FEATURES

- 512 x 512 or 800 x 800 Resistive Emitter Array Size
- Advanced Micro-Emitter Array Technology
- Real-Time Automated Non-Uniformity Correction
- Proprietary Unit Cell Design Minimizes Thermal and Electrical Crosstalk
- 14 bit High Gray-Scale Resolution for any UUT Integration Time
- Windows™ based GUI Automates Setup and Operation of all MIRAGE Components
- Pixel Rise Time of 6.5 msec from 10-90%. < 5.0 msec Available with Scene Accelerator Upgrade
- Accepts Digital (DVI) and Locally Stored Custom Image Inputs

OVERVIEW

MIRAGE™-H is a complete turnkey infrared scene projector that utilizes unique resistive emitter array technology to produce high definition dynamic IR scenes. Signal processing electronics, power supplies, emitter array cooling, calibration (non-uniformity correction) hardware, and user interface software are all integrated with the MIRAGE™ emitter engine. MIRAGE™-H accepts digital (DVI) or locally stored custom image input, and delivers a high-fidelity infrared scene to the user's or SBIR-supplied optics. Typical test applications include hardware-in-the-loop testing of missile seekers, FLIR testing, counter measure simulation and testing of tracking systems.

SYSTEM COMPONENTS

- Command & Control Electronics
- Thermal Support Subsystem & Chiller
- Digital Emitter Engine

The C&CE provides the user interface, user control, signal processing/formatting, NUC and data/image input for all MIRAGE systems. The C&CE is a PC-based subsystem installed in a rack mount configuration.

The TSS includes power supplies, refrigerated chiller, an ion pump controller for DEE operation and a top-level ICD. Custom length cables and hoses available.

The DEE is an advanced micro-emitter array. This state-of-the-art integrated circuit is constructed of thermally isolated mechanical structures with deposited thin film resistive heaters, fabricated on an advanced sub-micron silicon read-in integrated circuit (RIIC).

Solutions

for Every EO Test Requirement
**OPTIONS**

- **Calibration Radiometry System (CRS)**

  The CRS compares emitter output on a pixel-by-pixel basis to the output of a blackbody, yielding a uniform and accurate radiant output over the full dynamic range of the emitter.

- **Real-time Image Playback System (RIPS)**

  SBIR's Real Time Image Playback System (RIPS) is a low cost PC disk array based real-time digital image capture and playback system. The RIPS is designed to capture real-time digital image data from a DVI interface and store the image sequences on a high speed disk array for real-time playback into the MIRAGE™-H dynamic infrared scene projector. A user friendly GUI provides DVR type functionality to RECORD, PLAY, STOP, and LOOP through a selected image sequence. The image data is output (played back) in the DVI format for driving the MIRAGE™-1, MIRAGE™-1.5, MIRAGE™-H and MIRAGE™-XL IR scene projection systems.

- **Collimators**

  SBIR can provide and integrate custom collimators based on a customer's specifications.

**SPECIFICATIONS**

- Emitter Array Resolution: 512 x 512 pixels or 800 x 800 pixels
- Pixel Size: 48 microns square
- Effective Temperature Range: 285-675K (3-5 μm), 285-500K (8-12 μm)
- Thermal Resolution (MWIR): <50mK at 320K, <200mK at 400K
- Input Frame Rate: 20-200 Hz
- Non-Uniformity Correction: 16-point LUT
- Max Pixels Change Per Frame: Full frame (262,144 pixels or 640,000 pixels)
- Pixel Rise Time (10%-90%): 6.5 msec. <5.0 msec with Scene Accelerator upgrade
- Dead Pixels: < 0.5%
- DEE Size: 14.5" diameter x 13.5" long
- DEE Weight: 54 pounds
- Input Scene Data: Accepts digital (DVI) and local memory image upload inputs

**ORDER INFORMATION**

Please contact the SBIR sales team at (805) 965-3669 to ensure proper part number and to receive a quotation.

*Specifications are subject to change without prior notice.*

*Solutions for Every EO Test Requirement*

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