

Electronic Communication Station (ECS)™

Version 3

Technical Information and FAQ Sheet

For IT Personnel



The Marlin Company
10 Research Parkway
Wallingford, CT 06492
(866) 877-7895

www.themarlincompany.com
techsupport@themarlincompany.com

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ECS Hardware Specifications/Requirements

The “Brain” of the Marlin Electronic Communication Station is a custom built mini-ITX computer that resides in a bracket behind the display screen and meets *or exceeds* the following specifications:

- 1.90Ghz Celeron® T3100 Dual-Core microprocessor or better
- 2048mb DDR2 RAM (512mb reserved for video)
- 16GB Solid State Hard Drive (Windows 7 Embedded Standard)
- At least 1 Network Interface Card. Multiple Interfaces will be bridged.
- Integrated Graphics Adapter with a minimum of 256mb video RAM, capable of supporting a 16:9 aspect ratio desktop (848x480, 1360x768, 1366x768, 1920x1080)
- Wireless Keyboard w/integral mouse
- Computer Enclosure including mounting brackets, wiring, and cables
- Display Device w/remote control (Plasma or LCD): Must have an HDMI or RGB input, must support a *native* resolution of 848x480, 1360x768, 1366x768, or 1920x1080. Note that this resolution must match the supported resolution of the Integrated Graphics Adapter listed above. The exact specifications depend entirely on the make and model that was purchased with your specific contract. If you require specifications on this device, please contact The Marlin Company for information.

****NOTE****

The computer does not include any removable media devices, such as a CD-ROM or floppy drive. If you need to transfer files to/from this PC we suggest using either your network or a USB memory drive.

Windows 7 Embedded Standard is a componentized version of Windows 7 Professional designed for embedded devices such as point of sale terminals and kiosks. The version of Windows 7 Embedded Standard installed on the ECS computer has been custom built specifically for ECS.

ECS Software Specifications

The Marlin ECS computer ships with the following software already installed.

- Windows 7 Professional / Windows 7 Embedded Standard
- Microsoft Viewer for Word©
- Microsoft Viewer for Excel©
- Microsoft Viewer for PowerPoint©
- Adobe Flash© plug-in
- Microsoft .NET© framework 3.5
- Message Queuing
- Marlin ECS software

****NOTE****

The Marlin ECS does not come with an Anti-Virus software solution installed unless it is Cellular ECS^{*}. This is due to the fact that most of our clients already have an enterprise-wide solution they prefer to use. It is required as part of our agreement that an Anti-Virus software be installed and maintained on this computer to remain within our warranty. Please install whichever Anti-Virus solution your company normally relies upon. If you do not have a preferred Anti-Virus software suite, The Marlin Company can provide this software to you at an additional charge. Please contact your Marlin Regional Manager for additional info.

^{*}In the case of a Cellular ECS, we will provide Kaspersky antivirus as a part of the subscription.

ECS System Requirements

In order for the Marlin ECS computer to function properly and obtain its updated content, the following conditions must be met:

- The Marlin ECS requires uninterrupted, seamless access to the Internet. This can be obtained via your internal network, or an external source such as a cellular modem, cable modem, or DSL line. If using the latter two, The Marlin Company strongly recommends the use of some form of firewall/router as well. The Marlin Company does not support the use of a dial-up connection for running ECS.
- The physical installation requires a conventional 110v grounded electrical outlet. TMC provides a surge protector with multiple outlets; one for the computer and one for the display device (Plasma screen or LCD).

The following additional requirements apply only if the ECS is on your network.

- The account that is used on the PC must have local Administrator access. The default user (ECSUser) is already configured with these permissions. If you add the device to your Domain and create a new user, you must be aware of this restriction and make the necessary changes.
- If you have challenged Internet access (requiring authentication of some type) it must be seamless to the computer. Most technologies that perform this function allow for exceptions based on computer name, TCP/IP address, Login Name, or MAC address.
- If you have a restricted access list for Internet sites, the following domain names/IP addresses must be allowed to pass unchallenged to the ECS computer on both http (Port 80) and https (Port 443).

1. ecs.themarlincompany.com or 205.246.18.247

Likewise these same addresses must not be cached by any content caching process that you employ.

- If you filter content on your network, the following extensions must be allowed to pass to the ECS computer unchallenged:

Htm	Html	Aspx	Asmx	Swf	Jpg	Jpeg
Gif	Txt	Wmv	Avi	Mpeg	Mpg	Mp3
Mp4	Wav	Doc	Zip	Xls	Pps	Asp
Xml						

- If you employ the use of an Internet Content Caching technology, due to the dynamic nature of our product, you must allow for all content traveling to and from the ECS computer to remain uncached. Most technologies that perform this function allow for exceptions based on computer name, TCP/IP address, Login Name, MAC address, or origin domain name.

Frequently Asked Questions (FAQ)

What is the ECS?

The Marlin Electronic Communication Station is a digital signage solution which provides daily content that is relevant to your business. Each ECS connects via the Internet to retrieve (pull, never pushed) professionally created images that cover topics such as safety, teamwork, office etiquette, and others. Additionally, our user-friendly proprietary software allows users to create and upload their own content (e.g. images, memos, PowerPoint© presentations, video) from their own computer and have it displayed within 15 minutes on any number of their ECS units anywhere in the world. The ECS also displays national news and sports as well as a local 3-day weather forecast.

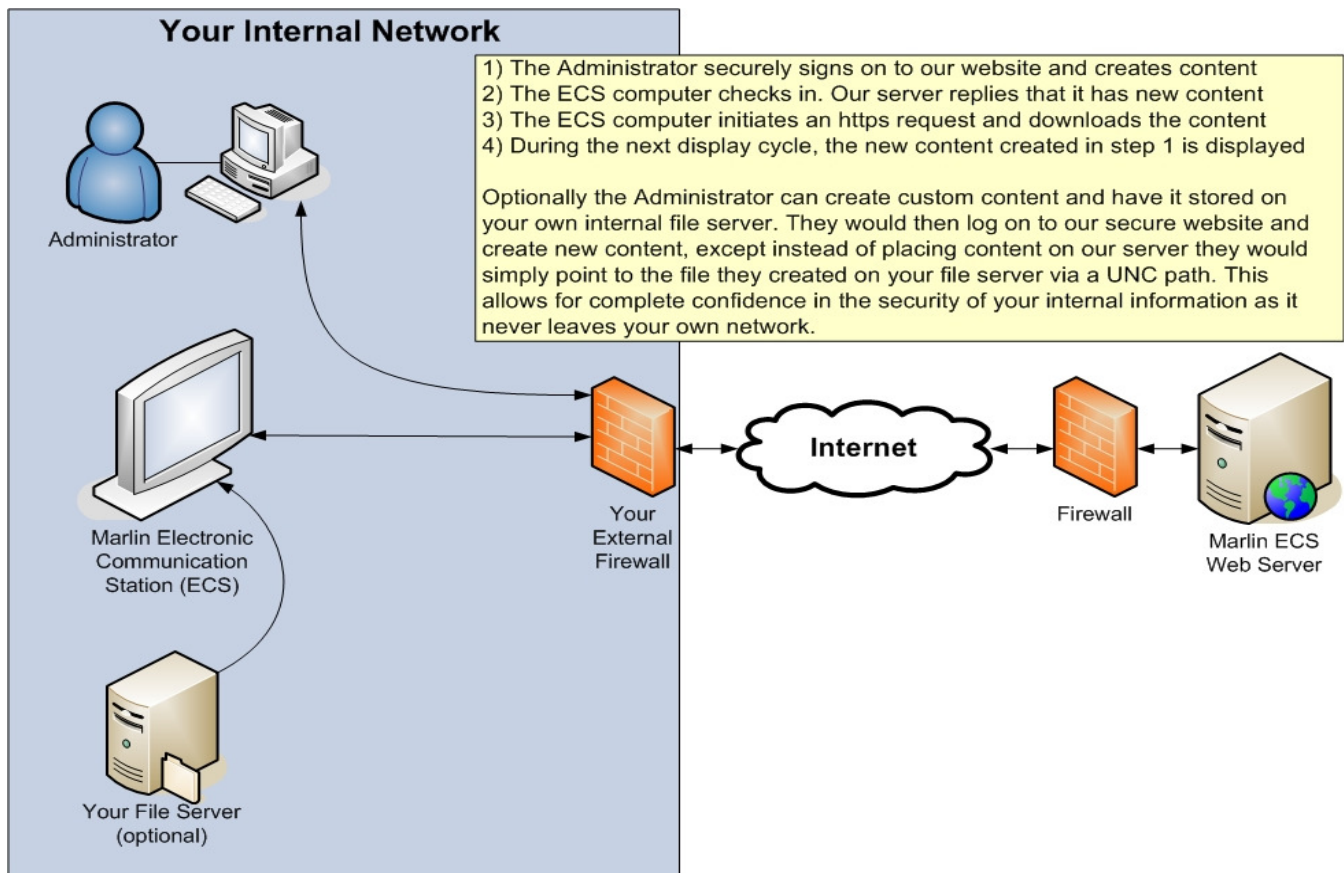
How does the ECS work?

The default display on the ECS contains content designed by The Marlin Company as part of your subscription plan. Each day one new piece of content that is relevant to your business gets added to both the largest frame on the left side (frame A) and the smaller frame in the right lower corner (frame B). There is a 4-day lifecycle on each piece of content, and at the termination of its cycle it drops off and is replaced by that day's new content. This allows for a continuous cycle of four fresh pieces of content with no piece being displayed for more than 4 business days.

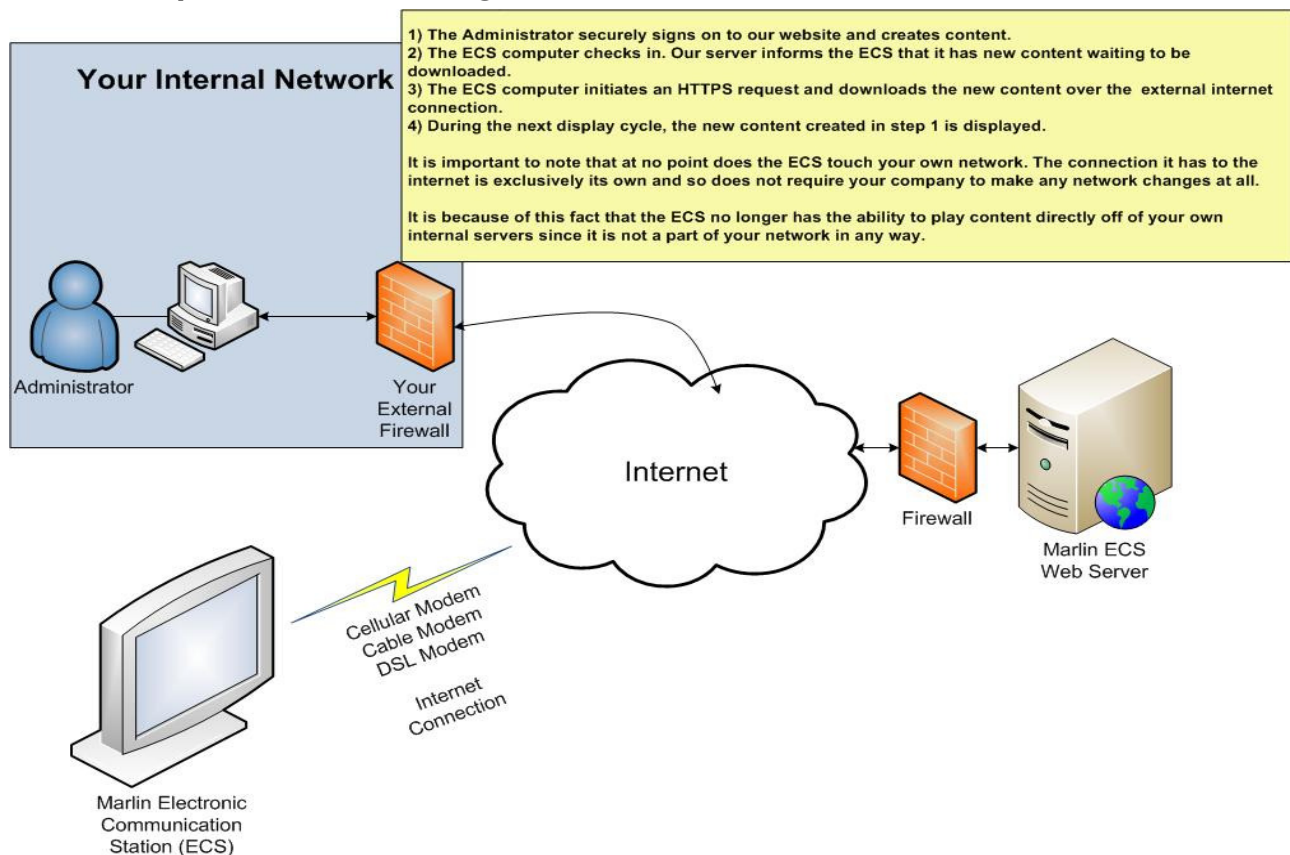
One of the major features of the ECS package is that an administrator can create custom content to display on their own ECS. These pieces do not have a default lifecycle attached to them and will remain until removed by an administrator unless the administrator has specifically set an end date to the piece. Here's how it works:

1. The administrator logs in to the secure Marlin ECS Server from his or her own PC by way of the following URL: <https://ecs.themarlincompany.com>
2. After putting in their user name and password (supplied by The Marlin Company), the administrator makes whatever changes they deem necessary. These changes are made on the Marlin ECS server and saved there.
3. Every 15 minutes the ECS application running on the customer's ECS will query the Marlin ECS Server to search for any updated content.
4. If new content is found, the customer's ECS initiates a secure https file transfer and obtains the changes from the Marlin ECS server. Note that the ECS will only download any new or changed content. The customer's ECS then caches this content to be used in the next display cycle. Please see below for connection diagrams. It should also be noted that the ECS computer "pulls" all data from our server, much like someone opening a web browser and choosing to download something from a web page. Nothing is ever "pushed" from our server into your environment.

If the ECS computer is using your network to obtain internet access:



If the ECS computer is connecting via cellular/cable/DSL:



What are my options for connecting the ECS to the Internet?

The Marlin ECS requires Internet access to function properly however you have a number of choices, which include: your local (in house) network, cellular modem (Marlin provided only), cable modem, or DSL modem. For the most part there is little difference between Cable and DSL so they are grouped into one category. The following are guidelines designed to assist you with your decision:

Connection Type:	Pros	Cons
Your Network <u>When to use:</u> You need access to internal servers. The additional cost of other connection methods is prohibitive. <u>When not to use:</u> You have a large/complex network where getting IT assistance can be difficult. You have a network with very strict policies regarding security or non-company computers.	Very high availability. Typically someone is monitoring your corporate connectivity and outages will be extremely rare. Allows for the connection to internal servers to display information, rather than have data leave the security of your own network. Easy to manage. Most corporate networks have methods to track and monitor the stability of the computers on it. As such the ECS is constantly updated and monitored by your IT professionals. No additional cost.	Can be difficult and/or time consuming to initially connect if you have a large or complex network. Requires a physical connection to your network; you may need to run additional cabling to the designated area. Large corporations often have rules or involved procedures that must be followed to allow a computer to get internet access. It will be necessary to involve local/corporate IT to configure the device. Depending on the size and speed of your company this could take several days to several months. Large networks often have increased security that will cause difficulty with running the ECS. Group policies and security measures must often be considered before deploying ECS on a corporate network.
Cellular Modem <u>When to use:</u> It is difficult to obtain internet access through your corporate network. <u>When not to use:</u> A dependable Verizon cellular signal is not present either due to location or structural interference. You need access to internal servers. The additional cost is prohibitive	True plug-and-play capability. As long as there is a Verizon cellular signal in the area, you simply turn the ECS on and it begins working immediately. Simplified installation procedure. The only requirement is an electrical outlet. No additional network cabling is required. Does not require assistance from local/corporate IT to configure. They do not need to be involved in the process at all.	Does not allow for connectivity to your own internal servers. While this is a very minor concern to most of our customers, it bears noting. Connectivity can be difficult in locations with weak cellular signals, or where structure or interference from machinery prevents a stable cellular signal. Incurs an additional cost.
Cable/DSL <u>When to use:</u> You need a solution for connectivity when both your network and cellular are not an option. <u>When not to use:</u> When neither your network nor cellular access is available.	A simple solution with high availability and bandwidth.	Incurs an additional cost that is typically more expensive than a cellular solution. Can still require cable to be installed to the location. Does not allow for connectivity to your own internal servers. Troubleshooting can be difficult, as you will first need to work with your ISP, effectively adding another step to the troubleshooting process.

How secure is the ECS?

Our ECS product utilizes 128-bit SSL encryption during all communication between the ECS computer and the ECS web server. All transactions between the Administrator's PC and the ECS web server are likewise encrypted. This is the same protection that banks, credit card companies, and online merchants use to protect their transactions so you can be assured of your security. We have carefully engineered the ECS product to be as safe, secure, and as easy to use as possible. However, the computer is only as protected as the network it is on. Please be sure to follow your company's best practices when it comes to Internet security when configuring an ECS computer for your network. For more information on this topic, please see the section below entitled "How does the ECS computer obtain its updated content?"

In the case of cellular, cable, or DSL connectivity, the unit is not participating on your corporate network in any way, thereby making it perfectly secure. Should you choose to use either cable or DSL for your connection, the Marlin Company strongly recommends the use of a router/firewall to additionally protect the ECS.

Who is responsible for maintaining the ECS computer?

The Marlin Company does not have any means of maintaining an ECS computer once it leaves our facility. As such, the responsibility of maintenance falls upon our customers. To facilitate this, the ECS computer has been configured to obtain any critical operating system patches on a daily basis. If the ECS is on your network and you prefer to use an internal technology (SMS, etc) to keep the ECS computer protected and up to date, please feel free to do so.

Ok, so I have my new Marlin ECS installed on the wall. What do I do now?

If the installation and pre-work has been completed correctly, you won't need to do anything. The ECS computer should immediately begin working as soon as it is booted up. The display should come online and you should see content on the screen, as well as your logo and the news/weather. You can tell if the unit is properly connected to the Internet by watching the scrolling news. The top line, which repeats itself every few stories, will show "News as of" and then list the date. If you have the current date, then your ECS is online and working flawlessly.

If for some reason you do not have the current date listed, it is possible that network configuration has not yet been performed on the ECS computer. This typically needs to be performed by your local IT staff. Alternatively, call our Technical Support Team and they will assist you in getting your ECS computer online, but understand that they may ask for information that only your IT professionals will be able to provide. You can contact the Marlin Technical Support Team at techsupport@themarlincompany.com or 1-866-877-7895.

Does the Marlin Company have any remote access to the ECS computer?

No, The Marlin Company does not have any means of contacting or controlling your ECS computer once it leaves our facilities. There are many security reasons why this is not possible. If you require assistance with configuration of your ECS computer, our Technical Support Team will be glad to assist you in any way possible. You can contact the Marlin Technical Support Team at techsupport@themarlincompany.com or 1-866-877-7895.

How do I make configuration changes to the ECS computer?

There are two primary methods for configuring the ECS computer; locally with the provided wireless keyboard, or remotely with the ECS Remote Administration Portal (RAP).

The ECS computer comes with a wireless keyboard w/integral mouse that you can use to make any necessary changes. Our product is designed to launch directly into its display upon boot up. To return to the desktop and close the ECS application, simply press both the *Ctrl* and *Delete* keys simultaneously. After you have completed making your changes, simply double-click the *ECS Launcher* icon on the desktop to re-launch the ECS application.

The RAP is a remote configuration web page, much like the ones used to configure your home router. To begin, simply open your web browser and enter the TCP/IP address or Computer name followed by :11337 to begin. For additional information on RAP please review the RAP usage guide at the following link:

<http://www.themarlincompany.com/documentation/RAPUsageGuide.pdf>

It should be noted that the RAP might not be installed or available on your particular ECS computer. It is not available for a cellular installation. For additional information, contact the Marlin Technical Support Team at techsupport@themarlincompany.com

You can also make changes to the ECS computer remotely using several variations of commercially available software (VNC/Dameware/Etc.). The Marlin Company does not recommend the use of Microsoft's Remote Desktop, which will cause the parent screen to go blank. If you have questions about this, consult your local IT department.

What TCP/IP ports does the ECS computer use?

The ECS computer uses https (Port 443) for nearly all of its communication. The only exception would be if the local administrator of the ECS created a piece of custom content which was a link to a non-secure (port 80) website. These are the only two ports that are necessary to be open for the ECS to function normally. Note that a proxy server in your network may redirect these ports. To find out if your company employs this methodology, consult your local network administrator or IT personnel.

If I have ECS on my network and make changes to the Computer Name, Domain, or Network Configuration on the ECS PC, will this have any effect on how the ECS works?

You can make whatever changes are necessary on the ECS PC to allow you to be comfortable with it residing on your network. We encourage our customers to take the same steps and precautions with our PC as they would with any other PC on their own network. This includes changing the computer name, adding the PC to your domain or Active Directory structure, or installing monitoring, auditing, or additional security software. To date, we have not encountered a commercially available product that causes issues with the ECS. As long as the conditions listed under the requirements section of this document are met, the ECS PC should function properly. Please also see below "What additional steps are necessary if I add the ECS computer to my Domain?".

In the case of a cellular, cable, or DSL installation, there should be no need to change any of the above settings. If for some reason you find it necessary to do so, please contact the Marlin Technical Support Team beforehand, as there are additional concerns that need to be addressed before you proceed.

You can contact the Marlin Technical Support Team at techsupport@themarlincompany.com or 1-866-877-7895.

What additional steps are necessary if I add the ECS computer to my Domain?

The ECS computer has been configured to function with the default user login. If you add this computer to your domain, there are several changes that need to be taken into consideration:

1. The new domain user needs to have their desktop configured to the proper resolution. This is typically an 848x480, 1360x768, 1366x768, or 1920x1080 desktop. Please refer to the operators' manual for the display screen that the ECS unit is connected to for that models native resolution.
2. The new domain user needs to have the screensaver disabled and the power scheme set to "presentation" or "Always On". If you have a GPO enforced screensaver or power scheme, this user will need to be exempt from it.
3. You must not have any GPOs that would prevent the ECS from seamlessly connecting to the Internet.
4. You must not have any GPOs that would prohibit the computer from accessing its local hard drive, running Message Queuing, or allowing access to the registry.
5. You must not have any GPOs that would cause the computer not to meet the requirements listed above under "ECS Software Requirements" or "ECS System Requirements"

It should be noted that in the case of a cellular, cable, or DSL installation it is not possible to add the ECS computer to your domain, as it does not interact with your local network in any way.

How can our IT personnel gain administrative access to the ECS computer?

The default user is configured with local administrative privileges. This is ECSUser without a password. Optionally you can log on as Administrator with a password of *cust*.

How do I install software on the ECS computer?

The ECS computer does not come equipped with any removable media drives such as a floppy drive or CD-ROM. There are several methods that can be used to install software, some of which are listed here:

1. USB removable media device (CD-ROM/Floppy/Flash Drive). There are USB ports at both the front and the rear of the ECS computer.
2. If the ECS is on your network, you can install software over a network share.

How reliable is the ECS product? What happens if we lose our connection to the Internet?

Our product is engineered to continue to function under nearly any circumstances. If for some reason our web server is unavailable, the ECS computer will continue to display its cached content. As soon as connectivity is restored the ECS computer will automatically update itself and begin to play current content.

How does the ECS computer obtain its updated content?

Every 15 minutes the ECS computer sends a query out to our remote server (ecs.themarlincompany.com) to see if there is any updated content. If it finds something new, it initiates an https file transfer over TCP/IP port 443, and the content is downloaded to the local ECS computer. Only the new content (delta) is downloaded, thus minimizing the amount of bandwidth used by ECS.

How do I patch Windows to keep the computer current?

The ECS computer is configured to automatically download and install critical Windows updates from Microsoft at 3am EST every day. If the ECS is on your network, the ECS computer is also fully compatible with all patch deployment methods currently in use (SMS, etc).

What is the bandwidth consumption of the ECS computer?

Current ECS v3 bandwidth consumption is less than 20mb every 24 hours. However, the creation and upload of custom content can alter this figure. To understand these numbers, consider the following:

The ECS computer “checks in” with our web server every 15 minutes. This serves the dual-purpose of checking for updated content and also to let our server know that it is still alive and functioning properly. Each of those transactions is ~65kb. Additionally the content that Marlin provides on a daily basis is downloaded sometime between midnight and 1am EST, totaling approximately 2mb.

Does the ECS computer use TCP/IP? Do I have to assign it a static address?

The ECS computer requires access to the Internet. As such, it is necessary to have TCP/IP functioning on the computer. However, we do not require that a static TCP/IP address be given to the computer. By default, the ECS computer ships to your location with DHCP enabled and should be sufficient for most of our clients.

The ECS is running on my network. What if I have a proxy server?

If your network requires the use of a proxy server, simply configure the ECS computer with the appropriate settings in Internet Explorer. It should not affect the performance of your ECS at all as long as your proxy server settings are properly configured. If your proxy server also requires authentication, please find additional information below under “The ECS is running on my network. What if my internet access requires authentication?”

The ECS is running on my network. What if my Internet access requires authentication?

The ECS requires seamless, uninterrupted access to the Internet. As such, if your network requires authentication, steps must be taken to ensure that this occurs automatically. Typically, most networks receive their authentication in the form of their domain login name. In this case, simply add the ECS computer to your domain and log in with an account that has sufficient privileges to access the Internet. If you require an alternate method, most technologies allow for exceptions to this rule based on computer name, MAC address, or TCP/IP address.

Do we need any special client or server-side software to make this work?

No. Custom content is created via a web browser on the Administrator’s PC. The ECS computer does not require any additional software in order to function.

Can I use a regular dial-up modem with ECS?

No. The Marlin Company does not support ECS installations using a dial-up connection.

How do I get technical assistance for the ECS?

Technical assistance is provided free of charge by The Marlin Company throughout the life of your contract. You can reach us either by email at TechSupport@themarlincompany.com or by phone at 1-866-877-7895 Monday through Friday, 8:30am to 8pm EST.

What do I do if the ECS computer stops working/has an error/isn't updating?

On the rare occasion where assistance is needed with an ECS computer, you should contact The Marlin Company Technical Support team at 1-866-877-7895 or TechSupport@themarlincompany.com. A technical support specialist will assist you with getting the ECS back online as swiftly as possible. In the event of a hardware failure, The Marlin Company will replace or repair the defective component, usually within a 72 hour period.

Can I use Windows Vista™ or Windows 7™ for my ECS?

ECS is fully compatible with Windows 7. Currently we do not support ECS on the Vista platform.

What are the environmental (temperature, etc) operating limits of the ECS?

The Marlin ECS consists of a display panel and a computer. There are certain environmental concerns that need to be addressed prior to installing your own ECS.

Temperature: 0°C to 40°C / 32°F to 104°F

Humidity: 20 to 80% (no condensation)

Altitude: 0 to 2800 m / 0 to 9180 feet

Also remember that areas with high particulate matter (dust, grease, etc in the air) can cause a failure in your ECS. When in doubt, contact the Marlin Technical Support team with your questions.

I want to install the ECS screen into a recess/compartment/some non-standard way

The Marlin ECS requires 36" of clearance to the left side of the screen. This allows for us to remove and service the computer behind the screen. As such it makes it incredibly difficult for ECS to be installed in any location that does not allow for this clearance. It is however possible to install ECS into one of these non-standard configurations with the following considerations:

- The configuration will not push the ECS outside of its environmental operating conditions. For example, a recess without proper ventilation will quickly raise the temperature above the operating norms, thus voiding your warranty.
- The installation will likely incur additional costs if it deviates from our standard configurations. These costs are the responsibility of the customer and will be varied from one installation to another. If you intend on having a non-standard installation be sure that you discuss this with your Regional Manager before proceeding.
- If servicing is required, the customer is responsible for any additional labor costs associated with performing said servicing due to the non-standard configuration. This applies even if the unit is covered under our warranty. For instance: In the unlikely case that the ECS computer needed to be replaced, TMC would provide the computer under the warranty but the customer would be responsible for any labor costs associated with replacing it.

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