
INDOOR SIGN

INSTALLATION MANUAL

SIGN CONFIGURATION

INTRODUCTION

WELCOME TO WATCHFIRE!

Congratulations on your purchase of a new led sign. our goal is to provide you with the best product in the sign industry, and that experience begins with the installation phase. This manual has been designed to help you achieve a fast, high-quality installation.

There are several ways you can use this manual depending on your experience with. If this is your first product, the manual will serve as an excellent how-to guide, from handling the LED modules to setting up the software required to run the sign. More experienced customers will find several changes from previous versions of the installation manual, including updates on our newest products. We suggest that you look over the entire manual before beginning a detailed review of any one component.

On the next page, you will find the Installation Checklist. Use it to guide your install and quickly reference sections if you have a question. The Sign Configuration page at the front of the manual will also be helpful, because it lists details for this particular sign that you may need to know during installation.

Finally, be sure to review the Maintenance and FAQ sections at the very end of the manual for valuable tips to keep your sign running smoothly for years to come. If you have additional questions, please visit our online knowledge database, the most up-to-date reference for owning and operating your new signs.

Congratulations again, and enjoy your sign.

INSTALLATION CHECKLIST

TOOL LIST

TOOLS PROVIDED

Module remover tool set
8.0 x 200mm Hex T-Handle
Rear door access key

TOOLS NOT PROVIDED, BUT ARE NEEDED

Rubber hammer	Drill bit set
Tape measure (Imperial and Metric)	Impact and socket set
1/8" hex tool	Ratchet set
5.0mm hex tool	Digital multi meter
6.0mm hex tool	Wrench set
Level	Screw driver set (Phillips and Flat Head)
Drill	Wire cutters

Complete this checklist while working through the manual and installing the sign.

- Mount Sign**
 - Follow proper **handling** instructions (see page 6).
 - Ensure proper **ventilation** (see page 1). Proper ventilation dramatically increases the life of a sign.
 - Install Electrical Elements**
 - Refer to amperage & voltage requirements for the sign(s) as identified on nameplate.
 - Connect Data Cables and Conduits**
 - Install Communication Options**
 - Apply Power**
 - Confirm proper electrical service and switch the appropriate breaker(s) to the on position (see page 1).
 - Connect to Sign**
 - Schedule Software Training (Optional)**
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COMPLIANCE INFORMATION

FCC CLASS A COMPLIANCE

All equipment in use by Watchfire has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area may cause harmful interference in which case the user will be required to correct the interference at the user's own expense.

Changes or modifications not expressly approved by Watchfire could void the user's authority to operate the equipment.

NATIONAL ELECTRIC CODE

Watchfire signs are intended to be installed in accordance with the requirements of the National Electrical Code, NFPA 70, and any other applicable local codes. This includes proper grounding and bonding of the sign.

UL / CUL COMPLIANCE

Underwriters Laboratories (UL) certification is for manufacturers of electric signs built in accordance with the National Electric Code, NFPA 70. UL signs require pre-testing by UL before being allowed to use the UL mark. All Watchfire LED signs and digital billboards have been UL48 tested and approved. Price Watcher™ gas price signs have been UL879 and UL879A tested and approved.



ELECTRICAL INSTALLATION REQUIREMENTS



An electrical disconnect and appropriate sized circuit breakers must be furnished by the electrician. Watchfire highly recommends electrical surge suppression.

WARNING!

ELECTRICAL REQUIREMENTS

Each panel is rated 120V, 3 amp. Up to 5 panels may be daisy chained together using the cables on the back of the panel (Power Out to Power In). Each chain must be connected back to the electrical disconnect using the included AC extension cable and terminated at a 20 amp circuit breaker. Electrical surge suppression is recommended.

ELECTRICAL CODE REQUIREMENTS

This sign is intended to be installed in accordance with the requirements of Article 250 and 600 of the National Electrical Code and/or other applicable local codes. This includes proper grounding and bonding of the sign.

VENTILATION INSTALLATION REQUIREMENTS

VENTILATION AND FANS

In order to help extend the life of the sign, it is important to keep the internal cabinet temperature as cool as possible. Watchfire signs have temperature sensors in the sign controllers that monitor internal cabinet temperature.

VENTILATION REQUIREMENTS

- Do not restrict airflow around the backs of the panels.
- Do not cover the front of the sign with glass or polycarbonate, or obstruct air flow in any way.
- Behind the sign: Allow a minimum of a 2" gap between the back of the panels and the wall for air flow.
- Above and below the sign: Multiply the number of panels high by 2". This is the minimum gap at both the top and bottom of the sign for air flow.

CONNECTING EARTH GROUND & POWER



Always follow the National Electric Code. Article 250 of the National Electrical Code describes general requirements for grounding of electrical installations. Be sure to follow any local codes as well.

CAUTION!

Proper grounding protects equipment from electrical disturbances such as lightning, line surges, and unintentional contact with higher-voltage lines.

Electrical Code Requirements: This sign is intended to be installed in accordance with the requirements of Article 250 of the National Electrical Code and/or other applicable local codes and ordinances, including proper grounding and bonding.

POWER & DATA SURGE PROTECTION

POWER SURGE PROTECTION

Due to the dangers of lightning and power surges, Watchfire recommends using an adequate power surge suppressor with all network-connected computers.

Watchfire extends no warranty to any surge protection products. Connecting a suppressor improperly can adversely affect the performance of the device it is connected to. Consult a qualified electrician for assistance with properly connecting these devices.

ADDITIONAL CONNECTIONS & CONDUIT REQUIREMENTS

CONDUIT INSTALLATION

- Conduit may be installed in advance to hasten installation when the sign arrives.
- If necessitated by local codes, use properly sized conduit

DRILLING PRECAUTIONS

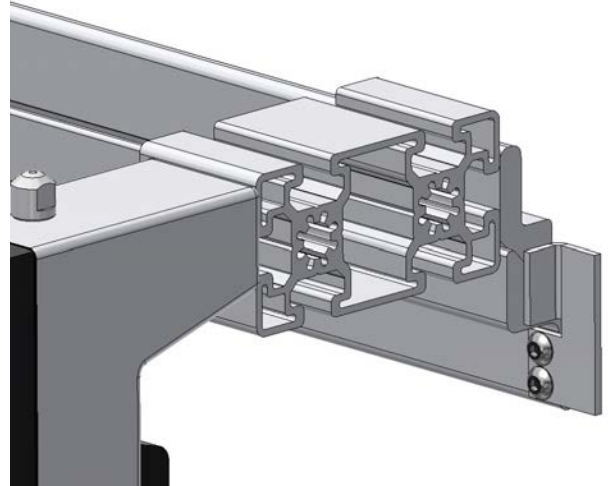
- Always discount power to sign before drilling.
 - Take care to avoid electrical components and wiring when drilling.
 - Keep metal shavings away from live electrical parts, and remove the shavings when finished
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MOUNTING WALL RAILS

1. Place bottom wall rail on wall in the correct location and orientation.
2. Using a level, level the rail so that the maximum allowable height deviation $\leq 1/16"$ over 8'.
3. Mark hole locations that will be used to mount the rail.
 - a. If the wall has studs, only use holes that align with stud locations to ensure sign is anchored into studs.
 - b. If existing holes in rail do not align with wall studs, drill $1/4"$ holes to align with each stud location.
4. Drill clearance holes in wall that are appropriate for the type of anchor being used.
5. Secure wall rail to wall using $1/4"$ stud or screw anchors.
 - a. Screw must penetrate the stud 2".
6. Ensure rail is flat across the front face. Rail must be flat within $1/16"$ over 8'.
 - a. If rail is not flat, loosen anchors and place shims or washers between rail and wall to compensate for deviations in the wall.
7. Measure from the top of the bottom rail up 536 mm (+0, -2mm) to mark the placement of the second rail.
8. Repeat steps 1-6 for the second rail.
9. Place a bottom panel on the bottom two rails to ensure both rails contact both frame rails on the panel.
10. Measure 576 mm (+0, -2mm) from the second rail to the third rail up and any remaining rails.
11. Repeat steps 1-6 for all remaining rails until all wall rails are secured to the wall.



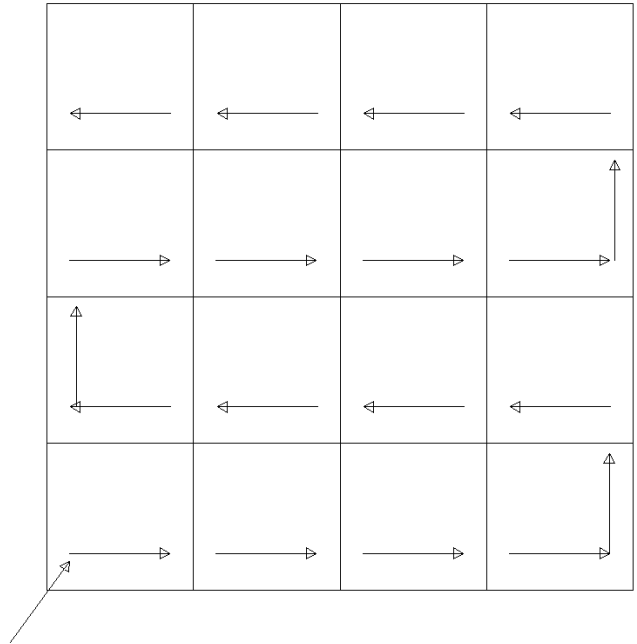
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12. Attach an end cap to each end of each wall rail using (2) 10-24 x 3/8" screws. This cap is to prevent the panel frames from sliding off the wall rails.



13. Place the bottom row of panels on the bottom two wall rails.

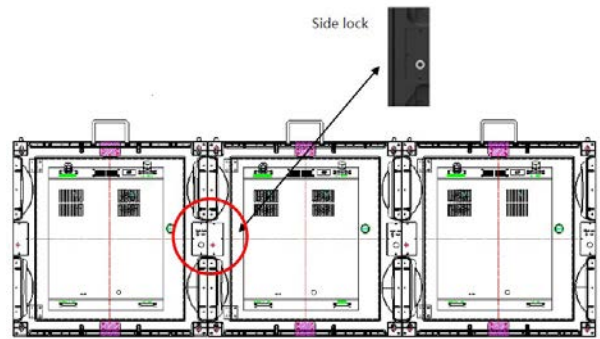


14. As panels are hung on the wall, connect the data and power cables from panel to panel. Use the chart to the right for data connection as looking at the sign from the front. See supplied wiring diagram for power connection and exact data connection.

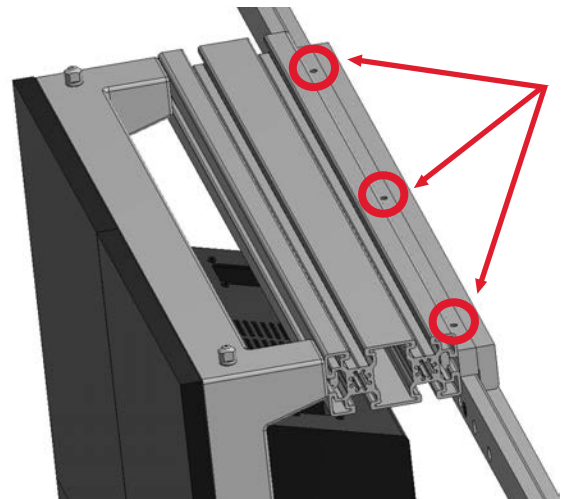


15. Remove the bottom left module from each panel assembly and turn the hex latch until fully engaged.

16. Use a rubber hammer to lightly tap the panels together to close any remaining vertical gaps between panels. Use extreme caution to not hit the LED modules with the hammer.



17. If horizontal misalignment exists, turn the 1/8" hex screws on the top of the panel frame to raise the lower panel until the LEDs are in line with the adjacent panels' LEDs.



LED MODULE HANDLING & MAINTENANCE



Touching the LEDs may cause them to malfunction or break.

DO NOT let the LED modules hang from the cable assemblies. Wires may be pulled loose from the connectors.

WARNING!

ROUTINE MAINTENANCE

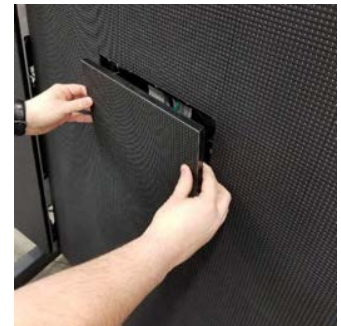
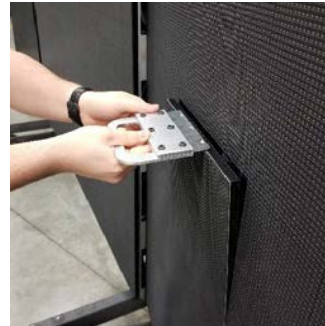
1. Make sure the LED display is well ventilated, dry and running in suitable temperature.
2. Regularly check the internal cables inside the LED display are in stable connection, the power supplies are working well, the ground wires are connected well, and the lightning arrester is running well.

CAUTIONS FOR USE

1. Before powering on the LED display, power on the MCTRL660 controller and its video source. Then turn on the power to the LED display.
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REMOVING MODULES

Always use the module remover tool provided with the sign to remove modules. Always remove a module from the top. Start by finding a horizontal seam between modules and inserting the module remover tool with the protruding tabs pointing down. Pull the handle towards you. As the top of the module separates from the frame, support module to ensure it does not fall out. Grab the module on the sides and gently pull straight back. Do not let the guide pins on the back of the module touch the front of any other module. If necessary, disconnect the module from the panel by disconnecting the ribbon cables from the module.

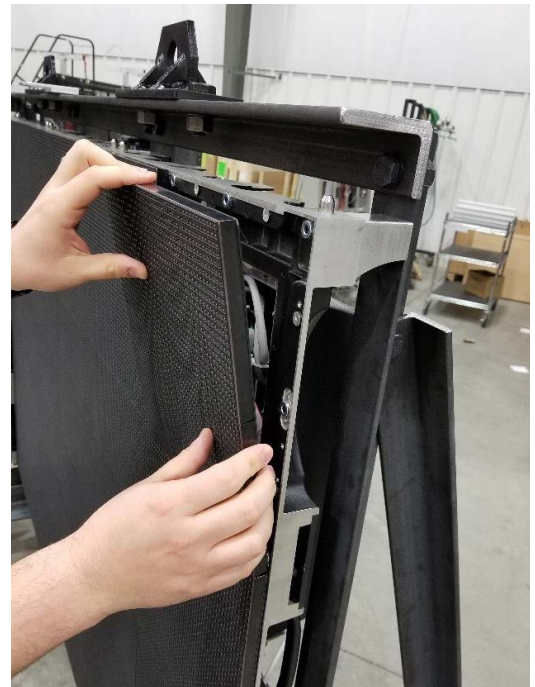
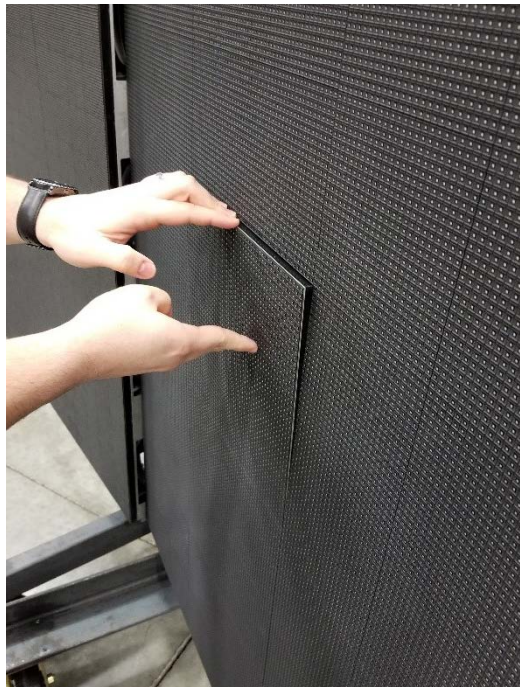
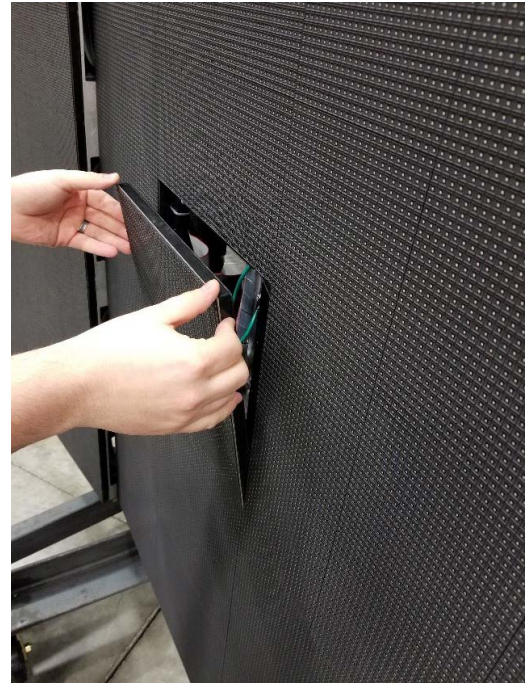


NEVER let modules hang from their wires.

CAUTION!

INSTALLING MODULES

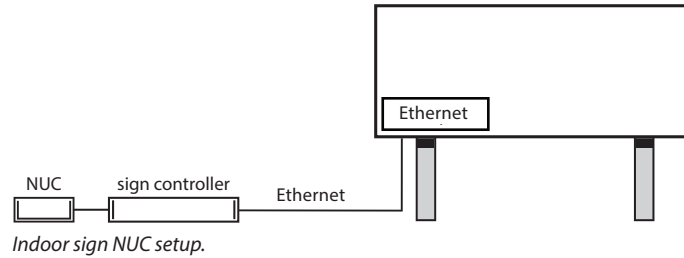
If cables were disconnected, reconnect first. Support the module by the plastic tray behind the LED's. Tilt the module back slightly to allow the bottom of the module to install first. Align the guide pins on the back of the tray with the holes in the frame. Once the bottom of the module is in place, gently guide the top of the module in place. Ensure the module will not interfere with any surrounding modules. Once the top guide pins are in, slightly press on the module to snap in place.



CONNECTING TO YOUR NEW SIGN

VIDEO INPUT CONNECTION

Your sign can run a live video stream from any number of video sources. One option is the use of an NUC running OPX2. Connect an HDMI or DVI cable from the NUC to the MCTRL660 controller. Connect power and Ethernet to the NUC.



CONNECT CONTROLLER TO SIGN

The MCTRL660 will have a video input, power and data out cable to the sign. Connect the data cable to the Out1 port on the back of the unit.



PC REQUIREMENTS

A personal computer (PC) is needed to run Ignite, the application used to create and send messages to the sign. A new sign owner has two choices for a PC to operate their new Watchfire sign:

1. **Order New PC From Watchfire**¹

All needed hardware & software pre-installed.
Sign & PC tested together prior to shipment.

2. **Using An Existing Computer**

Below are the minimum required specifications to ensure Ignite operates properly. Our helpdesk can only resolve compatibility issues with computers provided by Watchfire, but most PCs will work.

Minimum requirements (all models, regardless of PC supplier):

Microsoft Windows 10, 8 or 7 (32 or 64-bit), or Mac OS 10.10 or newer running Parallels Desktop 10.10 or newer (with one of the previously listed OS's)
1GB of RAM (2GB+ recommended)
5GB of available hard-disk space
Video card capable of displaying 64,000 colors (1024x768)
Internet Explorer 8.0 or higher
DVD-ROM

NOTE: Some sign communication methods add to Minimum System Requirements. Refer to Communication System Requirements below.

¹ Laptop available; part #33989. Not compatible with Live Video or Video Capture.

IGNITE® SOFTWARE TRAINING

Watchfire has developed the most user-friendly software package in the industry. Ignite is set up for quick, easy learning yet contains enough horsepower to cater to the most demanding content developer. If you ever reach a stumbling block or would like to go beyond the Ignite manual, you can choose to participate in a web-based training option to take your content creation to the next level.

Web-based training is an excellent option for users who have access to the internet at their location. The software trainer will allow you access to view their computer screen with Ignite configured to match your sign, and they will guide you through the steps of creating content for your Watchfire sign. We also use this method for general Ignite overview sessions. Attendees from multiple locations can connect to the same session, which makes this an excellent option for users with employees in remote offices. Audio is handled via a standard conference call. Watchfire will provide a common phone number for all attendees to dial into. Web-based sessions are typically 1 to 1 ½ hours in duration. Check the front cover of this manual to see if training was included with your sign purchase.

Schedule convenient, online training at watchfiresigns.com/ist. If you would like to purchase Ignite software training please call Watchfire Technical Support at 1-866-637-2645. Training is good for the life of the sign, and you can schedule training as often as needed.

1 Please select a training type:

Individual Training
Individual Training offers a one-on-one presentation and assistance. It is available in three formats: Full Training, Just the Basics, and Advanced Training only.

[Book Now](#)

This option should also be used for a single company with multiple users at one location.

Group Webinar
Group webinars are offered a couple times a week. This one and a half hour webinar includes up to three users. A presentation covers basic and advanced functions. The webinar ends with a question and answer session.

[Book Now](#)

Note: Group trainings are typically unavailable when there are many available individual training slots. If you have a group of users at one location, please sign up for the individual training instead.

Minimum internet connection: Cable modem, DSL or better Internet connection

Web browser: Internet Explorer 8 or newer, Mozilla® Firefox® 24 or newer, or Google™ Chrome™ 23 or newer



WARRANTY

WATCHFIRE SIGNS, LLC - TERMS OF SALE

NOTE: The following Terms of Sale are subject to change. All transactions for all products sold by Watchfire are subject to the latest published Terms and Conditions and to any special Terms of Sale which may be contained in applicable Watchfire quotations and acknowledgements.

QUOTATIONS: Quotations shall be valid for no more than ninety (90) days from their date, unless otherwise stated in the quotation. All quotations are subject to change by Watchfire at any time upon notice to Buyer. It is Buyer's obligation to review the quotation carefully and to immediately advise Watchfire of any discrepancies Buyer has so any necessary changes may be made. Changes to the System after acceptance of the quote are valid only when accepted in writing and signed by both Watchfire and the Buyer.

Terms of Payment - Upon Buyer's acceptance of a System quote, the Buyer shall make a non-refundable minimum deposit of one-half of the System Price. When applicable, taxes, crating, transportation, delivery charges, and any other related expenses shall be included in the System quote. The remaining balance must be paid by the Buyer three (3) days prior to Watchfire's shipment of the System. The System Price does not include costs of any construction or installation of the System and is solely the responsibility of the Buyer. Systems delayed in shipment at the request of Buyer are subject to annual interest charges of 18% on the remaining balance, which must be paid by Buyer prior to shipment.

Shipment - Watchfire will retain title and all risk of loss or damage in transit until the System is received by the Buyer at the shipping designation. Any damage during the unloading of the System is at the Buyer's sole risk and shall not be considered shipping damage. Buyer shall have the responsibility of inspecting the equipment for apparent shipping loss or damage immediately upon its arrival. In the event of shipping loss or damage, Buyer shall note each exception on Buyer's delivery receipt provided by the carrier at the time of delivery at the shipping destination and shall provide a copy to Watchfire within 14 calendar days of delivery. All loss or damage claims must be accompanied by clear photographs depicting the loss or damage while in the presence of the carrier driver. In the event of concealed damage which occurred during transit and is discovered by Buyer after delivery, Buyer shall report such damage immediately, but in no event later than 21 calendar days after delivery. If such notification is not made, Watchfire shall not be liable for loss or damage in transit. Buyer shall give Watchfire, and its agents, a reasonable opportunity to inspect, test and repair or replace the System or portions thereof. Buyer's exclusive remedy against Watchfire for physical damages during shipping, and Watchfire's only liability for shipping damages, shall be replacement or repair of such System or parts damaged as determined by Watchfire. Watchfire shall be entitled to immediate exclusive possession and control of such portions of the System repaired or replaced. Buyer must return such goods to Watchfire and accept delivery of the replacement goods.

Driver Detention - Fees for up to two (2) hours of detention time, per load, are included in the System Price. In the unlikely event that the driver is delayed or detained beyond two (2) hours following arrival at the shipping destination, detention fees will be accrued by the hour. If these delays are a direct result of issues with preparedness of the installation team and/or jobsite readiness, these fees will be invoiced to the Buyer in a timely manner and will not exceed \$75.00/hour.

Force Majeure - Watchfire shall not be liable for any damages as a result of any delays due to any causes beyond Watchfire's control, including, without limitation, telecommunications failures, technology attacks, epidemic, embargos, quarantines, viruses, strikes, labor problems of any type, accidents, fires, war, acts of terrorism, material unavailability, natural disaster, transportation failures, instability and unavailability of the Internet, and acts of God, etc. In the event of such any such delay, the date of delivery shall be extended for a period of time reasonably necessary to over the effect of such delay.

System Warranty - When used properly under normal use and normal environmental conditions, and subject to the exclusions set forth herein, Watchfire warrants its manufactured goods, and the System against material defects in material and workmanship for five (5) years from the date of shipment from Watchfire's dock. Watchfire warrants the Price Watcher product series against material defects in workmanship for two (2) years from the date of shipment from Watchfire's docks. During the warranty period, Watchfire's only obligation and liability is to repair or replace (at its option) those part(s) of the System which prove to be defective and not merely worn out (e.g., aged LEDs). Repaired or replaced parts provided within the original warranty period shall have the same warranty for the balance of the original warranty period. Part(s) replaced or repaired outside of any warranty period shall have a warranty of replacement only for material defects in material or workmanship for one year from date of shipment. Any parts not manufactured by Watchfire, but which are added to the System manufactured by Watchfire, are covered only by their original manufacturer's warranty, if any. Watchfire is not responsible for telecommunications or Internet services being unavailable, or for limitations caused by environmental conditions or incompatibilities with other systems.

Limitations - Buyer's exclusive remedy for Watchfire's breach of this Agreement as to any term hereof, and Watchfire's only liability for any such breach, shall be replacement or repair of the System and its parts actually delivered to Buyer in Watchfire's sole discretion. **IN NO EVENT WILL WATCHFIRE BE LIABLE TO BUYER FOR LOSS, DAMAGE, OR INJURY OF ANY KIND OR NATURE ARISING OUT OF THIS TRANSACTION IN EXCESS OF THE SYSTEM PRICE.** The Buyer agrees that these limitations on liability and remedies are independent of the agreed remedies under this Agreement. Significant surge protection is included in the signs. However, very high electrical surges can damage electronic LED sign systems and are not covered by warranty. **Proper installation to allow for adequate ventilation as detailed in the Installation Manual S-1504 is required to keep the warranty in force. Power must be applied at all times except for during service incidents. Power outages for more than three (3) days require notice to Watchfire Service to keep the warranty in force.**

WARRANTY (continued)

Intellectual Property - As to the equipment proposed and furnished by Watchfire, Watchfire shall defend any suit or proceeding brought against Buyer so far as it is based on a claim that such equipment constitutes an infringement of any copyright, trademark or patent of the United States. Watchfire retains ownership of intellectual property in any materials, goods, software and production process which may be developed under this Agreement.

Use of System Image - Buyer agrees that Watchfire, without compensation to Buyer, may use Buyer's name along with photographs and images of the System in Watchfire's advertising and promotional materials in any media worldwide without the prior written consent of Buyer. Watchfire agrees that such use shall not imply any endorsement of Watchfire by Buyer.

License for Software Use and Warranty - "Software" as used herein includes software distributed on a media (like a CD, DVD or flash drive), software hosted on a server and accessed through a web browser, and software running on the System controllers. Media does not apply to Ignite OA. This license covers end-user applications such as Ignite OP, Ignite OPx and Ignite OA. The Ignite OP software is a single station license. Additional station access is available at additional cost. Excluding Third Party software, Watchfire warrants that: (1) the media (if any) on which Software is provided shall be free from material defects for sixty (60) days after shipment by Watchfire; and (2) Software substantially conforms to the documentation that accompanies it. Watchfire hereby grants the Original End User a limited, non-exclusive personal, non-transferable and non-assignable license to use the Software. This license terminates upon violation of any provision of this License, and Watchfire reserves the right to electronically disable the Software upon such violation. The software is copyrighted by Time-O-Matic and buyer shall not permit the software to be copied (except for backup purposes), transferred, distributed, disassembled, reverse engineered, decompiled or tampered with. Watchfire does not warrant that the media and Software is completely error-free, will operate without interruption or is compatible with all equipment or software configurations. Watchfire may charge additional fees for any upgrades or modifications to the Software.

Third Party Software - Operation of the sign is supported only with Watchfire software and Watchfire qualified versions of approved third party software. Installing un-supported software on sign controllers could lead to non-operational signs. Service charges for troubleshooting and returning to operation will apply.

BUYER AND ORIGINAL END USER HOLD WATCHFIRE HARMLESS AND INDEMNIFIED FOR ANY CLAIMS BY THIRD PARTIES. INCLUDING WATCHFIRE'S ATTORNEY'S FEES. THAT THE USE OF THE SOFTWARE OR SYSTEM INFRINGES ANY INTELLECTUAL PROPERTY RIGHTS OF ANY THIRD PARTY DUE TO AN IMAGE DISPLAYED ON THE SYSTEM BY THE BUYER.

Warranty Service - Defective media or Software may be replaced during the warranty period unless damaged by accident or misuse. WATCHFIRE'S ENTIRE LIABILITY SHALL BE THE REPAIR OR REPLACEMENT OF THE DEFECTIVE MEDIA OR SOFTWARE WHEN TIMELY RETURNED TO WATCHFIRE. Any replacement media or Software has the same sixty (60) day warranty. Warranty service for the System and the Software are expressly conditioned on Watchfire's prior receipt of all payments due under the License, including System Price. Buyer shall contact the Watchfire Technical Support for warranty service. Items determined defective by Watchfire will be replaced at its option with new or like-new part(s). No credit is given for such items. Watchfire will pay for outbound shipping and return ground freight for items repaired/replaced for its manufactured goods. Buyers must pay all duties and taxes for items shipped to destinations outside of the continental United States. Buyer shall pay for the installation of repaired/replaced item and updates to the software. In the event of any delay in Watchfire's performance beyond Watchfire's reasonable control, Watchfire shall have additional reasonable time for performance. Buyer shall pay for all maintenance services.

Exclusions - The above warranties do not apply if the System or Software are damaged due to improper or unreasonable use, modification, repair, service, installation, or environmental conditions or if they are reversed engineered, de-compiled or used to create derivative works.

WATCHFIRE'S LIABILITY TO BUYER UNDER THESE WARRANTIES FOR THE SYSTEM AND SOFTWARE IS LIMITED AS SET FORTH HEREIN, WHETHER IN CONTRACT, TORT, OR ANY OTHER THEORY OF LIABILITY, INCLUDING BUT NOT LIMITED TO FRAUD, MISREPRESENTATION, BREACH OF CONTRACT, PERSONAL INJURY, PRODUCTS LIABILITY OR ANY OTHER THEORY, AND WATCHFIRE SHALL NOT BE LIABLE FOR ANY SPECIAL, DIRECT, COMMERCIAL, EXEMPLARY, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR PUNITIVE DAMAGES, OR DAMAGES FOR LOSS OF USE, LOSS OF ANTICIPATED PROFITS, INCOME, OR ECONOMIC LOSSES OF ANY KIND. WATCHFIRE'S LIABILITY UNDER ANY WARRANTY HEREUNDER, WHETHER EXPRESS OR IMPLIED, SHALL NOT EXCEED THE COST OF REPAIR OR REPLACEMENT OF DEFECTIVE PARTS OF THE SYSTEM AND SOFTWARE. BUYER MAY NOT BRING ANY ACTION UNDER THESE WARRANTIES MORE THAN ONE YEAR AFTER THE CAUSE OF ACTION HAS ACCRUED.

Miscellaneous - Should any part of this Terms of Sale be found invalid, the other parts shall remain unaffected and shall be enforceable. This Terms of Sale shall be governed by the laws of the State of Illinois. Any litigation shall be exclusively in Vermilion County, in the State of Illinois or the U.S. District Court for the Central District of Illinois..

NOTES
