MA Lighting grandMA2

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Figure 1: Backlit keys

ing success of ETC's Eos. The hardware was done, the software less so—though MA countered by letting the new console run as a fully functional Series-1 grandMA. Buy early and you could get on and use the desk while being future-proofed, the hardware ready for when the software became usable…

Which it now pretty much is, in the current 1.9 version used for most of this review and the 2.0 release we got to try just before press time. It's certainly usable enough to be in action on some very high-profile shows. And usable enough for us to take a look...
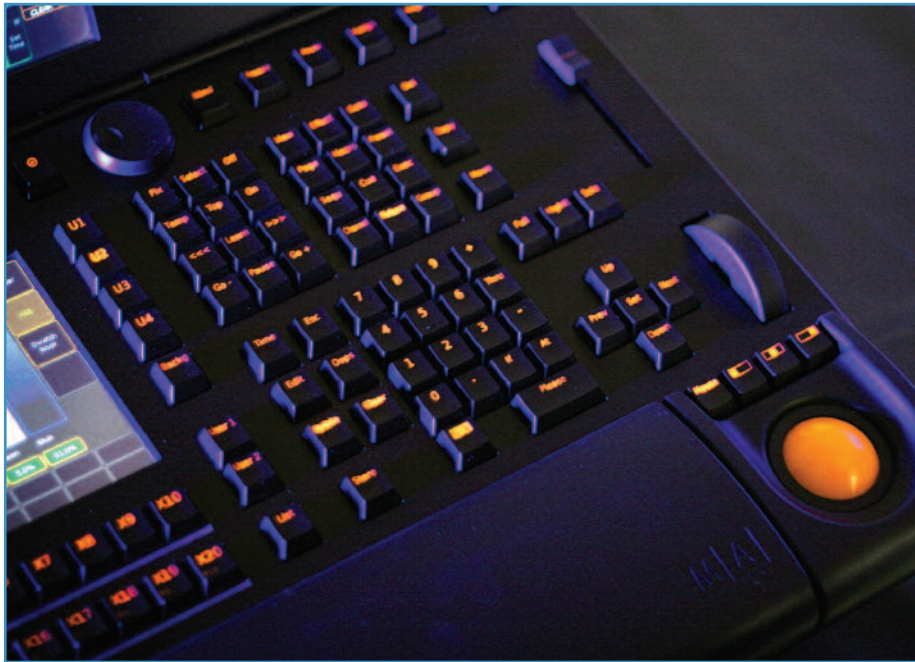
Maybe it's a German thing, but MA Lighting doesn't seem to behave quite like other lighting companies. The others seem concerned with now—the color of a particular button or operation of a particular function. MA seems more interested in the long game, the future. On a visit to their base a couple of years ago, they seemed almost not to care that their grandMA consoles were running the mega-rig at the Beijing Olympics: instead, the company was completely focused on figuring out what might be needed in lighting control come the London Olympics in 2012. Grasping that approach explains everything about the original grandMA, which first appeared in 1997, then languished for years before suddenly taking off; now, it's everywhere. I suspect it was too far ahead of the curve: People didn't need 64 universes of DMX, a bitmap matrix editor, or thumbnails from a media server (a what?!). Eventually, on some project, they discovered they did—and the grandMA was there waiting for them.

Of course, 13 years is a remarkable life for a piece of computer hardware. The grandMA still feels sprightly, given its relatively limited processor speed, but the color touch screens now feel cramped, the motor faders noisy. And, on the trade show circuit, newer rivals somehow look more refined and elegant.

Hence the grandMA2: Its launch was a carefully orchestrated surprise at Frankfurt in 2008. The console turned heads immediately, but it would be fair to say that its appearance was a little premature, a spoiler to the burgeon-

Hardware

MA's hardware designers achieved a great deal with their new console; even photos of it made the lighting world gasp. It's crisper and more modern than the Series 1, yet still clearly part of the grandMA family. The family resemblance comes from the physical layout—the "full-size" grandMA1 and grandMA2 both have three touch screens on an adjustable hinged back panel, four attribute encoders below the right-hand screen, motorized playback faders on the left, numeric and control keypads plus level wheel on the right, and a yellow trackball at bottom right.

The layout may be familiar, but the grandMA2 moves the game on considerably. The 1's metallic gray is replaced by muted black, the quirky angles on the case replaced by clean corners, the trackball smaller and recessed into the armrest. The displays are 15" rather than 9" touch screens, creating much more work space. Some of this is used to usurp physical hardware: The display select buttons next to each monitor on the 1 are gone, replaced with graphical soft buttons on the right of each screen—letting the screens be packed closer together than before.

Also gone are the old flat, loud, clicky key, replaced by more traditional-looking, soft-feel, quiet keys, which—joy of joys—are individually backlit in a soft orangey-yellow [Figure 1]. Typing becomes like fireflies dancing across the console as each key highlights your touch; it should be possible to work without gooseneck lights, though they are

Figure 2: Faders

Figure 4: Multi-touch

Figure 3: Encoders

Figure 5: QWERTY

provided. Sadly, as with Eos, the keycaps are too flat to properly guide your finger in, thus making it easy to fumble your channel selections. It also feels like the keypad is positioned a long way to the right for what should be the console's point of command. Moreover, the control surface sits quite high, something to factor in when arranging a comfortable operating position.

MA has never been afraid to create high-quality (and expensive) control surfaces for the discerning operator, rather than just chasing a price point. Everything here feels classy: The motor faders are a new type with touch-sensitive caps, so the motor disengages when you touch the fader for smoother manual operation [Fig. 2]. More importantly, they are silent in operation, even when going to their end stops. The rotary encoders have a flatter top and lac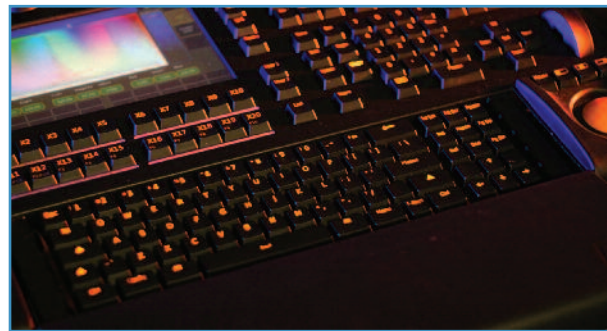k the pronounced clickiness of the old—they're easier to use for long periods of time, though the push-click doesn't feel quite as precise as before [Fig. 3]. Nestled below the right LCD is a 9" multi-touch screen, opening up fascinating new control possibilities [Fig. 4]. The QWERTY keyboard— also backlit—is no longer in a drawer, but hidden beneath the armrest, which (with a little too much pull required) slides towards you when necessary [Fig. 5]. Campest of all? The famous "push-to-erect" knob is gone, the display panel's movement now motorized, though be careful when leaning on it?

Round the back, the console offers a comprehensive selection of connectors—six "real" DMX-outs plus a DMX-in, two Ethercon connectors (one for MA-Net, one for Art-Net, Strand Shownet, ETC Net2, and Streaming ACN),

Figure 6: User interface

Figure 8; Encoder resolution

Figure 9: Window settings

Figure 7: View thumbnails

MIDI in/out/thru, time code in, analog in, audio in, connections for two external monitors (touch screen, if required) and for the new external fader wings. The power connector is a locking Powercon—a nice touch, though there is still a built-in UPS. USB connectors abound (on the screen panel, under the central armrest and on the back panel), allowing easy off-console backup. The whole thing weighs in at 119lbs and is 4.2' long.

As with the grandMA1, grandMA2 is a range, not just a product. The Light looks like a sawn-off full-size, with two onboard touch screens and 15 motorized playback faders instead of 30. The Ultra-Light replaces the Light's left-hand screen with a blanking plate ("script holder," according to the brochure) and has non-motorized faders. The Replay is a console-in-a-box with a small touch screen for access. I suspect the Light will become the console of choice for all but the grandest shows—it is a more manageable size at a
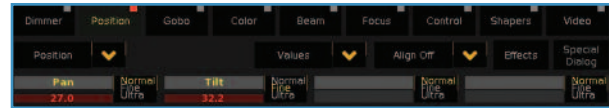
more manageable price, yet remains usable in a way that the Series-1 Light never quite managed. The most dramatic revolution across the range may be the most low-tech—all the consoles have identical key layouts, meaning no more hunting for a button when switching console types.

As is the case with other console manufacturers, MA is shy about describing the hardware lurking inside—doubtless because the spec will quietly be improved over time. It's a PC, of course, currently 3GHz Core 2 Duo (a dramatic upgrade from the 300MHz Pentium II from the MA1!) running Linux as its operating system, and with a rugged SSD instead of a traditional spinning hard drive. Opening the hood reveals how much is packed inside the case, particularly with the power supplies and interfaces for the touch screens, but also that MA has tried to "tour-proof" things as far as possible—mounting the fader tracks side-on and the PCBs upside down, all to improve their chance of surviving a drink spill.

The up-rated innards, of course, mean up-rated specs; the console itself can deal with 16 universes of data. Beyond that, capacity can be increased eight universes at a time by adding MA's NPU network processing units to the system—up to 256 universes of DMX—which, hopefully, will be enough for those 2012 London Olympics…

Software
"Bigger, better, brighter, faster" is usually what one hopes for in "Version 2" of anything. One of the delights of the grandMA2 compared to the grandMA1, is that while it is bigger and is unquestionably faster, it does the exact opposite of being brighter—the user interface replacing the old loud Technicolor extravaganza with a calm, muted design based on black, variations of gray, deep blue, touches of MA yellow, and hints of other colors [Fig. 6]. It immediately makes the 2 a much more restful place to sit behind than a 1; the smoother fonts also make the various readout displays easier on the eye, though adjacent windows could do with a bit more to separate them out.

Beneath the appearance, the 2's interface follows the same fundamental principals as the 1: Pick what you want
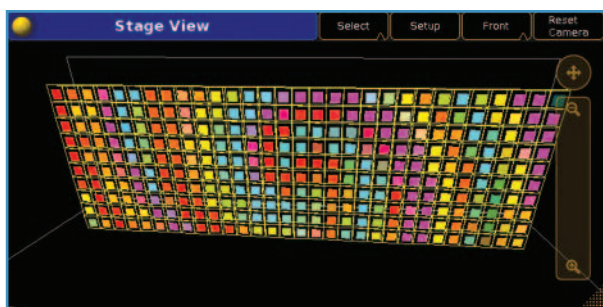
Figure 10: Stage bitmap

Figure 11: Macros

Figure 12: Macro programming

to see, put it where you want to see it, store that view. What becomes easier here is that the vastly expanded screen real estate makes it easier to mix and match things usefully on a single screen. The console also uses the extra space to assist you, the view thumbnails [Fig. 7] are very helpful, and having the options such as course/fine/ultrafine always available above the encoders is invaluable [Fig. 8]. The highly responsive touch screens make it easy to navigate all this quickly and accurately.

MA has also been working to tidy up the interface. There are still odd anomalies, inconsistencies, and bits that don't quite feel finished, but generally windows now all operate in the same way, the yellow blob top-left giving you the window's settings, which always includes a "delete window" button [Fig. 9]. MA has also been working to rationalize the clutter of views that the Series 1 had collected over the years—for example, merging the 1's Layout view for LED arrays into the simple WYSIWYG-like Stage view, letting you use bitmaps to control anything (though you can't yet use this view to focus lights as you could in the 1). [Fig. 10]. Similarly, the old Quikey display—virtual buttons assignable to specific functions—is now part of the new Macro display, since Quikeys are effectively single-function macros. [Fig. 11.]

I've often said that the grandMA1, with its infinitely arrangeable displays and playbacks, isn't so much a lighting console as a lighting console construction kit. The macros exemplify how the MA2 takes this much, much further: You can achieve anything, including accessing saved files, from the command line and therefore in
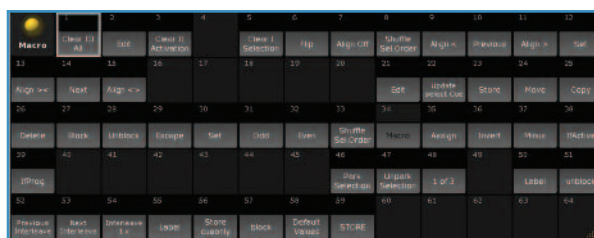
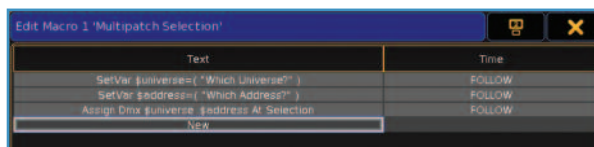macros, which are almost a miniature programming language complete with variables, dialogue boxes, and decision-making [Fig. 12]. You could almost make your own interface, if you wanted to. You can even drive the console from an external computer over a network via telnet.

Of course, sometimes you just want to get on with lighting the show. Do that and you find that the 2 is very much a souped-up 1: Love the 1 and you can dive straight in; don't love the 1 and it will annoy you in the same way; don't know the 1 and you'll have some learning to do, though the on-board documentation will help you out. Surprisingly, some age-old Series-1 frustrations (like the cue sheet and track sheet views losing their place as you make edits to cues) are recreated in the 2, as if the same code is actually lurking inside.

There are improvements in many areas. The patch, for example, now presents you with the Carallon fixture library, as also used in Eos, Vista, and others, and MA has provided useful search/filtering functions so you can get to what you need without endless scrolling [Fig. 13]. You can make your own fixtures, though assigning custom gobos or colors is tedious. As before, you have the ability to assign channel and/or fixture numbers. Also as before, structural changes to the patch do not "take" until you exit the patch, and those changes must upload to other connected devices—much more quickly than on the 1, but still a
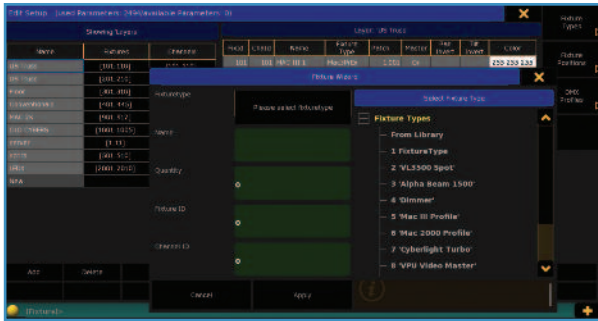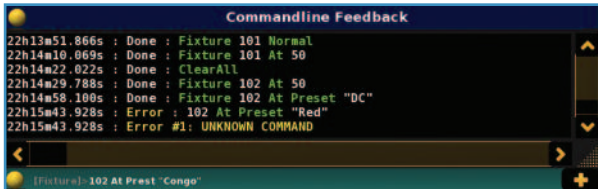
Figure 13: Patch
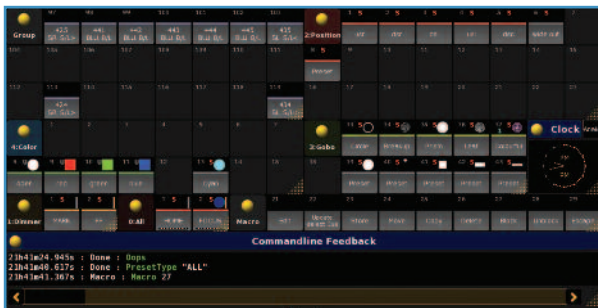

Figure 14: Command line

Figure 15: Palettes

Figure 16: Color library

Figure 17: Color picker

momentary interruption to those users.

Channel control is as you'd expect, including MA's powerful "if" selection tool, but there are some new twists. Channel or fixture numbers can now include decimal points, to deal with multi-cell LED fixtures—"1" to select the whole light, "1.2" just to grab its second cell. Attribute control for multiple fixtures can expand out onto the faders. And the command line has gained new power—things like "group 'red' at 50" and "1 at preset 'DC'" are as valid as using group and preset touch-buttons [Fig. 15]. Adjustments can be made with the encoders, the on-screen calculator, and also with the multi-touch screen. This can currently be a color picker [Fig. 16], color library [Fig. 17], color mixer with sliders [Fig. 18], or framing shutter controller [Fig. 19]. This is nicely done, letting you not just drag shutters but also rotate your view so the upstage shutter is actually the upstage cut, though it's not yet quite as multitouchable as it could be.

From a bigger, dreamier point of view, it's a shame this can't happen automatically—between the Stage view and the library data, the console should know which way the light is pointing and so be able to figure out which physical blade would be the upstage cut. MA doesn't even seem to normalize its fixture data—pick a VL2000 and a MAC 700, spin the iris encoder; one beam will grow, the other shrink—or to "virtualize" it—setting two Mac 700s to rotate their gobos at the same speed in opposite directions is as hard as ever. It's disappointing in such a top-end console, though MA promises that it's coming, and does already try to convert standard data if you change fixture types, so your VL2000's open strobe doesn't become a Mac's fast random strobe.

Cue editing is handled through a programmer, which offers a wide range of choices for storing or updating cues [Fig. 20]. It's a matter of taste and experience, of course, but those not used to working this way need to take care to ensure they've correctly recorded their look before moving on—it can be quite nerve-wracking. I also wish there was a way of just going "update" and moving on, rather than being presented with decisions in that split second before you have to hit "go" [Figure 21]. And, as with the 1, while the console has many tricks for dealing with mega-rigs, some simple things you need to do all the time are remarkably hard to achieve.

Cue displays and options are also evolved from the MA1—the cue progress bars are now split into separate up and down colors, while MA has added the ability to split cues into multiple parts (each then containing individual parameter times, if required) to help with the structuring of shows [Figure 22]. There's also a new "break" cue status that stops anything from tracking through a cue while adding a horizontal "blocking" line in the cue sheet [Fig. 23]; it's sad that you can't label these break points ("Scene 2"), and that they block everything—for an end-of-scene blackout, you'd probably just want to block intensities. The Move-in-Black auto-presetting function has new options to

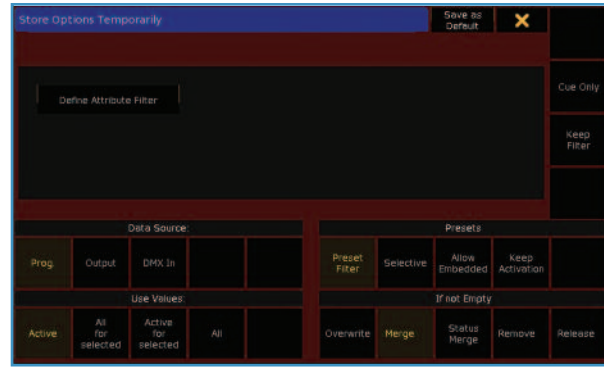Figure 18: Color mix sliders

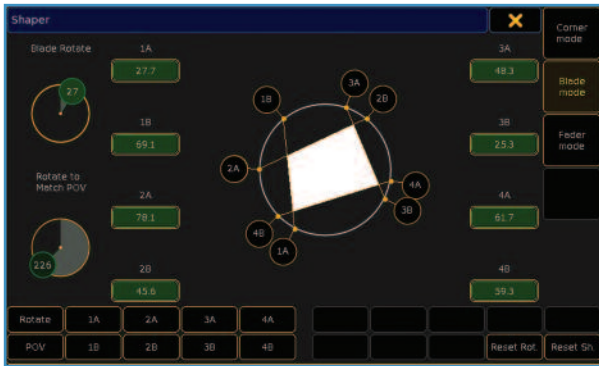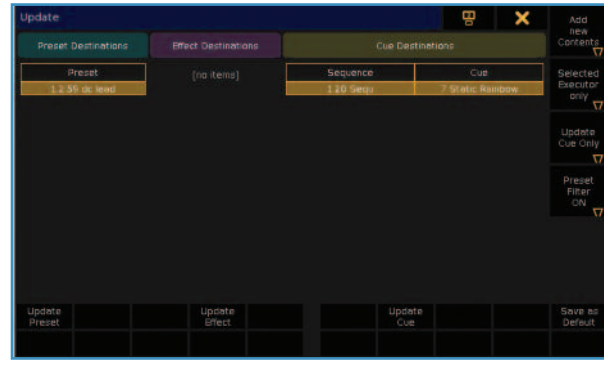Figure 20: Store options

Figure 19: Shapers

Figure 21: Update

help you fine-tune where lights move themselves.

The touch-screen-then-click-on-encoder-to-edit approach from MA1 is still here, but suddenly feels dated, thanks to the iPad: Why can't I just swipe to scroll, touch to edit? This is ironic, given that the original iPod interface seemed to borrow from MA's turn-then-click navigation. In the command line, those coming from other desks may find "assign time 6 cue 1" a little backwards and, as originally on Eos, the repeated use of the time key to separate up and down times ("time 3 time 6") is awkward if an LD is calling commands to a programmer—does that mean 3 up 6 down, or did they change their mind in the middle of the command? I also longed for dedicated "label" and "home" keys, though the console's buttons are already becoming a bit overburdened, a single push doing the function on the label,
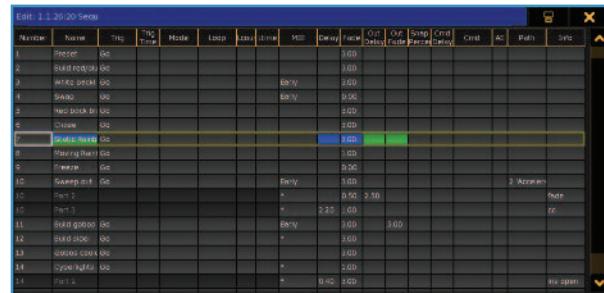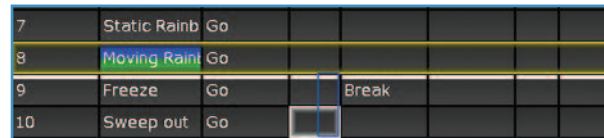

Figure 22: Cue list

Figure 23: Break

Figure 24 Modulators

Figure 25: Effects

Figure 26: Bitmap control
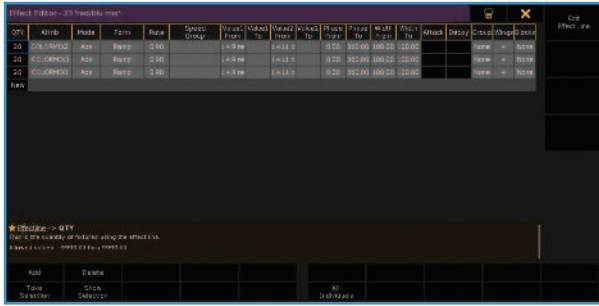
a double push often offering a new function.

In use, the MA2 will do most—though not quite yet all—of the things that MA1 users expect, in particular being able to add modulators to any parameter to give instant movement [Fig. 24], to make complex selections using MAtricks,

to make "worlds" of channels or fixtures to limit access, to make effects tied to particular channels or generic for any channel [Fig. 25], to apply static or moving graphics (though not movies) to arrays of lights to give instant animation. [Fig. 26], to manage multiple users of the console (with different setups and access permissions for each), and to have multiple consoles (or computers running the onPC software) connected together for big projects. The numbers are much bigger than for Series 1 (MA claims 200 stations per network session and up to 32 simultaneous sessions), and there are now also completely independent palette sets, even with the same numbers, for each user. Another use of

Figure 27: grandMA3D

Figure 28: Video thumbnails

Figure 29: Smart window

the point key lets you access other's palettes—"preset 1.2.3" is palette 3 of type 2 (position) of user 1.

Impressive as ever is the "system"—the tightly integrated tools MA provide beyond the console. The grandMA 3-D visualizer can be configured to follow the viewpoint of the console's Stage view, meaning less reaching to the external PC. The visualizer's data is actually stored as part of the console show file and, if your PC has enough oomph, it will run on the same computer as MA's onPC software for off-line editing. It's representation of the lighting is pretty impressive, particularly given its price: free [Fig. 27].

MA's VPU (Video Processor Unit) media server will automatically upload content thumbnails to the console [Fig. 28]—as before, the "smart" display lets you manage the media content without having to make endless video pre-sets [Fig. 29].

In action

The grandMA2 is a pretty impressive sequel to the grandMA1: elegant, expensive hardware offering a great deal more horsepower, and a software interface that is at once updated yet familiar to existing MA operators—even if it has taken more than two years for the 2 to get close to matching the 1's functionality.

We haven't really touched on "Series 1 mode"—a choice available at boot-up that effectively turns the 2 into a 1. It's quite a trick: You get a super-fast Series 1 console, with the small displays floating in the large screens and the multi-touch display sitting idle. Be warned, though: You can't currently move show files between grandMA1 and grandMA2, so you need to decide before programming.

This is less of a problem now the 2 does more; MA is promising the missing pieces (including some surprisingly obvious things, like filters-when-storing, being able to create a range of cues in one command, and partial show read) will arrive soon, and that exciting new functions will follow. In some ways, buying an MA2 now is investing in a future of lighting that you might not even have thought of yet. 🔊