

IST Plasma-shells™ Display

BENEFITS OF PLASMA

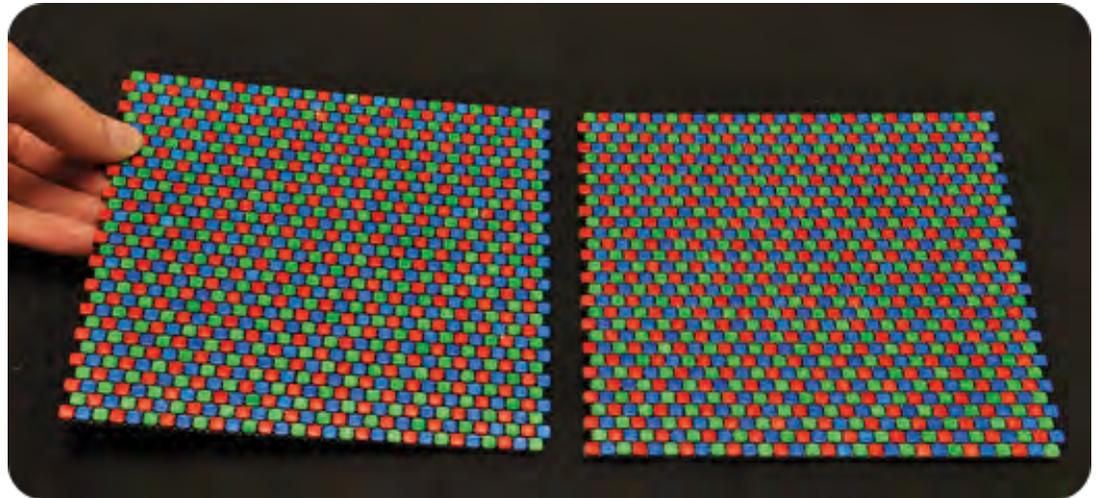
Like plasma displays, the Plasma-shell™ display provides large, theater-like screen sizes; rich, accurate, lifelike colors; high contrast in both light and dark rooms; dazzling brightness from any viewing angle; and excellent motion handling;

ULTRA RUGGED

Unlike most display technology, the Plasma-shell™ displays is ultra rugged. The display technology is resistant to shock, vibration, temperature extremes, pressure extremes, and harsh chemical environments.

ADAPTIVE DESIGN

The Plasma-shell™ display can be tiled to fit any size or shape. Plasma-shells™ can be applied to flexible substrates to form giant curved displays.



Imaging Systems Technology (IST) is developing the next generation of digital billboards for the fast growing digital advertising industry. This new technology offers a display that is low cost, lightweight, rugged, bright, and flexible making it ideal for large area signage or large conformable domed or curved displays.

This novel plasma based technology can emit UV, blue, green, red, or IR. Applications include digital signage, decorative lighting, synthetic scene generation, and specialty light sources such as UV lighting for sterilization. Plasma-shells™ are hollow structures that contain a gas. When energized the gas ionizes into a plasma.

The Plasma-shells™ are discrete and self contained units that can be applied to flexible substrates to form large area plasma arrays.



TECHNICAL SUPPORT

IST provides world class customer service to support our cutting edge technology.

QUALITY ASSURANCE

IST is an ISO 9001:2008 certified manufacturer and designer. We constantly strive to improve our processes to ensure the highest quality products and services.

CUSTOM SOLUTIONS

Our team of electrical and mechanical engineers can design and develop the solution that best fits your needs.

CONTACT

For more information on any of our products please visit us on the Web at:

www.Plasma-spheres.com

www.TeamIST.com

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Plasma-shell™ Technology



Plasma-shells™ are hollow gas encapsulating devices developed by Imaging Systems Technology (IST). When a voltage is applied across the walls of the shell, the encapsulated gas is energized into plasma. The Plasma-shells™ are electronic components that can be used as light emitters, switches, and sensors. Under a sister company, Deep Springs Technology (DST), hollow shells are being introduced into mechanical and structural applications including armor, buoyancy, and heat shielding.

Current Plasma-shell™ Applications

IST is introducing the Plasma-shell™ components into a number of electronic markets including: germicidal, photo curing, lighting, displays, nuclear, and RF. Applications and products are listed below.

Plasma-Switched Frequency Selective Surface (PS-FSS)

Plasma-shell™ switches activate and deactivate electromagnetic aperture with fast response time for HPM/EMP shielding and low observable applications.

RF-Alert™ Sensor

Plasma-shell™ sensors are employed to provide a passive, low cost, RF monitoring system for personal safety. Applied to clothing, gear, or other surfaces, these devices can be used in industrial, military, or scientific settings.

IST Plasma-shell™ Display

Plasma-shell™ pixels are formed into low cost, rugged, large area arrays for use in large area digital signage, simulation, and scene generation.

IST Plasma-shell™ Light Tiles

Plasma-shell™ lighting elements offer a customizable, low profile, ultra rugged light source for decorative, architectural, and industrial applications.

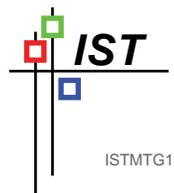
UV Light Source

Plasma-shell™ lighting elements provide large area, homogenous lighting for germicidal, photo-curing, medical treatment, and UV band communication.

FABRICATION CAPABILITIES

Our Plasma-shell™ manufacturing process has many customizable parameters. Tight control over our process allows IST to produce shells to the specification of a wide variety of applications.

Controllable Parameters	Notes
Sizes	IST fabricates shells from 0.5 mm to 10 mm. Other sizes are possible. Typical applications call for sizes of 1- 4 mm
Wall thickness	Wall thickness is controllable. Typical applications call for wall thickness of 5 to 10 percent of shell diameter
Shapes	Practically any shape is possible. Typical shapes include cylinders, cubes, oblate spheroids, rectangular prisms, and other complex shapes
Materials	Glass, Metal, Ceramic. Typical materials include Y ₂ O ₃ , ZrO, SiO ₂ , Al ₂ O ₃ , maraging steel, carbon steel, and various glasses
Layers	Shells can be fabricated with layered walls
Gas Fill	Inert gas, including mixtures with hydrogen up to 4%
Gas Pressure	0 – 500 Torr
Post Processing Capabilities	Coating, electroding, and application of shells onto substrates



ISTMTG132