Zixi Installation Guide

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** See back for additional licensing information*

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Introduction

This Installation Guide includes installation procedures for the following Zixi SDVP products on Linux and Windows environments:

- Zixi Feeder
- Zixi Broadcaster
- Zixi Receiver

You can also install Zixi products in a Docker container. For an explanation of how to build and use Docker containers to deploy Zixi products, see **How to Use Zixi Broadcasters/Feeders/Receivers in Docker Containers**.

Network Settings

The following ports must be opened on your Firewall(s) for inbound and outbound traffic as described below:

Zixi Feeder Network Settings

Port	Type	Direction	Description
2088	UDP	Outbound	Feeder push to Broadcaster, Zixi protocol
7088	UDP	Outbound	Feeder push to Broadcaster, Zixi protocol with DTLS
80/443	TCP	Outbound	Outbound + return - Zixi License server - license.zixi.com - 52.72.218.41 - 34.195.97.223
1935	TCP	Inbound	Encoder push to Feeder, RTMP protocol
4200	TCP	Inbound	Web management UI, HTTP protocol
53	DNS	Outbound	Outbound + return - communication to license server, Broadcaster host name resolution

Zixi Broadcaster Network Settings

Port	Type	Direction	Description
2088	UDP	Inbound	Push to Broadcaster from Feeder or another Broadcaster, Zixi protocol **
7088	UDP	Inbound	Push to Broadcaster from Feeder or another Broadcaster, Zixi protocol with DTLS **
2077	UDP	Inbound	Pull from Broadcaster by Receiver or another Broadcaster, Zixi protocol **
7077	UDP	Inbound	Pull from Broadcaster by Receiver or another Broadcaster, Zixi protocol with DTLS **
1935	TCP	Inbound	Encoder push to Broadcaster, RTMP protocol
1935	TCP	Outbound	Broadcaster push to CDN or RTMP server, RTMP protocol
7777	TCP	Inbound	HTML5 video player or CDN pull from Broadcaster, HTTP streaming protocol - HLS or DASH
4444	TCP	Inbound	Web management UI, HTTP protocol
80/443	TCP	Outbound	Outbound + return - Zixi License server - license.zixi.com - 52.72.218.41 - 34.195.97.223
53	DNS	Outbound	Outbound + return - communication to license server, Broadcaster/Feeder/Receiver host name resolution

** The maximum recommended throughput per port is 500Mbps. If more throughput is expected through the Broadcaster, additional ports for the Zixi protocol can be defined on the **General** page under the **Settings** tab.

Zixi Receiver Network Settings

Port	Type	Direction	Description
2077	UDP	Outbound	Receiver pull from Broadcaster, Zixi protocol
7077	UDP	Outbound	Receiver pull from Broadcaster, Zixi protocol with DTLS

Port	Type	Direction	Description
4300	TCP	Inbound	Web management UI, HTTP protocol
80/443	TCP	Outbound	Outbound + return - Zixi License server - license.zixi.com - 52.72.218.41 - 34.195.97.223
53	DNS	Outbound	Outbound + return - communication to license server, Broadcaster host name resolution

ZEN Master Network Settings

The following network settings are required to connect the various Zixi products to ZEN Master.

Zixi Feeder – ZEN Master Network Settings

Type	Port	Direction	Description
TCP	80/443	Outbound + Return	
SSH	22	Outbound + Return	ZEN Master to <customer>.io.zixi.com
UDP	2077 / 2088	Outbound + Return	Stream authentication to <customer>.io.zixi.com
UDP	7077 / 7088	Outbound + Return	DTLS communication to customer.io.zixi.com

Zixi Broadcaster – ZEN Master Network Settings

Type	Port	Direction	Description
TCP	80/443	Outbound + Return	ZEN Master Authentication Servers: - 18.210.103.157 - 23.20.44.73 - 34.200.88.233 - 34.238.1.65 - 35.170.111.151 - 52.4.9.203 Or <customer>.zen.zixi.com
SSH	22	Outbound + Return	ZEN Master to <customer>.io.zixi.com Or <customer>.zen.zixi.com
UDP	2077 / 2088	Outbound + Return	Stream authentication to <customer>.io.zixi.com Or <customer>.zen.zixi.com
UDP	7077 / 7088	Outbound + Return	DTLS communication to customer.io.zixi.com Or <customer>.zen.zixi.com

Zixi Receiver – ZEN Master Network Settings

Type	Port	Direction	Description
TCP	80/443	Outbound + Return	
SSH	22	Outbound + Return	ZEN Master to <customer>.io.zixi.com
UDP	2077 / 2088	Outbound + Return	Stream authentication to <customer>.io.zixi.com
UDP	7077 / 7088	Outbound + Return	DTLS communication to customer.io.zixi.com

Installing Zixi Products

All Zixi SDVP products (Feeder, Broadcaster and Receiver) can be installed and run on either Linux or Windows environments. The following sections describe the system requirements and installation procedures for each type of OS.

For instructions on how to install CentOS 7.x, see - **Installing CentOS 7**

Installing Zixi Products on Linux

For instructions on how to install CentOS 7.x, see - **Installing CentOS 7**

➡ **To install Zixi products on a Linux environment:**

1. Check that you have credentials to login to the Zixi Customer Portal. If you don't have them, please contact *Zixi Support* at support@zixi.com.
2. Check that your system meets the system requirements, see SYSTEM REQUIREMENTS - LINUX.
3. Download and extract the installation file(s) using the procedures described in DOWNLOADING AND EXTRACTING THE INSTALLATION FILE.
4. Activate the license through the web-based management UI using the procedures described in ACTIVATING THE LICENSE.

System Requirements - Linux

Hardware

- CPU: Intel i3 dual core CPU or above
- RAM: 2 GB RAM (minimum)
- Networking: 2 x 1GB network card

Operating System

- Zixi Broadcaster - 64-bit CentOS 7.x or an equivalent Linux distribution with glibc 2.14+
- Zixi Feeder and Receiver - Linux CentOS 6/7, must be a 64-bit distribution
- Linux Ubuntu 12 or later, 64-bit
- Linux Debian 7 or later, 64-bit
- Non-GUI server distribution recommended due to conflicts with NetworkManager GUI application.

Network Management

- Feeder GUI: TCP 4200
- Broadcaster GUI: TCP 4444

- Receiver GUI: TCP 4300
- SSH Remote Tunnel: If enabled, the device reaches out on port 22 to the remote access server.

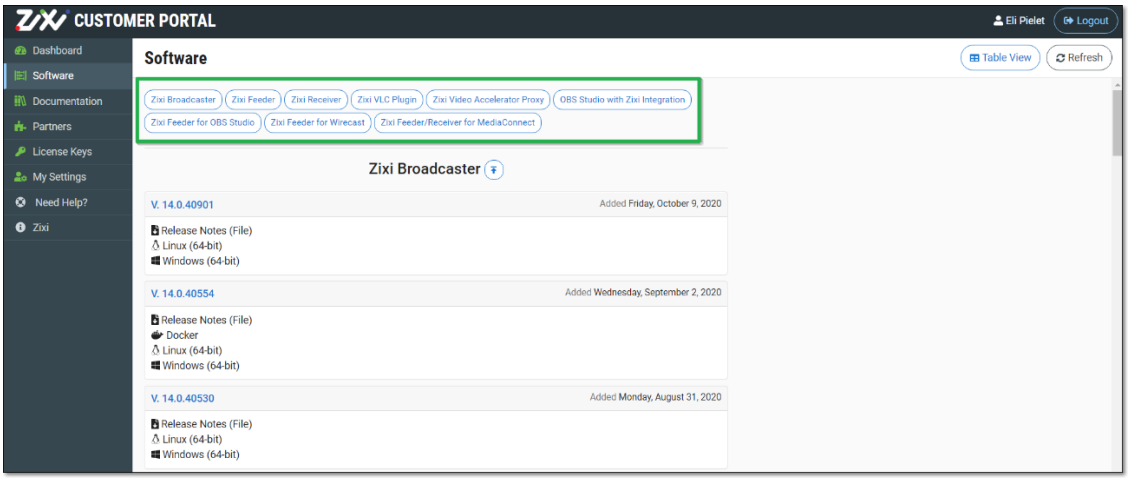
Downloading and Extracting the Installation File - Linux

All Zixi software covered by your license agreement is available for download on your Zixi Customer Portal. You can either download the files directly to your local machine or you can use a CLI command to install it on a remote server. The procedures for downloading and extracting all Zixi products (Feeder, Broadcaster and Receiver) are identical.

Make sure you are logged in as a Root user. If you are not logged in as a Root user, use the "`su`" command.

➡ **To download and extract the relevant file:**

1. Access the Zixi Customer Portal at https://portal.zixi.com.
2. Log in using your *Username* and *Password*.
3. In the Main Navigation, click **Software**.
4. At the top of the Software screen, click on the button of the product that you would like to install.



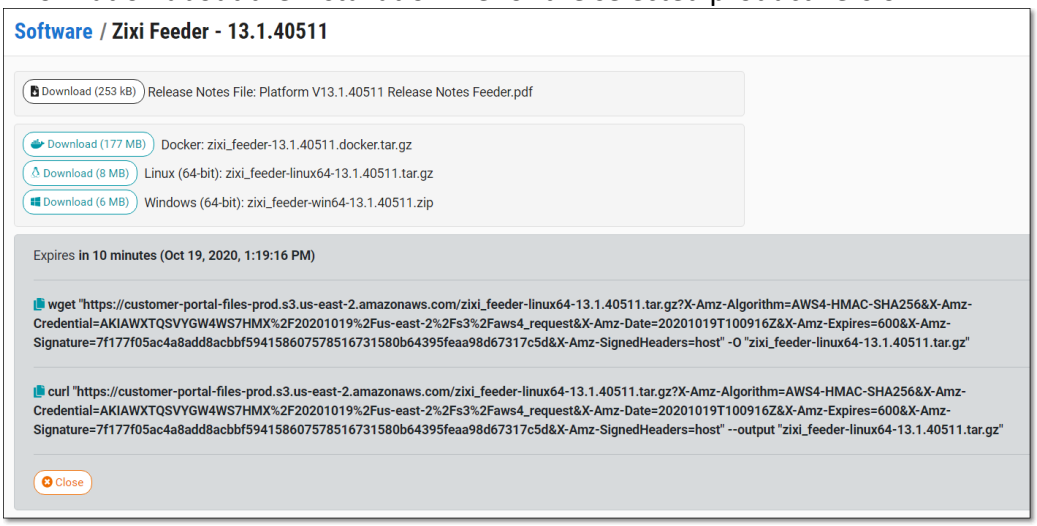
The available software versions for the selected product (which are available for your account) are displayed.

5. Click on the box of the version that you would like to install.
   The download options for the selected version are displayed.

6. Create a Zixi folder and change to that directory by typing the following commands in the Linux console:

```
# mkdir /zixi
# cd /zixi
```

7. Download the installation file using a "wget" command by clicking on the *Linux* **>_CLI** button. The complete "wget" CLI command is shown, containing all of the required information about the installation file for the selected product version.



8. Copy the "wget" and execute it in the Linux console.

Alternatively, you can download the installation file by clicking on the Linux Download button or by executing the "curl" command.

9. Extract the installation file by typing the following command:

```
# tar xvf <zixi_product>-<version_number>.tar.gz
# cd <zixi_product>
```

10. Run the installation script file by typing the following command:

```
#./installMe.sh
```

11. Run prerequisites script file by typing the following command:
```
#./prerequisites.sh
```
12. The Zixi Broadcaster requires certain ports to be opened for management via the UI and for receiving video streams and sending video streams. Please adjust your firewall settings in firewalld, iptables, or any other firewall software you are using according to the port lists shown on **Network Settings**

Following the completion of the installation, proceed to ACTIVATING THE LICENSE.

Installing Zixi Products on Windows

➡ **To install Zixi products on a Windows environment:**

1. Check that you have credentials to sign in to your account on the Zixi Customer Portal. If you don't have them, please contact *Zixi Support* at support@zixi.com.
2. Check that your system meets the system requirements, see SYSTEM REQUIREMENTS - WINDOWS.
3. Download and extract the installation file(s) using the procedures described in DOWNLOADING AND RUNNING THE INSTALLATION.
4. Activate the license through the web-based management UI using the procedures described in ACTIVATING THE LICENSE.

System Requirements - Windows

Hardware

- Recommended processor: Intel® Core™ i3 dual-core or quad-core
- Memory requirements: 2GB (minimum)
- Network interface cards: Minimum of two gigabit Ethernet adapters are required

Operating System

- Windows® Server 2012/2016/2019, 32-bit or 64-bit
- Windows 8/10, 32-bit or 64-bit

Windows releases are supported per the Microsoft support schedule. Server OS is preferred for 24/7. Desktop OS, if used, should be configured to disable auto updates and prefer background service priority.

Network Management

- Feeder GUI: TCP 4200
- Broadcaster GUI: TCP 4444
- Receiver GUI: TCP 4300

- SSH Remote Tunnel: If enabled, the device reaches out on port 22 to the remote access server.

Network Streaming

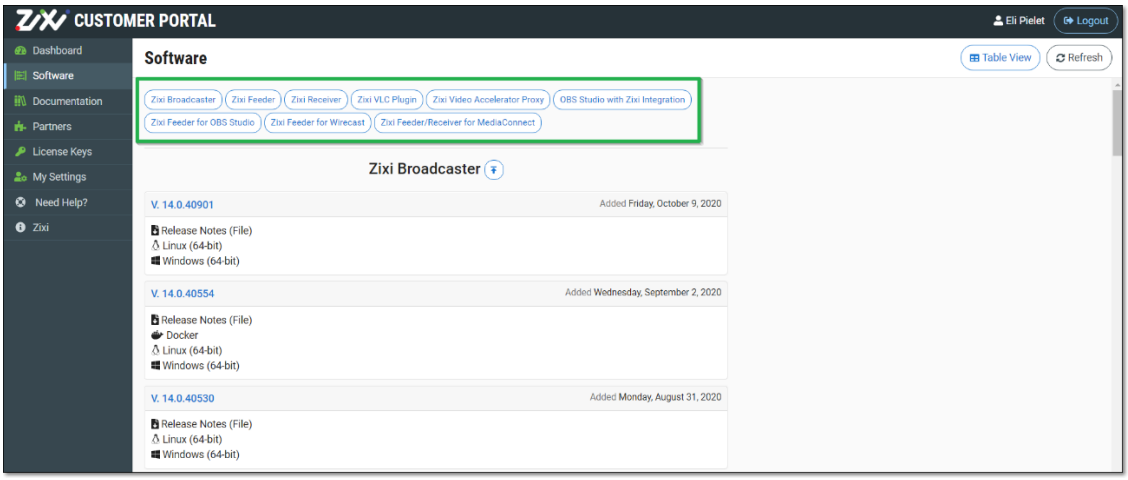
- See **Network Settings**

Downloading and Running the Installation

All Zixi software covered by your license agreement is available for download on your Zixi Customer Portal. The procedures for downloading and extracting all Zixi products (Feeder, Broadcaster and Receiver) are identical.

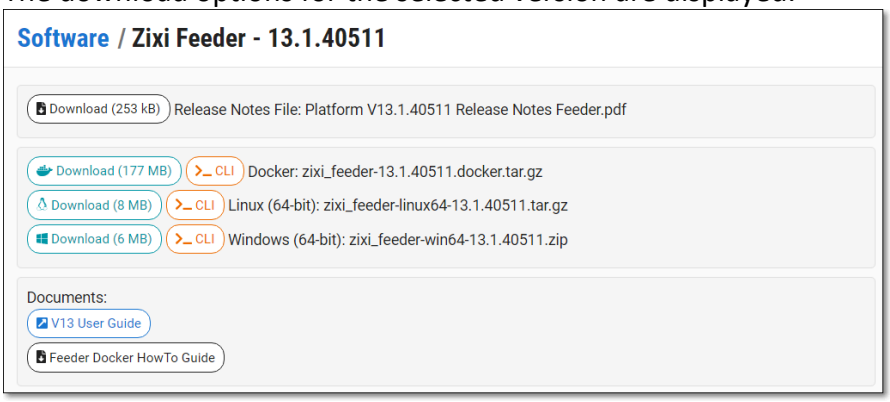
➡ **To download and run the installation:**

1. Access the Zixi Customer Portal at https://portal.zixi.com.
2. Log in using your *Username* and *Password*.
3. In the Main Navigation, click **Software**.
4. At the top of the Software screen, click on the button of the product that you would like to install.

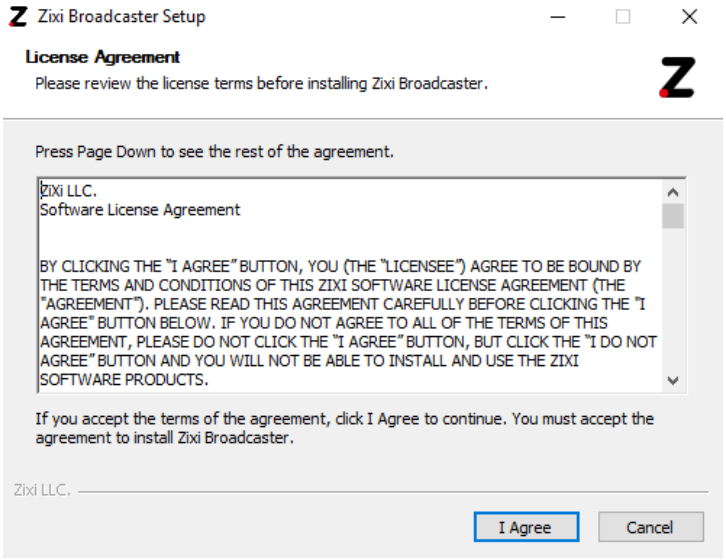


The available software versions for the selected product (which are available for your account) are displayed.

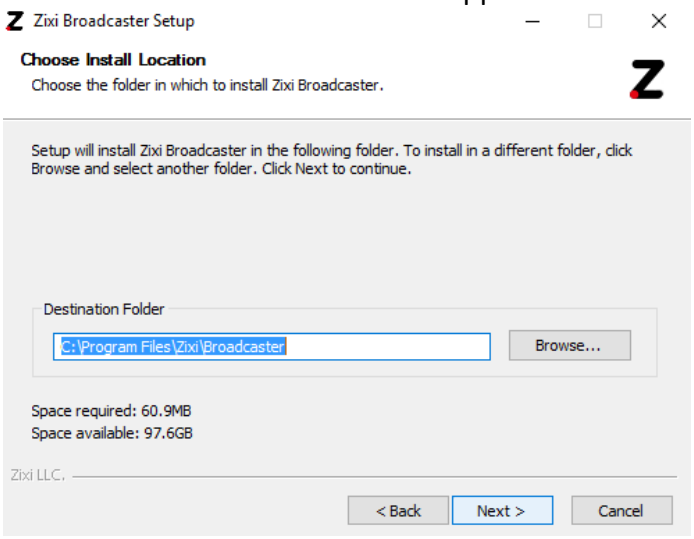
5. Click on the box of the version that you would like to install.
   The download options for the selected version are displayed.



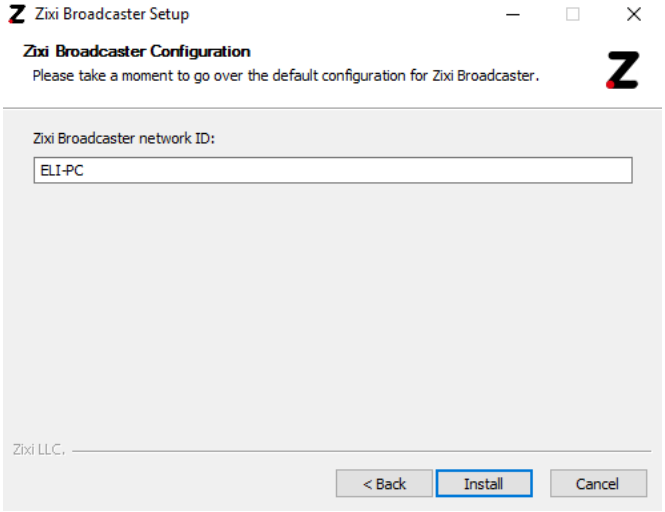
6. To download the file, click on the *Windows* **Download** button and navigate to the location where you would like to save the file.
7. Double-click on the Zixi Broadcaster installation file.
   The **License Agreement** window appears.



8. After reading the license agreement, click **I Agree**.
   The **Installation Location** window appears.

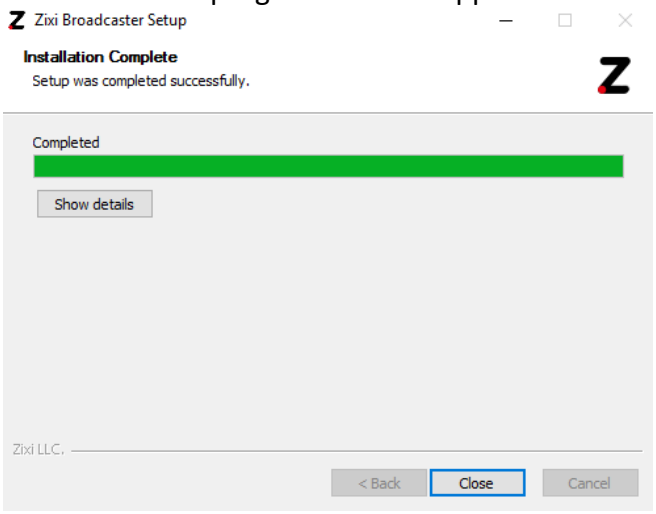


9. Select the folder in which the Broadcaster files will be installed. The default location is in the Zixi folder which is in the Program Files folder.
10. Click **Next**.
    The **Broadcaster ID** window appears.



11. Enter a name for the **Broadcaster ID**. The default name is the local host.

12. Click **Install**.
    The installation progress window appears.



13. The Zixi Broadcaster requires certain ports to be opened for management via the UI and for receiving video streams and sending video streams. Please adjust your firewall settings in firewalld, iptables, or any other firewall software you are using according to the port lists shown on **Network Settings**
14. When the installation is complete, click **Close**.
    The Broadcaster Login page opens in your browser.

Following the completion of the installation, proceed to **ACTIVATING THE LICENSE**.

Activating the License

Activation of the licenses is performed in the relevant web-based management UI. For all Zixi products (Feeder, Broadcaster and Receiver), the installation can be done online using a *License Key* or offline using a *License File*.

To activate Zixi license online, ensure connection to URL: license.zixi.com via TCP port 80. If you cannot open this connection, you can activate your license through a "License File". To obtain a license file, please contact *Zixi Support* at support@zixi.com.

Zixi Feeder

When logging in to a Zixi Feeder for the first time, you must activate the Zixi license.

Logging in to Zixi Feeder

➡ **To log in to Zixi Feeder:**

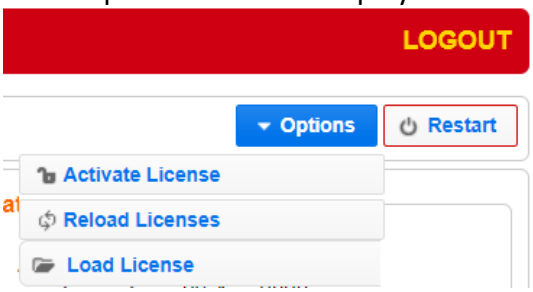
1. In your web browser, navigate to http://localhost:4200.
   A user authentication window opens.
2. In the **User Name** field, enter '**admin**'.
3. In the **Password** field, enter '**1234**'.
4. Click **OK**.
   The Feeder UI opens on the **Status** page.

Online Activation (License Key)

The following procedure requires connectivity to the Internet. If you are not able to connect, you can activate the Feeder using the procedure described in OFFLINE ACTIVATION (LICENSE FILE).

➡ **To Activate the License online using a License Key:**

1. In the **Status** page of the Zixi Feeder UI, click **Options** in the menu bar.
   The drop-down menu is displayed.



2. Click **Activate License.**
   The **Activate License** window appears.

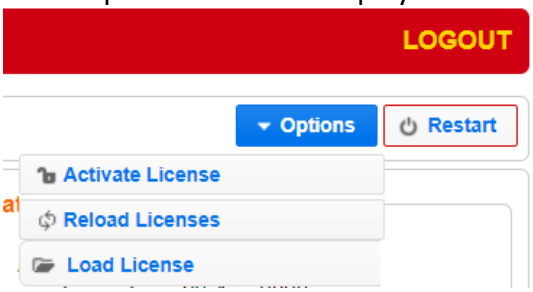
3. In the **Key** field, enter your Activation Key.
4. Click **Activate**.
   The Zixi Feeder is enabled.

Offline Activation (License File)

If you want to activate your license without an internet connection, you can upload a *License File*. To obtain a License File, please contact *Zixi Support* at support@zixi.com.

➡ **To Load the License File:**

1. In the **Status** page of the Zixi Feeder UI, click **Options** in the menu bar.
   The drop-down menu is displayed.



2. Click **Load License.**
   The directory of the local drive opens.
3. Navigate to the License File and click **Open**.
   A prompt window instructs you to Reload the license to activate the license.
4. Click again on **Options** and select **Reload Licenses** from the dropdown menu.
   The Zixi Feeder is enabled.

Zixi Broadcaster

When logging in to a Zixi Broadcaster for the first time, you must activate the Zixi license.

Logging in to Zixi Broadcaster

➡ **To log in to Zixi Broadcaster:**

1. In your web browser, navigate to http://localhost:4444.
   A user authentication window opens.

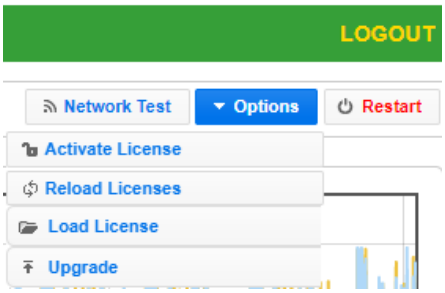
2. In the **User Name** field, enter '**admin**'.
3. In the **Password** field, enter '**1234**'.
4. Click **OK**.
   The Broadcaster UI opens on the **Status** page.

Online Activation (License Key)

The following procedure requires connectivity to the Internet. If you are not able to connect, you can activate the Broadcaster using the procedure described in **OFFLINE ACTIVATION (LICENSE FILE)**.

➡ **To Activate the License online using a License Key:**

1. In the **Status** page of the Zixi Broadcaster UI, click **Options** in the menu bar.
   The drop-down menu is displayed.



2. Click **Activate License.**
   The **Activate License** window appears.

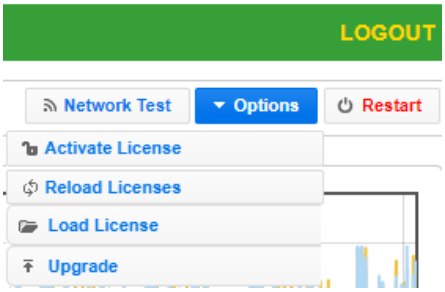
3. In the **Key** field, enter your Activation Key.
4. Click **Activate**.
   The Zixi Broadcaster is enabled.

Offline Activation (License File)

If you want to activate your license without an internet connection, you can upload a License File. To obtain a license file, please contact *Zixi Support* at support@zixi.com.

➡ **To Load the License File:**

1. In the **Status** page of the Zixi Broadcaster UI, click **Options** in the menu bar.
   The drop-down menu is displayed.



2. Click **Load License.**
   The directory of the local drive opens.
3. Navigate to the License File and click **Open**.
   A prompt window instructs you to Reload the license to activate the license.
4. Click again on **Options** and select **Reload Licenses** from the dropdown menu.
   The Zixi Broadcaster is enabled.

Zixi Receiver

When logging in to a Zixi Receiver for the first time, you must activate the Zixi license.

Logging in to Zixi Receiver

➡ **To log in to Zixi Receiver:**

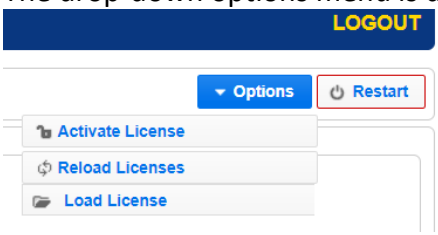
1. In your web browser, navigate to http://localhost:4300.
   A user authentication window opens.
2. In the **User Name** field, enter '**admin**'.
3. In the **Password** field, enter '**1234**'.
4. Click **OK**.
   The Receiver UI opens on the **Status** page.

Online Activation (License Key)

The following procedure requires connectivity to the Internet. If you are not able to connect, you can activate the Receiver using the procedure described in OFFLINE ACTIVATION (LICENSE FILE).

➡ **To Activate the License online using a License Key:**

1. In the **Status** page of the Zixi Receiver UI, click **Options** in the menu bar.
   The drop-down options menu is displayed.



2. Click **Activate License.**
   The **Activate License** window appears.

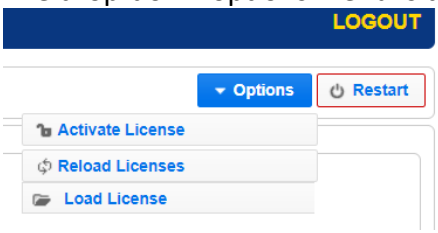
3. In the **Key** field, enter your Activation Key.
4. Click **Activate**.
   The Zixi Receiver is enabled.

Offline Activation (License File)

If you want to activate your license without an internet connection, you can upload a license file. To obtain a license file, please contact *Zixi Support* at support@zixi.com.

➡ **To Load the License File:**

1. In the **Status** page of the Zixi Receiver UI, click **Options** in the menu bar.
   The drop-down options menu is displayed.



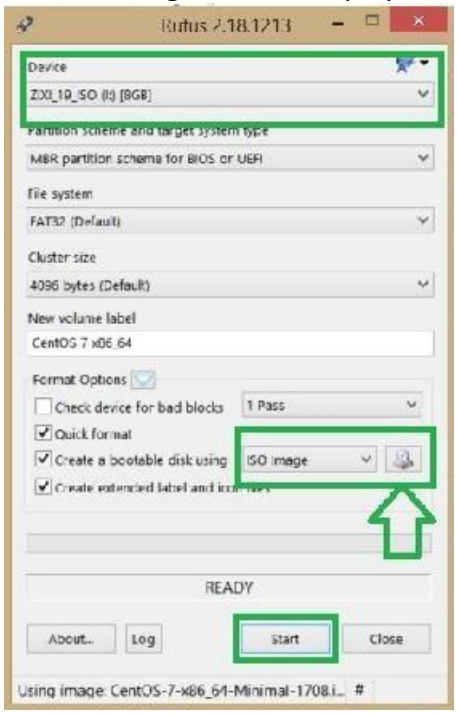
2. Click **Load License.**
   The directory of the local drive opens.
3. Navigate to the License File and click **Open**.
   A prompt window instructs you to Reload the license to activate the license.
4. Click again on **Options** and select **Reload Licenses** from the dropdown menu.
   The Zixi Receiver is enabled.

Installing CentOS 7

The following instructions are designed to help you install CentOS 7.x. After installing the operating system, follow the instructions in the **Installing Zixi Products on Linux** section to complete the installation.

➡ **To install CentOS 7 on your computer:**

1. Download the "**CentOS-7x86_64-Minimal-1908.iso"** file from the following link:
   http://mirrors.seas.harvard.edu/centos/7.7.1908/isos/x86_64/
   A list of additional mirrors can be found at
   http://isoredirect.centos.org/centos/7/isos/x86_64/
2. Copy the downloaded file to a FAT 32 formatted USB thumb drive of good quality with at least 8 GB of space.
3. To create a bootable USB drive, download **Rufus** to your computer from the following link - https://rufus.akeo.ie/
4. Right-click on the **Rufus** icon and choose **Run as Administrator**.
   The following screen is displayed:



5. In the **Device** field, select the name of your USB thumb drive.
6. In the **Create bootable disk using** field, select the format of the downloaded image (e.g. ISO image).
7. Click on the disk icon to browse to the CentOS 7 ISO to install.
8. Click **Start**.
   The process will take a couple minutes and the lower window will display "READY!" when done.

9. Remove the USB and install it on the machine you will be installing CentOS on.
10. Boot your computer by restarting it and then waiting for that first screen to be displayed.
11. Press the boot option key as instructed on the first screen (e.g. often, it'll say something like **"Press F12 to Choose Boot Device"**).
12. Wait a moment to continue booting until you see a menu pop up with a list of choices on it. Highlight your USB drive and press **Enter**.
13. Exit out of your BIOS, while saving your changes. Usually, this option is under "Exit" on the main menu, or available via a keyboard shortcut listed (e.g. F4) somewhere on your screen.
    Your computer should reboot. If you're prompted to **"Press any key to boot from CD/DVD"** do so. Your computer should boot into the USB drive instead of your normal operating system.

Make sure ALL network adapters are connected and ON in order for the Linux installation protocol to be able to SEE them. Otherwise, they will not be set to start up on boot.

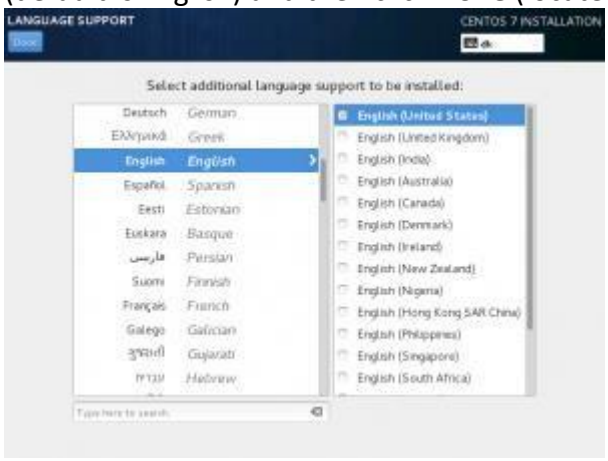
14. On the following CentOS 7 prompt screen, select **Install CentOS 7** and then press **Enter**.

➡ **To setup CentOS 7:**

1. On the CentOS welcome screen, select the desired language and click **Continue**.

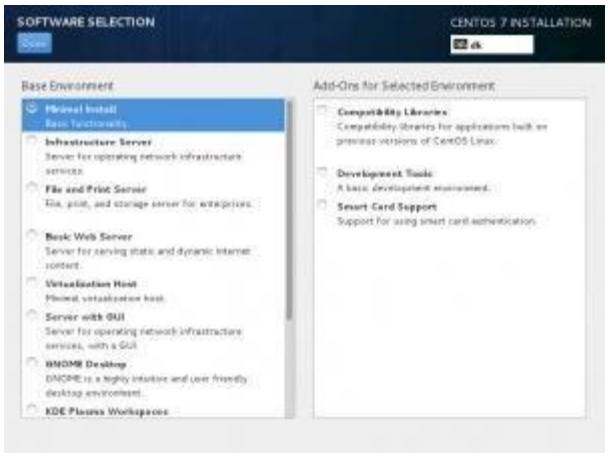
2. On the main screen, click **Date & Time** and then set the time zone, date, and time and then click **Done** (located in the upper left corner).

3. On the main screen, click **Keyboard** and then click the big "+" button in the lower left corner and find your keyboards language (you can search), click **Add** to add it and then click **Done** (located in the upper left corner). When finished, click **Done** (located in the upper left corner).
4. On the main screen, click **Language Support** and select the language of your choice, (default is English) and then click **Done** (located in the upper left corner).



5. On the main screen, click **Installation Source** and select the installation USB as the installation source. When finished, click **Done** (located in the upper left corner).

6. On the main screen, click **Software Selection** and select Minimal Installation (you may select another type of installation, but this is the minimal default requirement for installing Zixi. When finished, click **Done** (located in the upper left corner).



Uninstalling Zixi Products on Linux

Uninstalling Zixi Broadcaster on Linux

➡ **To uninstall Zixi Broadcaster:**

1. As a Root user, run the following command to stop the service:
```
# systemctl stop zixibc.service
```
2. Run the following commands:
```
# systemctl disable zixibc.service
# rm /etc/systemd/system/zixibc.service
# systemctl daemon-reload
# systemctl reset-failed
```
3. Delete the directory where Broadcaster was installed, for example:
```
# /zixi/zixi_broadcaster-centos7-transcoder
```

Uninstalling Zixi Feeder on Linux

➡ **To uninstall Zixi Feeder:**

1. As a Root user, run the following command to stop the service:
```
# systemctl stop zixifeeder.service
```
2. Run the following commands:
```
# systemctl disable zixifeeder.service
# rm /etc/systemd/system/zixifeeder.service
# systemctl daemon-reload
# systemctl reset-failed
```
3. Delete the directory where Broadcaster was installed, for example:
```
# /zixi/zixi_feeder-linux64
```

Uninstalling Zixi Receiver on Linux

➡ **To uninstall Zixi Receiver:**

1. As a Root user, run the following command to stop the service:
```
# systemctl stop zixireceiver.service
```
2. Run the following commands:
```
# systemctl disable zixireceiver.service
# rm /etc/systemd/system/zixireceiver.service
```

```
# systemctl daemon-reload
# systemctl reset-failed
```

3. Delete the directory where Broadcaster was installed, for example:

```
# /zixi/ /zixi/zixi_receiver-linux64
```

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