Danger Rose Manual

Congratulations on your new Danger Rose station! Your station is designed to display a constant visual indication of the avalanche danger in the Wasatch mountain range. Each day, it checks the Utah Avalanche Center's forecast for avalanche danger. The danger rose gives you a color-coded avalanche danger for each direction and elevation, broken into 24 segments. Here is a brief overview of how it works.

The danger rose is separated into eight directions at three elevations. The tallest level represents terrain above the tree line (over 9500 ft), the middle level represents terrain within the treeline (8000-9500 ft), and the lower level represents terrain below the treeline (below 8000 ft). Each level is separated into the directions of a traditional compass rose. Each of these segments is color coded with the following danger levels.

No Forecast	Low Danger	Moderate Danger	Considerable Danger	High Danger	Extreme Danger

Figure 1. Forecast color definitions

Traditionally, the color for extreme danger is black. However, it's not possible to illuminate a segment black, so any segments with extreme danger will fade between red and magenta to represent the extreme danger.

If a forecast is for the current day, it will be constantly displayed. If the forecast is more than 15 hours old, it will be displayed alternating with white to let you know that the forecast has not been updated that day. In the event that the forecast is all white (no forecast) for the previous day, the station will fade between white and off.

If a forecast is available, the station will update daily. Any issues with the retrieval or processing of forecast data will prompt the station to display an error light code. In other words, if there is a forecast being displayed, including all white, all systems are operating as intended.

Any time your station turns on and acquires an internet connection, the latest available forecast will be downloaded and displayed.

Setup

Your station is designed to operate autonomously, but it does need your help for the initial setup. Plug in the station and wait for the lights to display a rainbow effect. Next, make sure you have your Wi-Fi network name and password available. Download the BerryLan app from the app store on your device. Launch the app and look for 'BT wlan setup' to appear, then select it. Next, select your Wi-Fi network from the menu and enter the password. That's it! Unless you change your password or bring your station to a place outside your network, you should be all set. If one of those things does happen, the station will detect the network is unavailable and start displaying the rainbow lights, in addition to broadcasting the Bluetooth signal. Just repeat the steps above and you'll be ready to go again.

It's very important that you never unplug the station without turning it off first! To turn your station off, press the button on the underside of the station, next to the power input. Wait until at least 30 seconds after the lights turn off to unplug the station.

Speaking of power, the station has a micro-USB power input. An adapter was included with your station for convenience, but you are free to use your own if you would like to. The adapter must supply at least 2.5 amps at 5V, and be very stable. A low cost power supply may reduce station performance.

The station can only communicate with you through its lights. Here are the light codes your station is programed with and what they mean. System information and error codes are very easy distinguish from forecasts, as the station will fade each segment between alternating colors like this.
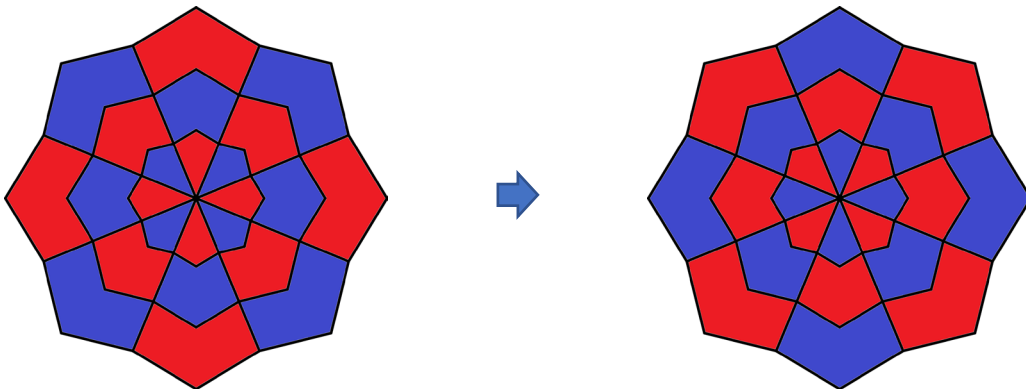

Figure 2. No Internet Error Code Progression

	State	Light code	Description
Normal	Current Forecast	Any combination of white, green, yellow, red, and magenta.	System operating normally
	Old Forecast	Any forecast fading to white or off.	System operating normally, forecast issued >20 hours ago
System Information	Startup Cycle or Acquiring Internet	Rainbow cycle.	Waiting for internet connection. Make sure you have provided the station with your Wi-Fi information.
	Automatic Update	White and Purple	System automatically updated.
	Automatic Restart	Green and Blue	System automatically restarted due to internet connectivity issues.
	Season Ended	White and Green	Its currently a month with no snow sports.
Errors	No Internet	Red and Blue	Unable to establish internet connection during forecast window.
	Forecast Error	Red and Yellow	Error retrieving or processing forecast.
	Undefined Error	Red and White	Undefined error occurred during operation.
	Fatal Error	Flashing (not fading) between all red and all off at 1 Hz	The LED controller encountered a fatal error. The system needs to be restarted.