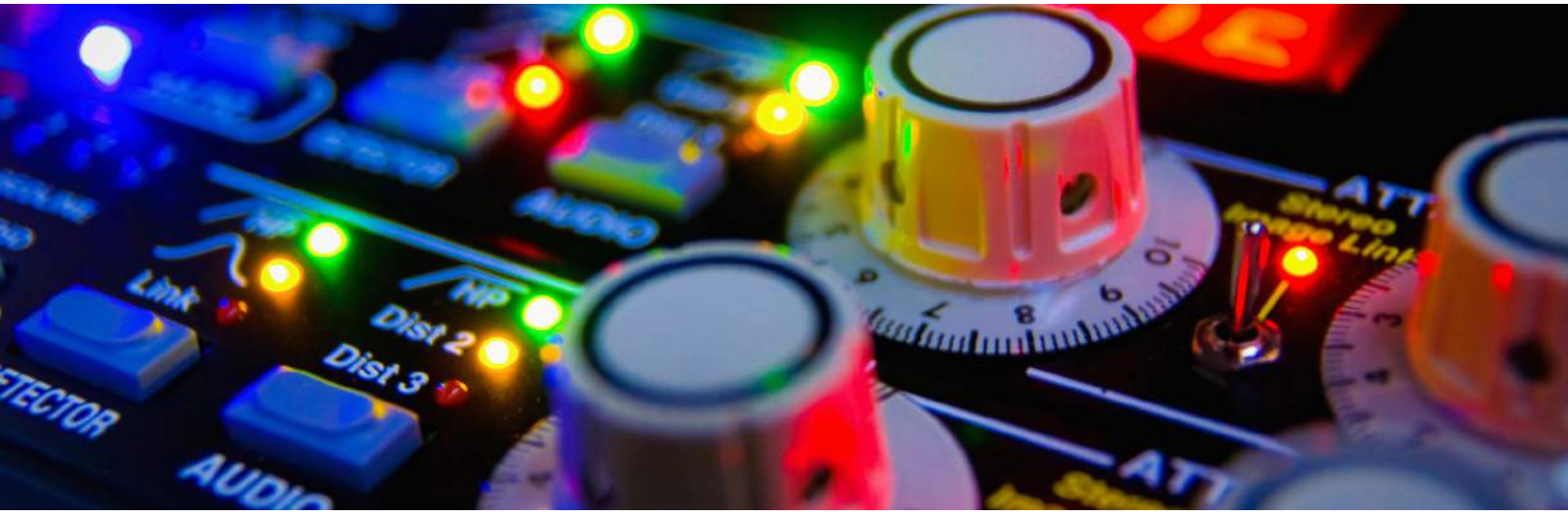
Case Study



Project

High-intensity LEDs and light pipes deliver sweet sound in handmade audio products

Application Characteristics

Handmade audio products provide the freedom and flexibility to create signature sounds by adjusting levels of output, sources and other inputs to create distortion while using equipment including:

- Mixers
- Pre amps
- Compressors
- Mic presses

And for DIY hobbyists, inventors and small manufacturers, experimentation is the name of the game. The control panels help communicate with them not only during design, but also in the end goal: creating signature sounds.

While the some of these machines are made of the latest and high-tech, many hobbyists and still designers prefer the old-school analog look. That's where VCC comes in.

Application Requirements

Finding the perfect sounds is all about trial and error, and requires cost-effective illuminated products. VCC has a range of solutions for finding that aha moment in audio equipment design -- from energy-saving LEDs in various colors to light pipes that bend and flex to the motherboard or PCB, as needed.

LEDs

Illuminate your display panels with high-intensity LEDs in a range of mounting options, sizes, lenses and colors to accommodate virtually any audio equipment design.

Surface-mount LEDs

VCC offers hundreds of surface-mount LED products that are suitable for audio equipment applications, and recommends the CMD67-21 Series, 0805 and 1206 LEDs due to their:

- Compact shape
- Viewing angles
- Color options (including bi-color for streamlined panel design)
- Brightness
- Long life

Through-hole LEDs

For audio equipment designs that include through-holes, VCC's LTHxMM12V Series and 5650 Series are the ideal light pipe fit in any application. They are also available in a wide range of colors.

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Light Pipes

VCC offers a variety of rigid light pipes for customizing audio products, each one below supporting a through-hole or surface-mount LED.

LPCR Series

The LPCR Series simplifies design and assembly without sacrificing light quality. No physical connection is required between the light pipe and LED, and with crushable ribs, once the light pipe is set in place, it stays put — without any additional hardware or adhesive. The LPCR Series light pipes are available in a fresnel lens and fit a 0.171" (4.34mm) diameter hole.

LFB Series

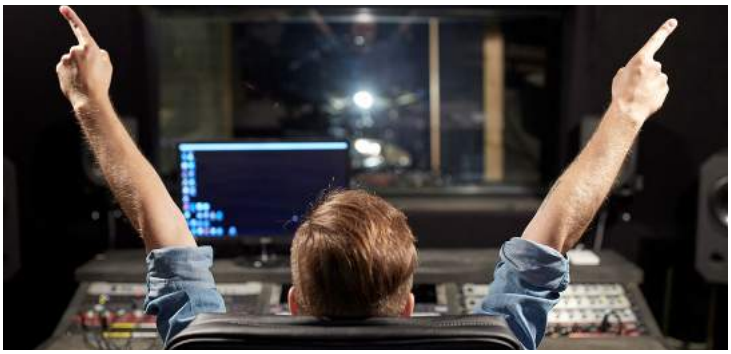
With frosted lenses, the LFB Series provides uniform brightness. The series also includes crushable ribs which enable easy and secure assembly, whether creating 1 or 100 products. These light pipes are available in a variety of lengths, with standard lengths ranging from 0.125" (3.2mm) to 1.000" (25.4mm).

LFC Series

The LFC Series is also available in a frosted lens, and also includes a round surface that reduces luminous intensity, providing uniform brightness that is pleasing to the eye. These low-profile light pipes feature crushable ribs, which mean there are no additional pieces of hardware required for secure assembly. The LFC Series is available in standard lengths ranging from 0.125" (3.2mm) to 1.000" (25.4mm).

Results & Benefits

Audio enthusiasts and inventors need flexibility and freedom to create something new. And VCC is the only partner they need to design and modify the indicators on their control panels, amps and other equipment. VCC provides:



Cost-effective concept testing

With VCC, inventors, hobbyists and small manufacturers can purchase as little as one light pipe at a time. This means modifications to the panel design do not eat away at startup capital.

Ability to scale up with ease

Once a concept is proven and ready for production on a larger scale, VCC provides an in-stock, readily available solution for a speedy rollout of the product.

Reduced production time and costs

LFB, LFC and LPCR light pipes use crushable ribs, meaning they are easy to assemble and do not require additional hardware.

Assemble in U.S. without breaking the bank

For small-scale operations, VCC allows manufacturers to keep assembly local, so they can sell locally when just starting out. VCC's competitive prices allow manufacturers to have the best of both worlds — low component costs and control over local assembly.

VCC is your single supplier from proof of concept to mass production

To find the right components for your next audio product, contact VCC today.

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