

[Ocean Thin Films SeaChanger HMI](#)

Written by Nook Schoenfeld
Thursday, 09 February 2012 09:59



Subscribe



Recently, I received a large Pelican case from Ocean Thin Films down in Largo, FL. There has been a solid calling for certain hybrid fixtures on the theater and film circuit as well as architectural installs. So they have provided me with a fine example here. By hybrid, I mean they are combining different elements from separate manufacturers to build one solid fixture. So inside my case were parts of lighting fixtures complete with multiple attachments — all packaged in a perfectly-cut foam traveling case.

First, I pulled out an ETC Source 4 Ellipsoidal head and body. Already inserted in the middle of the fixture was the latest version of the SeaChanger color-mixing system. I then pulled out a standard 19° lens from ETC and attached it with a couple thumbscrews. There was no Leko cap or bulb where it should be. In its place was a Lighting Innovations head. Also included was a power supply for this head. What I had were three different lighting products working together as one. The end product of this assembly was a fixture that all lighting designers could find great use for.

Quick Assembly

The first thing I needed to do was figure out how to get this fixture illuminated. No manual is really necessary. The bulb head is an Austrian-made INNO—Four 575 HMI. It comes with a Philips MSR 575 HR bulb and can also be used with an Osram 575W bulb. Either bulb fits right inside the Leko's reflector while the outside head attaches via three long threaded screws to the body. A single cord with an Amphenol connector casing extrudes several feet from the fixture. This will attach to the outboard power supply (PSU). Everything physical was assembled in about one minute.

The sturdy black power supply is a rectangular case slightly smaller than the average shoebox. The electronic ballast is the LI 4000.

It weighs 8 lbs. and has a handle on top as well as an eye bolt, should one need to attach it to a theater pipe or truss. A quick-clip Neutrik power cable attaches to the power supply with a male Edison connector on the other end. The PSU can take between 90 and 265 volts AC. I plug it right into the wall. The PSU also has a female IEC panel mount plug as a pass-through for power. Since the self-sensing SeaChanger can run off any voltage as well, I'm able to plug that directly into that outlet. At 110 volts, the fixture will draw just over 4 amps for the light and 1.5 amps for the color changer.

Both the INNO head and the SeaChanger come equipped with panel mounted 5-pin XLR connectors, in and out. Each head has a small LED keypad display for setting addresses and modes. I need two DMX channels for the bulb and four for the color system. After addressing them, I run a small XLR

cable from a console to the fixtures. The SeaChanger devotes a single 0-255 DMX channel to each of its CYM color modules. The fourth DMX channel controls a built-in dimmer wheel.

There is a switch on the back of the PSU that lets the fixture strike manually or via DMX. I manually strike the bulb from the PSU. I notice that the fixture fired immediately, but I need to open the SeaChanger douser via the DMX channel. I slowly fade the dimmer from zero to full. A perfectly linear fade is achieved through the SeaChanger. In manual mode, the PSU has a dimmer potentiometer knob to regulate intensity. It works, and I notice the bulb brighten as I switch to different intensity settings. Now it's time to control the PSU via DMX. I throw the switch on the PSU, and the bulb goes out. Time to read the manual. Aha, DMX channel 1 has to stay defaulted at 100 percent in order to strike the bulb through a sequence on the second channel. While the bulbs are capable of a hot restrike, it is not recommended, as it reduces the lifespan of the bulb. Under normal conditions, the lifespan of these bulbs is 1,000 hours. They will begin to dim after 750. They make an architectural version of this bulb that can last a whopping 3,000 hours.

Zero Flickering

After five minutes, I strike the bulb through a DMX command. It takes less than a minute for the beam to reach its maximum brightness — creating a brilliant white beam with a color temp of 6000° K. The ETC lens slides easily as I zoom in a tight beam. From a distance of 50 feet, my meter registers 330 foot-candles. I notice absolutely zero flickering from the light source. The field of light on the wall is perfectly flat. Though the fixture has three screws a tech could use to adjust the hot spot, none is necessary. It seems to have held its factory setting.

The SeaChanger itself is a CYM color-mixing module that attaches snugly in the middle of the ETC Source Four ellipsoidal fixture. It is less than a foot long, and it protrudes a few inches outside of the Leko itself. An extended yoke on the light gives the user more depth if necessary, but I do not need it today as I have no problem hanging the fixture and focusing it everywhere. It weighs 12 lbs. but the minimal weight has no effect on the yoke tightening and focus. One needs a non dimmable circuit to apply AC to the brain. It takes me about three seconds to address the fixture and it silently starts right up. I notice an LED on the back is lit showing me the fixture is receiving DMX.

Fast Color Changes

It has been a few years since I have used one of these, but the changes are immediately noticeable. The quickness with which I can change colors is so much faster — about a quarter of a second to snap colors into place. I place a couple of five-second fade cues on it, and the color dissolves in a smooth, linear fade. I do not notice any white color being emitted when I fade between magenta and yellow. Most moving lights cannot accomplish what the SeaChanger just showed me. I see no change on the optics of the Source Four with the SeaChanger in the path of the light. Since I left the Leko zoomed sharply, I notice a ring of slightly different color around the edge. I take the Leko barrel and nudge it a hair away from the SeaChanger, and that silly ring disappears instantly.

Everybody's color systems are a tad different, so I bring each color wheel into the beam of light independently. The magenta flag is extremely rich and saturated at full. The pink hues are flat fielded with no separation of magenta and white. The yellow is fine as well. It's when I start to fade in the cyan that I am a tad surprised. The SeaChanger does not mix into a rich cyan color, but only reaches a light blue state. Before I freak out that I will be unable to mix deep blues, I figure I better try it. So I run the magenta and cyan to full and, lo and behold, the color emitted is indeed a deep blue hue. I try to mix a lavender color and have no problems getting a sexy violet out of the fixture. In the end, I determine this is really a plus for anyone in the film business. The cyan wheel can be adjusted in small percentages to get the exact color correction for daylight, when an incandescent bulb is used

instead of the HMI I have today. While I am looking at a version of the SeaChanger that has a built-in douser, I have noticed that they also offer other substitutions, such as a green wheel, a four-color paddle wheel or custom color wheels can be added in its place.

Twice as Bright

As a test, I place my fixture up against a standard incandescent 19° fixture. The natural warm color emitted from the standard Leko obviously makes it dimmer in contrast to the HMI head on the SeaChanger model. I dial the yellow color wheel to 50 percent, and, instantly, both fixtures have the same color temperature. With the same color temp, the HMI-powered fixture appears to be about twice as bright to the naked eye. It's time to open up the assembly and take a peek inside the color wheels. I remove the four Phillips head screws that keep the SeaChanger in place and remove it from the Leko.

By removing a few more screws on the SeaChanger, I can easily pull the protective cover away from the dichroic glass lenses. This makes it a snap to clean dust and fog residue from the fixture. While inside, I take a look at the shutter itself. Instead of a simple piece of metal that could warp over time with heat, they have something cool here. This clever douser appears to be a patterned piece of aluminum on an optical glass substrate. The graduated pattern disperses an even amount of light through the beams' path as the wheel turns, as opposed to a typical douser, which simply cuts into the beam from one side to dim it.

RDM

SeaChanger models come equipped with Remote Device Management. This RDM can be used to set the fixtures' address manually, and also to reset the fixture. The manufacturers are currently working on a way to use RDM to preset hundreds of color combinations that coincide with popular gel colors in the Roscolux and Lee filter ranges.

The SeaChanger does not interfere with any other modules one may wish to attach to a Leko. Whether it's a separate gobo rotator, iris unit or scene projector, they can all attach to the same fixture. Another useful model from the SeaChanger series is the Plasma/HMI CTO version. This fixture has replaced the CMY color system with a variable CTO wheel that can adjust the color temperature from 2900° to 6000° K, and it has a dimming wheel.

Ocean Thin Films SeaChanger HMI

Pros: Bright white light output with a solid, state-of-the-art color-mixing system. The ultimate Leko on a stick.

Cons: Intended for indoor use only, although SeaChanger *does* make whole fixtures that are applicable to outside conditions.

How Much: HMI Profile: \$4,750; HMI Wash: \$4,950 (MSRP).