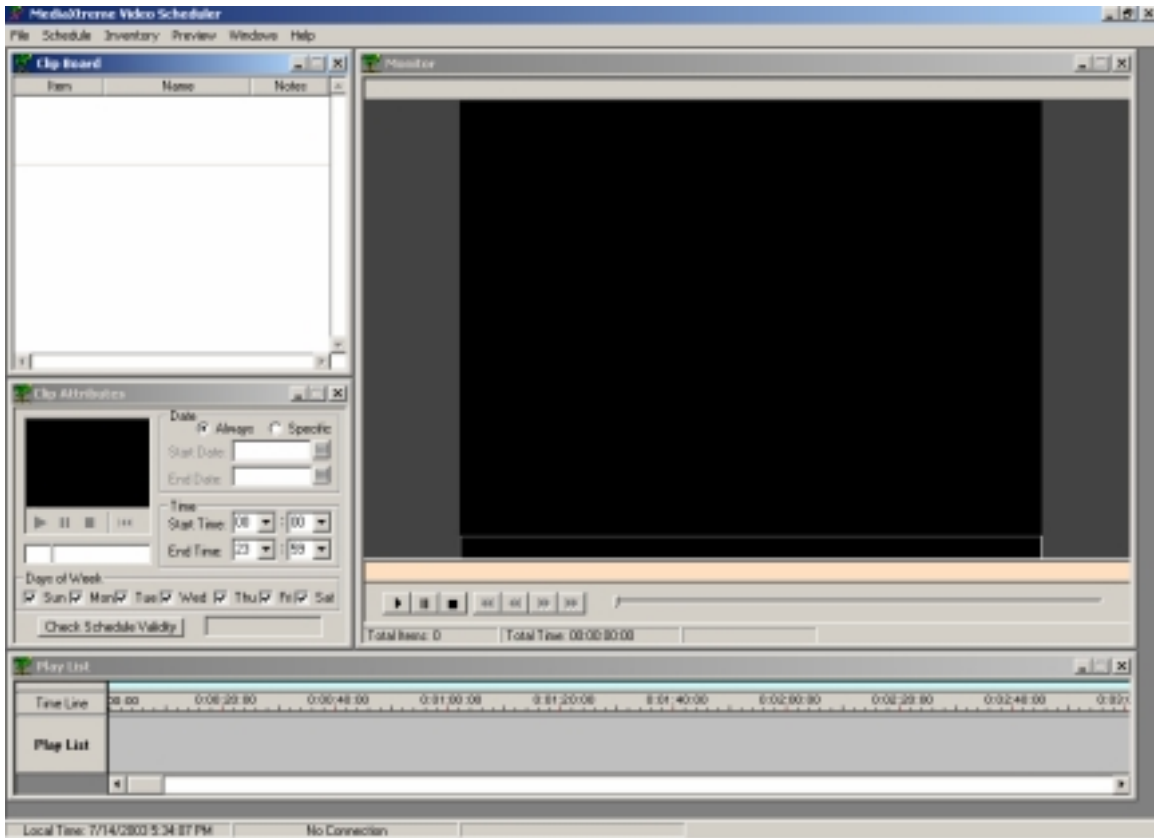
This creates the most effective and a highly unique capability in emergency conditions that simply can't be achieved by other means.

Control

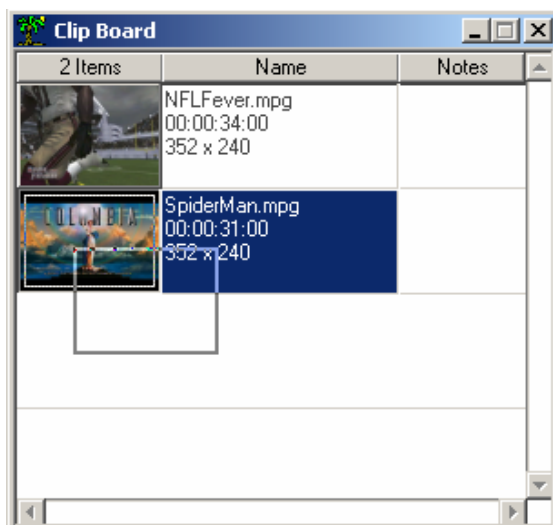
An integral part of any such system is ease of control. A single operator may be responsible for a few displays in a bus or a hundred displays in a large ferry—perhaps even an entire fleet of vehicles managed from one location--this makes scheduling and controlling imperative.

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

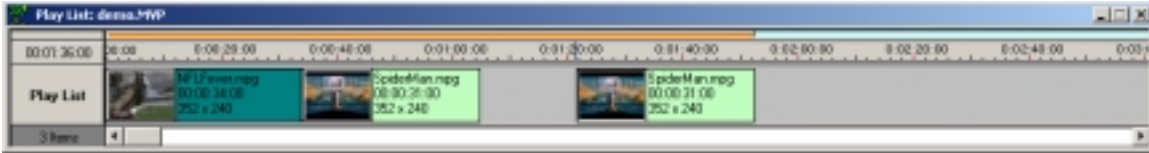
Creating Playlists is accomplished through extremely user-friendly drag and drop interfaces (example below).



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 its own timeline—crawls, mpegs, logos, events, pages.

GPS triggering is linked by simple maps embedded into the GUI. For example, the map on the right, the points could represent trigger points.

The user or scheduler would assign specific pages, videos or playlists that would automatically activate as the vehicle passes the location selected on the map.

Maps can be altered and uploaded as required.



The vehicle interface will provide the operator the means to monitor the status of every display in the vehicle as well as current GPS location and coming events. The control allows the operator to initiate any one of several pre-programmed emergency routines. These could be different evacuation procedures based on anticipated events.

The system, in conjunction with existing security systems, becomes the valuable supplement to existing safety devices.

Keywest Technology can expend the resources to manage and monitor vehicle networks as part of an agreement. If desired, critical data transfers can be monitored in our data command and control center. This service can be included in a system monthly service plan.