

What are the internet service and bandwidth requirements for Alarm.com video devices?

Alarm.com video devices have network requirements and recommendations that, when met, provide an optimal experience to the user. The requirements and recommendations include recommended types of internet connections, router compatibility, and bandwidth and Wi-Fi signal strength requirements.

Internet service and bandwidth requirements vary by video device model, video device audio integration, and whether or not a Stream Video Recorder (SVR) is in use.

Internet connection type compatibility

Alarm.com video devices need an indefinite, always-on internet connection to function reliably. Some internet connections are incompatible due to restrictions they impose on bandwidth usage.

Internet type	Compatibility
Fiber	Compatible
Cable/broadband	Compatible
DSL	Compatible
Cellular	Not compatible
Fixed wireless internet	Not compatible
Satellite	Not compatible
Dial-up	Not compatible

Router compatibility

Alarm.com wireless cameras are compatible with most wireless routers. The quality of a router can affect the performance of the video devices as well as the rest of the network. Some routers may also need firmware upgrades to perform reliably.

A router broadcasting a secured Wi-Fi network with a unique SSID and strong password is recommended. Open networks or networks with a third-party portal to log in are not recommended.

For dual-band routers, verify that the 2.4 GHz and 5 GHz bands have separate SSIDs.



Note: The instructions for separating wireless bands differ based on the router model. Please refer to the manufacturer's guide for more information.

Bandwidth requirements

Alarm.com video devices only use bandwidth when the user is streaming live video or SVR recorded footage, or when the device is uploading recorded video clips.

Alarm.com video devices primarily use upload speed, as opposed to download speed. Typically, Alarm.com requires an indefinite broadband connection of at least 0.5 Mbps of dedicated upload speed per video device. Keep in mind that 1080p streaming, doorbell cameras, Two-Way Audio, and SVR integration all require additional bandwidth.

Note: Dedicated upload speed refers to bandwidth only used by the video devices, so other connected devices (e.g., computers, smartphones, gaming consoles, etc.) require additional bandwidth on the internet connection.

Commercial and large residential systems

The requirements listed on this page are based on a single user viewing one video device at a time. Some businesses and larger homes require more bandwidth based on how the video devices are used. For more details about commercial and large residential bandwidth recommendations (i.e., locations with SVRs and PoE video cameras), see [Commercial video internet bandwidth guidelines](#).

Minimum bandwidth for video devices

Video device	Required bandwidth
'20/'21/'25 series	Standard Resolution & Quality: 0.25 Mbps
'22 series	<ul style="list-style-type: none">• Standard Resolution & Quality: 1.5 Mbps• Reduced Resolution & Quality: 0.5 Mbps
'26/'36 series	Standard Resolution & Quality: 1.5 Mbps
SkyBell Doorbell Camera (ADC-VDB101/102/105/106/105x/106x)	Standard Resolution & Quality: 2 Mbps
Alarm.com Video Doorbell (ADC-VDB770)	Standard Resolution & Quality: 2.5 Mbps
HD Video Server (ADC-VS123)	Depending on the connected camera, up to 2 Mbps



Minimum bandwidth for video devices using Two-Way Audio

Camera model	Required bandwidth
ADC-V521IR	<ul style="list-style-type: none">• Highest Setting: 1.5 Mbps• Reduced Setting: 0.75 Mbps
ADC-V522IR and ADC-V622	<ul style="list-style-type: none">• Highest Setting: 2 Mbps• Reduced Setting: 1 Mbps

These limits describe where the audio and video streams begin to become choppy under ideal environmental conditions (i.e., the Wi-Fi signal strength is strong and not blocked by walls or other objects).

Recommended bandwidth for an SVR

When using a Stream Video Recorder (SVR), it is recommended to meet the same minimum bandwidth requirements as the video camera live stream it is recording.

For playback speeds higher than normal speed, the bandwidth requirements increase with the playback speed. For more information about the bandwidth requirements of SVRs to stream remote playback, see [Commercial video internet bandwidth guidelines](#).

Example: To play back four ADC-VC726s remotely at normal speed, the user's upload speed should be at least 6 Mbps. If the playback speed is 2X, the user's upload speed should be at least 12 Mbps.

Troubleshoot bandwidth

If the customer's upload bandwidth is lower than recommended, the cameras may still work but the live view may look jumpy since the frame rate is reduced as a result of the upload bandwidth limitation. To determine how many video devices an internet connection can support, perform a web-based speed test. For more information about performing an Internet speed test, see [Perform an Internet speed test](#).

If the internet bandwidth is too low, the customer can contact their internet service provider to find out how to increase their upload bandwidth.

Required signal strength for video devices

Note: The SkyBell Doorbell Camera signal strength requirements are different from the rest of the video devices. For more information, see [What are the network requirements of the SkyBell Doorbell Cameras?](#)

The wireless range depends on the type of building and the internal location where the cameras are installed. If there are walls or any obstructions, the wireless range is decreased. Verify the signal strength to ensure video devices are



receiving a good signal.

For an optimal video viewing experience, it is recommended for video devices to have at least 80% wireless signal strength. While a camera can still function below the recommended signal strength rating, having a signal strength below 80% can reduce the overall viewing of live video and can also experience unexpected behavior with the camera's functionality. Wi-Fi extenders can help improve wireless signal strength.

Video devices require a minimum of 55% wireless signal strength to function. The following image displays a camera below the minimum:

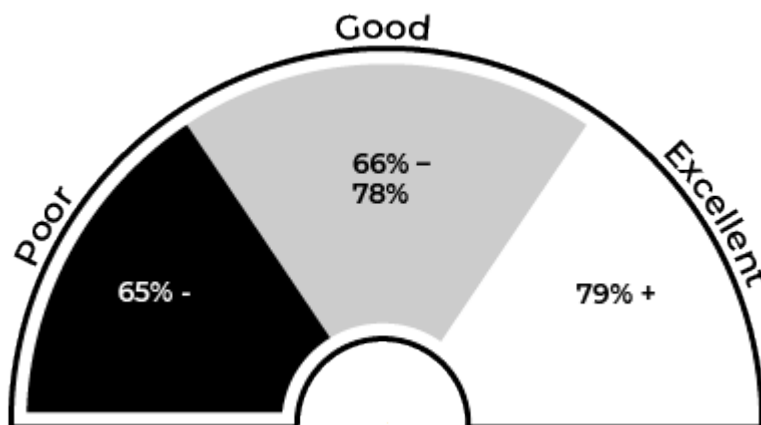
Wireless SSID:	Gambler
Encryption type:	WPA
Wireless signal strength:	⚠️ 50% 🔄
Wireless Status & History:	Wireless signal strength below 55% is very weak and cameras may drop off if the signal doesn't improve.
Record Resolution:	1280x800

The signal strength for video devices can be viewed using the Partner Portal, MobileTech app, or Customer Website. For more information about how to view the signal strength, see [Request the wireless signal strength of a video device](#).

For a detailed view of a video device's Wi-Fi history, see [View a video device's Wi-Fi history \(signal level and transmission rate\)](#).

Normalized Signal Strength

Normalized Signal Strength represents a video device's signal level, which is typically measured in decibel milliwatts (dBm), as a percent value to standardize signal strength representation across all camera models and camera firmware versions. This allows for a more streamlined approach to Wi-Fi connection assessment and troubleshooting.



- Excellent: 79% and higher
- Good: 78% through 66%

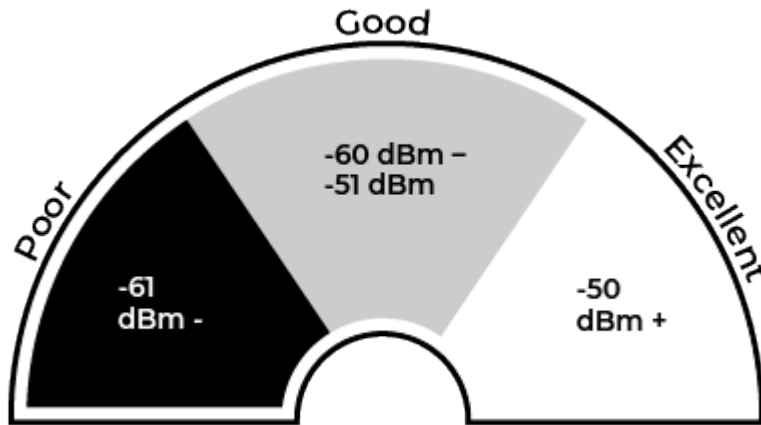


- Poor: 65% and lower

Considerations for viewing signal on '22 series cameras

The '22 series cameras (i.e., ADC-V522IR and ADC-V722W) report wireless signal strength different from the other Alarm.com cameras. For these devices, view the signal level to determine the camera's connectivity.

It is recommended to have a minimum of -60 dBm signal level for best results on '22 series cameras. The following are the signal rating for the '22 series camera's signal level:



- Excellent signal = -50 dBm and greater
- Good signal = -51 dBm through -60 dBm
- Poor signal = -61 dBm and lower

Note: Normalized Signal Strength is a video device's signal level in percentage form. For more information about Normalized Signal Strength, see [Normalized Signal Strength](#).

To view the signal level using the Partner Portal:

1. Log into the Partner Portal.
2. Find the customer account.
3. Click **Equipment**.
4. Click **Video Devices**.
5. Verify the correct video device is selected in the *Video Device* dropdown menu.
6. In *Wireless Status & History*, click **View**.

To view the signal level using the MobileTech app:

1. Log into the MobileTech app.
2. Find the customer account.



3. Tap **Equipment**.
4. In *Video Devices*, tap to select the video device to view.
5. Tap **Wireless Status & History**.

Additional resources



Enroll in the [Video as a Service 201](#) training course today! For more information on accessing Academy Training, see [How can I access Academy Training?](#).

