

## Introducing NPD-400 Series 3G Switchable Film

Presenting the highest quality and the greatest features

A few years ago, Scienstry released 3G Switchable Film, NPD-300 Series, which brought liquid crystal switchable film to an advanced level with over a dozen leading features. 3G Film's close-to-zero defect rate is greatly supported by these advanced features including the best transparency, best translucency, lowest driving voltage, unique front and rear projection features, viewing-angle-independent brightness as well as longest operational lifetime. The market gave a huge response to these advantages. 3G Switchable Film/Glass is truly superb in all different applications. Advantages of 3G Film/Glass are fully utilized and exhibited in many different fields, especially in world class projects, such as World Expo 2010, entire luxury cruise ships and 24 major airports in China. Scienstry has a very strong research and development capability and commits to continuously improving its products to meet new challenges. In cooperation with TV, glass, projection, shipbuilding and automobile industries and with the supply chain, some features have been further improved and some new features have been added into the new NPD-400 Series.

As expected theoretically, a non-linear system in the newest (3rd) generation of liquid crystal switchable film creates great freedom for improvements. Unlike 1G and 2G systems, adding new components and new features into 3G system no longer interferes with basic electric-optical function. Therefore, we have entered a new period of using liquid crystal switchable film with more and more advanced features. Scienstry is taking a dramatic leap in application features, product quality and manufacturing technologies in this exciting product announcement. What makes Scienstry's 3G Switchable Film the most advanced product in the market? How does NPD-400 Series differ from earlier series? What are the new features of NPD-400 Series? How many long-lasting industrial problems have been solved by NPD-400 Series? What can 3G Switchable Film do for your business? Here's an easy way to find out:



- **Best electric-optical feature**

NPD-400 Series has highest transparency in clear state and highest scattering (hiding power) in translucent state. It is even better than NPD-300 Series.

- **Widest range for driving voltages and great suitability for various wiring systems**

NPD-400 Series can be driven by both low voltage (20V) and high voltage (110V). It is also suitable for all wiring systems, such as 1. "Standard wiring" or two electrodes/busbars in two opposite edges, 2. "One edge wiring" or two electrodes in one edge, 3. "Double cross wiring" or two sets of electrodes in two opposite edges and 4. "Corner wiring" or two electrodes in one corner. This flexibility provides a great convenience in design and applications.

- **Best UV stability**

NPD-300 Series film passed 120 days outdoor (Texas) weather test without any protection. Several new methods were invented and applied to NPD-400 Series for further enhancing UV stability and protecting molecules of liquid crystals. Products have passed systematic tests for the automobile industry.

- **Super waterproof property**

NPD-400 Series has a remarkable waterproof property, which brings the product into totally different new fields. It can be operated with water without any edge seal. 3G Film can be used in any environment including bathrooms, swimming pools, moisture or wet areas.

- **Widest range in operational temperature**

NPD-300 Series already has a wide range in operational temperature and NPD-400 Series makes this range even wider. NPD-400 Series can be operated from -30 °C (-22 °F) to 80 °C (176 °F), which is the widest range for any type of LCD. With the advantage of wide temperature range, 3G Switchable Film has been successfully used for building glass walls, sun-rooms, automobiles, cruise ships and highway signs for many years. Application regions are from Norway to South Africa.

- **Super adhesion**

NPD-400 Series is designed with the toughest cell structures (not soft and not brittle) and with super adhesion to ITO surface. When peeling apart two layers of plastic film, liquid crystal material will evenly remain on both sides of the film. However, when quickly peeling apart two layers of the film, the super strong adhesion will take ITO coating away from plastic film. Such strong adhesion allows the use of industrial suction cups and reduces typical delamination in glass installation. Superb adhesion can efficiently prevent glass delamination used under a great temperature change and also prevent film delamination in constantly rolling up for storage and reuse.

- **Unique ITO coating protection**

A conductive hard coating is used to protect the ITO conductive layer, so that the ITO layer will not be damaged or weakened during electrode/busbar installation. This is a great news for manufacturers since it allows anyone or a machine to do the installation and efficiently reduces failures.

- **Prolonged operational lifetime**

NPD-400 Series not only improves its lifetime to over 100 millions on-off switching times with a great UV stability and remarkable waterproof property, but also has faster response time (speed) and meets requirements of the TV industry, especially for new 3D TVs. Fastest response time can reach a few of milliseconds.