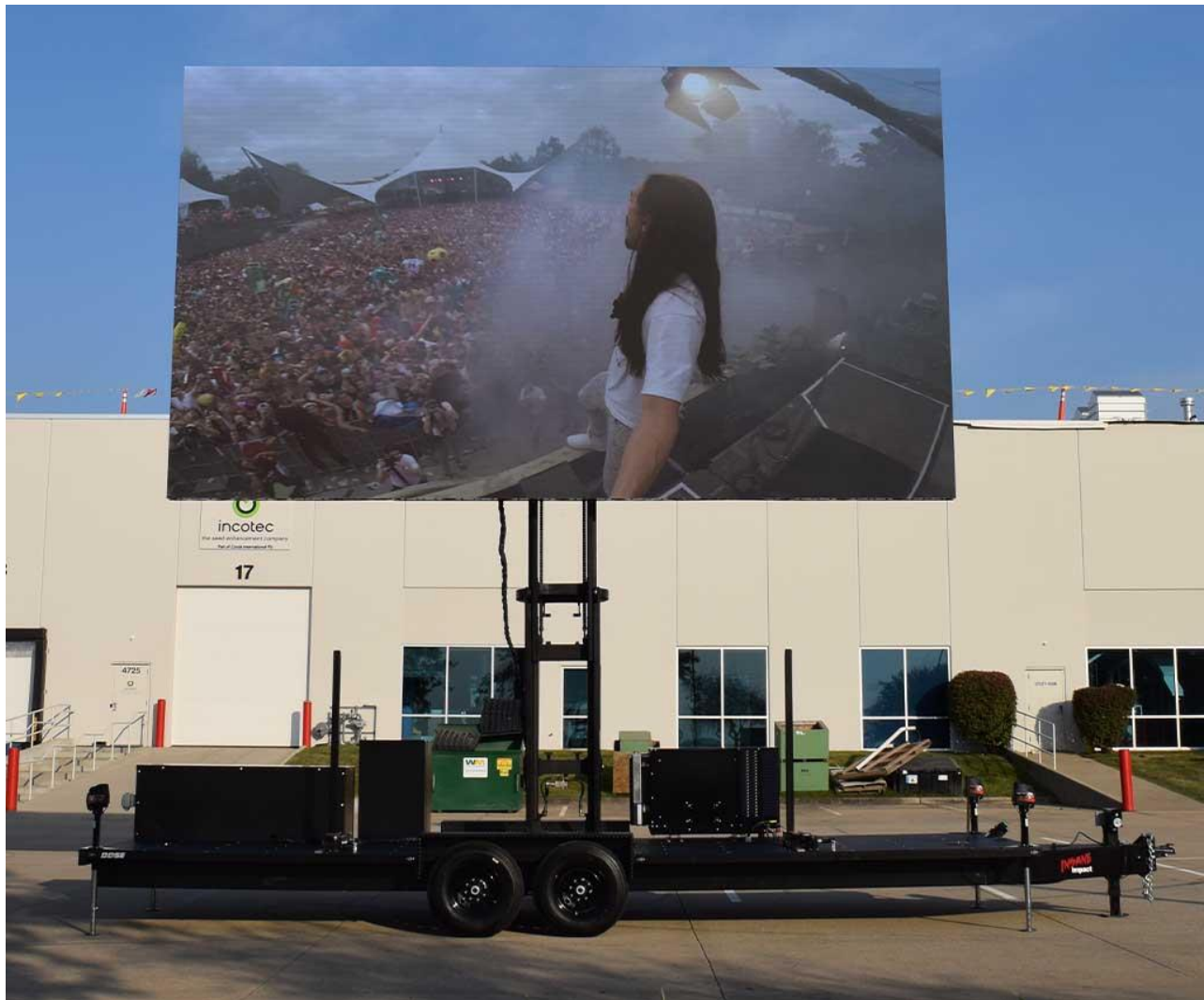




MAX 2313 Mobile LED Owner's Manual



November 8, 2021
MAX 2313

General Overview

MAX XL Mobile LED is a line of outdoor LED video screen products that include an onboard generator and full production capabilities. Basic specifications are outlined below.

Model	Screen Size	Trailer Size	# of Generators	Weight
MAX 2313	23 x 13 ft.	31 x 8 ft.	1	14,000 lbs.

Specifications and features

Screen Pitch:	4.81mm
Screen Resolution:	1456 x 832p
Aspect Ratio:	16:9
Video Inputs:	HDMI, SDI
Weight:	14,000lbs.
Power Output:	30 kw

Features:

- Adjustable height
- 360° Swivel rotation
- Weatherproof
- Power included (generator)

Generator Overview

- Powertech 30k Quiet Diesel
- 30k watts, 120/240V
- Super quiet
- Runs up to 30 hours on 30 gal of fuel.
- 49.625" L x 27" W x 33"H

Production box overview

The onboard production box contains all the components needed to display media files, live TV, and any other feeds that have an HDMI or SDI output. This also houses the hardware necessary for playing audio and operating the speaker system.



1. **Cooling Fan** - AC Infinity CLOUDPLATE X7
2. **Laptop drawer**: Contains Dell Inspiron 13 5000 laptop with Windows 10.
3. **Power strip/surge protector** – CyberPower Systems Power Surge Protector: includes 10 outlets.
4. **DVD/Blu-Ray player** – Denon DN-500BDMKII Professional Blu-ray Disc and Media Player 1 RU
5. **Controller** – Novastar VX4S
6. **HDMI Switch** - KanexPro 4x1 HDMI Switcher with 4K Support & Audio Output
7. **Storage drawer**: Contains HDMI cord and owner's manuals.
8. **Patch panel**: Includes 2 HDMI connections, 1 SDI connection, and 1 looping SDI connections.
9. **Mixer** – Cloud USA MX141M 5-Channel Mixer /Media Player
10. **Amp** – Linea Research LR-44C6

Tip: Please reference user manuals for above components for more detailed information and advanced operating instructions.

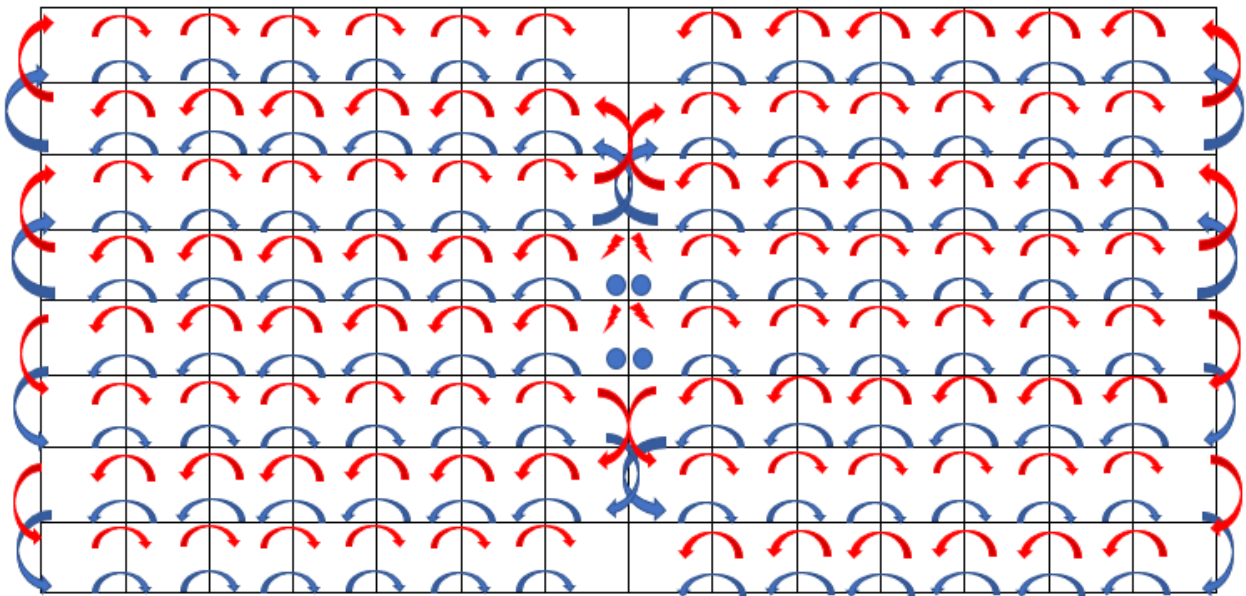
LED Screen Basics

The LED screen is made up of 112 separate panels (or cabinets), that are locked in place. The panels are 104x104 pixels and made up of 4 modules (52x52p), one receiving card, and one power supply all in one hub. Each panel is linked together by a power and a data connection (or

jump). For more information on components and troubleshooting of individual panels see below.

Media is displayed on the screen by sending a data (CAT5) feed from the sending box (VX4S) to the receiving card in the first panel in a series of connected panels. The data is then sent from one cabinet to the next through a data connection, or jump, until it has reached each panel. Power is similarly sent by means of a power jump. However, instead of one main power line jumping through each panel it is split into 3 separate power lines, each coming from the generator. Please refer to the diagram below to see how both power and data is jumped throughout the entire screen.

MAX Power and Data Mapping (Rear View)



Getting Started

Position trailer and screen

1. Place wheel chocks behind wheels to prevent from moving
2. Unhook from truck
3. Remove Safety Pin from bottom of lift mast.
4. Put stabilizers down after disconnecting from truck.
5. Remove 2 bolts from driver side frame to deck.
6. Turn on generator.

7. Turn on breaker for generator or shore power
8. Turn on breakers for pump and control system
9. Flip light switch for pump power. It is on the right of the breaker box
10. Turn silver handle on back of mast to open hydraulic lines.
11. Raise driver side frame above passenger side frame using the up button (pendant in box behind production on passenger side.
12. Rotate the screen towards the back of the trailer until lined up with passenger side frame (watch hydraulic line and cable wrap when rotating)
13. Lower Top screen to about an inch above bottom screen.
14. Using the left and right button line up the two frames and push large bolt through hand tighten nut.
15. Follow step 14 for the next 3 bolts.
16. Lower top screen all the way down on bottom screen. (Make sure no cords get caught)
17. If screen does not fall all the way down adjust stabilizers
18. Push all 4 bolts all the way through and tighten as much as possible.
19. Apply metal plates and wing nuts to all cabinets. Bolt coming from top half to bottom half.
20. Connect all cords from junction boxes to bottom half of screen (2 powers, 2 data in middle, and speaker powers on outside if applicable)
21. Turn on breakers for screen, production, and sound.
22. Test screen while down to make sure everything is connected properly.
23. Undo 3 bolts on bottom of bottom section. (Passenger side of trailer)
24. Raise screen to desired height using up button.
25. If screen needs to rotate use the left/right button to spin. (Make sure screen is all the way up and, in the hooks, coming off the mast.)
26. When screen is raised to desired height and desired angle close silver handle on mast and turn off pump

Tip: When placing trailer on any surface if the wheels are touching the ground, it is always a good idea to “chalk” the wheels with a piece of wood to ensure they do not roll.

Turn on production box components.

1. Unlock the production box using the keys given to you.
2. Power on the power strip/surge protector
3. Power on the LED Video Controller VX4S
4. Power on any other production box components that will be used.

Computer Operating Procedures

Included in the MAX production box is a laptop computer with Windows 10 operating system. NovaLCT and ViPlex programs come pre-installed, with icons for each on the desktop and pinned to the task bar.

Computer display setup.

1. Turn computer on and open display setting by right clicking on the desktop and clicking "Display Settings".
2. Once in the "Display Settings" window scroll down until you see the dropdown menu under "Multiple Displays" and set to "Extended."
3. Click "Keep Changes"
4. Scroll back up and click on the box that has a number 2 inside of it (this lets you control the display settings that is sent to the VX4S controller and ultimately the LED screen)
5. Set the dropdown menu under "Change the size of text, apps, and other items" to "100%"
6. Set the dropdown menu under "Resolution" to "1920x1080".
7. Click "Keep Changes"
8. Set the dropdown menu under "Orientation" to "Landscape" (if not already set. Click "Keep Changes" if you needed to change this)
9. Close out of Display Settings window

NovaLCT- setup

NovaLCT- is an LED display control software. The primary functions of this software include sending and receiving data to and from the sending and receiving cards, monitoring card and multi-function card information, brightness and power control, LED error detection, screen calibration, and hardware monitoring. This enables the user to easily monitor and control key screen information through one simplified platform on their laptop computer.

Receiving card and data configuration setup

The proper configuration of the LED screen is setup prior to delivery. Bypass the following directions if screen is working properly.

1. Plug the USB cord that is ran through the back of the laptop drawer into the laptop.
2. Open NovaLCT
3. Click the "User(U)" dropdown tab and click "Advanced User Login (A)"
4. Use password *admin* and click "login".
5. Click screen configuration.
6. Be sure that the current operation is the USB port that is plugged in, and the "Configure Screen" box is checked. If so, click "Next."
7. Click the "Receiving Card" tab
8. Click "Load from File"
9. Find the file labeled "Receiving Card" (It should be in the "Tech Files" folder on the desktop) and click "Open".

10. Click "Send to Receiving Cards"
11. Another window should pop up. In this window, be sure that "All Receiving Cards" box is checked and click "Send."
12. Click "Save" at the bottom.
13. Click the "Screen Connection" tab
14. Click "Load from File"
15. Find the file labeled "Mapping" (It should be in the "Tech Files" folder on the desktop) and click "Open".
16. Click "Send to HW." This will send the proper data configuration to the LED screen.

Tip: Please refer to the NovaLCT User Manual for more detailed setup instructions and advanced display options

Using ViPlex software

ViPlex is a powerful media playing software built specifically for use with the screens mounted on MAX 1710. This software allows the user to setup, program, and display a variety of media files and effects to the LED screen. Please refer to ViPlex Manual on Desktop.

Controller (VX4S) Operating Procedures

The VX4S is a professional LED display controller. Besides the function of display control, it also features in powerful front-end processing, so an external scalar is no longer needed. With professional interfaces integrated, VX4S with excellent image quality and flexible image control greatly meet the needs of the broadcast industry, Its friendly in user-interface. so that the display to work has never been as easier and more enjoyable as with VX4S.

Basic setup

Follow the directions below for controller setup when using ViPlex software:

1. Press the HDMI button on the front panel of the controller so that it turns red.
2. Press the SCALE button on the front panel of the controller so it is disabled.

Changing brightness

1. Return to main menu interface.
2. Press the Knob to select the corresponding value of brightness.
3. Rotate the Knob to adjust value.
4. Press Knob again to send new brightness value to screen.

Tip: Brightness will vary based on the event being indoor or outdoor as well as cloud coverage and time of day. This may need to be changed multiple times depending on duration of event.

Test modes

1. Start at main menu interface.
2. Press the knob and scroll to Display Control.

3. Press the knob and scroll to Test pattern.
4. Scroll through the 8 different test patterns.
5. To go back to normal mode press ESC and scroll back up to Normal.

Disable scaling.

1. Check if the Scale 1 button is lit up red.
2. If so, Press that button again.
3. Display should say auto scaling disabled.

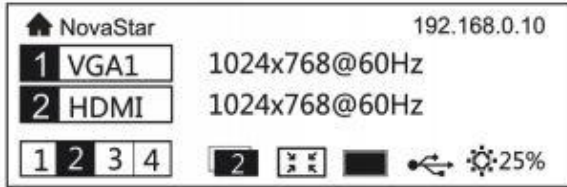
Tip: See the VX4S user manual to set custom scaling when using other modes of display

Blackout screen

1. Press knob and scroll to Display Control.
2. Press knob again and scroll to black out.
3. Press knob again and screen should go black.
4. Another way is to press the Take button on the far right of the VX4S.

Home screen

On the front of the controller there is a home screen that enables you to quickly identify what information is being sent to the LED screen and help identify potential problems issues.



First row: Company name; the name and IP of the product are shown alternately;

Second row: Main screen 1; signal source; input source signal format;

Third row: PIP 2; signal source; input source signal format;

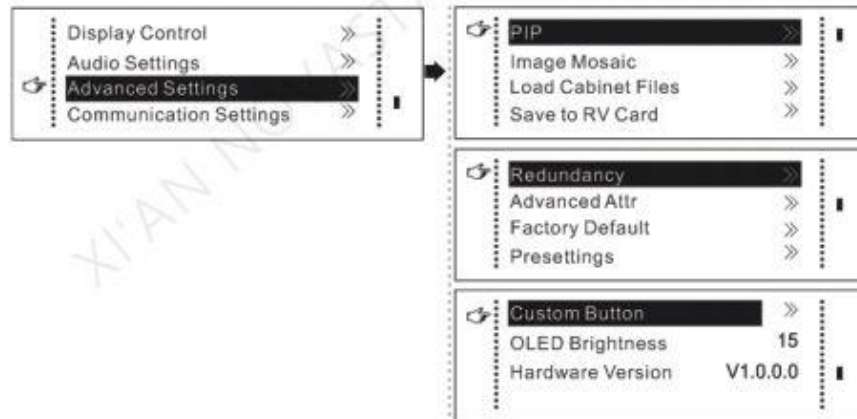
Forth row: Status bar. the meanings of all icons are shown below.

	LED Output (it is Port 2 output currently in primary mode, and backup status is displayed as)
	PIP is turned off
	PIP is turned on
	The current effect is point-to-point display
	It is "scale down" mode
	It is "scale up" mode
	Image Mosaic is disabled;
	Image Mosaic is enabled;
	It is USB control currently

Advanced settings

Several setting options of main functions are included in advanced settings, as shown in the figure below,

Operation of each function will be detailed for users in the following text.



Picture-In-Picture (PIP)

1. Press knob and scroll to Advanced Settings.
2. Click on PIP.
3. Press knob to enable PIP.
4. Scroll down to Main Source.
5. Press knob and scroll to choose your main source.
6. Repeat step 5 regarding PIP Source.
7. Scroll down and set PIP display settings following outline below.

Horizontal Res: Horizontal offset of PIP

Vertical Res: Vertical offset of PIP

Horizontal X: Horizontal width of PIP

Vertical Y: Vertical height of PIP

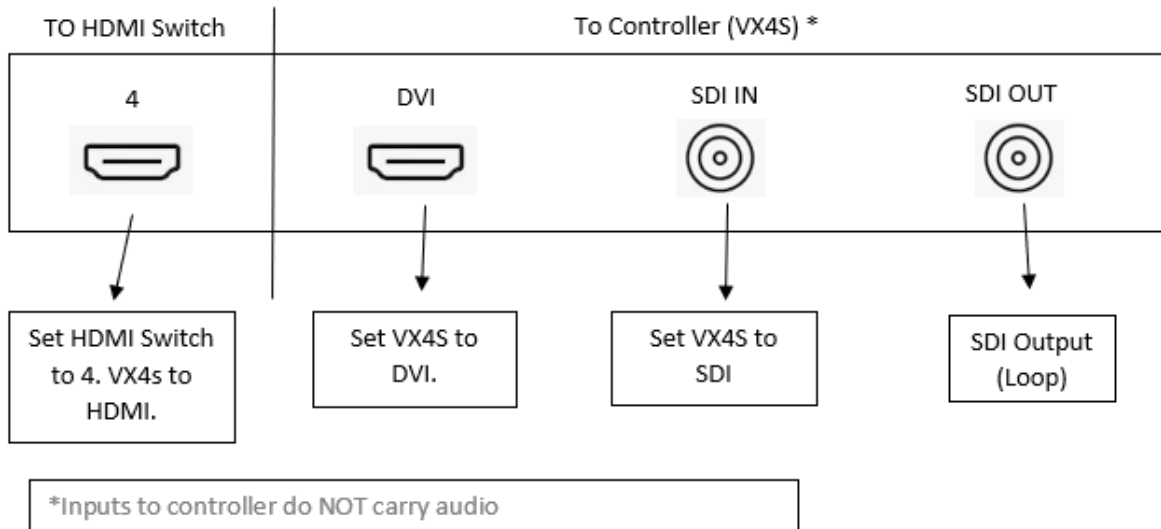
Tip: Once PIP settings are set you can simply press the PIP button on the front of the controller to switch in and out of PIP modes

Using alternate modes of display

Using the patch panel on the front side of the production box you can connect multiple modes of display to the screen using HDMI and SDI inputs.

Patch panel inputs

Use the diagram below and corresponding display instructions when using alternate modes of display.



Using Full Screen Computer Display (Duplicating Primary Screen)

- Go into settings on the computer.
- Click on System (Display, sound, notification, power)
- Display should open right away it is the top sub-heading.
- Scroll down to where it says extended displays.
- Switch that to duplicate displays.
- The LED screen should mirror whatever is on the laptop.
- Find desired webpage in google chrome and make Full Screen.

Proper Production Box Component Operations

Briefly discuss prod box components other than computer, vx4s, and receiver

DVD/Blu-Ray player

Denon DN-500BDMKII Professional Blu-ray Disc and Media Player 1 RU

- Remote and manual in drawer in production box
- Insert movie and follow prompts from there.

Dish receiver/satellite

Winegard Pathway Series portable satellite antennas offer quick and easy setup, maximum HD programming, and compatibility with DISH Pay-As-You-Go service. Satellite TV antennas exclusively for DISH!

How to activate

- Call 1-800-472-1039
- Follow Steps given by Dish Customer Support
- Choose Channel options that best fits.

- Download Dish Now App for easy use

Using dish receiver once activated

- Using your Dish app change your zip code to your current location to get local channels.
- Follow instructions on screen to scan for designated area.
- Let Channel Guide Load
- Proceed to watch TV same as you would at your house.

Spare Parts for LED Screen

Spare parts

Each unit comes with a supply of spare parts. Included:

- 12 Spare Modules (6 left and 6 right)
- 4 Hubs
- 2 Power Jumpers
- 2 Data Jumpers

Replacing a power jumper

- Pull tab back on one end and turn counterclockwise.
- Repeat same process for the other end of cord.
- Insert end of new cord and turn clockwise.
- Repeat same process for the other end of cord.

Replacing a data jumper

- Push tab and pull end out on first end.
- Repeat for opposite end.
- Take first end of new cord with opening at the top and push in
- Repeat for opposite end.

Replacing a modular

- Identify which module needs to be replaced.
- Remove hub.
- Loosen all screws in module.
- Push bad modular out.
- Get new modular with data port corresponding on same side as the one you removed.
- Line up and push in
- Tighten all screws in module.

Replacing a HUB

- Loosen 4 clips.
- Remove HUB
- Replace with new HUB.
- Tighten 4 clips.

Troubleshooting LED Screen

- Refer to Quick Guide on computer.
- Refer to owner's manual on computer.
- Call Customer Support 515-349-7708.