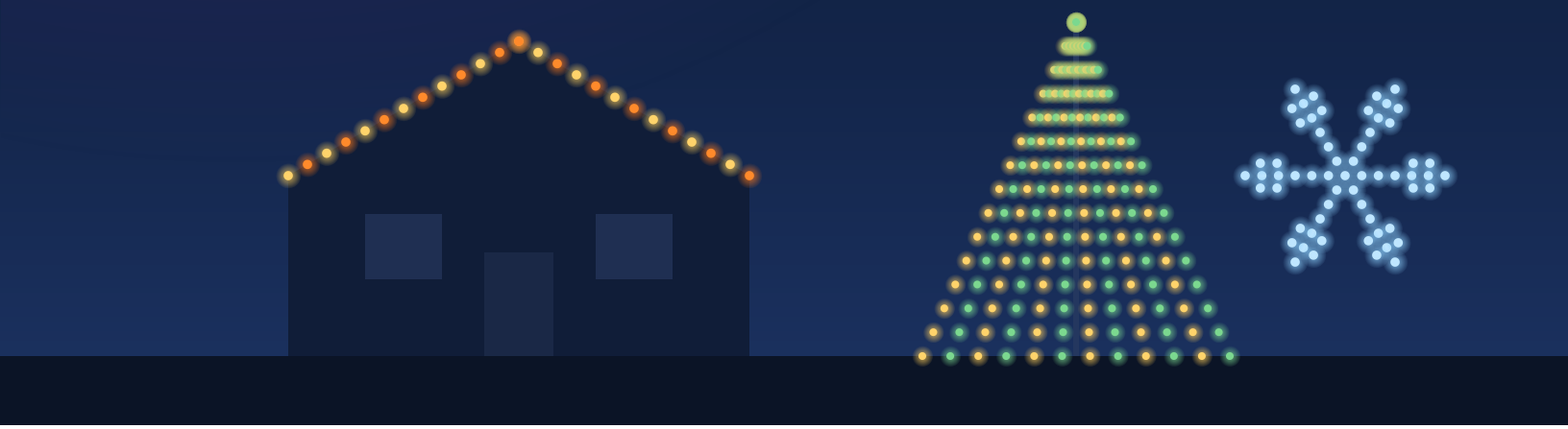
Build Your Display in xLights

Put your house on screen, add your lights one prop at a time (rooflines, a GE snowflake, a mega tree) and save it. This is the job you do once, before any sequence can play.

⏱ About an hour the first time | 📏 Bring your pixel counts | 💻 Written for xLights 2026



The whole journey at a glance

1. **Show folder** — page 4
2. **Photo of your house** — page 4
3. **A straight line** — page 5
4. **Lines with corners** — page 6
5. **Download a prop** — page 7
6. **A mega tree** — page 8
7. **Groups & save** — page 9

Menu and button names come from xLights 2026 and can shift a little between versions. If something looks slightly different, look for the same words close by. Pictures are simplified drawings, not exact screenshots.

microcyb@gmail.com

Before you start

xLights needs to know **what** lights you have and **where** they are. That description is your **layout**. Once it's built, every sequence you make or buy plays on it.

xLights is installed

Free from **xlights.org**, for Windows, Mac and Linux. Install the latest version; this guide follows xLights 2026.

A photo of your house

Straight on, from the street, the whole front in the picture. Daylight or dusk is best; you need to see the roof edges.

Your pixel counts

For every run of lights, how many pixels it has (for example: front roofline, 150 pixels). The box, the reel or your notes will tell you.

Your prop list

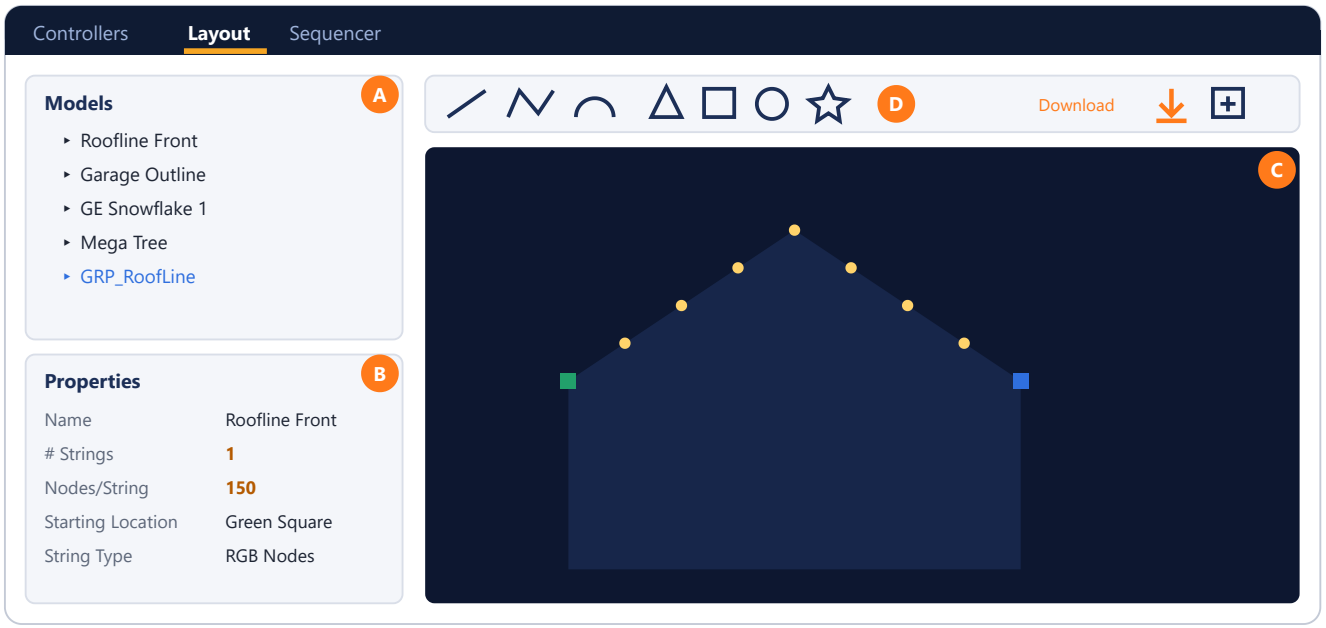
The store-bought props you own (a GE snowflake, a mega tree kit...) and their size, so you can download the matching model.

Words you'll see in this guide

Word	What it means, in plain English
Pixel (or **node**)	One light whose colour xLights controls on its own. xLights calls it a **node**; the box it came in calls it a pixel.
String	A chain of pixels wired one after another, plugged into one **port** (socket) on your controller.
Controller	The box that receives the show from your computer or player and drives the pixels. Connecting it is the next guide; you can build the whole layout first.
Model (or prop)	One thing that lights up, drawn on your layout: a roofline, an arch, a snowflake, a mega tree.
Start / end	The end of a run where the data wire comes in is the start (the first pixel). xLights shows it as a **green** dot, the end as a **blue** one.
Vendor model	A ready-made model of a store-bought prop, published by the company that makes it, downloaded right inside xLights.
.xmodel	A model saved as a file, so you can share it or import it from a vendor's website.
Group	Several models bundled together so one effect can run across all of them (all your rooflines, all your arches).
Show folder	The folder where xLights keeps your layout, controllers and sequences. Your layout is the file `xlights_rgbeffects.xml` inside it.

A quick tour of the Layout tab

Everything in this guide happens on the **Layout** tab. It has four parts you'll use all the time.



The Layout tab, simplified. Your screen will look busier; these are the parts that matter.

	Part	What it's for
A	**Models list**	Every model and group in your layout. Click one to select it; right-click for more options.
B	**Properties**	The settings of whatever is selected: its name, how many pixels, where the data wire starts. You type your numbers here.
C	**House preview**	Your house with its lights drawn on it. You draw new models here, and move or stretch them with the mouse.
D	**Model buttons**	One button per kind of model (line, poly line, arch, tree, matrix, star...), plus **Download Model** (the arrow) and **Import Model**. Hover over a button to see its name.

How drawing works, for every model

Click the model's button once. Then click on the house preview, **hold the mouse button down** and drag. Let go when it's the right size. You can always drag it, stretch it or type exact numbers later.

STEP ONE

1 Make your show folder

xLights keeps everything for your display in one folder. Make it once and keep using it every year.

1. In File Explorer (Finder on a Mac), make a new, empty folder somewhere easy to find, for example `Documents\xLights Show`.
2. Open xLights and go to the **Controllers** tab. At the top you'll see the current show folder.
3. Click **Change Permanently** and choose your new folder. From now on xLights opens it every time.

> ✓ **One folder for everything**
> Your layout, your controllers, your sequences and your songs all live in here. Copy this one folder to a USB stick and you've backed up your whole show.

STEP TWO

2 Put a photo of your house behind it

The photo is just a guide to trace over, so your lights sit in the right places. It doesn't change how the show works.

1. Copy your house photo into the show folder.
2. On the **Layout** tab, click an **empty** part of the preview so no model is selected. The Properties panel now shows the preview's own settings.
3. Click **Background Image**, browse to your photo and choose it.
4. Click **Save**. Your house now appears behind the preview.

> ✓ **Getting a good photo**
> Stand across the street, straight in front of the middle of the house, phone held level. A slightly dim photo works better than a bright one: your lights will stand out against it.

STEP THREE

3 Add a straight line of pixels

Your first model: a straight run, such as the front roofline. The same model works for any straight run: a fence, a gutter, a porch column, a stake.



Draw from the end where the wire plugs in. Green = start, blue = end.

1. Click the **Single Line** button (a plain diagonal line).
2. On the photo, click at the end of the roof edge where the **data wire comes in**, hold the button down, and drag to the other end. Let go.
3. In Properties, type your numbers:

Name	`Roofline Front` — something you'll recognise later
# Strings	`1` — one chain of pixels, one controller port
Nodes/String	`150` — how many pixels on this run
String Type	`RGB Nodes` — normal colour pixels (the usual choice)
Starting Location	Which end the data wire comes in: the **green** square or the **blue** one

4. Check the green dot is at the end where your wire really comes in. If it's backwards, right-click the line and choose **Swap Start/End**.
5. Repeat for each straight run on the house.

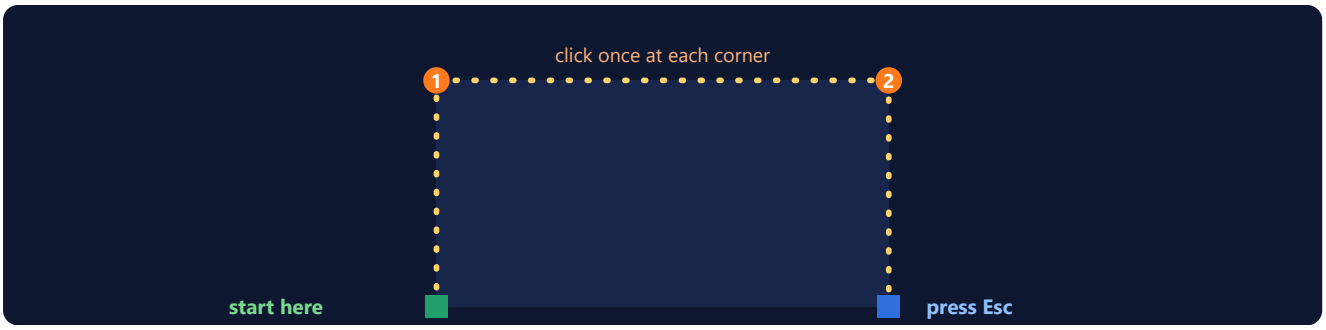
Horizontal or vertical, it's the same model
A Single Line can point any way. For a porch column or a stake, just drag **up and down** instead of sideways. xLights treats it as a run of pixels from start to end whichever way it points.

Count carefully
The number of pixels in xLights must match the real string exactly. One too few and the last pixel never lights; one too many and every model after it on the same port is shifted by one.

STEP FOUR

4 Lines that turn corners

A peaked roof, a garage door outline, a window frame: one string of pixels that bends. Use a **Poly Line** so it stays one model, just like the real wire.



A garage door outline: up, across, down. One model, two corners.

1. Click the **Poly Line** button (a zig-zag line).
2. Click where the data wire comes in, hold and drag to the first corner, then **click once**.
3. Move to the next corner and click once again. Keep going around the shape.
4. At the last point, click, then press the **Esc** key to finish drawing.
5. In Properties, set **# Nodes** to the total pixels in the whole run, and the name and **Starting Location** as before.

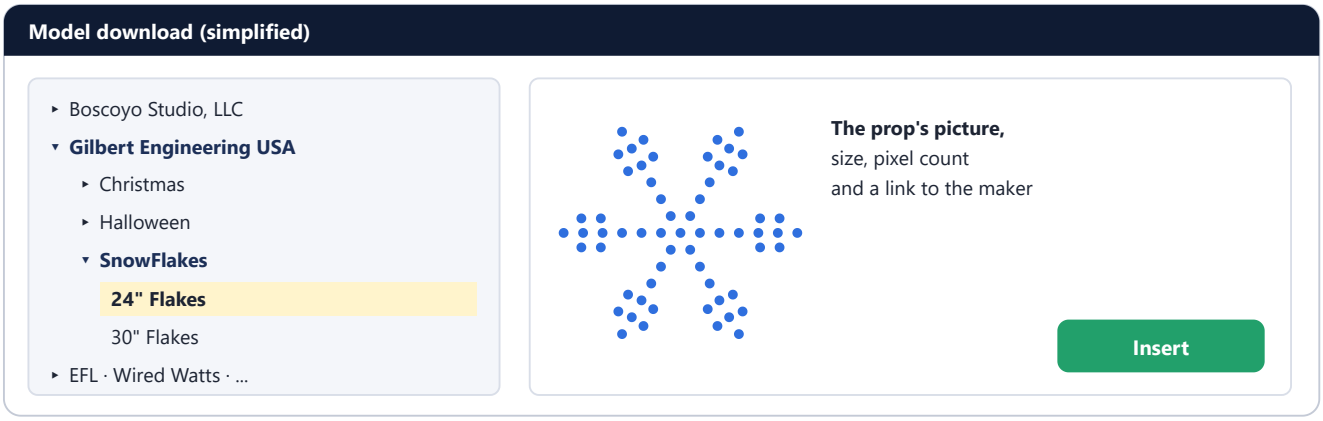
Missed a corner?
Right-click the segment that needs a bend and choose **Add Point**, then drag the new point into place.

Pixels not spread evenly?
If one side has more pixels than another (say 40 up each side and 80 across the top), turn on **Indiv Segments** in Properties and type the pixel count for each segment.

STEP FIVE

5 Download a ready-made prop

Store-bought props, like a **GE snowflake** from Gilbert Engineering, have their pixels in a special pattern. Don't draw them yourself: the maker publishes the exact model, and xLights downloads it for you.



Pick the maker, then the category, then your prop's size.

1. Click the **Download Model** button (the downward arrow among the model buttons).
2. On the house photo, click, hold and drag a box where the prop stands. Let go.
3. The download window opens. Open **Gilbert Engineering USA** → **SnowFlakes** and pick the size that matches yours (the box or receipt says, e.g. 24").
4. Choose the exact model, check its picture matches your prop, and click **Insert**.
5. Give it a clear name, such as `Snowflake Left`.

Wiring diagram for free
Right-click the new model and choose **Wiring View** to see the order its pixels are wired in, which helps when you plug the prop in.

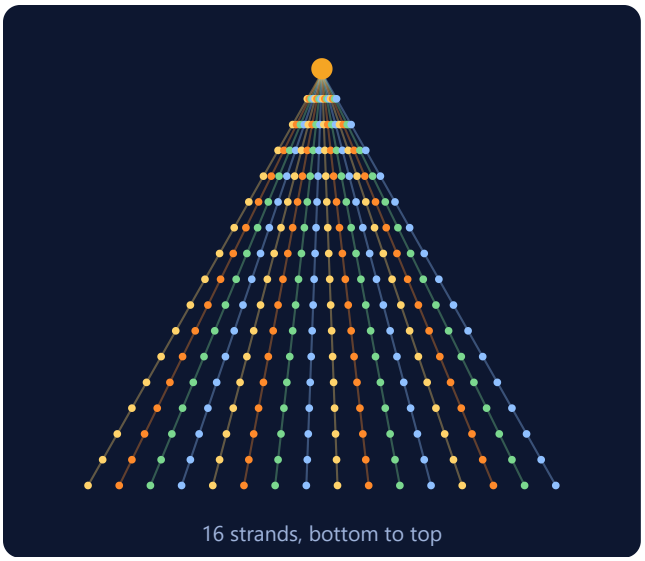
Got an .xmodel file from a website instead?
Some makers offer the model as a download on their own site. Use the **Import Model** button next to Download Model, drag a box the same way, and choose the `.xmodel` file.

Models are provided by the vendors, not by xLights. They're free to use in your layout. If a model is wrong or missing, contact the prop's maker.

STEP SIX

6 Set up a mega tree

A mega tree is strands of pixels running from a top ring down to the ground in a cone. xLights has a **Tree** model for it; you just describe how it's wired.



16 strands, bottom to top

Each line is one strand of pixels.

Count three things on your tree

1. **How many strings** plug into the controller (how many data wires).
2. **Pixels on each string**.
3. **Strands per string**: does each string go up the tree once (1), or up and back down (2)?

> **Folded strings**
> Many kits run a string up a strand and back down the next one. That's **2 strands per string**.

1. Click the **Tree** button and drag a box over where the tree stands.
2. In Properties, set the tree's shape and wiring:

Type	`Round`, with **Degrees** `360` for a full tree (180 or 270 for a tree against a wall)
# Strings	`16` — data wires going into the tree
Nodes/String	`100` — pixels on each of those wires
Strands/String	`1` if each string goes up once, `2` if it folds back down
Starting Location	Where pixel 1 is, usually **Bottom Left**
Bottom/Top Ratio	The cone shape. Bigger = wider bottom; `1` = a straight cylinder

> **A worked example**
> The xLights manual's tree: **15 strings × 50 pixels, 2 strands per string**. Each string folds once, so the tree is **30 strands** of 25 pixels. Strands/String must divide Nodes/String evenly (50 ÷ 2 = 25).

STEP SEVEN

7 Make groups, then save

A group lets one effect sweep across several models at once, like a chase that runs along *every* roofline. Most purchased sequences put their effects on groups, so a few good groups make every sequence easier to use.

Make a group

1. Right-click in the **Models** list and choose **Add New Group**.
2. Type a name, for example `GRP_RoofLine`, and click OK.
3. With the group selected, move models from the left list into **Models in Group** using the arrow buttons.

Shortcut: select several models on the house preview, right-click and choose **Create Group**.

★ Groups worth making

All rooflines · all outlines (windows, doors, garage) · all arches · all mini trees · all snowflakes · the whole house.

★ Name them clearly

Starting every group with `GRP_` keeps them together in the list and easy to spot when you import a sequence.

Save your layout

1. Click **Save** on the Layout tab. Do it often: xLights reminds you "Layout has unsaved changes" if you forget.
2. Happy with where everything sits? Select all your models, right-click and choose **Lock Models** so a stray click can't nudge them.

Back it up

Your whole layout is one file: `xlights_rgbeffects.xml` in your show folder. Copy it somewhere safe after a big change. (xLights also keeps dated copies in the **Backup** folder inside your show folder.)

If something isn't right

What you see	Why, and what to do
I can't draw anything	Click a model button **first**, then click and hold on the preview while you drag. A single click without dragging may not create a model.
A chase runs the wrong way along a line	The start is at the wrong end. Right-click the model and choose **Swap Start/End**.
My Poly Line keeps adding segments	Press **Esc** after your last click to stop drawing.
A downloaded prop looks lopsided or on its side	Turn it with the **Rotation** setting in its Properties, and drag its corner handles to resize. Its pixels and wiring don't change.
xLights says Strands/String must divide evenly	Pixels per string ÷ strands per string has to be a whole number (100 ÷ 2 = 50 works; 100 ÷ 3 doesn't). Recount your tree.
I can't find my prop in the download list	Look under the maker's other categories, or download the `.xmodel` from the maker's website and use **Import Model**.
My layout is gone after reopening	xLights opened a different show folder, or you didn't save. Check the folder on the **Controllers** tab; restore from the **Backup** folder if needed.

✓ Layout checklist

- [ ] Show folder chosen (Change Permanently)
- [ ] House photo set as Background Image
- [ ] Every straight run drawn, pixel counts typed in
- [ ] Corner runs drawn as Poly Lines
- [ ] Store-bought props downloaded and named
- [ ] Mega tree strings, pixels and strands set
- [ ] Groups made (GRP_...)
- [ ] Saved, locked and backed up

What's next

Connect your controller. Each model gets told which controller and port it plugs into (its **Controller Connection**), and then you can light every prop to test it.

Load a sequence. With your layout built, follow *Your Light Show, Step by Step* to load a purchased sequence onto it.

Questions? Email microcyb@gmail.com. xLights is a separate, free program made by its own volunteer team and is not affiliated with MicroCyb.com.