



## Nexmosphere & BrightSign | experience matters

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



## 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 to be implemented on a broad scale.

# Inspiration for endless applications

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

## Nexmosphere platform

Sensor / element overview p5

## Application examples

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## Nexmosphere - BrightSign interface

How it works p28-30



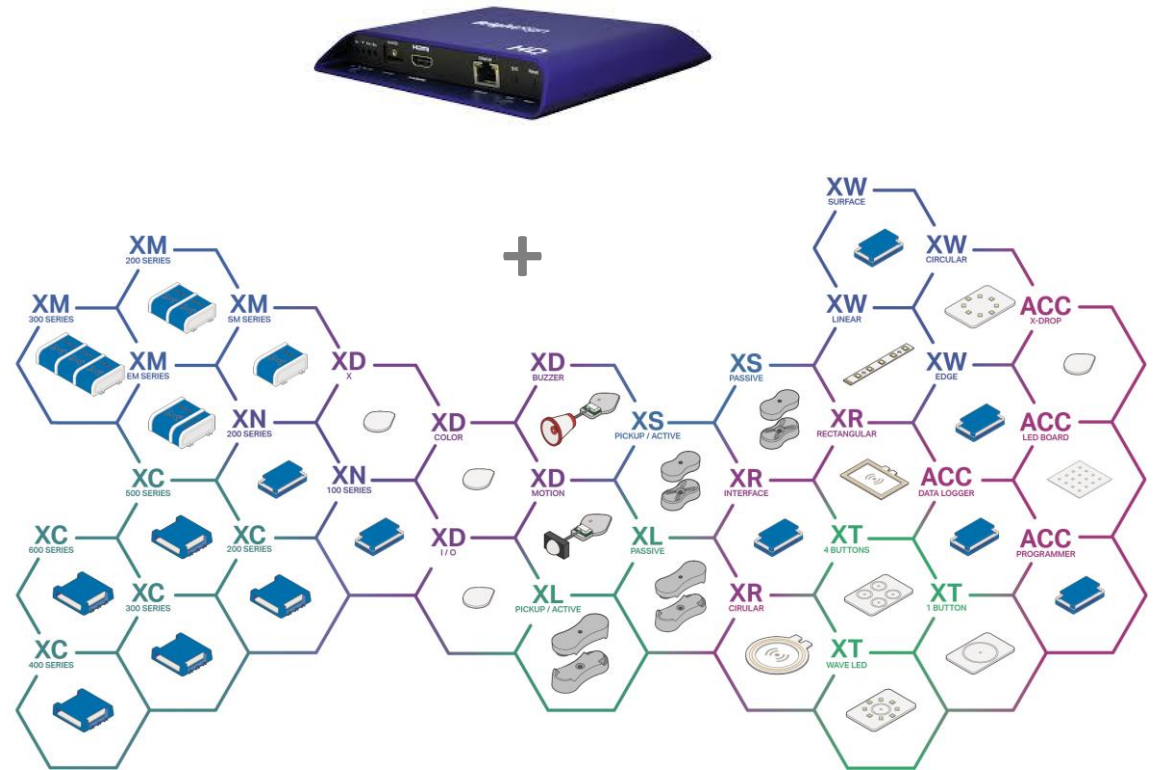
# One platform | multiple solutions

## BrightSign integration

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

## Elements for experience

Combining all our elements such as motion & pick-up sensors, touch buttons and LED light in one application, provides complete freedom in system design and shortens the development time



# Multiple Sensors | Endless combinations



**Wired pickup & security sensors**  
In various shapes & sizes



**Wireless Pickup sensors & antennas**  
Build Lift & Learn solutions with our  
RFID tags and antennas.



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



**Generic Interfacing**  
3.3V & 5V IO interfaces, RS232 and  
USB support for 3th party  
interfacing



**Capacitive touch buttons**  
Various sizes & shapes



**Pushbuttons & 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, remodelling and redesigning much faster. Not every change can be managed with a long design and approval process. The modular approach facilitates shorter time to market and an increased level of quality. Prototypes can be quickly tested in real life applications with less effort & 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 is an optional 3 year warranty program. With multiple data collection options, system performance can be measured and optimized.

## **Scalable, fit 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) series of controllers are the ideal solution for applications up to 8 sensors, where the XM (modular) series can go up to 400 sensors on a single BrightSign.



# Sensors

①

## creating an interactive environment

Interactivity is one of the strongest in-store influencers. You can use it as a creative tool to create an atmosphere, highlight a product, or bring the merchandise in contrast using colored lighting. Trigger content at the right moment or give control to the shopper using buttons. Adding sensors adds little cost while unlocking a vast palette of opportunities.

### **Give control to the shopper**

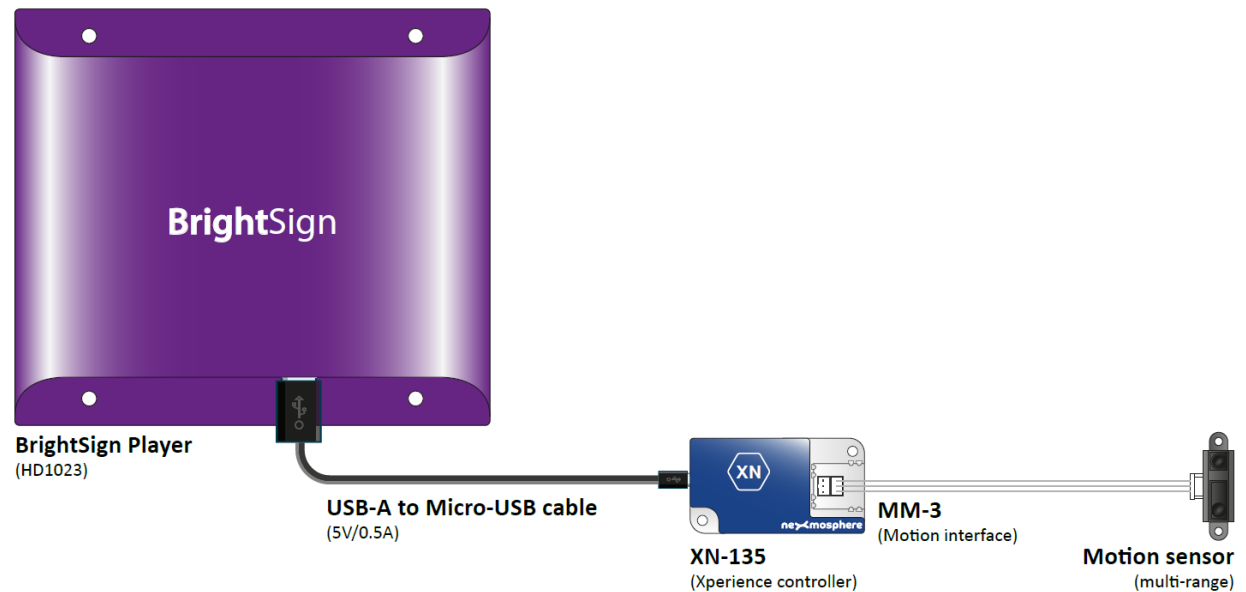
Why is there in the majority of applications a continues playing content? Why can't the shopper get more detailed information? Add some touch button to your system and let the shopper be in control. This way shoppers can get more information at the point of purchase, bridging the gap with online.

### **Layered experience**

Using a motion sensor with distance measuring, different triggers can be given when a shopper approaches the system. E.g. trigger the attract content when a shopper is 1,5m/6ft away and display the touchscreen layout once the shopper is in front of the screen (50cm/2ft). All trigger levels can be set using the standard API

### Layered experience

When using a motion sensor with distance measuring, different triggers can be given when a shopper approaches the system. E.g. trigger the attract content when a shopper is 1,5m/6ft away and show the touchscreen layout once the shopper is in front of the screen (50cm/2ft). All trigger levels can be set using the standard API.



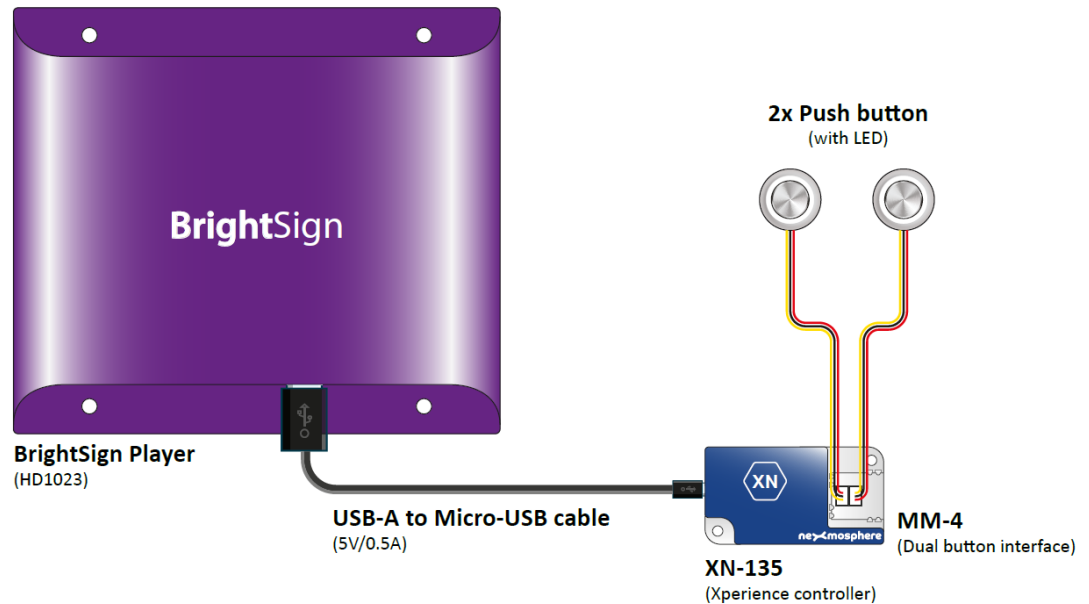
Sensors ① | ① Multi range Motion sensor

complete kit -10pcs volume **43 EUR**  
(excluding BrightSign) **48 USD**



## Pushbuttons & touch buttons

All of Nexmosphere's push and touch buttons use the same API. The build in LED controllers will take care for any blinking, glowing or pulsing pattern of the buttons LED, making it suitable for every application. Use the XT-button interface controllers to connect multiple push buttons on one BrightSign.

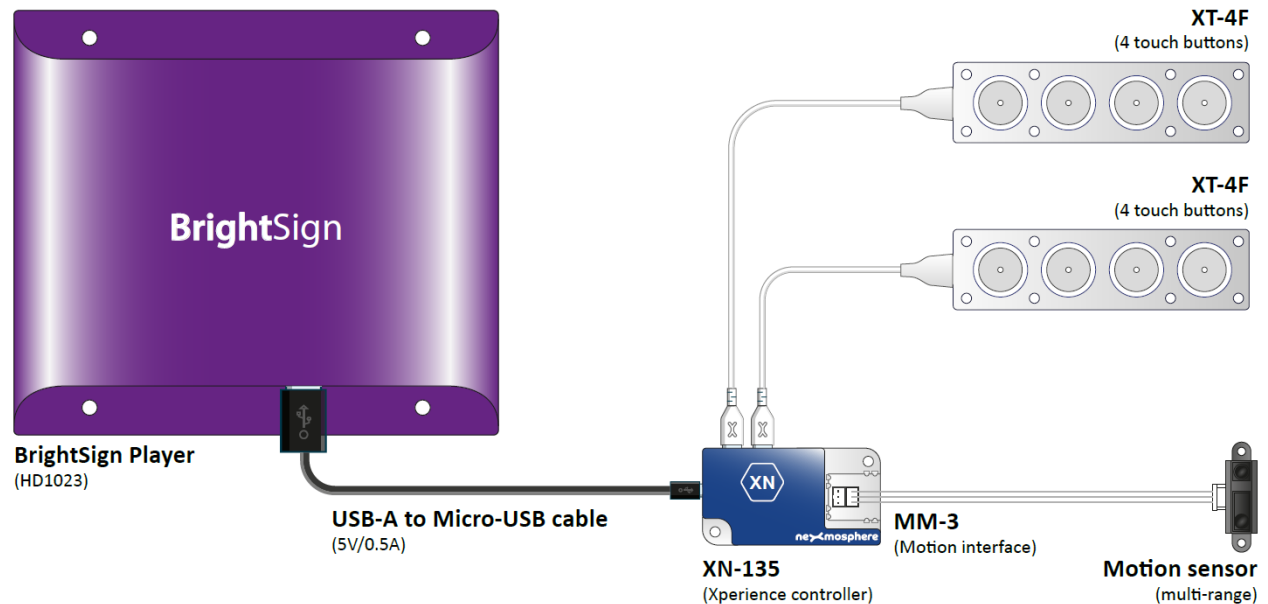


Sensors ① | ② Dual pushbutton with LED interface

complete kit -10pcs volume **52 EUR**  
(excluding BrightSign) **58 USD**

### 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 Motion sensor & 2 touch button panels

complete kit -10pcs volume **67 EUR**  
(excluding BrightSign) **75 USD**



# Lift & Learn

②

## 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 explore how it looks and feels. Simultaneously, digital content is triggered, boosting brand experience and providing in-depth information about the product.

### **Consistent information**

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

### **Continuous information flow**

By providing step by step information relevant to the specific product in the hand of the shopper, the information is more relevant and more likely to be memorized.

### **Increase dwell time**

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

### **Always the right information 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 when 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 will play on the connected screen.

## System lay-out

- **3 Animated LED strips** - glowing pattern to attract shopper from afar
- **Motion sensor** - synchronize video message when shopper approaches
- **3 Lift & Learn antennas** - product video starts to play when product is picked-up

## Script example

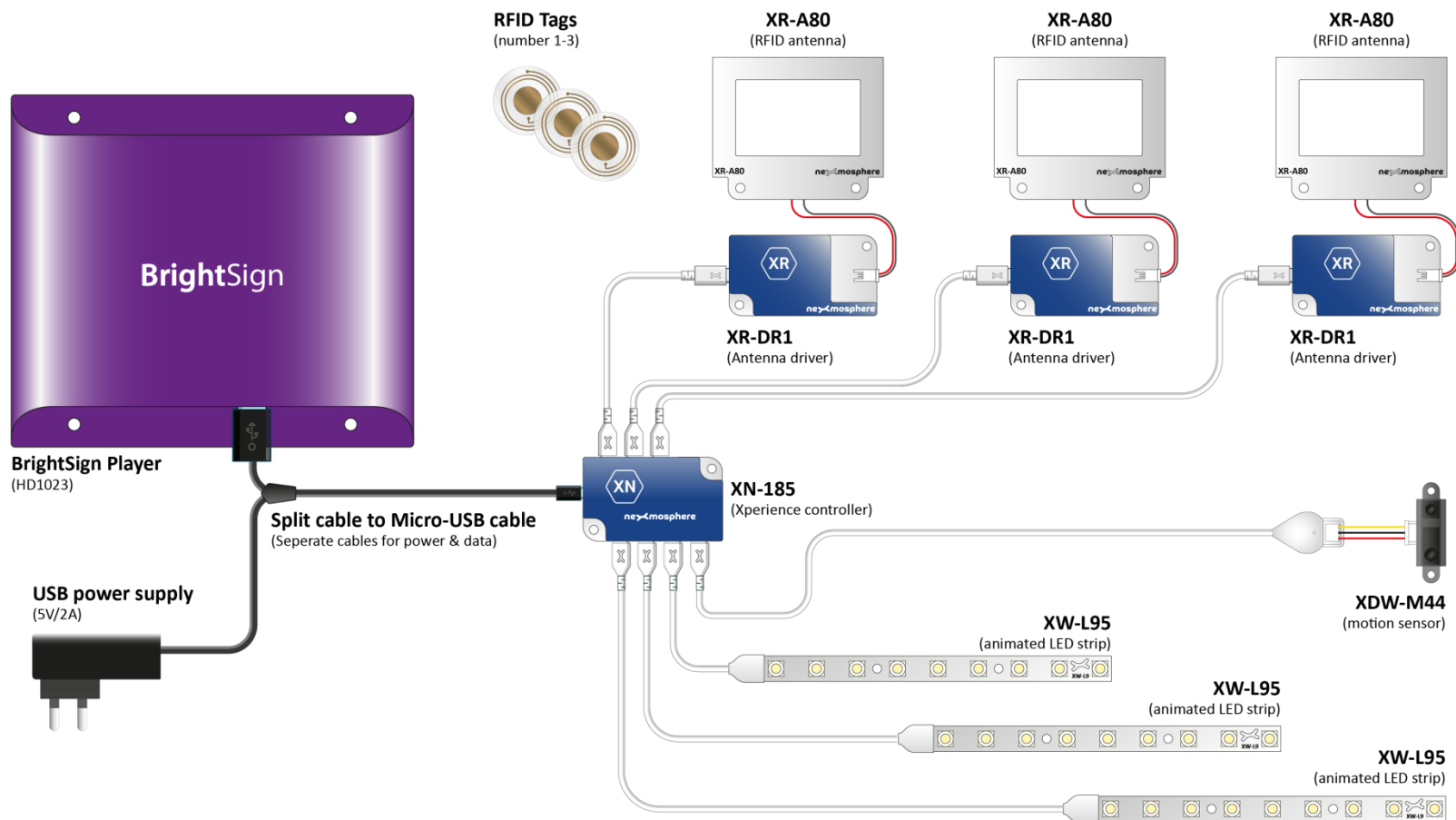
Default a loop video (brand video) will play continuously. All X-Wave LEDs have a soft white pulsing pattern. When the motion sensor detects a shopper, a call-to-action video plays and the X-Wave LEDs become brighter, attracting the shopper to the display. When a product (with the RFID tag) is picked up, the products 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





Lift & Learn ② | ① Lift & Learn for 3 products

complete kit -10pcs volume **259 EUR**  
(excluding BrightSign) **290 USD**

## 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 pickup sensor. These sensors will send a trigger once the merchandise is moved from its original position and send a “place down” trigger once back in 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 will be send via the USB/RS232. A buzzer (X-Dot Buzzer) can be connected to the system, proving an alarming sound.

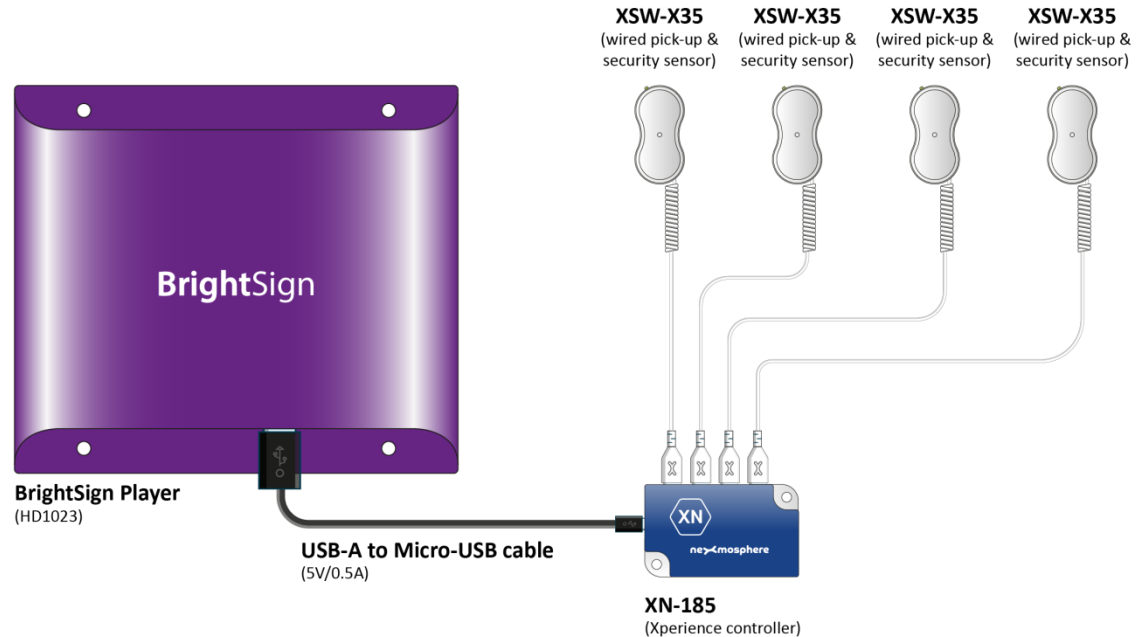
### Larger system setups

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 so a daisy chained controller backbone can be used to control up to 400 sensors. (72 on the example on page 13)



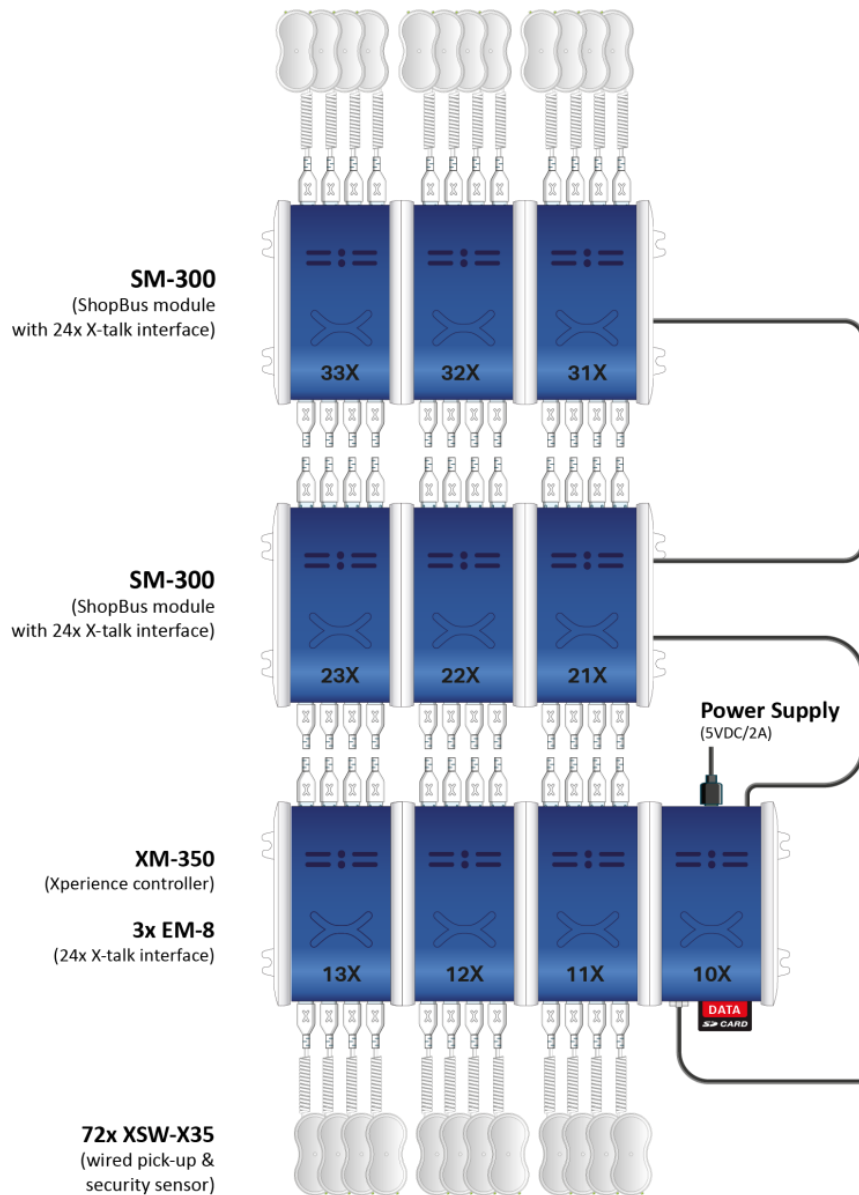
## Wired pickup sensors

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 a intuitive way. Logging the pick-up and place-down data will provide valuable insights on how the application is being used.



Lift & Learn ② | ② Wired Lift & Learn for 4 products

complete kit -10pcs volume **120 EUR**  
(excluding BrightSign) **134 USD**



### Large sensor system layout

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

**RS-232 cable**  
(RJ-9 to 3.5mm Jack serial cable)



**BrightSign Player**  
(HD1023)

## 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 lay-out

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

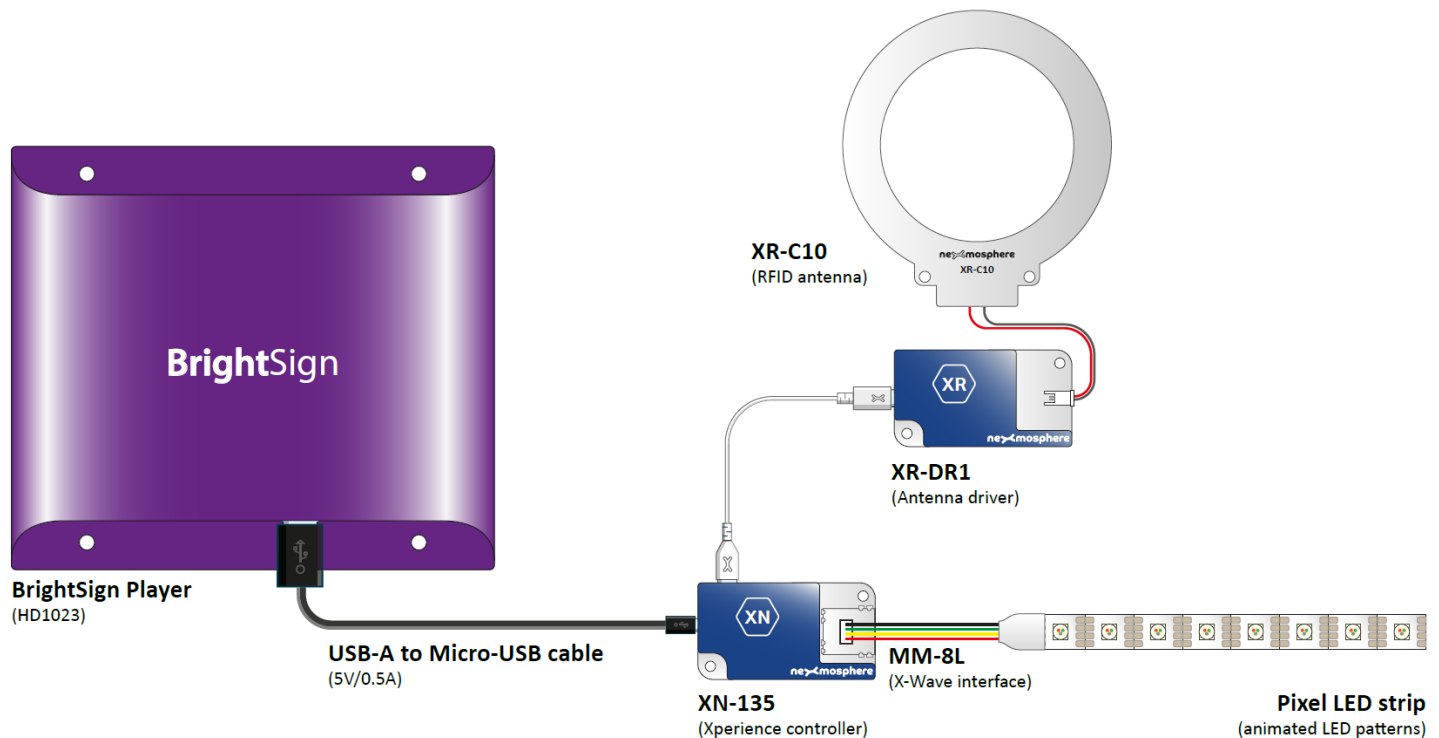
Ideal and cost effective solution for a larger assortment of products that benefit from extra explanation. Up to 99 products can be serviced on one single system.

- **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 reader and LED lighting sharing the same USB connection on the BrightSign.



complete kit -10pcs volume **81 EUR**  
(excluding BrightSign) **91 USD**

# Storytelling & Selection

③

## The missing link

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

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

### **Linking video content with physical product on shelf**

When a video is played, it's hard for a shopper to link the video content to the actual products 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 on the shelf.

### **Online selecting & filtering; available in-store**

Shoppers use filters to select a product online. In the store, filtering needs to be done by checking every individual product, so often online shopping is preferred. With selection LEDs a specific feature can be selected by 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 light in the button installed near a number of products lights 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 lay-out

- **Button** - on button press, more info will be shown about the product
- **LED in button** - lights up when product video of specific product is shown
- **Touch buttons** - touch to light up the group of products that have this feature

## Script example

Default a loop video (brand video) plays continuously. When video is mentioning a specific feature (e.g. “outdoor”) the LED in the button of all the products suitable for outdoor 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 assortment having different features that need explanation and where shopper want to be able to apply a filter.

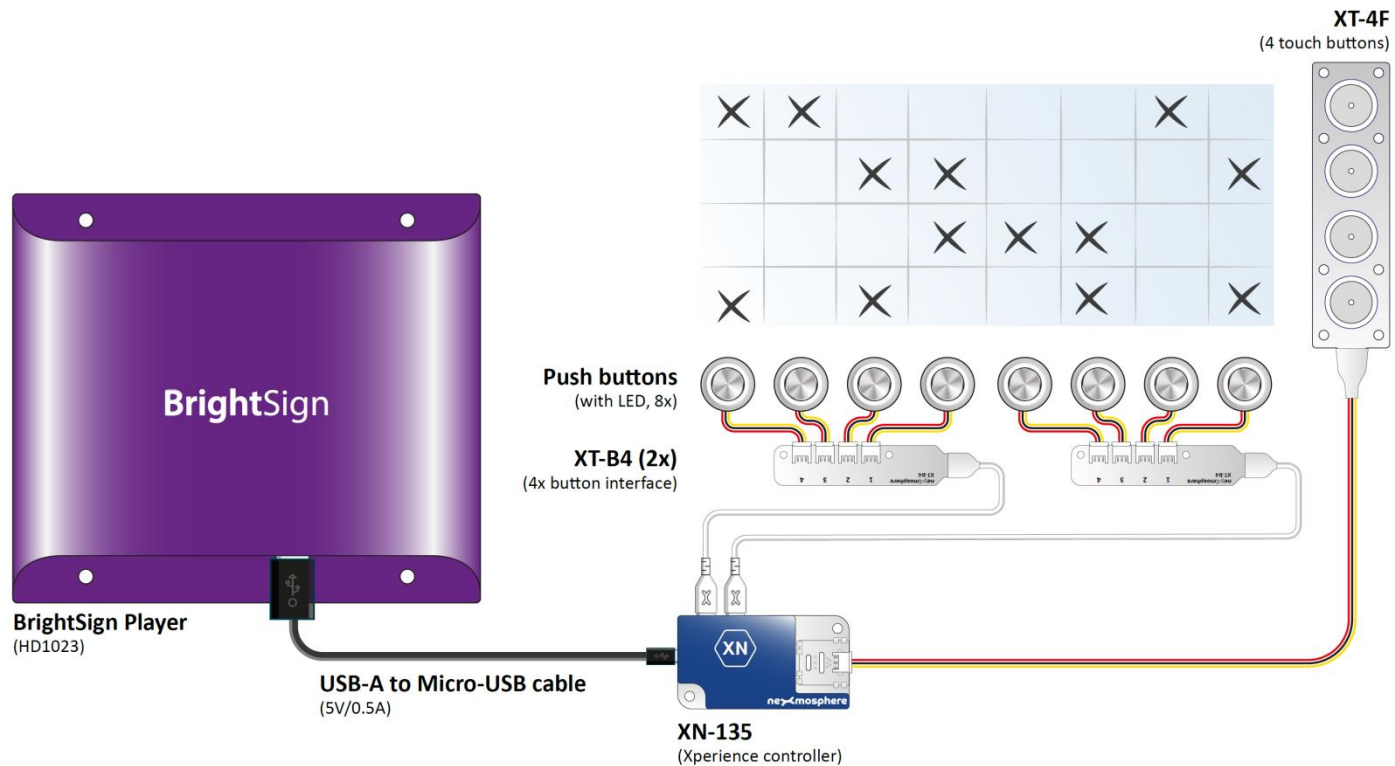
- **Electronics** – (e.g. wearables) feature selection
- **Cosmetics** – product introduction & skin type filtering
- **Liquor** – differences in taste / recipes





### Linking video content with physical product on shelf

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



# Storytelling with video for 4 products

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

## System lay-out

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

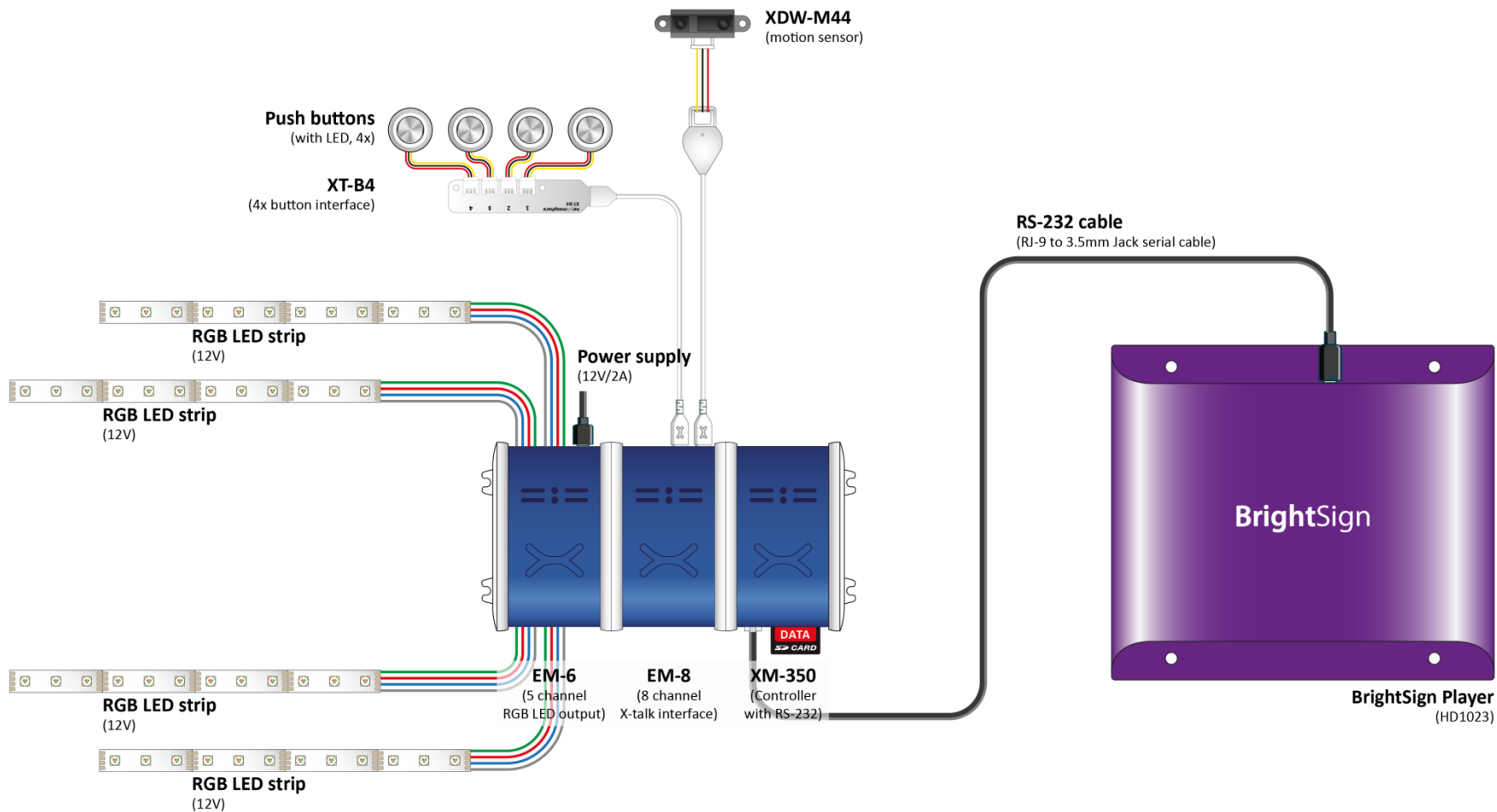
## Script example

Default a loop video (brand video) plays continuously. When motion sensor detects a shopper, the video story starts. When video mentions the benefits of product 1, the corresponding light under product 1 will light-up, or when whole collection is mentioned, all products light-up. If shopper presses “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 family of products / how to use
- **Toys** – the heroes story about the action figure
- **Liquor** – differences in taste / recipes



Storytelling ③ | ② Video for 4 products

complete kit -10pcs volume **231 EUR**  
(excluding BrightSign) **259 USD**



# Audio demo

4

## Hearing is believing

For years the audio instore-demonstrations were all identical: press a button and the music will start to play. Nowadays there is a huge potential to convert these instore demonstrations into interactive brand experiences, activating multiple senses. In the crowded and understaffed electronic retail store, the display has to close the deal.

### Test & Buy

Shoppers come to the store to touch and feel the product. In case of audio merchandise, hearing is the new standard. Shoppers need to be able to test the product before they make the buying decision. 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 motion sensor to the presentation, lighting can be triggered when a shopper approaches, grabbing attention and stand out from the competition. 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

The category is fast developing with new standards, 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 single 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 when the merchandise changes

#### System lay-out

- **Xwave LED strip** – attract lighting & light up when selected product is playing
- **Touch buttons** – Select song, next track, volume+/-
- **Push buttons** – shopper can select a specific speaker to play

#### Script example

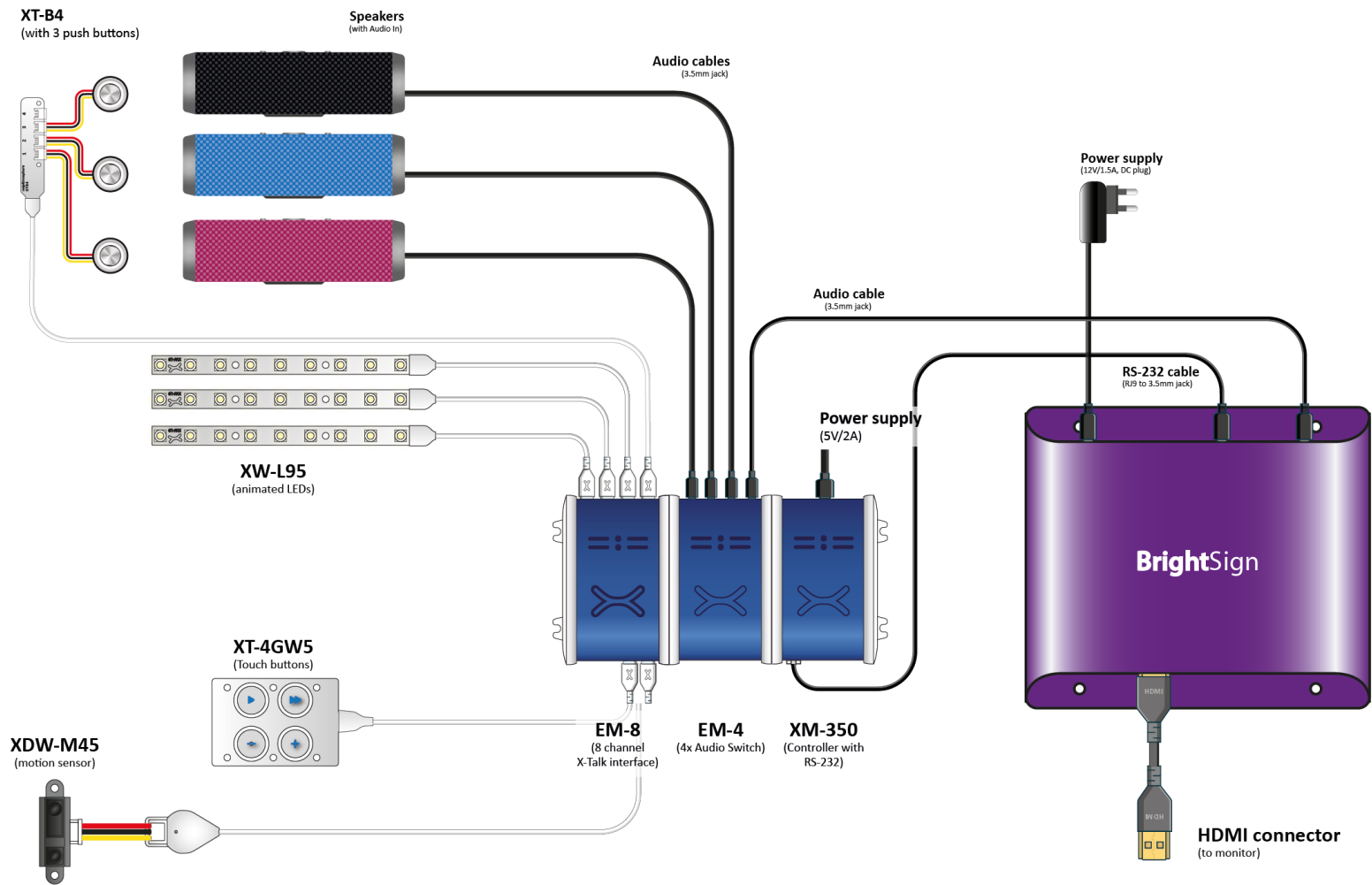
Default no audio is playing and the LEDstrips have a soft pulse, drawing the attention of the shopper. When the shopper presses a button, audio starts to play. Select buttons can be used to listen to each speaker individually and compare the products on the display. When a speaker is selected, the corresponding LEDstrip lights up, indicating clearly 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 the default level.

#### Target channel

Easy to integrate solution to provide speaker testing instore.

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



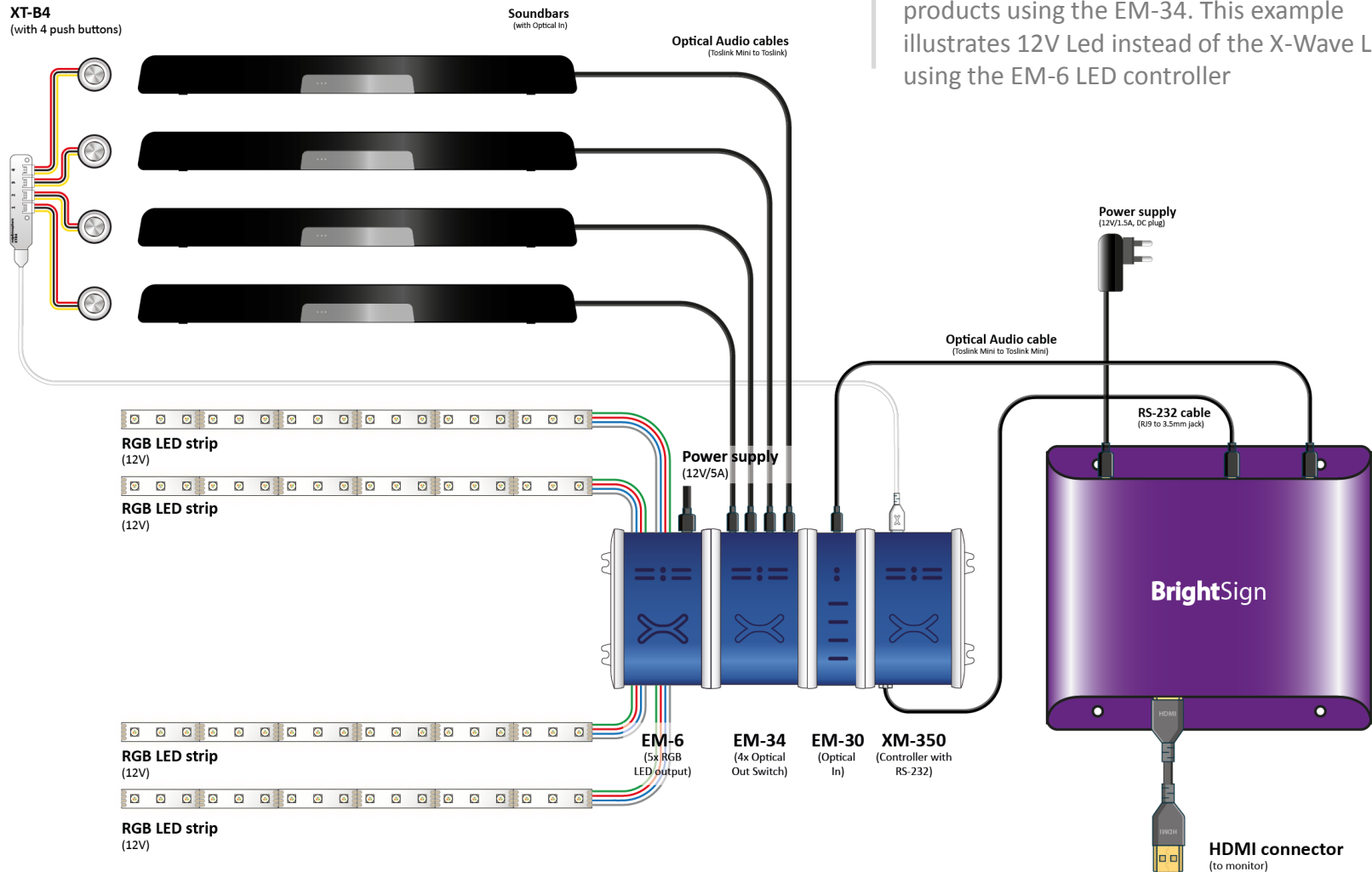
Audio④ | ① Three speaker demo with LED lighting

complete kit -10pcs volume **259 EUR**  
(excluding BrightSign) **290 USD**



## 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



Audio④ | ② Four soundbar Optical switching and 12V LED lighting

complete kit -10pcs volume **244 EUR**  
(excluding BrightSign) **2739 USD**

# 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 standard API

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

## No additional software needed

The serial commands can be directly processed in the Bright Author software or scripting. So there is no need to install any additional software on the BrightSign. Nexmosphere components will work directly out of the box.

# 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[ ]
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### 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]

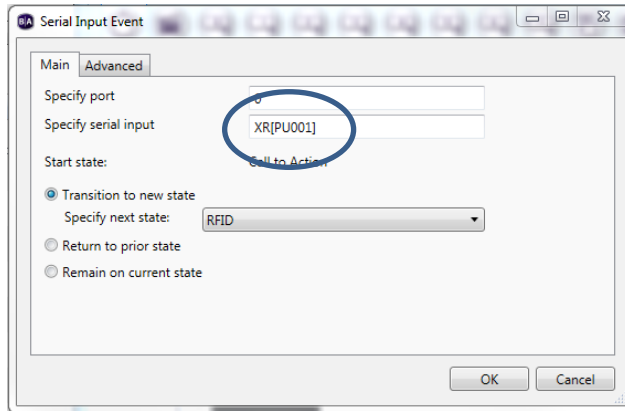


### Nexmosphere RS232/USB API

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

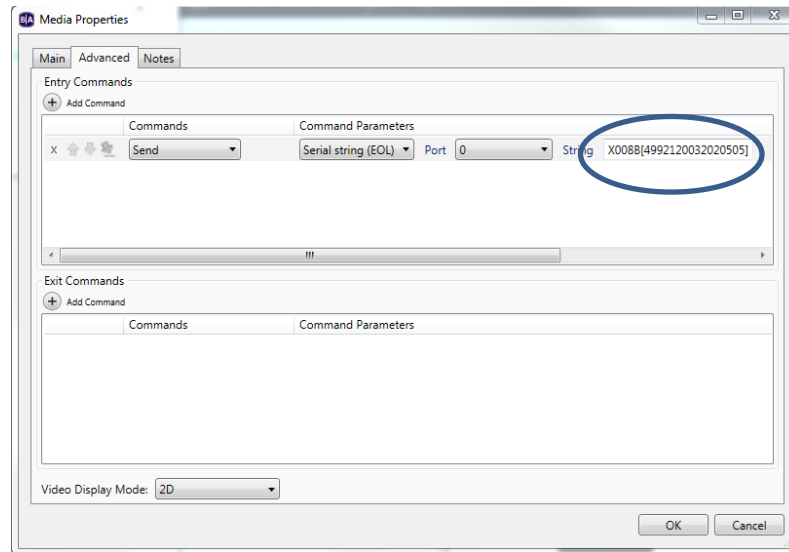


# Bright Author | Serial input / output commands



## 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 is a specific color, brightness level or pattern using the RS232/USB-API. Different standard patterns available to decrease BrightSigns workload (e.g. pulsing LED). Also element specific control parameters can be set using the same method.

# Your application | Designed to win

## Design for success & build your own

Why reinventing the wheel and experiment with non retail proof electronics? Use our collection of standard elements available and build your own custom designed experience that sets you apart from the competition. The use of standard available and CE/UL certified components reduces the cost and development time drastically, so a few days after the initial idea you have the opportunity to show your customer a working sample where others just have words on paper.

## BrightSign & Nexmosphere Guarantee

Nexmosphere and BrightSign components are intensively tested. That is why we can guarantee that a system where these components are combined will always work. If there is a problem getting it to work, BrightSign and Nexmosphere support teams will act together to help you 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 sales representatives or application specialists and we are happy to help.