I THOUGHT SOMEONE WAS NUTS. A conference and trade show at the Greater Fort Lauderdale-Broward County Convention Center, just over the bridge from the Fort Lauderdale Beach, in March? I thought of the 1983 movie Spring Break, and its celebration of puerile, pubescent indulgence. However, the promise or threat of adolescent fun in the sun seems to have had no effect on attendance at the USITT Stage Expo, which ran March 15 – 17. Attendance was 5,474, negligibly down from the 2017 total of 5,508, but the number of exhibitors was slightly higher: 316 compared to last year’s 307. The show felt good, with good traffic and a pleasant buzz—at least, so it seemed to me as a visitor.

I visited the show as I have tried to do for the last couple of trade shows—stopping at the booths of ESTA members to see what they have new or of particular interest for the Stage Expo audience—but I know I failed. There were many ESTA members, the show hours were 44% fewer than NAMM, and we had six TSP working group meetings I was supposed to attend scheduled during show hours. However, my word allotment here is not enough to cover everything anyway, so too little time has become part of my selection process. What follows is my report of what I had time to note and that I can stitch together into a coherent story.

I looked a lot at LED luminaires because of my interest in low-wattage, low-heat luminaires for small spaces and because almost all new luminaires are LED luminaires. (New incandescent luminaires are as rare as unicorns.) Group One showed a lot of Avolites equipment, as it had at NAMM, but at USITT Norman Wright was there showing the newest additions to the elektraLite line: two versions of the ELE823 Stingray Profile and the ELE823-Mini. They use white COB sources, with the ELE823 rated at 300 W and the Mini at 20 W. A daylight and warm-white version of the larger profile were shown, but I only have color specifications for the warm-white units: 3,200 K and 95 CRI respectively. They looked
good. Interchangeable lens tubes on both models give a range of beam spreads from 19° to 50°; the larger profile also will accept other popular lens tubes. An interesting technical detail is buried in the big one’s manual: surge current through the grounding connector. “Always make sure that there is sufficient grounding (earth) for the fixture. This is not only imperative within the circuit that the fixture is being connected to, but also makes sure there is sufficient grounding into the building . . . . If an installation has 100 elektraLite Stingrays, that means 400 Amps needs to be dissipated through the GROUND WIRING.” [Emphasis in the original.] Guy Holt has written about earth currents with LED luminaires in these Protocol pages; here is a manufacturer acknowledging the issue.

Strong Lighting recently purchased Phoebus Manufacturing; both Paul Rabinowitz and John Tedesco were on the Strong stand to show their combined offerings. The one fitting my LED theme is the Ichip Mystère, a compact followspot (28.5” long), rated at 200 W, 5,600 K, 90 CRI, and designed for throws from 15’ to 150’. At full spot it will provide 4,200 lux at 50’ (4,200 lux at 15.2 m or 390.2 footcandles at 50’), if you want numerical consistency. The source is made up of 36 individually lensed chips. In the Stage Expo’s haze a honeycomb pattern could be seen in the beam as it exited the luminaire, but the beam was fully homogeneous a few feet out. The Ichip Mystère uses a mechanical dowser; it has a familiar handle on the top, next to the iris. Dimming is smooth, and, when the dowser closes, a microswitch cuts the LED power 90%.

ACT Lighting showed products from over a half-dozen brands, but what I put my hands on was the Claypaky Axcor Spot 300, a 7,000 K white LED moving light with an 8° to 40° zoom range. I have no idea how much light it puts out, but the spec sheet says the LED engine is driven at 180 W and it looked bright, shining on the wall at the Convention Center. Features include a CMY color system plus a seven-color wheel, seven rotating gobos on one wheel with 10 fixed gobos on another, and a rotating four-facet prism. I did indeed put my hands on it: I played with how pan and tilt responded when forced out of position. The stepper motors were firm, but I could move it. After about a second, the unit would move back into position. If I held it, it tried to correct about every second. This seems reasonable to me: it’s firm but not so forceful as to be likely to knock over an electrician; it corrects after a short time but not so quickly as to chatter; and it does correct. The restore was accurate.

The Axcor Spot gives you gobos on gobos, but there were some simpler LED-based gobo projectors that caught my eye. Rosco showed the Image Spot, touting its extremely flat field as well as its low power consumption—45 W, which produces 3,000 lumens in the field. With DMX512 control, there are two versions to choose from: one with an IP40 rating and another with an IP65. The IP40 version uses an RJ45 connector on the projector for the data, but RJ45 connectors are not dust-proof or waterproof. The IP65
DMX512 version has two meters of Cat5e cable coming out of a water-tight cable gland. There is a non-DMX version, too, which has no leaky control data connector, and has an IP65 rating.

Joel Nichols at Apollo Design showed me the GoboPro+ LED Outdoor Profile, a unit with light output about the same as the Image Spot and without DMX512 control, but with rotating gobos and an IP65 rating. The product literature says there are 3,400 gobos available in the Apollo Gobo Collection, but 100 more have been added, so there are now 3,500 to choose from.

Three-thousand five hundred gobos—no Apollo dealer can stock that many. They usually order what they need for their customers as they need them from Apollo for delivery overnight or in two days—and this is the model Nichols sees as the future for color filters. He showed me the results of his company’s experiments with “print on demand” gels. The early attempts created a diffused surface, but successive experiments led to a method of producing durable, clear, colored filters that can be produced in-house at Apollo in Ft. Wayne, IN. The market for color filters is shrinking, but the people who need them still need them. This is a way to supply the market’s needs without high inventory costs.

The market for color filters is shrinking because of luminaires such as the Robin LEDbeam 150 and ParFect 150, shown in the Robe booth at Stage Expo. These have essentially the same optical system: an array of seven 30 W RGBW LED modules, each with its own 3.8° to 60° zoom optical system but operating in unison. Total lumen output is 2,842 lumens, providing a peak illumination...
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of 12,200 lux at 5 m with a field angle of about 5°. The LEDBeam is a moving head unit with 450° pan and 228° tilt; the ParFect is a static luminaire. Color control by RGBW or virtual CMY gives a wide color palette, but there also is a virtual color wheel with 66 preset colors having Lee filter names. Control is via DMX512 and RDM with 8-bit or 16-bit resolution, and optionally via CRMX. Also shown was the ParFect 150 FW with a “fresnel wash type light output.”

In the ETC booth I looked at a ColorSource product that doesn’t put out light but that is light. My notes say “'ColorSource Distro' details online,” but I can’t find details online; all I am reporting here is from my scribbled notes. The ColorSource Distro is an extremely lightweight batten and connector strip for ColorSource lighting systems. The whole thing—48’ of batten and connector strip—weighs only 100 lb. (Forty-eight feet of 1.5” schedule 40 pipe, the usual batten, alone weighs over 130 lb.) The connector strip is designed to supply power and data to the instruments along it, with each DMX512 outlet isolated and a contactor killing power to the luminaires when the system is supposed to be off. If you were to saturation-hang a 48’ ColorSource Distro batten with ColorSource Spots on 18” centers, you would have a total load under 650 lb., which fits within the capacity of ETC’s smallest hoist, the Prodigy P2.

J.R. Clancy showed the Helios Hoist, billed as “ideal for venues looking for a compact, economical solution.” It’s a fairly narrow package-hoist that allows line sets to be on 8” centers if the motors are staggered stageleft and stageright. Most of the installation examples show the motor installed on a back bone that also supports the loft blocks, so there is no lateral loading on the building, but the motor also can be mounted vertically with a headblock to redirect the load. Motor sizes range from 1.2 kW to
6 kW, with capacities from 544 to 907 kg and speeds up to 54 m a minute. There are several speed and lifting distance options. I would have loved to have seen what was inside the black and gray box enclosing the mechanism, but I did not have time to press for that, and it is a “patent-pending drum and innovative brake design.”

Not everything interesting in rigging was big. Herb Hart in the Columbus McKinnon booth had a couple of feet of load chain with a black zinc phosphate finish. It was so new it did not have a part number, which was a problem because people wanted to buy it, but placing an order without a part number is nigh impossible. It should be in production by May 1, and certainly will have a part number by then.

I looked at ProPlus Rope Access Harnesses in the Sapsis Rigging booth. I’ve probably walked by them before, figuring they were simply fancy fall arrest harnesses, but Matt Hudson’s rope access article in the Spring 2017 Protocol has made me more aware about the differences between rope access and fall arrest. Both are important for keeping a person working at heights from looking like spatchcocked chicken with marinara sauce on the floor, but the rope access harnesses is made for hours of comfortably sitting in it—which is, of course, what you do if you are doing rope access work. The ProPlus harnesses come in five sizes to fit waists from 24” to 52”; Sapsis Rigging will work with you to find a solution if you are thinner or thicker.

InCord offers fall protection in the form of nets, and are perhaps best known for their orchestra pit nets, but at the Stage Expo I saw their catwalk net systems. Occasionally I get calls from people who have a problem with an open catwalk—either the workers or the local AHJ are uncomfortable with an edge that has no guardrail or a guardrail lacking intermediate rails. InCord can provide barrier nets for these situations that will protect catwalkers and also keep objects from falling. Nets are not the only solution for catwalk fall protection, but they are fairly fast to install (no heavy steel work) and don’t require workers to consistently use personal protective equipment.

Productions Unlimited last year premiered safepit+, an orchestra pit cover system made up of panels similar to a tension grid, but with rigid wires. This year they showed Tdeck+, a modular platform system using steel structural members that reminded me of the Erector set of my youth. The frames are shipped disassembled to be bolt together by the purchaser and the deck surface, normally 3/4” plywood, installed. The system includes sockets for 2X4, 4X4, and pipe legs, as well as handrail brackets. Tdeck+ seems to me to have the freedom do-it-yourself platform systems have, but with real specifications and easier maintenance, and without the inevitable destruction of repeatedly drilling bolt holes in structural members.

Goddard Design Company had a booth at USITT for the first time in many, many years. It was a small one—Bob Goddard and Rosemary Heath were able to pack the booth’s contents into a couple of suitcases—but it was enough to show their range of DMX512 test and data distribution equipment. DMX512 was first published by USITT in August 1986; it’s been around for more than a generation, but Rosemary Heath said architectural people need basic DMX instruction. Addressing that need, Bob Goddard had a “DMX-Net RDM White Paper” and a “DMX-Net RDM White Paper #2.” Of course, these promote Goddard Design’s DMX and RDM products, but they also give a fair explanation of the advantages and disadvantages of various data distribution schemes.

One of the distribution schemes mentioned in the Goddard literature is to use an Ethernet-based protocol and IP network equipment. ENTTEC showed the Hyperion HP1 Intelligent Gigabit Switch for those taking that approach. It a rugged, rack-mountable unit, with six etherCON connectors on the front and two etherCON connectors on the rear set up for a redundant backbone link, which allows a ring network of switches with branching to other devices. It prioritizes lighting protocols and supports Art-Net, ANSI E1.31 sACN, and MA-Net, but it also offers protection against the Denial of Service attacks.

Pathway Connectivity showed the latest addition to the Vignette line: the Vignette Clock. Vignette is a system, primarily for architectural lighting applications, of modular button and slider wall stations that allow you to snapshot four universes of ANSI E1.31 sACN or one universe of DMX512. The Vignette Clock lets these snapshots be played back according to the date, time, or astronomical events, such as dawn, dusk, sunrise, or sunset. Schedules can be set for different days and times.

. . . and with this, I am not only out of space, but out of time. This story is due at the end of the workday, and that is now—but we can look a bit into the future. Next year’s USITT Conference and Stage Expo is scheduled for March 20 – 23 in Louisville, KY. Bookmark usittshow.com/19—and maybe write a script to check it regularly for updates!