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Nexmosphere & BrightSign | experience matters

Creating unique experiences by adding sensors, UI and lighting to the BrightSign platform.

nexmosphere
elements for experience

Big journeys are made of small steps

Nowadays, live retail is all about experience, feeling the brand and discovering new items. Retailers and brands have to deliver an engaging shopper journey to invite the customer to the next step. Nexmosphere develops products that transform Digital Signage platforms into rich and intuitive experiences, which will change the way we shop. The versatile collection of Elements offers flexibility to create unique experiences that are cost-effective and can be implemented on a broad scale.

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Inspiration for endless applications

All of Nexmosphere's Elements can be combined for multiple functionalities in applications. Use the off-the-shelf available components to timely build your installation without the need of any specific development.

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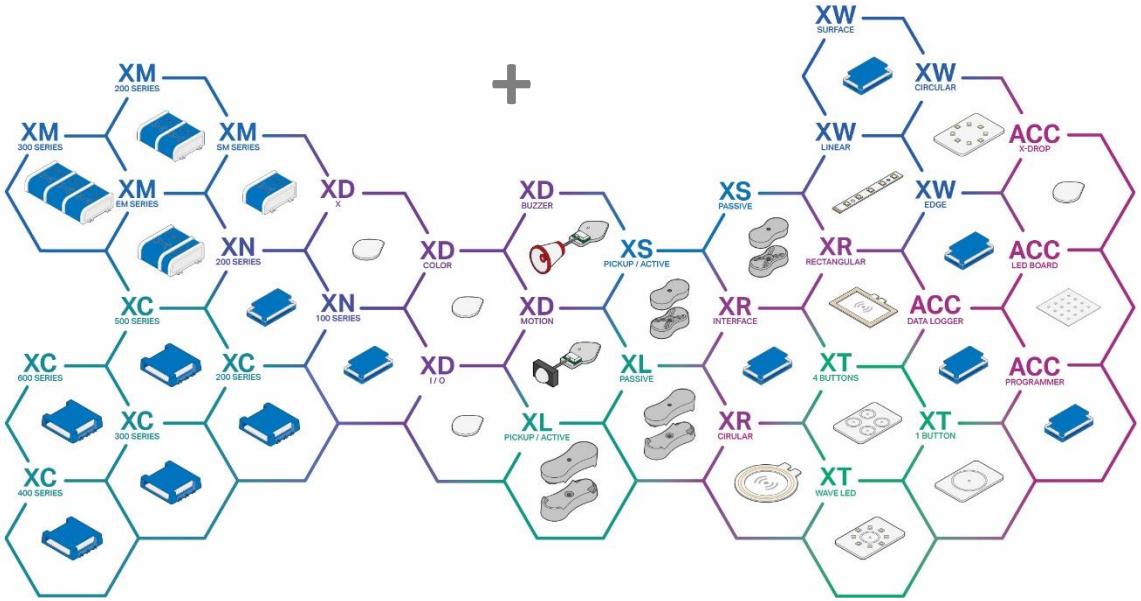
One platform | multiple solutions

BrightSign integration
As a BrightSign certified Technology Partner, Nexmosphere delivers a set of different sensors and controllers that can easily be connected to the BrightSign family using a Serial or USB connection.

Elements for experience
Combining all our Elements such as motion and pick-up sensors, touch buttons and LED light in one application, provides freedom in system design and shortens the development time.



Multiple Sensors | Endless combinations

Wired pickup and security sensors
In various shapes & sizes

Wireless pickup sensors and antennas
Build Lift & Learn solutions with our RFID tags and antennas

Motion and presence sensors
Range 10cm – 5m (4”-15ft)

Generic interfacing
3.3V and 5V IO interfaces, RS-232 and USB support for 3rd party interfacing

Capacitive touch buttons
Various sizes and shapes

Push buttons and button interfaces
With controllable LED lighting

X-Wave animated pixel LED
Animated multicolor LED

LED light control (RGBW)
12/24V industry standard strip

What we do | Driving experience

Flexible & future upgradable platforms

Stores are refreshing, remodeling and redesigning much faster. Not every change can be managed with a long design and approval process. The modular approach facilitates a shorter time to market and an increased level of quality. Prototypes can quickly be tested in real life applications with less effort and costs. New technologies or features can be added even after installation.

Always performing with proven ROI

Build for 24/7 use, Nexmosphere -just like BrightSign- provides solutions that last. That's why there's an optional 3-year warranty program. With multiple data collection options, system performance can be measured and optimized.

Scalable, fits in many applications

With the modular approach you can build systems from 1 - 1.000+ units using the same proven technology. While choosing the components size and form factor that best suits the application, and -production circumstances. The XN (Nano) and XC (compact) series of controllers are the solution for applications up to 8 sensors, where the XM (Modular) series can go up to 400 sensors on a single BrightSign.

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elements for experience

Sensors

1

creating an interactive environment

Interactivity is one of the strongest in-store influencers. It can be used as a creative tool to create an atmosphere, highlight a product, or make the merchandise stand out by using contrasting: colored lighting. Trigger content at the right moment or give control to the shopper by using buttons. Adding sensors adds little cost, while unlocking a vast palette of opportunities.

Give control to the shopper

Why is there only continued playing content in the majority of current day POS presentation offerings? Why can't the shopper get more detailed information? Add touch buttons to your system and let the shopper be in control. This way shoppers can get more information at the point of purchase, bridging the gap with online retail.

Layered experience

In using a motion sensor that determines proximity, multiple triggers can be given when a shopper approaches the presentation. E.g. trigger the "attract content" when a shopper is 1,5m/6ft away and display the touchscreen layout once the shopper stands in front of the screen (50cm/2ft). All trigger levels can be set using the standard API.

Layered experience

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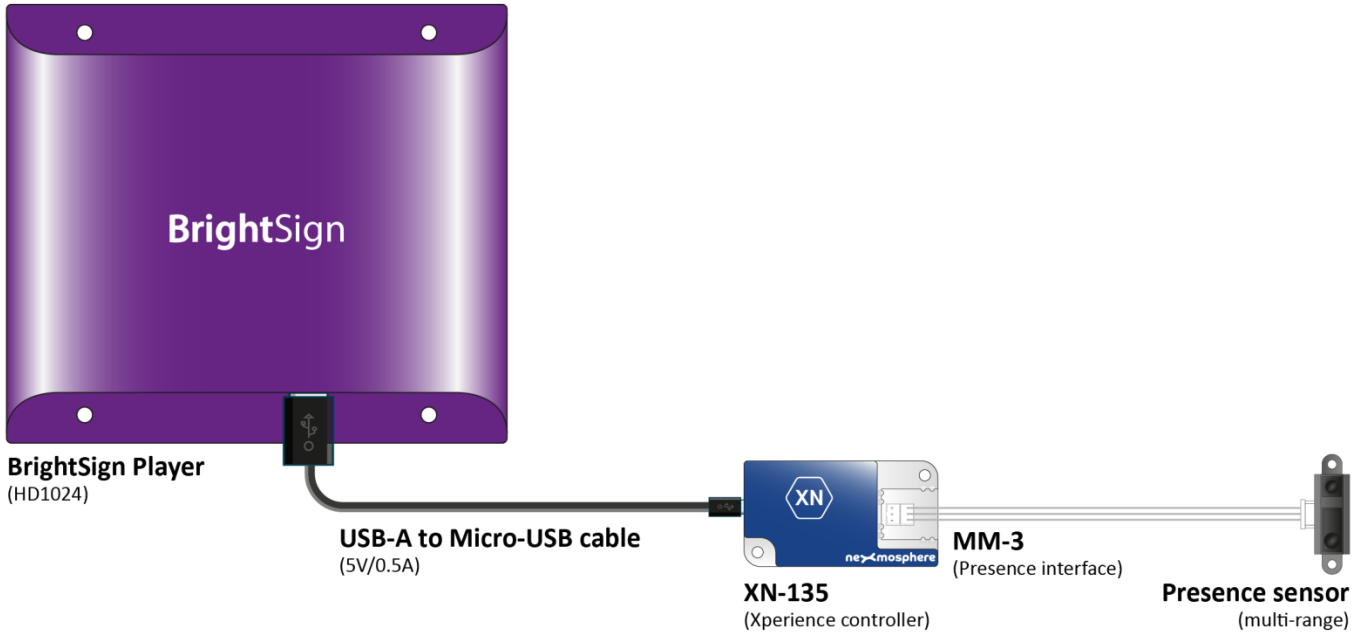
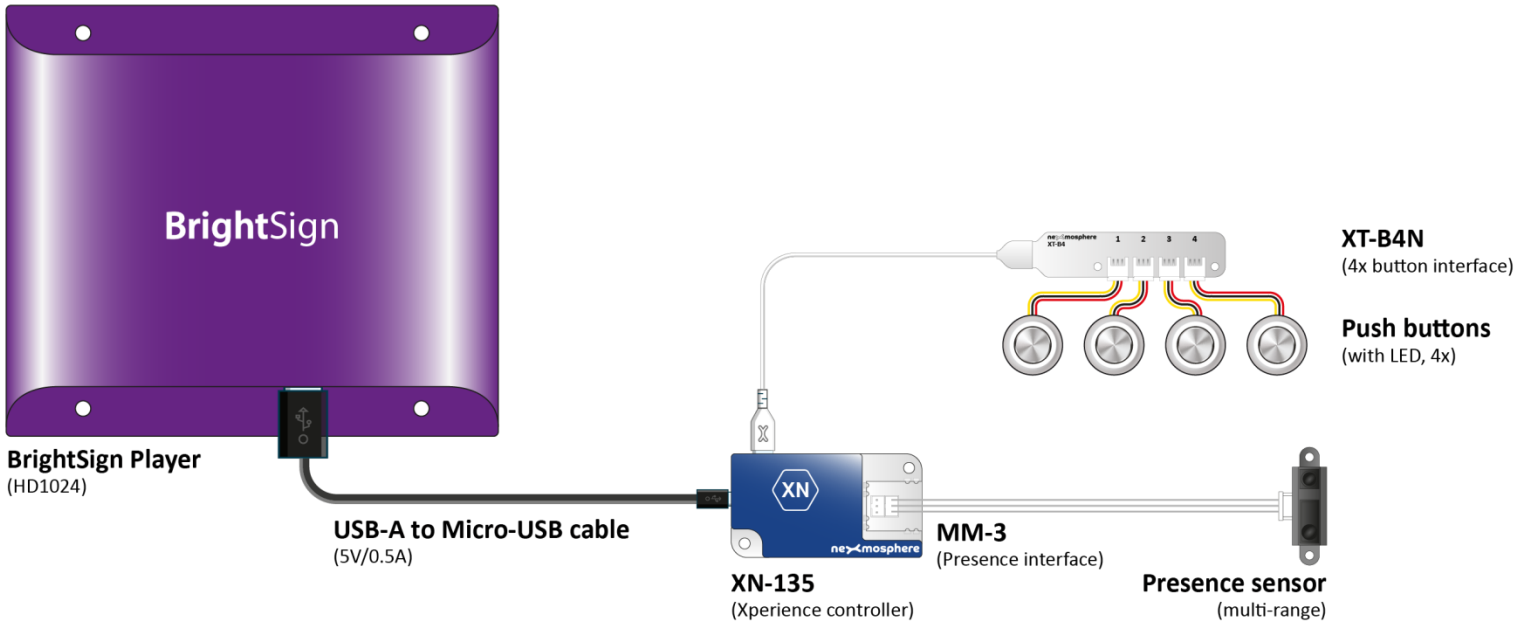


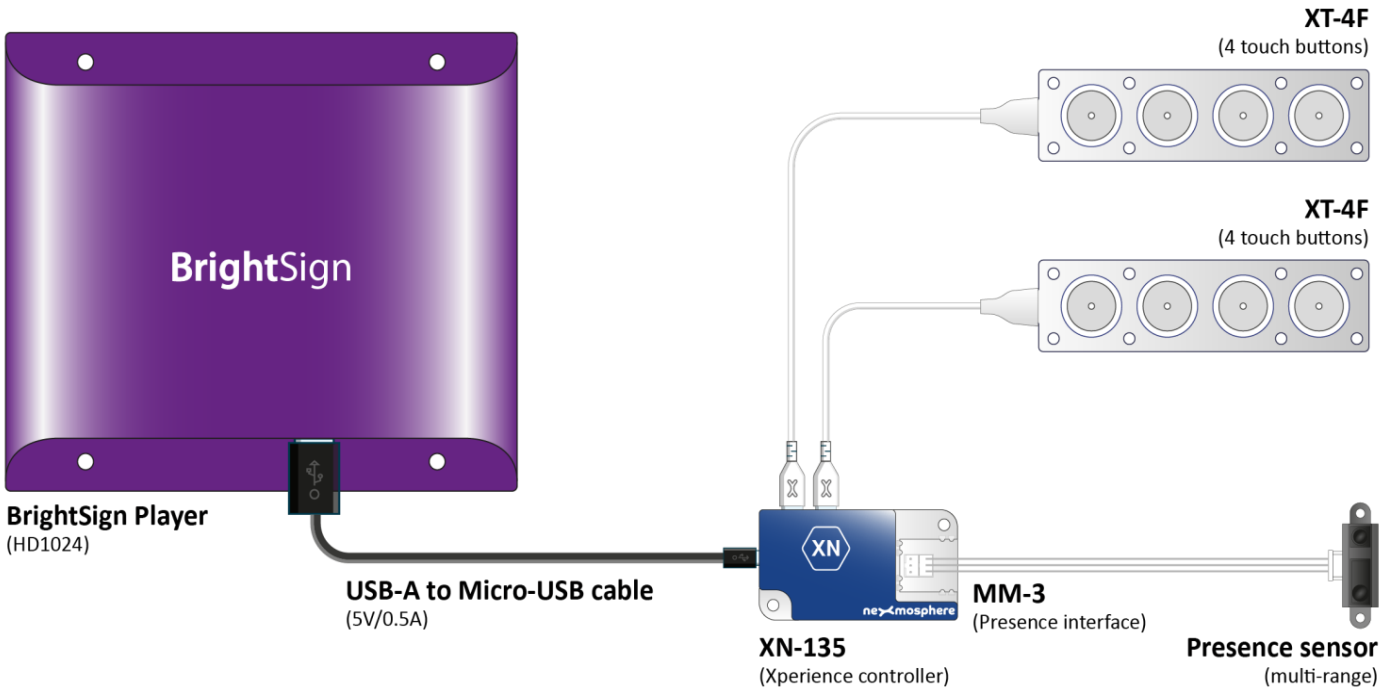
Pushbuttons and touch buttons

All of Nexmosphere's push, and -touch buttons use the same API. The built-in LED controllers can provide blinking, glowing or pulsing light patterns in the button LED ring, making it suitable for every application. Use the XT-button interface to connect multiple push buttons onto one BrightSign.



Combine multiple sensors on a single BrightSign

The XN controller range offers 3 or 8 X-talk channels (sensor in/outputs) on a single controller. Combine different type of sensors sharing the same USB connection on the BrightSign. For multiple connections up to 400 sensors use the XM (Modular) series of controllers.

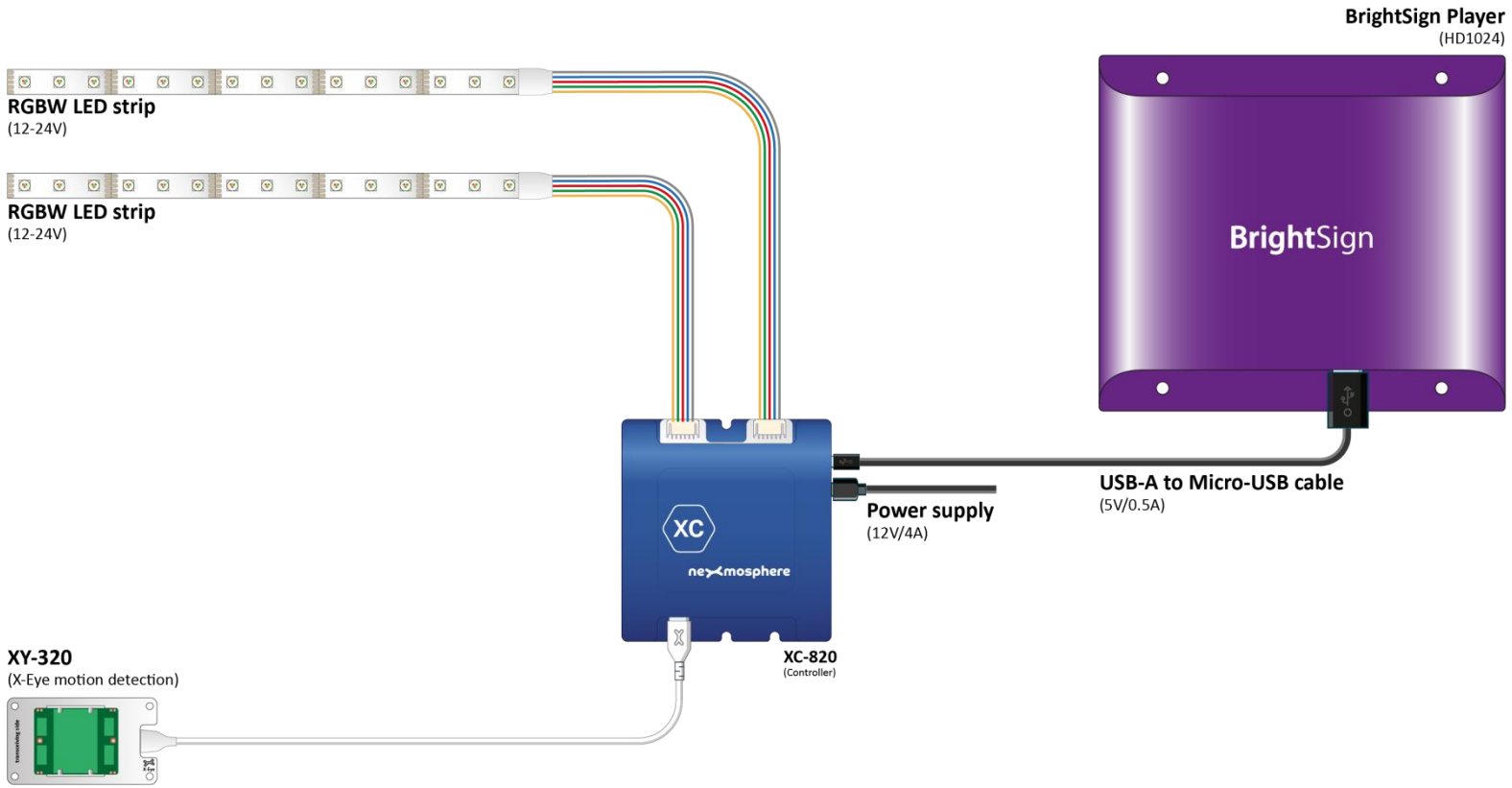


Sensors ① | ③ Presence sensor and 2 touch button panels

Integrated LED light controller

The new XC controller* range offers 2 / 4 or 6 individual controllable LED Light outputs as well as 4 X-talk channels on a single controller. Combine different type of sensors and LED strips sharing the same USB connection on the BrightSign.

* Available Q3/19



Sensors ① | ④ Motion sensor and 2 RGBW LED strips

Lift & Learn

Intuitive storytelling

Lift & Learn applications are an ideal way to create engaging shopper experiences between your brand and the shopper. The shopper is invited to pick up merchandise and explores how it looks and feels. Simultaneously, digital content is triggered, boosting brand experience and providing in-depth information about the product.

Consistent info

Lift & Learn technology delivers a consistent information flow. Whereas sales staff can be difficult to train, Lift & Learn guarantees the same story is told every time.

Continuous info

By providing step by step information relevant to the specific product held by the shopper, the info is more relevant and more likely to be memorized.

Increase dwell time

Providing step by step info increases dwell time. In cosmetics, every 1% of additional time spent in front of the shelf, increases sell-out numbers with 1.3%.

Always the right info for the right product

Even when the shopper places back products on a different position on the display, the system recognizes the individual product by its RFID tag. This technology guarantees that the right content is always shown whenever a product is picked up.

Lift & Learn 3 products

3 products on display with each its own RFID tag. When a product is picked up, a video related to that specific product plays on the connected screen.

System layout

- **3 Animated LED strips** - glowing pattern to attract shopper from a distance
- **Presence sensor** - synchronizes video message when shopper approaches
- **3 Lift & Learn antennas** - product video starts playing when a product is picked up

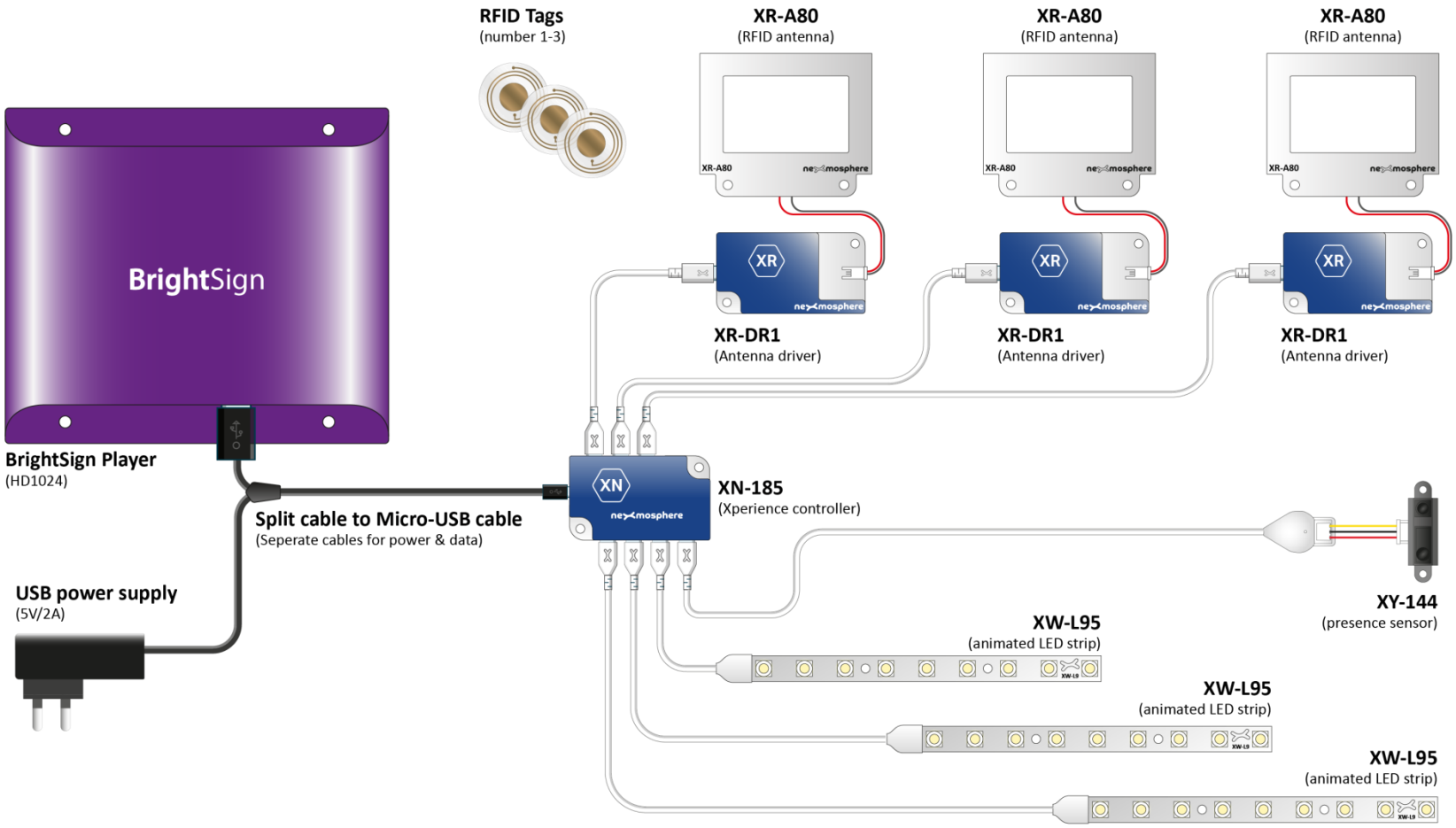
Script example

Default a loop video (brand video) plays continuously. All X-Wave LEDs have a soft white pulsing pattern. When the presence sensor detects a shopper, a call-to-action video plays and the X-Wave LEDs become brighter; attracting the shopper to the display. When a product (with the RFID tag) is picked up, the product's video appears on the screen. The corresponding LEDs change to a blue animated wave pattern. Picking up another product starts another video. When the product video is finished, or the product is placed back, the brand video starts to loop again.

Target channel

Ideal solution to provide specific product info or branded content in areas where shoppers want more information. Great impact on high traffic locations.

- **Cosmetics** - branded content / explain how and when to use
- **Luxury food** (e.g. chocolate) - explain ingredients and origin
- **Footwear** - USP from the product, technical features or emotional content



Wired Lift & Learn, multiple products

When merchandise needs to be “connected” to the shelf, the X-snapper or X-dot X can be used as a pickup sensor. These sensors send a trigger once the merchandise is moved from its original position and send a “place down” trigger once back in the default position. This way content can be triggered and pickup time and shopper behavior can be monitored.

Alarm

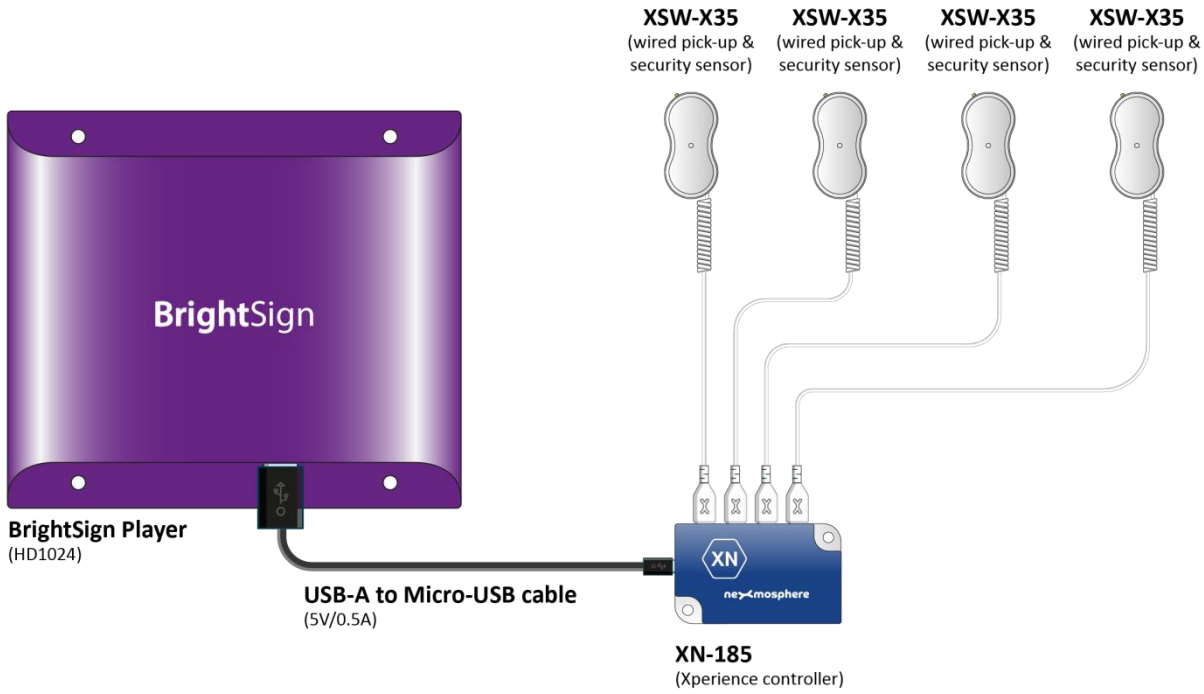
Additional to the pickup functionality all products have an alarm sensing option as well. Once the sensor is being removed from the product or when the cable is cut, an alarm trigger is sent via the USB/RS232. A buzzer (X-Dot Buzzer) can be connected to the system, providing an alarm sound.

Larger system setups

With the XN (Nano) controller series, up to 8 sensors can be connected to the BrightSign. When there is a demand for more sensors the XM (Modular) controller range is the ideal solution. This system has a modular setup; a daisy-chained controller backbone can be used to control up to 400 sensors (72 on the example on page 16).

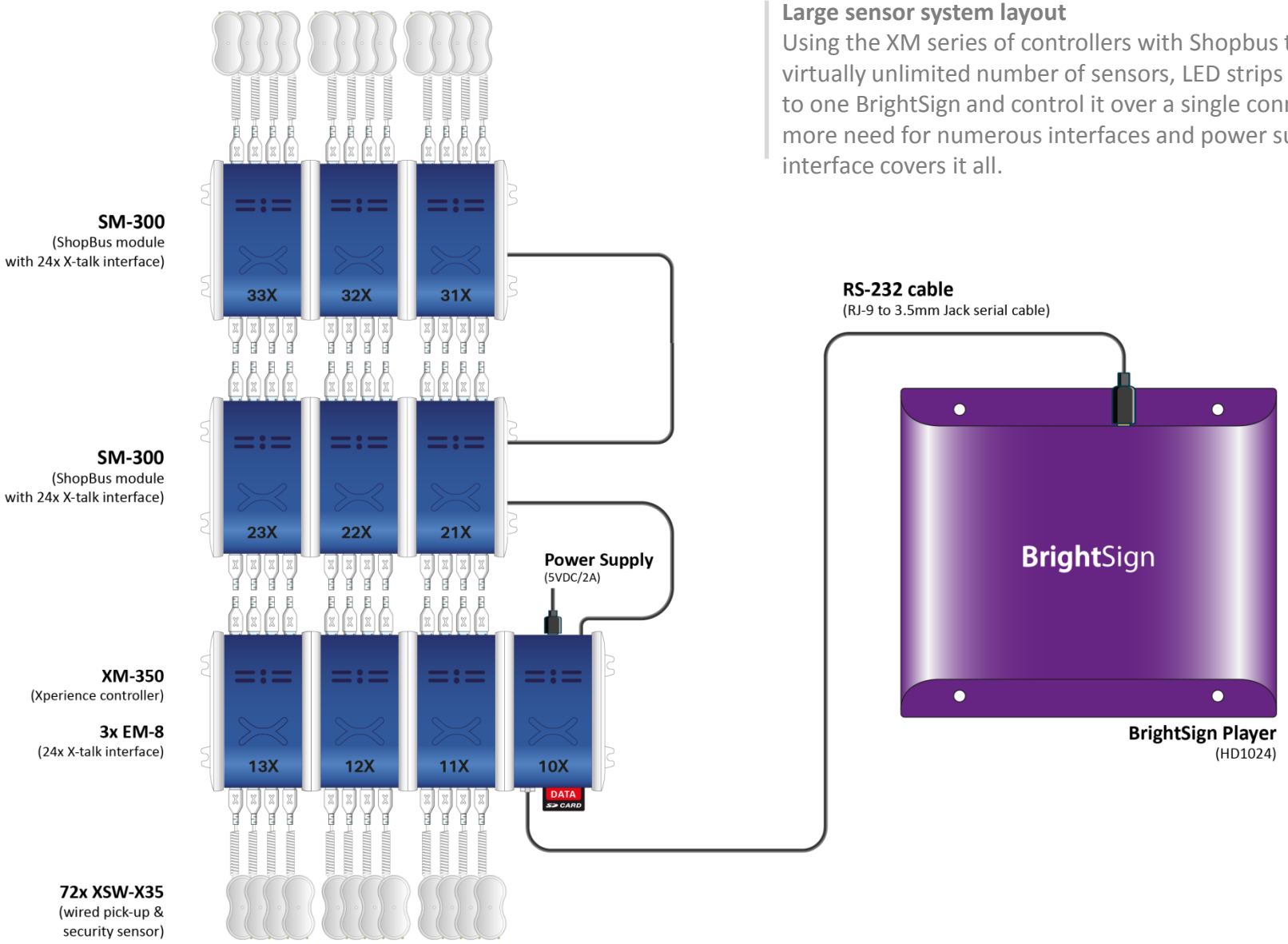
Wired pickup sensors

Wired pickup sensors provide an easy way to tell the shopper a story about the product that was picked up. Trigger the right content and inform the shopper about the merchandise in an intuitive way. Logging the pick-up and place-down data will provide valuable insights into how the application is being used.



Large sensor system layout

Using the XM series of controllers with Shopbus to connect a virtually unlimited number of sensors, LED strips and buttons to one BrightSign and control it over a single connection. No more need for numerous interfaces and power supplies, one interface covers it all.



Place & Learn

The shopper is invited to pick up one of the displayed products and place it on an “info platform”. Digital content is triggered, providing more in-depth info about the specific product and boosting the brand experience.

System layout

- **Animated LED lighting** – glowing pattern to attract shopper
- **Place & Learn antenna** – product video starts to play when a product is placed on the antenna

Script example

Default a call-to-action video plays continuously. The X-Wave LED pulses in an animated soft blue color. When a product (with the RFID tag) is placed on the info platform, the product video appears on screen. The X-Wave LED changes to the color matching the product on the platform. Placing another product starts another video. When the product video is finished or the product is placed back, the call-to-action video starts to loop again.

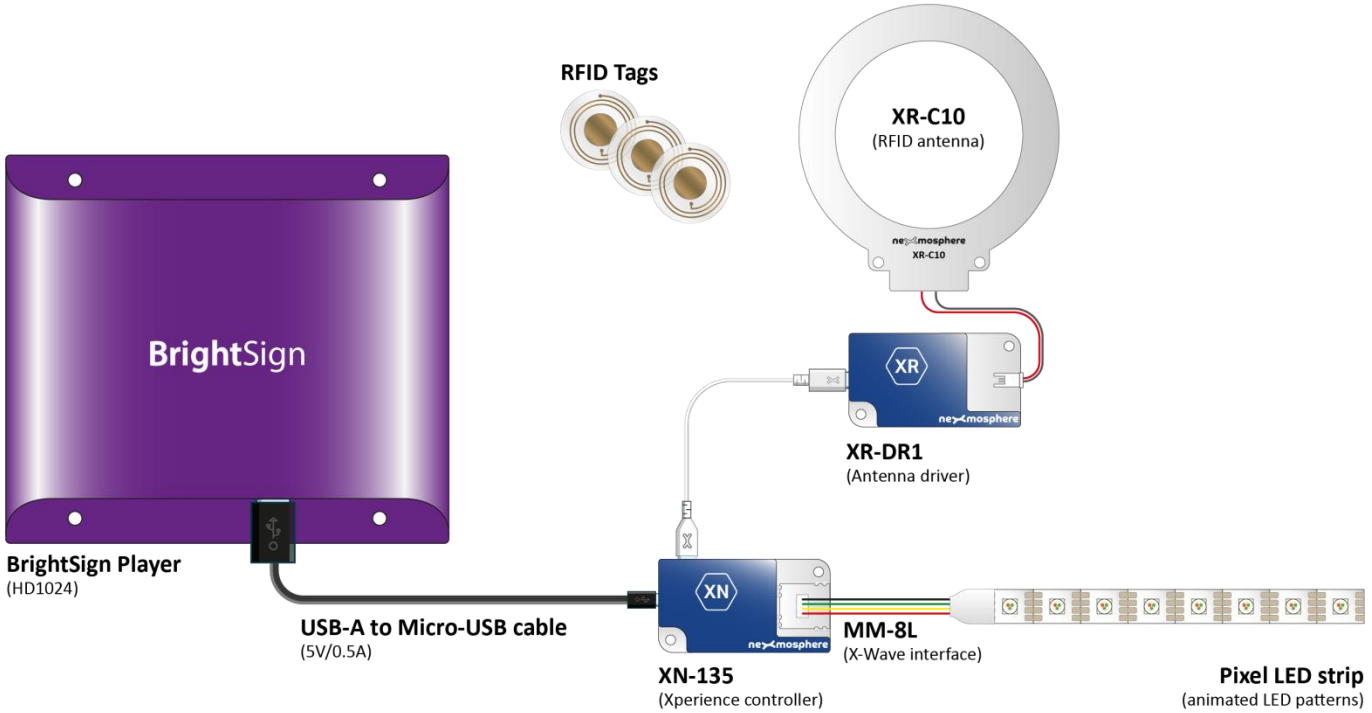
Target channel

Ideal and cost-effective solution for a larger assortment of products that benefit from an explanation. Up to 99 products can be serviced on one single system.

- **Food** - (e.g. tea) explaining source, taste, process
- **Personal care -** product information & how to use
- **Footwear** - USP from the product, technical features or emotional content

Place & Learn

The XN controller range offers 3 or 8 X-talk channels (sensor in/outputs) on a single controller. Combine different type of sensors such as the RFID antenna and LED lighting, sharing the same USB connection on the BrightSign.



Storytelling & Selection ③

The missing link

Traffic peaks in retail are getting higher and store staff isn't always able to tell the product's story to all visitors. Especially for products with multiple functions, new technologies or larger assortments, the shopper requires more info. Storytelling is a way to provide in-depth information in an intuitive way.

We facilitate this by using lighting and selection tools in the display. A looping video discusses several features, while the corresponding products are illuminated by synchronized LED lighting. Additionally, the shopper can select the desired feature with the press of a button, resulting in the illumination of only the matching products.

Linking video content to a physical product on the shelf

When only a video is played, it's hard for a shopper to link the video content to the actual product on the shelf. With storytelling the products mentioned in the video, light-up on the shelf, establishing a strong link between the content and the product.

Online selecting and filtering; available in-store

Online, shoppers use filters to select a product. In-store, filtering requires checking every individual product, resulting in a larger preference for online shopping. In using selection LEDs, a specific feature can be selected with the push of a button. Using it as a filter for the complete assortment. E.g. press "water resistant" and all "water resistant" products are illuminated. A quick and easy way to guide the shopper to the right products on the shelf.

Storytelling with video & Selection

8 products on display with different features and benefits. The lights in the buttons installed close to several products, light up once the video explains a feature of this group of products. This helps the shopper to understand the features and select the right product.

System layout

- **Button** - upon button press, more info is shown about the product
- **LED in button** - lights up when product video of a specific product plays
- **Touch buttons** - touch to indicate the group of products that have this feature

Script example

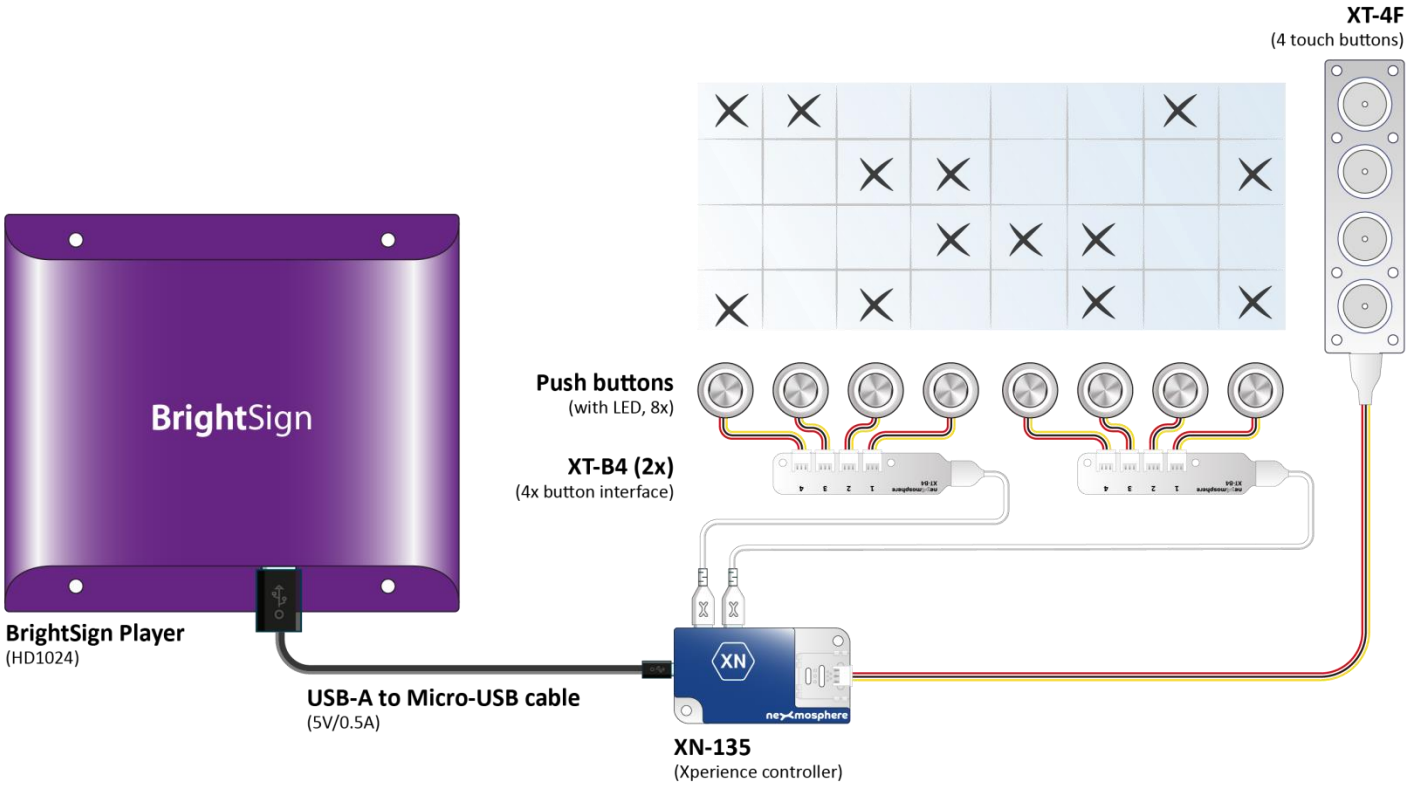
Default a loop video (brand video) plays continuously. When the video mentions a specific feature (e.g. “outdoor”), the LED in the button of all the products suitable for outdoor use light up. When shopper presses the “info” button, more info about the product is shown. When the shopper presses one of the 4 filter buttons, products with this feature will light up (e.g. portable, will illuminate all portable products).

Target channel

Ideal and cost-effective solution for product assortments that include different features that need explanation, and where the shopper wants to be able to apply a filter.

- **Electronics** - (e.g. wearables) feature selection
- **Cosmetics -** product introduction and skin type filtering
- **Liquor** - differences in taste/recipes

Linking video content to a physical product on the shelf
When only a video is played, it's hard for a shopper to link the video content to the actual product on the shelf. With storytelling the products mentioned in the video, light-up on the shelf, establishing a strong link between the content and the product.



Storytelling ③ | ① Video and selection for 8 products

Storytelling with video for 4 products

4 products on display with different features and benefits. The light near a specific product lights up while the video is explaining about that product, establishing a strong link between the displayed content and the product on the shelf.

System layout

- **Motion sensor** - synchronizes video message when shopper approaches
- **Button** – after a button press, more info is shown about the product
- **4 LED strips** - light up when product video of a specific product is played on screen

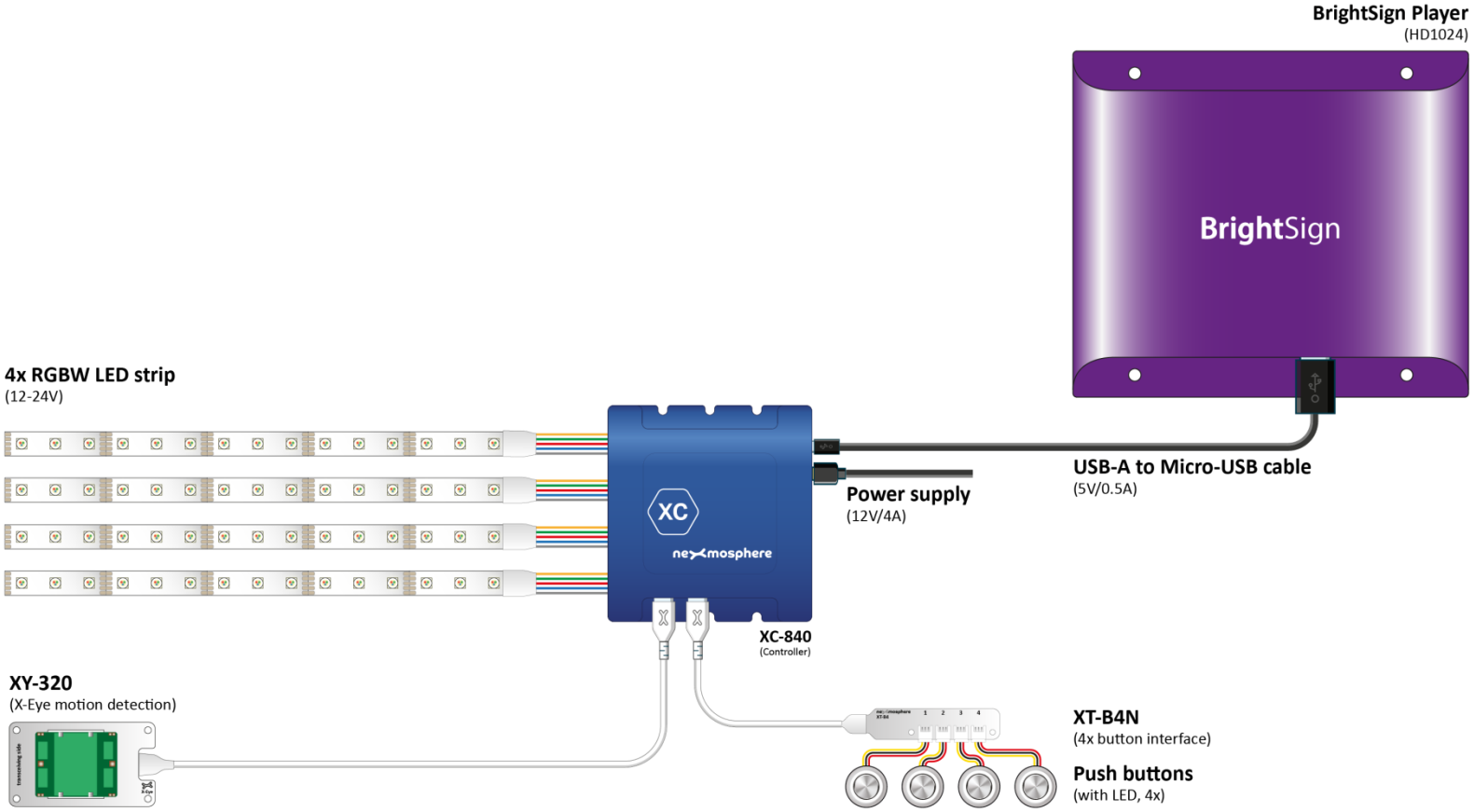
Script example

Default a loop video (brand video) plays continuously. When the motion sensor detects a shopper, the video story starts. When the video mentions the benefits of product 1, the light under product 1 will light-up in a specific color, or when the whole collection is mentioned, all products are illuminated. When shopper presses the “info” button, more detailed info about the specific part of the content currently displayed, is shown.

Target channel

Ideal and cost-effective solution for products that need explanation. Instead of 1 screen per product, multiple products can share 1 screen

- **Electronics** - (e.g. home automation) explain product family / or how to use
- **Toys -** the action figures “hero story”
- **Liquor** - differences in taste/recipes



Storytelling ③ | ② Video for 4 products

Audio demo

4

Hearing is believing

For years the audio instore demonstrations were all identical: press a button and the music started to play. Today there's a huge potential to convert these demos into interactive brand experiences; activating multiple senses. In crowded and understaffed electronic retail stores, the display has to close the deal.

Test and buy

Shoppers come to the store to see and feel the product. In the case of audio merchandise, hearing is the standard. Shoppers need to be able to test the product before making the decision whether to buy. They want to listen to their own music, test the product and understand the differences.

Testing ≠ experience

Testing a product is not the same as experiencing a product. By adding a presence sensor to an audio demo, lighting can trigger when a shopper approaches; grabbing attention and making it stand out from other demos. Video content can create the right atmosphere and provide in-depth information. Adding sensors and other interactive elements can convert the instore-display into a true brand experience.

Update over time

This market develops quickly, with new standards popping up all the time. So POP materials need to be future proof. With Nexmosphere's modular platforms, new features and functionalities can be added over time, extending the lifetime of the initial installation.

3 Speaker demo with LED lighting

The shopper can test and compare the speakers by the press of a button. Added LED lighting intuitively indicates which speaker is selected. Audio files and scripting can easily be updated remotely on the BrightSign should the merchandise change.

System layout

- **X-wave LED strip –** attracts and illuminates when selected product is playing
- **Touch buttons -** Select song, next track, volume+/-
- **Push buttons -** shopper can select a specific speaker to play

Script example

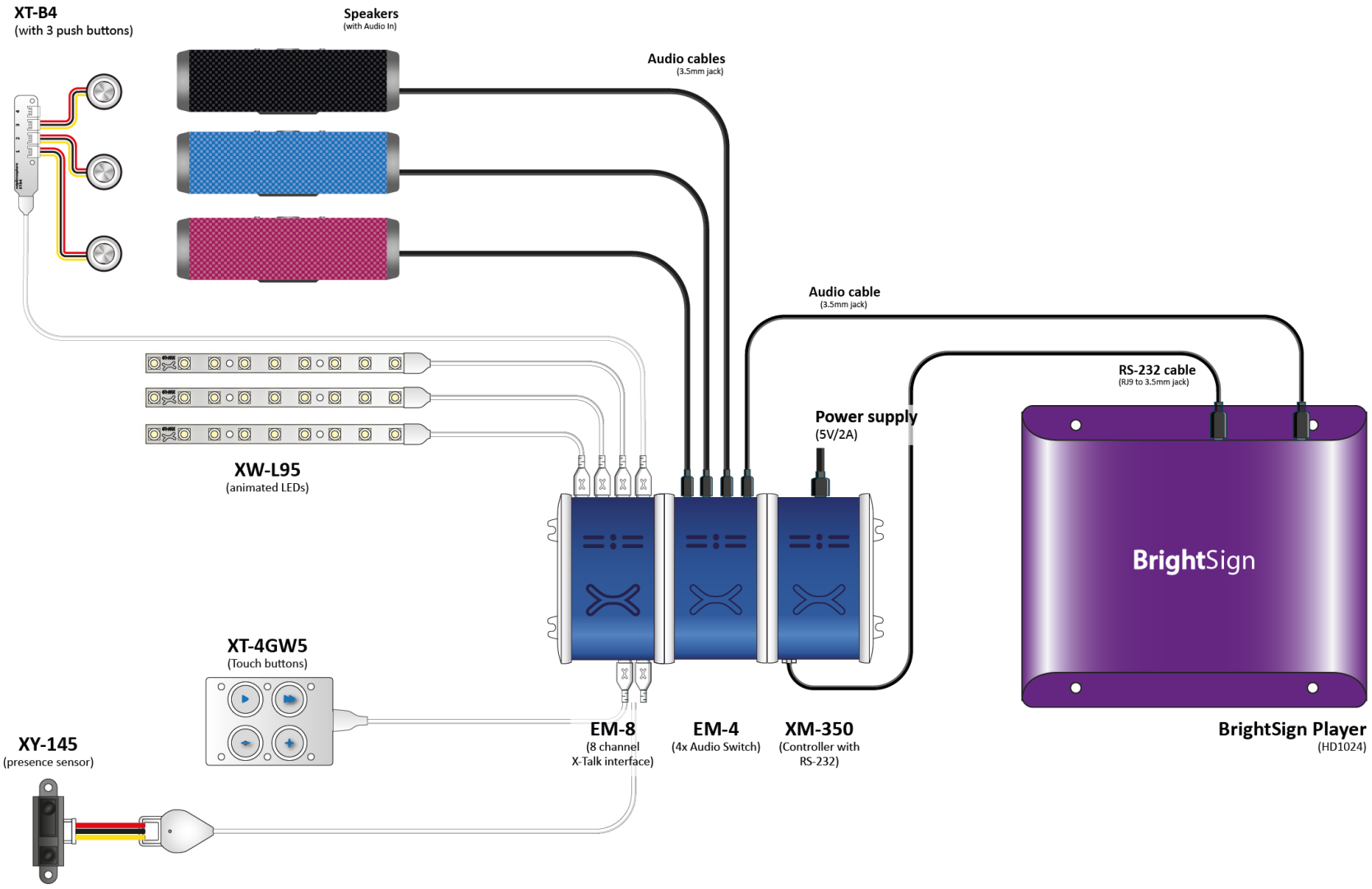
Default no audio plays while the LEDstrips pulse softly; drawing the attention of the shopper in. When the shopper presses a button, audio starts to play. Select buttons can be used to listen to each speaker individually and compare the products side by side. When a speaker is selected, the corresponding LED strip lights up, clearly indicating which speaker is activated.

Volume +/- control buttons can be added to adjust the volume. When the song is finished, the audio stops playing and the volume is set back to a default level.

Target channel

Easy to integrate solution to provide instore speaker testing.

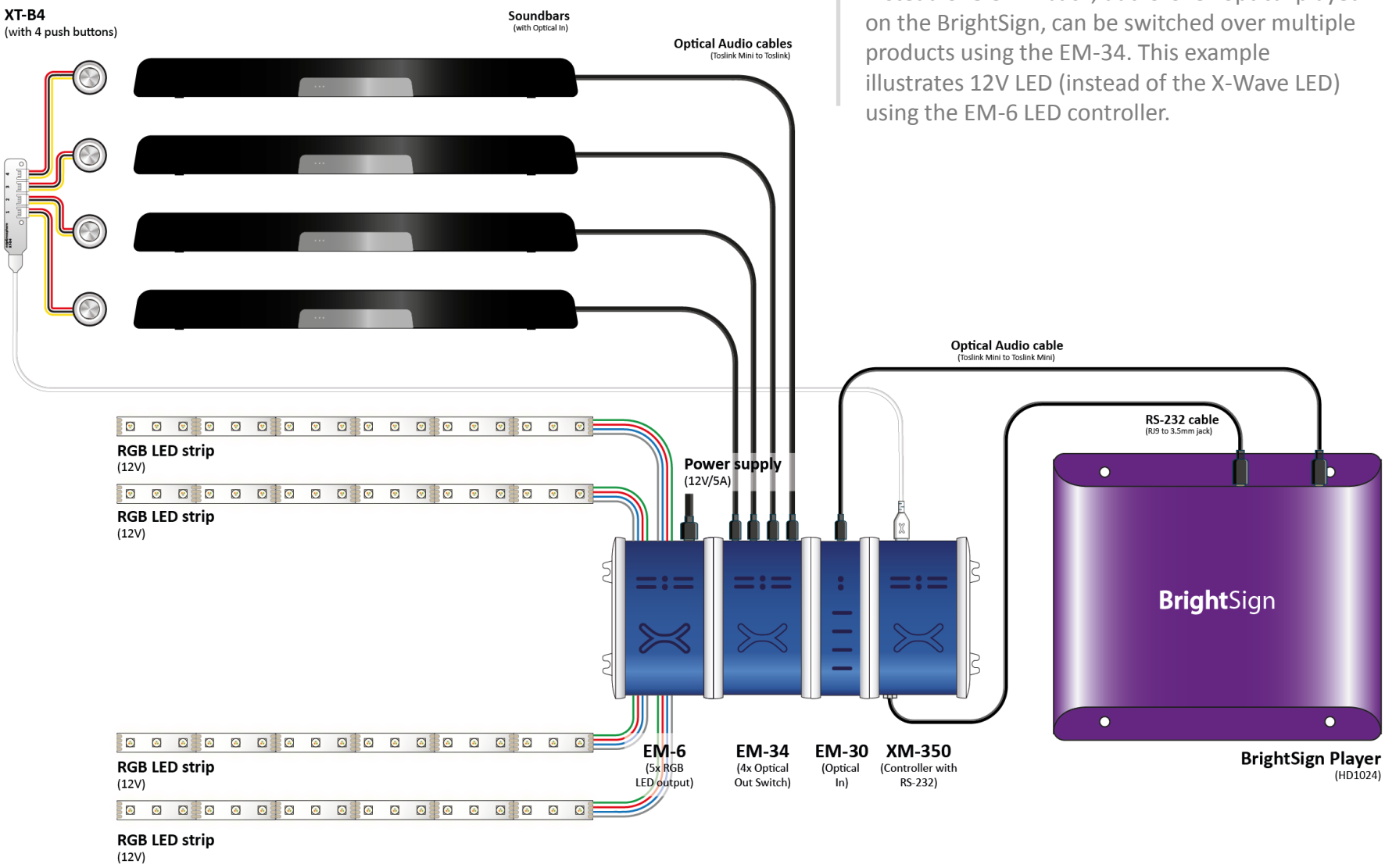
- **Brand presentation** - Compare multiple speakers from one brand
- **Multi-brand presentation -** Compare multiple speakers from different brands



Audio④ | 1 Three speaker demo with LED lighting

Optical switching

Instead of 3.5mm Jack, audio-over-optical played on the BrightSign, can be switched over multiple products using the EM-34. This example illustrates 12V LED (instead of the X-Wave LED) using the EM-6 LED controller.



Interfacing BrightSign | how it works

Serial commands in one API

Nexmosphere Elements use serial commands to send triggers over the Serial or USB port to the BrightSign. In the BrightSign scripting or BrightAuthor software, these triggers can be linked to a specific interactive command, such as; starting/stopping a video or sending a serial command. By sending these serial commands, output devices such as the Nexmosphere LED controllers and audio switches can be controlled.

Nexmosphere's standard API

All of Nexmopshere's Elements use the same API structure. Every serial command starts with the address identifier (where was the trigger sent from). The rest of the trigger message carries specific information such as which button was pressed, or which RFID tag number was triggered.

No additional software needed

The serial commands can be processed directly in the BrightAuthor software or scripting. So there's no need to install additional software on the BrightSign. Nexmosphere components work directly out of the box.

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Nexmosphere API | Serial command triggers & configuration

X-SNAPPER / XL-SNAPPER

Trigger inputs

No pickup / no alarm	X001A[0]
Pickup / no alarm	X001A[3]
No Pickup / alarm	X001A[4]
Pickup / Alarm	X001A[7]

Status request

Request current status	X001A[ ]

Element settings

Setting 1: Status LED behaviour

1.	LED on	X001S[1:1] *
2.	LED off	X001S[1:2]
3.	LED on, off at alarm	X001S[1:3]
4.	LED off, on at alarm	X001S[1:4]

Setting 2: LED Brightness

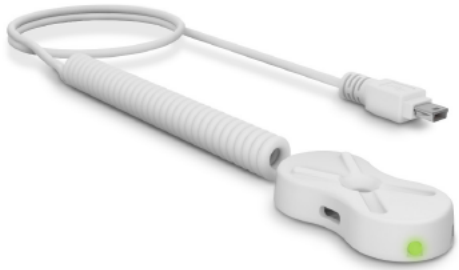
1.	LED Brightness 0%	X001S[2:1]
2.	LED Brightness 11%	X001S[2:2]
3.	LED Brightness 22%	X001S[2:3] *
4.	LED Brightness 33%	X001S[2:4]
5.	LED Brightness 44%	X001S[2:5]
6.	LED Brightness 55%	X001S[2:6]
7.	LED Brightness 66%	X001S[2:7]
8.	LED Brightness 77%	X001S[2:8]
9.	LED Brightness 100%	X001S[2:9]

Setting 3: Functionality control

1.	Pickup enabled / Alarm enabled	X001S[3:1] *
2.	Pickup enabled / Alarm disabled	X001S[3:2]
3.	Pickup disabled / Alarm enabled	X001S[3:3]
4.	Pickup disabled / Alarm disabled	X001S[3:4]

Setting 4: Status LED blink pattern

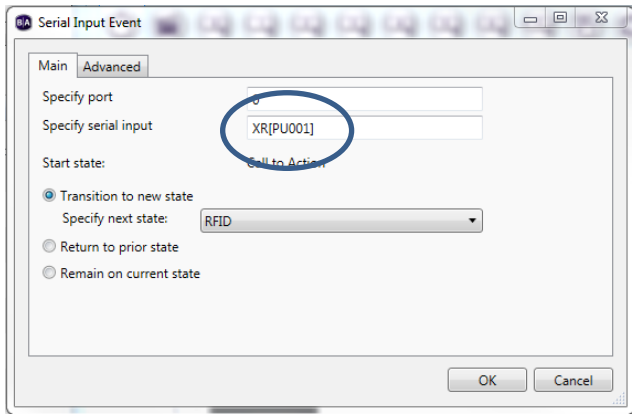
1.	No blink(s)	X001S[4:1]
2.	Short blink at pickup/place back	X001S[4:2]
3.	Medium blink at pickup/place back	X001S[4:3] *
4.	Long blink at pickup/place back	X001S[4:4]



Nexmosphere RS232/USB API

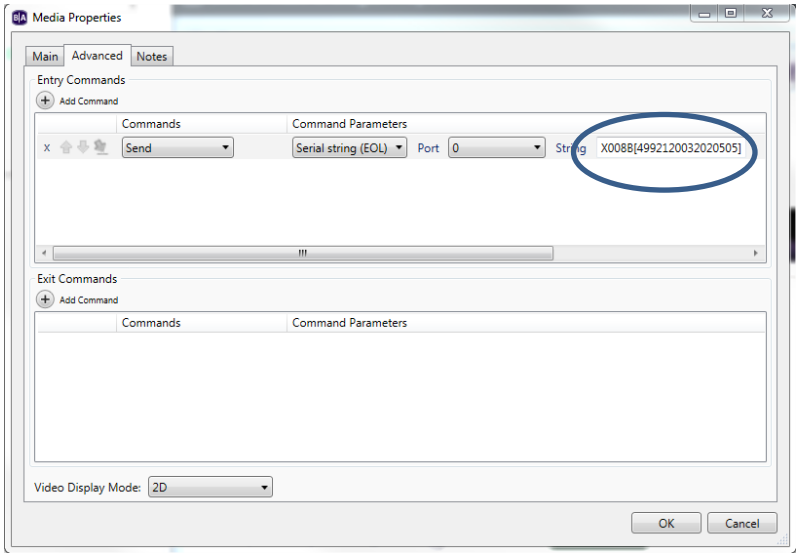
Standardized API available for all Elements; enabling a solid platform for sensor integration. Element behavior can be made application specific, using the Element-specific settings, such as; sensitivity or LED brightness output levels. All Elements are self-configurating; as soon as an element is connected to the BrightSign it starts sending triggers without the need of any configuration.

Bright Author | Serial input / output commands



Input triggers

Set a trigger on one of the Elements using the RS232/USB-API. Wide range of settings and trigger information available (e.g. distance, antenna number, tag number).



Output triggers

Use output triggers to set LED lighting to a specific color, brightness level or pattern, using the RS232/USB-API. Different standard patterns are available to decrease the BrightSigns workload (e.g. pulsing LED). Element-specific control parameters can also be set using the same method.

Your application | Designed to win

Design for success and build your own

Why reinvent the wheel and experiment with nonretail-proof electronics? Use our collection of standard Elements available and build your own custom designed experience, setting you apart from the competition. The use of standard available and CE/UL certified components reduces costs and development time drastically. So you can show your customer a working sample only a few days after having your initial idea, whereas others, only have words on paper.

BrightSign & Nexmosphere guarantee

Nexmosphere and BrightSign components are tested intensively. That is why we guarantee that a system in which these components are combined always works. If there is a problem getting it to work, BrightSign and Nexmosphere support teams act together to help you in delivering your promise. Guaranteed.

Contact the experts

Retail is our passion and we create multiple experiences a day. Whether you are working on a new project and need some technical details, or you just need some inspiration: contact one of our distribution partners, sales representatives or application specialists and we'd be happy to help.

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