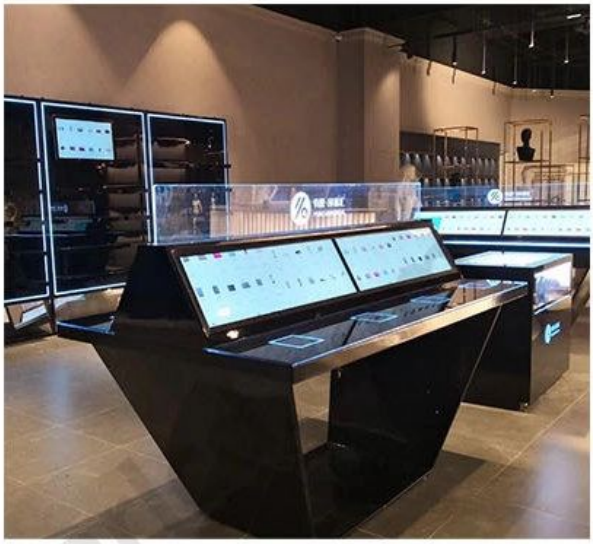
High brightness stretched LCD Display for outdoor applications

RisingStar Engineering Team - May 29, 2026

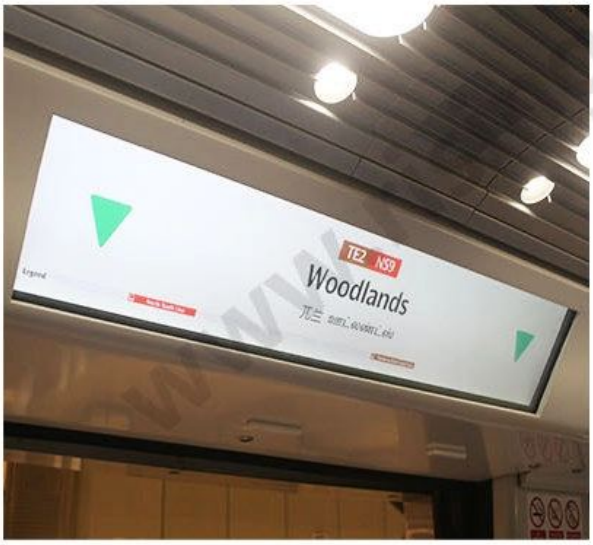
In the evolving landscape of digital signage, a stretched outdoor LCD display has emerged as a transformative solution that breaks free from the sizing constraints of standard 16:9 monitors. These ultra-wide screens, frequently referred to as stretched bar LCD displays, offer unmatched advantages for outdoor applications where maximizing space optimization and maintaining pristine visibility are paramount.



display for buses



Interactive digital signage



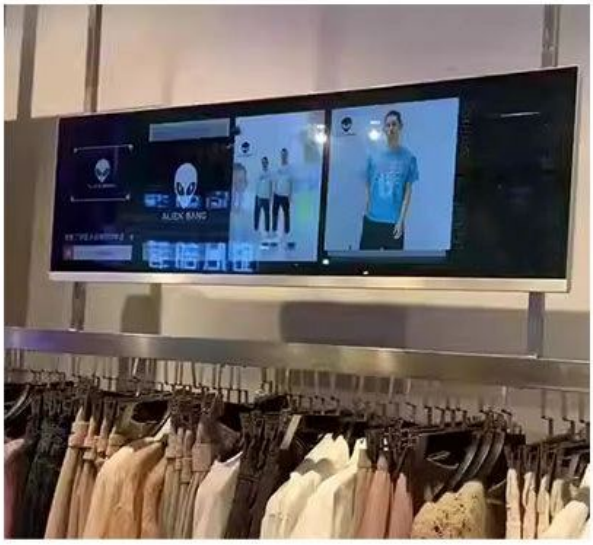
Passenger information display



Supermarket Digital signage



Digital menu



Store digital signage

Browse the full range: [stretched bar high-brightness TFT LCD panels]

Quick Answers

- What is a stretched bar LCD display? An ultra-wide LCD panel with aspect ratios significantly beyond standard 16:9 — typically 21:9, 32:9, or fully custom — designed for narrow mounting spaces where a conventional monitor simply doesn't fit.
- Where are stretched outdoor LCD displays used? Transit passenger information systems (bus shelters, metro platforms), retail shelf-edge signage, gas and EV charging station displays, wayfinding kiosks, and public information boards.
- What makes a stretched display survive outdoors? 1,500–3,000 nits brightness, IP65/IP66 sealed enclosures, -20°C to 70°C operating range, and auto-dimming ambient light sensors that balance readability with power efficiency.

Why Stretched Beats 16:9 — Three Practical Reasons

1. Zero Wasted Space

A standard 16:9 display in a narrow horizontal cutout forces one of two bad compromises: scale down the entire panel until it fits the height, leaving blank walls on both sides — or mask off the top and bottom of a larger panel, wasting backlight power and creating thermal problems. A stretched bar LCD display fills the cutout exactly. No dead space. No wasted pixels.

For installations that need open frame integration — where the display module mounts directly into a custom enclosure rather than sitting inside a pre-built housing — explore open frame monitor solutions for flexible mounting and IP65 sealing options.



2. Information Layout That Matches How People Read

Human reading follows a left-to-right pattern. Stretched displays are uniquely suited to linear information: a complete metro route map without scrolling, real-time arrival predictions for multiple bus routes, or a stock ticker running across the full width of a financial display. The narrow height focuses attention on the data, not the frame around it.



3. Visual Distinction in a World of Rectangles

Every advertising screen on the street is 16:9. A stretched outdoor LCD display cuts through the visual noise. Its proportion signals something different — and in crowded retail environments and transit hubs, different gets noticed.



What to Look for in an Outdoor Stretched Display



Brightness Level	Application
1,500 nits	Semi-outdoor, covered areas, transit shelters with partial shade
2,000–3,000 nits	Direct sunlight exposure — open bus stops, unshaded platform displays, storefront windows facing the sun

Ambient light sensors automatically adjust brightness from approximately 300 nits at night to full power during peak sun — cutting power consumption and extending backlight life when full brightness isn't needed.

For transit passenger information, the 28" stretched bar passenger information LCD display delivers optimized visibility in semi-outdoor shelter environments.

Environmental Protection

Outdoor displays face rain, dust, temperature swings, and UV exposure:

- IP65/IP66 sealed enclosures — fully dust-tight, protected against water jets. IP66 handles heavy rain and pressure washing
- -20°C to 70°C operating range — from winter nights to summer solar loading
- Tempered glass with AR coating — >93% light transmissivity, <2% surface

reflectivity, reducing glare in direct sun

Thermal Management

The backlight in a 2,000–3,000 nit stretched bar panel generates significant heat inside a sealed outdoor enclosure. Without proper thermal management, the display runs hotter at the center of its long axis than at the edges — a thermal gradient that accelerates LED degradation and can push the LCD past its clearing point.

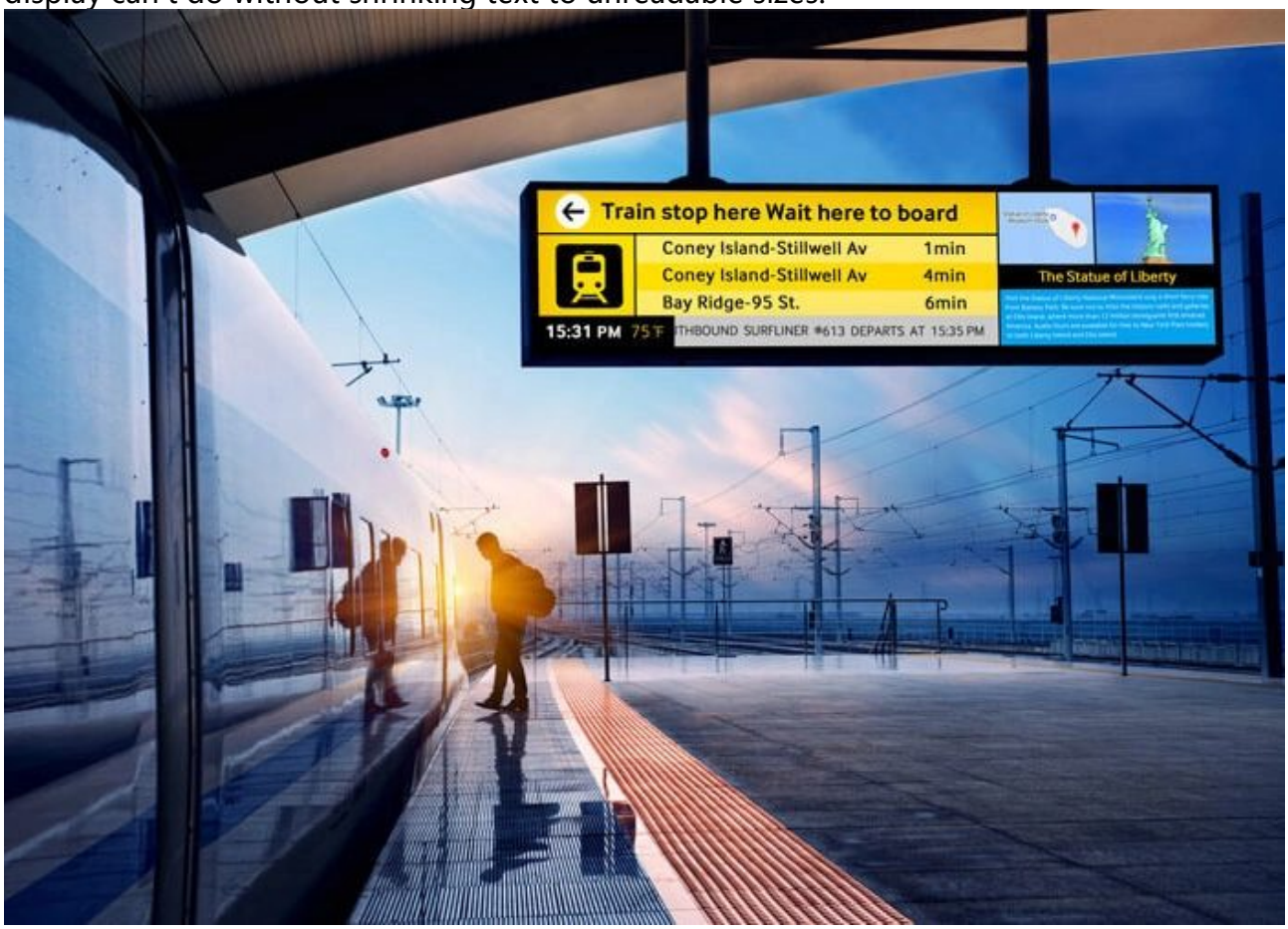
Industrial-grade stretched displays address this through a combination of active thermal management (internal recirculation or heat exchangers that move heat from the backlight cavity to the chassis) and intelligent temperature monitoring that adjusts backlight power when internal temperatures approach safe limits.

The 37" high-brightness stretch LCD bar for passenger information display demonstrates these ruggedized features in a larger transit-grade format.

Where Stretched Displays Do the Heavy Lifting

Transit Passenger Information

Bus shelters, metro platforms, and airport terminals use stretched displays to show route maps, arrival predictions, and service alerts in narrow horizontal strips. The format is ideal for running multiple routes simultaneously in a single information bar — something a 16:9 display can't do without shrinking text to unreadable sizes.



Retail and Smart Shelving

Storefront windows use stretched bar LCD displays to replace static signage with dynamic brand content. Smart shelf-edge displays update pricing and promotions in real time, synced to the store's inventory system. The ultra-wide format fits naturally into shelf railings and above-aisle mounting points.





EV Charging and Fuel Stations

Displaying fuel prices, charging progress, and safety instructions above a pump or charger. The stretched format fits the narrow horizontal cutout above the payment terminal — where a standard monitor would need to be mounted vertically or would block the keypad.



Public Information and Wayfinding

City information poles, campus bulletin boards, and park kiosks use stretched displays for maps, event schedules, and emergency alerts. IP65-rated enclosures handle year-round outdoor exposure without protective shelter.



Built for the Long Haul

RisingStar manufactures stretched bar LCD displays in an ISO 9001-certified facility in Shenzhen with Class 10,000 cleanroom assembly. Grade A/A+ panels sourced directly from LG Display, AUO, BOE, Innolux, and Tianma with 3–5 year supply commitments. Every unit undergoes 100% factory inspection and a 72-hour burn-in before shipping.

Custom aspect ratios, brightness calibration, and interface configuration are available as OEM/ODM options. Samples ship in 10 working days. Engineering response within 8 hours.

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