

AMT Outdoor ePaper Solution Success Story

With the growing global emphasis on environmental protection and energy conservation, ePaper (EPD) has become increasingly popular in public equipment applications. The key feature of ePaper is its low power consumption—it only uses power when images change and consumes no power during static displays. This characteristic makes ePaper displays the preferred choice for smart cities and outdoor information displays. AMT has collaborated with customers to overcome multiple challenges and successfully apply ePaper display solutions to smart bus stops.

Challenges of Outdoor Applications

ePaper displays installed outdoors are susceptible to weather and environmental factors, presenting several challenges to address:

- If air bonding is used between the cover glass and the ePaper display, outdoor reflections can affect the display performance of color ePaper.
- The operating temperature range of ePaper is 0°C to 50°C. Under outdoor conditions, prolonged sunlight exposure can cause the temperature to rise, preventing the ePaper display from refreshing properly.
- ePaper displays are not UV-resistant. Prolonged UV exposure over several months can cause the ePaper to yellow or crack.
- Since ePaper displays do not have a backlight, screen content becomes unreadable at night.

Comprehensive ePaper Solutions

To address these issues, AMT has developed a complete ePaper display solution with optimized technology and design:

- Optical bonding is used between the ePaper display and the cover glass, reducing reflectivity and enhancing display performance.
- IR cut films are applied to reduce the temperature under sunlight, ensuring the ePaper display remains functional.
- UV-resistant designs are incorporated to protect the ePaper display from UV damage, meeting ASTM G154 Cycle 1 - 1,000 hours and MIL-STD-810H Pro 1 - 1,000 hours testing standards.
- Front light guides are added to make screen content visible even in environments without light sources.



Customer Feedback and Results

AMT provides a comprehensive ePaper display solution tailored to customer needs with value-added services. Customers have highly praised AMT's services, which include professional

technical support to promptly resolve issues and new technical suggestions to optimize product designs. With in-house optical bonding capabilities, AMT offers high-quality bonding technology and flexible customization, striving to deliver convenient one-stop services. Customers plan to deploy more smart bus stops with AMT's ePaper solutions, laying a solid foundation for smart city development and demonstrating the reliability of AMT's exceptional optical bonding technology.

