

Fully tested  
to work with  
the iCOMPEL  
platform!

NEC/3M iCOMPEL Touchscreen LCDs (USB)

Take your iCOMPEL signage to the next level with touch interactivity.



P Series



V Series

Set up dynamic touch displays for:

- » Wayfinding boards
- » Customer self-service stations
- » Retail PoS/PoP displays
- » Visitor services screens in lobbies
- » Anywhere you want a two-way conversation with an audience.



## NEC/3M iCOMPEL Touchscreen LCDs: Why Touch?



On-the-go people expect info on demand.  
Meet that demand with interactive signage.

### Why touchscreens?

Intuitive touch screens take digital signage to a higher — more interactive and personalized — level. They enable you to not only reach customers with your message, but also be more responsive to their immediate needs.



These dynamic, media-rich screen overlays are becoming must-haves for any application where you want to give users easy and quick access to content that's relevant to their particular interests.

### A dynamic duo: the iCOMPEL and the NEC/3M screen.

Black Box's iCOMPEL™ digital signage platform supports playing of content in single or multiple zones on a display. With its touch license (ICOMP-TOUCH) activated, you can turn it into a system

for controlling interactive signs. Just pair it with an NEC/3M iCOMPEL Touchscreen LCD (USB) to create a complete interactive solution.

Once the display is configured, touching a specific zone on its screen causes a command to be issued to the iCOMPEL, which, in turn, causes the media being played to change. You, or any designated media manager, determines how the iCOMPEL responds to the touch.

### Point them in right direction, put them in touch.

A screen can be divided into multiple zones and each zone can have an independent playlist with touch interactivity. This way, you can dedicate a certain area of the screen to a specific item of interest.

You can even set a zone within the screen to play HTML media. When a user touches that zone, they can interact with a Web page you specify — great for putting your electronic catalog before any audience!

### Flexible touch configurations.

Typically, the iCOMPEL digital signage appliance sits between the back-office network and touchscreen that's in a public area. A USB connection provides the exchange of information between the iCOMPEL and the NEC/3M iCOMPEL Touchscreen LCD for reporting X/Y coordinates.

Screens can be configured to respond to a touch anywhere on the panel or react differently when pressed in different areas of the panel.

You can schedule a layout (the image seen on the screen) to run at specific times of the day and week, or change according to commands embedded within a playlist associated with the zone.

Plus, you can configure any layout to work on a timeout basis. When a period of time lapses after a screen's been touched, the layout will automatically revert to another layout.

### Trigger display content by external events.

And because the iCOMPEL system supports general-purpose input/output (GPIO) capabilities via its RS-232 ports, the display of information can be triggered (or halted) by signals originating from external inputs. These can be external infrared motion detectors, light sensors, building control systems — even external SCADA collection systems.

Set up a screen to provide emergency notification during crises based on a signal sent when a secure door is opened or when an environmental condition occurs, or simply have a screen in a lobby change from a static display to an interactive touchscreen when someone approaches. The possibilities are endless.

## Provide fast, more precise touch detection with NEC/3M iCOMPEL Touchscreen LCDs!

The iCOMPEL works with many external touchscreen devices that support USB input, but for optimum performance, we recommend using it with our NEC/3M iCOMPEL Touchscreen LCDs (USB).

In addition to interactive signage in retail PoS/PoP, visitor kiosk, or wayfinding applications, the screens are ideal for corporate directories, event exhibits, and conference room and education presentation systems. You can use them in landscape or portrait orientation.

Featuring a chemically strengthened glass substrate and four piezoelectric sensors in the corners at the back side of the glass, the touchscreen LCDs use proprietary 3M® MicroTouch™ Dispersive Signal Technology (DST) that makes them ideal for applications that require fast, accurate, and reliable touch response. For more on DSP technology, see [below](#).

What's more, the touch interface ignores static objects on the screen and allows for multi-user touch capabilities. The glass meets UL® 60950 glass breakage specifications and it has an anti-glare etch surface for use in a wide range of ambient light conditions. The surface minimizes the appearance of fingerprints. For LCD technology details, see [page 4–5](#).

- » NEC® LCD screens with 3M® MicroTouch™ DST overlays.
- » Brightly lit displays with high contrast ratios.
- » Ambient light sensor adjusts brightness to room lighting.
- » Fast, accurate, repeatable response for busy applications.
- » Touch operation unaffected by surface contaminants.
- » Chemically strengthened glass with anti-glare surface.
- » Reduced power consumption. Energy Star 5.0 rated.
- » Remotely manageable via serial RS-232 or Ethernet ports.

### 3M TOUCHSCREEN TECH SPECS

**Accuracy** — Reported coordinates are within 1.0% of true position (based on viewing area dimensions)

**Controller MTBF** — >140K hours (per MIL-HDBK-217F calculation)

**Input Method** — Finger and stylus

**Response Time** — 20 ms for tap input

**Optical Clarity** — 92% light transmission (+/- 2%)

## High-performance 3M MicroTouch Dispersive Signal Technology (DST)

With integrated 3M MicroTouch Dispersive Signal Technology (DST), the NEC/3M iCOMPEL Touchscreen LCDs (USB) offer precise touch detection, as well as fast touch response time for quick transactions and navigation.

The interfaces recognize touch by interpreting bending waves within the glass substrate, which is distinctly different than most traditional touchscreen technologies that detect touch by interrupting acoustic waves, optical fields, or infrared beams above the surface.

When someone puts a finger or stylus on the NEC/3M iCOMPEL Touchscreen LCD's glass, it creates a bending wave *within* the substrate, radiating out from the point of impact — much like waves propagating outward from a contact point in a pond — to the corners of the screen.

The waves are detected by piezoelectric sensors mounted on each corner. These sensors convert the mechanical energy of the bending wave into electrical signals, which are then analyzed by a 3M proprietary algorithm running on the DSP-based controller board to determine precise touch location. Touch location is then calculated in real time on the 3M controller.

In addition, because bending waves are not affected by on-screen contaminants (liquids, dirt, grime, etc.) and surface scratches, the DST touchscreen offers more accurate and reliable operation. Hands resting on the screen won't affect the bending wave either. For these reasons, the NEC/3M iCOMPEL Touchscreen LCDs are well suited for busy, heavy-use applications.



What's more, MicroTouch DST technology features:

- 99% touch accuracy.
- Flexible input, whether it's from a finger, pencil, credit card, fingernail, or almost any pointing stylus.
- Excellent light transmission, which provides vibrant optical characteristics with anti-glare properties.
- A design that's particularly beneficial in large-screen applications.
- Superior surface durability for optical and functional performance over the life of the product.

# NEC/3M iCOMPEL Touchscreen LCDs: Choose Your Screen(s)

## P Series Touchscreen (USB) LCDs

- » Industrial-strength, professional-grade LCD screens with thin bezels.
- » For demanding, 24/7 operation in busy public areas.
- » Feature additional thermal protection.
- » Support Full HD resolutions up to 1920 x 1080.
- » 500 cd/m<sup>2</sup> brightness (typical); contrast ratios of 3000:1 (40" model) or 4000:1 (46" model).
- » Offer an array of inputs: DisplayPort, HDMI, and DVI, plus VGA, Component, Composite, and S-Video.
- » Carbon footprint meter tracks conservation of green gas emissions in real time.
- » Built-in expansion card slot.
- » 15-W stereo audio amplifier.
- » Windows Vista® certified.



Set up interactive digital signage in more demanding rooms and thoroughfares with P Series Touchscreen LCDs. Not only do you get advanced 3M touch technology, but the displays themselves are designed for heavy-duty use in harsh environments.

The LCDs boast an extra thermal layer and internal temperature sensors that control self-protective circuits. Their construction includes:

- A thermal dissipation plate behind the LCD lamps that conducts heat equally across the plate to prevent "hot spots" on the LCD.
- A wider air layer for increased airflow and improved heat dissipation.
- A heat protection plate between the LCD panel and lamps that provides added heat protection.

In addition, the LCDs have multiple fans that diffuse heat, whether they're used in landscape or portrait configuration, and they're sealed to protect internal circuitry from dust, grease, steam, and other contaminants.

The fans can also be controlled remotely, and special self-diagnostics communicate the status of the thermal characteristics.

You also get Full HD resolution on a bright screen with a high contrast ratio. Create interactive signage with crisp, easy-to-read text. The panels show increased definition between images and render fast-moving images nicely, too—with a 120-Hz refresh rate reducing blur often seen on standard 60-Hz screens.

Additionally, a CableComp+ feature uses a digitized signal delay circuit to ensure sharp image reproduction when using long cable runs with low output levels. This feature automatically compensates for each red, green, and blue cable's length and video signal delay.

The LCDs also feature six-axis color control, you can precisely adjust color, color temperature, and saturation to your liking. Use the included NaViSet™ intuitive graphical interface software to adjust display settings via a mouse and keyboard from a remote workstation. This can be done using control commands sent directly to the LCD from your system. Because the LCD supports the DDC/CI standard, it allows for PC control of the display based on the VESA command set.

Through the LCDs' RS-232 or Ethernet port, you can control one or more displays. A copy function enables you to apply settings from one display to all others in the RS-232 daisychain, reducing setup time.

Plus, you can schedule the powering up and down of your displays ahead of time to increase the panel's life and reduce energy consumption.

NEC TileMatrix™ technology enables configuring of multiple screens for video walls (up to 100 displays in a 10 x 10 matrix), and NEC TileComp™ works with TileMatrix to compensate for the bezel width, so you can create a more seamless video wall.

The display panel also has a built-in expansion slot, futureproofing your investment further. Use the slot for NEC and third-party components, such as IPTV tuner cards, HD-SDI video cards, and internal PC boards.

### P SERIES USB TECH SPECS

**LCD Brightness** — 500 cd/m<sup>2</sup> (typical)

**LCD Contrast Ratio** — 40" model: 3000:1;  
46" model: 4000:1

**LCD Resolution** — 1920 x 1080

**LCD Response Time** — 8 ms (gray to gray)

**LCD Viewable Image Size** — 40" or 46"

**LCD Viewing Angle** — 89°

**VESA Hole Pattern** — 300 x 300 mm  
(4-hole)

**Environmental** — Operating temperature:

41 to 104° F (5 to 40° C);  
Operating humidity: 20 to 80%,  
noncondensing

**Connectors** — Video in: (1) DisplayPort,  
(1) HDMI F, (1) DVI-D F, (1) HD15 F  
(VGA), (5) BNC F (RGB/HV, DVD/HD,  
or Composite video), (1) RCA  
(Composite video), (3) RCA (YPbPr  
Component video), (1) BNC F  
(Composite video), (1) 4-pin mini  
DIN (S-Video);

Video out: (5) BNC F (RGB/HV, DVD/HD,  
or Composite video), (1) BNC F  
(Composite video);

Audio in: (1) 3.5-mm mini-jack,  
(2) L/R RCA jacks;

Audio out: (1) L/R RCA jack, (1) L/R +/-  
bare speaker wire block;

External serial control in/out: (2) DB9 M  
(RS-232);

Network: (1) RJ-45 (LAN port);

Infrared in/out: (2) mini-jacks;

Touchscreen controller cable interface (to  
iCOMPEL or PC): (1) USB Type A M

**Power** — Input: 100–120 VAC, 220–240  
VAC, 50–60 Hz, autosensing;

Consumption (typical):

40" model: 175 W;

46" model: 210 W

**Size** — Without optional stand or speakers:

40" model: 21"H x 36.2"W x 5.5"D

(53.3 x 92 x 14 cm);

46" model: 1 8.8"H x 31.1"W x 5.2"D

(47.8 x 79 x 13.2 cm);

bezel also has 0.2" (0.5-cm) touchscreen  
overlay (including glass thickness, tail,  
electronics components, mounting  
material)

**Weight** — Without optional stand or

speakers: 40" model: 31.5 lb. (14.3 kg);

46" model: 51.8 lb. (23.5 kg)

## V Series Touchscreen (USB) LCDs

- » Budget-friendly, public display-grade screens with standard bezels.
- » Ideal for areas without any temperature concerns.
- » Available in 32", 42", and 46" sizes.
- » Boast brightness of 450 cd/m<sup>2</sup> (32" and 46" models) or 500 cd/m<sup>2</sup> (42" model).
- » Contrast ratio of 3000:1 (32" and 46" models) or 1300:1 (42" model).
- » Support HD resolutions up to 1366 x 768 (32" model or 1920 x 1080 (42" or 46" models).
- » Ticker feature. Stream text across bottom of screen.
- » Digital HDMI and DVI connectors and analog VGA, Composite, and S-Video inputs.
- » Stereo audio through 15-W speakers.
- » Windows Vista® certified.



Ideal for any application requiring quick and reliable touch response, the V Series NEC/3M iCOMPEL Touchscreen LCDs (USB) are designed for extended use and display of clear, HD-quality images and video.

The public display-grade, standard-bezel LCDs boast high brightness and contrast ratios, so you can create eye-catching, interactive signage with crisp, easy-to-read text.

Though the screens don't come with same level of thermal protection as the P Series screens, they do feature an advanced cooling system that promotes long use. A sealed panel design keeps contaminants like dust, grease, or steam from damaging the panels' internal circuitry.

Featuring six-axis color control, the screens enable you to precisely adjust color, color temperature, and saturation to your liking. The LCDs also boast sharpness/softness and backlight adjustments.

Also, the V Series LCDs protect against permanent image retention and eliminate color halos on long cable runs by using CableComp™ technology that equalizes the video signal. This technology uses a digitized signal delay circuit to automatically compensate for each red, green, and blue cable's length and video signal delay, so you get sharper image reproduction.

Because the LCDs support the DDC/CI standard, they allow for PC control of the display based on the VESA command set. Use the included NaViSet™ intuitive graphical interface software to adjust display settings via a mouse and keyboard from a remote workstation. This can be done using control commands sent directly to the LCD from your system.

Plus, the LCDs have a scheduler feature, saving you the time and expense of finding and ordering a scheduling solution separate from the screen. Use this feature for a round-the-clock, seven-day scheduling of content and powering of the display. A real-time clock enables you to set schedules for on/off times 24/7. For optimum color representation, you can even set the screen to warm up 30 minutes before use.

A text ticker feature enables you to use a portion of the screen for emergency warnings and news updates. Primary content is displayed via one input, filling the majority of the screen, while the secondary ticker information is shown on the lower remaining screen via a second input.

The LCD panels can also be remotely managed. Through an RS-232 or Ethernet port, you can control one or more displays. Also, through its panel of inputs, you can connect digital HDMI and DVI devices, as well as Composite, S-Video, and Component AV equipment.

In addition, NEC TileMatrix™ technology enables configuring of multiple screens for video wall setups (with up to 25 displays in a 5 x 5 matrix). NEC TileComp™ works in tandem with TileMatrix to compensate for the bezel width (automatically eliminating geometrical distortions between displays), so you can create a more seamless video wall.

### V SERIES USB TECH SPECS

<b>LCD Brightness</b> — 32" and 46" models: 450 cd/m <sup>2</sup> ; 42" model: 500 cd/m <sup>2</sup>	<b>Audio out:</b> (2) L/R RCA jacks, (1) L/R +/- bare speaker wire block;
<b>LCD Contrast Ratio</b> — 32" and 46" models: 3000:1; 42" model: 1300:1	<b>External serial control in/out:</b> (2) DB9 F (RS-232);
<b>LCD Resolution</b> — 32" model: 1366 x 768; 42" and 46" models: 1920 x 1080	<b>Network:</b> (1) RJ-45 (LAN port); Touchscreen controller: (1) DB9 F (RS-232)
<b>LCD Response Time</b> — 8 ms (gray to gray)	<b>Power</b> — Input: 100–120 VAC, 220–240 VAC, 50–60 Hz, autosensing;
<b>LCD Viewable Image Size</b> — 32", 42", or 46"	<b>Consumption (typical):</b> 32" model: 75 W; 42" model: 160 W; 46" model: 185 W
<b>LCD Viewing Angle</b> — 178° vertical/ horizontal	<b>Size</b> — Without optional stand or speakers: 32" model: 18.8"H x 31.1"W x 5.2"D (47.8 x 79 x 13.2 cm); 42" model: 24.2"H x 40.3"W x 5.2"D (61.5 x 102.4 x 13.2 cm); 46" model: 26.2"H x 44.2"W x 5.1"D (66.5 x 112.3 x 13 cm); bezel also has 0.2" (0.5-cm) touchscreen overlay (including glass thickness, tail, electronics components, mounting material)
<b>VESA Hole Pattern</b> — 400 x 200 mm (12-hole)	<b>Weight</b> — Without optional stand or speakers: 32" model: 31.5 lb. (14.3 kg); 42" model: 45.2 lb. (20.5 kg); 46" model: 52.9 lb. (24 kg)
<b>Environmental</b> — Operating temperature: 41 to 104° F (5 to 40° C); Operating humidity: 20 to 80%, noncondensing	
<b>Connectors</b> — Video in: (1) HDMI F, (1) DVI-D F, (1) HD15 F (VGA), (5) BNC F (RGB/HV, DVD/HD or Composite video), (1) BNC F (Composite video), (1) 4-pin mini DIN (S-Video); Video out: (1) HD15 F (VGA), (1) BNC F (Composite video); Audio in: (1) 3.5-mm mini-jack, (1) L/R RCA jack;	

# Why NEC/3M iCOMPEL Touchscreen LCDs?

## Five top reasons to choose these models:

- 1. They invite customer interest—and interaction.**  
 Perfect for retail, lobby, or trade show environments, they're effective sales tools. They generate interest in your company and give customers the means to get information on demand.
- 2. They're optimized for easy integration.**  
 Fully tested to work with our iCOMPEL digital signage platform, these screens offer seamless and flawless integration into new or existing signage networks.
- 3. They're designed for fast, accurate response.**  
 Featuring 3M DST technology, the built-in HID interface offers 99% touch accuracy and a fast response time for quick transactions and navigation.
- 4. They're built to withstand heavy use.**  
 Protected by a chemically strengthened glass, they suit busy applications in high-traffic areas. Touch operation isn't affected by dust or other contaminants on the surface.
- 5. They're designed for crystal-clear display.**  
 Supporting HD display and high contrast ratios, they feature an anti-glare surface for a range of ambient light conditions and a surface that minimizes the appearance of fingerprints.

### P Series



#### What's included:

- Touchscreen LCD
- Power cord
- VGA cable
- Remote controller
- NaViSet software
- User manual on CD-ROM
- Setup sheet

Item	Code	List Price
<b>Choose a P Series iCOMPEL optimized screen for your room size...</b>		
NEC P Series/3M iCOMPEL Touchscreen LCDs (USB)		
40"	IC-P401DST-USB	<b>\$3395.95</b>
46"	IC-P461DST-USB	<b>\$4295.95</b>

Item	Code	List Price
<b>Or for RS-232 instead of USB (non iCOMPEL applications), order ...</b>		
NEC P Series/3M Touchscreen LCDs (RS-232)		
40"	BB-P401DST-RS232	<b>\$3295.95</b>
46"	BB-P461DST-RS232	<b>\$4295.95</b>

For more information on the P Series LCD screens, see page 4.

### V Series



#### What's included:

- Touchscreen LCD
- (2) rearmount speakers
- Power cord
- VGA cable
- Remote controller
- NaViSet software
- User manual on CD-ROM
- Setup sheet

Item	Code	List Price
<b>Choose a V Series iCOMPEL optimized screen for your room size...</b>		
NEC V Series/3M iCOMPEL Touchscreen LCDs (USB)		
32"	IC-V3212DST-USB	<b>\$1895.95</b>
42"	IC-V4212DST-USB	<b>\$2795.95</b>
46"	IC-V4612DST-USB	<b>\$3295.95</b>

Item	Code	List Price
<b>Or for RS-232 instead of USB (non iCOMPEL applications), order ...</b>		
NEC V Series/3M Touchscreen LCDs (RS-232)		
32"	BB-V3212DST-RS232	<b>\$1895.95</b>
42"	BB-V4212DST-RS232	<b>\$2795.95</b>
46"	BB-V4612DST-RS232	<b>\$3295.95</b>

For details on the V Series LCD screens, see page 5.

800-355-8003 | [blackbox.com/go/iCOMPEL](http://blackbox.com/go/iCOMPEL)