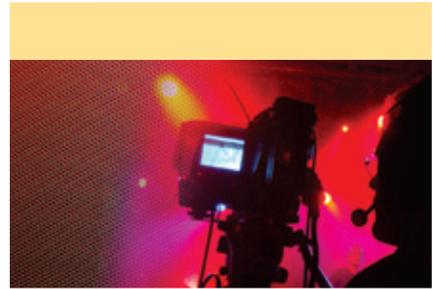


# ESP™ Encoder Stress Pattern



Sarnoff's ESP™ Encoder Stress Pattern is a sophisticated digital video clip that quickly reveals performance differences among television encoders or other video processing components. Consisting of an endless 32-frame motion sequence composite, the ESP's specialized and complex artificial test patterns stress various aspects of processing. By forcing different failure modes, the ESP allows users to visually evaluate how well an encoder responds to a range of spatial and temporal situations. Its rapid and realistic display of results enables viewers to quickly and easily make meaningful comparisons between products.

## Capabilities

- Evaluate standard and high definition encoder quality
- Visually verify results using on-screen pattern
- Monitor output for signs of deterioration
- Determine encoder performance limits
  - Spatial resolution
  - Judder and dropped frames
  - Smoothness/sharpness of edges
  - Horizontal, vertical or circular motion

- Pinpoint areas of compromise in design
- Tune encoder settings for best performance

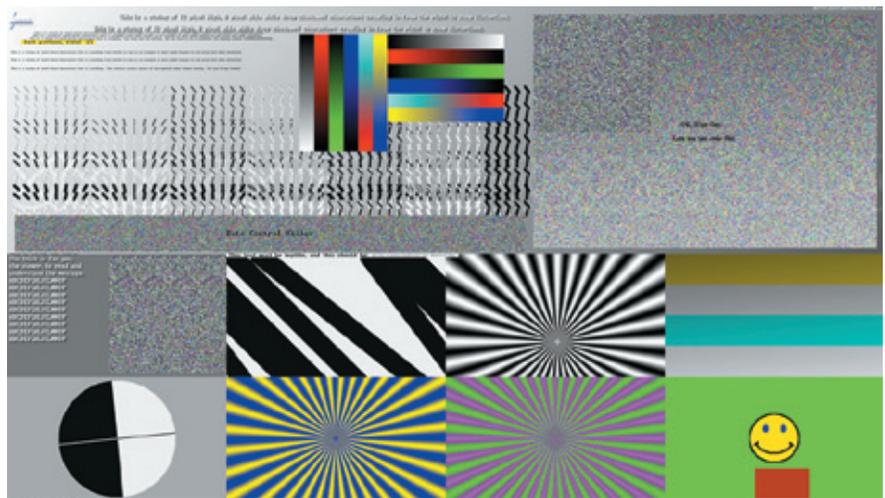
## Full Scope of Tests

- Content Creation/Acquisition
- Post Production
- Transmission
- Distribution
- Presentation
- Remotes
- Backhauls
- ENG/Sports Trucks

## Visually Check Performance of Encoders

### Formats

- The ESP includes all of the following formats:
  - 1920 x 1080i 30/29.97
  - 1280 x 720p 60/59.94
  - 720 x 480p (as files on DVD only)
  - 720 x 480i 30/29.97
- Available as:
  - DVD containing R'G'B' 4:4:4 uncompressed frames
  - Pre-installed on TSG-1



ESP: Source Image.

The full effect is impossible to reproduce in print, especially the extensive motion components throughout the pattern. Components within the ESP offer sequences of pathological video that stress different aspects of encoder performance.



### **SRI International**

Silicon Valley-based SRI International, a nonprofit research and development organization, performs sponsored R&D for governments, businesses, and foundations. SRI brings its innovations to the marketplace through technology licensing, new products, and spin-off ventures. Commemorating its 65th anniversary in 2011, SRI is known for world-changing innovations in computing, health and pharmaceuticals, chemistry and materials, sensing, energy, education, national defense, and more. SRI Sarnoff is well known for its broadcasting, vision, and semiconductor innovations.

#### *Headquarters*

#### **SRI International**

333 Ravenswood Avenue  
Menlo Park, CA 94025-3493  
650.859.2000

#### *Washington, D.C.*

#### **SRI International**

1100 Wilson Blvd., Suite 2800  
Arlington, VA 22209-3915  
703.524.2053

#### *Princeton, New Jersey*

#### **SRI International Sarnoff**

201 Washington Road  
Princeton, NJ 08540-6449  
609.734.2553

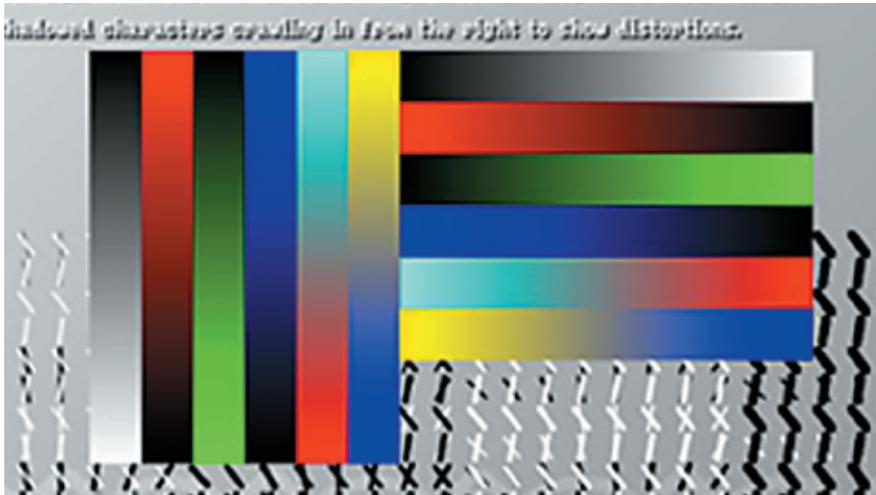
*Additional U.S. and  
international locations*

#### **www.sri.com**

SRI International and Sarnoff are registered trademarks of SRI International. All other trademarks are the property of their respective owners.

SRI International reserves the right to change these specifications without notice.

Copyright 2011 SRI International.  
All rights reserved. 06/11.



ESP: Source Image.

The full effect is impossible to reproduce in print, especially the extensive motion components throughout the pattern. Components within the ESP offer sequences of pathological video that stress different aspects of encoder performance.



ESP: After Encoding.

Typical degradation after processing appears as dropped or altered image details, motion artifacts, etc.

### **Contact Us**

info@sri.com  
609.734.2553