

**MONARCH**



**Complete Broadcasting Solution**



## HIGHLIGHTS

- Trackless Virtual Studio System
- Multiple Virtual Camera Display & Switching
- Advance Chroma Keying
- Real Time Hardware based 3D Rendering
- Text Crawl and Bitmap file Overlay & Update
- Client-Server Application for Live Update
- Live Streaming in-built
- User friendly GUI for easy operation
- Automation for Media Switching & Playback
- Real Time Shadows and Reflections - Optional
- Motion Designer software for Virtual Sets - Optional



**MONARCH<sup>®</sup>**

**Solutions Simplified**

• audio • video • imaging •



# VIRTUAL ON AIR

Got a Camera , then add it to our Virtual On Air virtual set solution to change the way your channel looks, on Air, or the way you handle video presentations.

## WHAT IS VIRTUAL ON AIR SYSTEM?

Virtual On Air is a trackless Virtual Set Solution with a simple set-up and an intuitive user interface making it a very powerful tool in the hands of everyday operators .

The simplicity of Virtual On Air belies its power to deliver sparkling and sophisticated On Air Presentations, may it be News, Talk Shows, Game Shows and a myriad of other application possibilities.

Virtual On Air allows you to add Virtual Tilts , Pans and Zooms from a static camera in perfect sync with the 3D virtual set. You can create the illusion of multiple cameras with one stationary camera by coordinating multiple angles, such as wide, medium and close-up views — whether you're shooting head-and-shoulder or full-body shots.

3D sets are an integral part of the Virtual On Air virtual set system. Thanks to its powerful hardware engine, Virtual On Air is able to render complex 3D scenes in **Real Time** delivering astonishing photo realistic results.

Virtual On Air system has three levels of chroma key. You can key and adjust upto three different colors with individual parameters, thus aiding the removal of shadows on backgrounds in a very efficient manner, and keeping the live images very sharp and artifact free. This technique performs extremely well, even with non-professional video equipment and in poorly lit backgrounds.

Virtual On Air is designed for broadcast and professional applications and in response to market feedback, priced competitively. The Virtual On Air system is an ideal Hardware and Software solution, for News Telecast, Talk Shows, Entertainment Programs, Music Videos, Web Streaming, Distance Education and many other applications.

Virtual On Air system will enhance your productions, and help deliver a sophisticated look to all genres of programs with quick set-up times, at an amazingly low-cost .

Virtual Studio can be enhanced with Reflection and Shadow Plug-ins for Real Life features. These Plug-ins lend a more realistic and natural look to the live broadcast and production process while retaining a low cost environment.

**Do what you want, when you want, how you want.**



# VIRTUAL ON AIR

## FEATURES

### Trackless virtual studio system

- No expensive camera motion trackers required
- Seamlessly integrate live talent with 3D virtual set in real time
- Multiple virtual camera display & switching
- Easily programmable 8 virtual camera positions
- Variable motion speed of virtual cameras

### Real Time Hardware based 3D rendering

- No pre-rendering of 3D virtual sets
- Render complex 3D scenes in real time
- Powerful hardware engine to render full anti-aliased scenes

### Live & Pre-recorded source input & output

- 2 full D1 resolution live video inputs in SD
- Pre-recorded source input in AVI, MPEG & MOV compression formats in SD
- Dynamically update input source
- On-line output capturing in Mpeg2 or AVI format

### Media Gallery

- On-screen Media Gallery for organizing the graphic and movie clips
- Organize files scattered in different hard disks in separate categories.
- Edit the content of them in a non-destructive way

### Live Streaming

- Built-in Single-click live streaming facility
- Take advantage of the wide audience

### Advance Chroma keying

- 3 different levels of chroma key setting
- Shadows on the background removed very efficiently
- No color spills or spatial effect
- Performs extremely well even with non-professional equipments

### Text crawl and Bitmap file overlay & update

- Dynamic foreground overlaying module
- Overlay 32 bit images & text instantly
- Create and display text crawls in multilingual fonts
- Update on-line through the client-server solution

### User friendly GUI for easy operation

- Very easy-to-use GUI reduces operator training time
- Mouse-over preview of virtual camera positions and movements
- Mouse-over preview of live & pre-recorded input sources
- Simple drag and drop operation

### An affordable virtual studio solution

- Same studio space to be used for multiple productions
- Small studio, as large as 10x10 square feet required
- No physical sets required
- Better man-power utilisation
- Saves time, space, money and energy
- Library of ready-to-use sets

## Application Areas

- News, Sportscast and talk show programs
- Game shows, entertainment programs, music videos
- Creation of advertisement and promotional clips
- Virtual classrooms for distant learning systems
- Corporate in-house presentations and training
- Highlighting business and political events

## Technical Specifications

### INPUT FORMATS

- Live analogue and digital SD resolution
- External AVI, MOV, Mpeg up to Full D1 resolution
- Pal / B/G 720 X 576 25 fps
- NTSC 720 X 480 29.97 fps

### OUTPUT FORMATS

- Full D1 (SD) resolution analogue CVBS, Y/C & DV output
- Full D1 (SD) Component Analogue YUV / Y'PbPr
- Full D1 (SD) Serial Digital (SDI)
- Pal / B/G 720 X 576 25 fps
- NTSC 720 X 480 29.97 fps
- Real Time Mpeg 2 / AVI output capturing

### VIDEO INPUTS

- Composite (CVBS - 1.0 Vp-p, 75 ohm - BNC) 2
- S-Video (Y/C 4 pin mini-DIN) 2
- DV (IEEE 1394 FireWire) 1 (For Audio/Video Capturing only)
- Component YUV / Y'PbPr (BNC) 2
- SMPTE 259M Serial Digital-SDI (BNC) 2

### VIDEO OUTPUTS

- Composite (CVBS - 1.0 Vp-p, 75 ohm - BNC) 2
- S-Video (Y/C 4 pin mini-DIN) 1
- DV (IEEE 1394 FireWire) 1
- Component YUV / Y'PbPr (BNC) 1
- SMPTE 259M Serial Digital-SDI (BNC) 2
- All outputs can be used simultaneously

### INTERNAL VIDEO PROCESING

- 4:2:2 Broadcast Compliant

### INTERNAL VIDEO PROCESING DELAY

- 8.5 Frames Audio Video synchronized

### AUDIO LINE LEVEL INPUTS - ANALOGUE

- Unbalanced (RCA) Stereo – 2 inputs
- Balanced (XLR) Stereo inputs – 2 inputs

### AUDIO LINE LEVEL OUTPUT - ANALOGUE

- Unbalanced (RCA) Stereo output – 1
- Balanced (XLR) Stereo output – 1

### GENLOCK

Analogue and digital outputs can be genlocked to a selected external reference video signal (analogue composite)

### TIME BASE CORRECTION

Built-in TBC for asynchronous analogue/digital video sources for real time switching without dropped frames or image distortion

### RS232 / RS422 SUPPORT



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