

# A/V equipment fabrication:

creating high-performance,  
user-friendly, and  
cost-effective A/V products



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Throughout humankind's existence on earth, time and space have remained two of the greatest obstacles in our quest for progress. Before the advent of audio-visual technology, humankind was required to be in the same location at the same time in order to communicate with each other. Our inner drive to communicate with one another, however, has always sought to create better ways to communicate over great distances. Smoke signals were perhaps the first form of audio-visual technology. The last 100 years, though, have seen the greatest improvement in our ability to communicate across time and space. Modern technology providing for real-time voice and picture communication now seems commonplace, whereas our ancestors of just a generation or two ago could never have dreamed of such possibilities.

Where once the telegraph and Morse Code were high-performing A/V innovations, we can now hold a live teleconference between two people on opposite sides of the world. Where watching a movie required a night on the town and a visit to the closest reel-to-reel theater, we can now stream and store high-definition videos onto handheld digital devices wherever we are. Today, A/V devices are expected to perform previously unimaginable tasks, and audio-visual equipment industry leaders are charged with avoiding product obsolescence and providing user-friendly, inexpensive products that do more and more. Audio and video must be crystal clear, must be

adapted to limitless applications, and must be seamlessly integratable with related products and technologies. The challenge is indeed formidable.

Striving to create high-performing, user-friendly, and cost-effective A/V products makes its paramount for A/V equipment suppliers to partner with manufacturers of essential components, such as enclosures, with these same characteristics. Those who manufacture enclosures and other parts for A/V equipment suppliers must maintain high standards of performance, must be people with whom it is easy to work, and must provide products that allow A/V equipment suppliers to get their products to market more quickly and cheaply than their competitors. Truly, in an industry where performance, ease-of-use, and cost mean the difference between success and failure, selecting an enclosure and parts manufacturer who is in touch with the industry reality of cost-effective, user-friendly performance is essential.

### **Performing to higher standards**

Because today's A/V products and equipment must perform to new, lofty standards, manufacturers of enclosures and other components supporting the products must also maintain high standards of performance.

High performance standards demand that enclosure design engineers be trained and experienced on the latest CAD and 3D

design software. After completion of the enclosure design, all human error should be removed from the fabrication process by seamless integration of the design software with state-of-the-art fabrication equipment. High-performance equipment cuts the enclosure to the required shape, punches the precise holes, accurately bends the material, removes rough edges, applies proper screen printing, and effectively completes the case in one fluid, streamlined process—all under one roof. No subcontractors are needed.

Depending on the A/V application, enclosures may need to be in any shape or size. They may require a variety of hole punches. For mounting electronics, enclosures often require specific self-cinching inserts such as studs, standoffs, blind studs, captive nuts, spring latches, rivets, and right angle standoffs. To create any shape enclosure and to ensure a uniform finish coating, dedicated CNC milling equipment should be used prior to finishing the material. If a durable and attractive finish is needed, metal enclosures are often treated with both an undercoat and a top coat of powder paint, water-based paint, or vinyl-clad aluminum. Other enclosures require effective shielding, ensured by utilizing overlapping seams and multiple fasteners, copper-beryllium and metal-impregnated gasketing, copper-nickel paint, and the placement of additional fastening hardware. Still other enclosures require single or multi-colored screen printing.

Custom enclosures sometimes require custom accessories, such as handles, feet, knobs, switches, and mounting solutions. 3D

modeling is also necessary prior to fabrication in order to be sure that the custom case meets all the requirements of the specific application. Partnering with an enclosure manufacturer with all of these qualities allows A/V equipment suppliers to create products that perform and that can be integrated within multiple related applications.

### **Serving A/V customers**

In order to timely develop innovative, high-performance, user-friendly A/V products, the enclosure and parts manufacturer must also be user-friendly. A/V equipment suppliers should choose a product design engineer with a product and application knowledge base from which to draw. Engineering experience allows manufacturers of enclosures and other components to understand the special requirements of housing sensitive A/V equipment. This knowledge base allows the engineer to quickly translate design requirements into practical, cost-effective product designs. CAD and 3D software expertise allows the design engineer to create accurate and user-friendly depictions, making the customer-designer interaction an experience to anticipate.

The dynamic A/V market is constantly changing. Such constant change requires resources that are often hard to come by. An expert manufacturer makes it possible for you to meet your customers' needs, even when you're strapped for resources. For example, Buckeye Shapeform's level of technical support, from design to finish, sets Buckeye apart from our competitors. Because of years of experience in the business of creating enclosures for A/V

industry leaders, Buckeye has a wealth of product and application knowledge that helps us understand customer packaging requirements and to quickly translate them into practical, cost-effective designs.

### **Providing cost-effective A/V solutions**

Time and money can also be saved by A/V equipment suppliers by selecting a manufacturer with the capacity to perform all the steps of the fabrication process—cutting, machining, punching, bending, shaping, and finishing—under one roof, without the need to outsource to expensive subcontractors. And supporting the fabrication process requires a team of exceptional mechanical experts who understand the intricacies of the equipment and production process. Such innovative design and fabrication processes help A/V equipment suppliers to get their products and services to market more quickly and more cost effectively than their competitors.

Another way A/V equipment industry leaders provide cost-effective A/V solutions is through partnering with manufacturers who can do more than create custom enclosures. Buckeye Shapeform also creates quality instrument knobs and accessories for countless audio-visual applications. All Buckeye knobs are precision-molded of ABS plastic and are noted for their toughness, rigidity, dimensional stability, glossy finish and resistance to stain, corrosion and variance of temperature. All Buckeye knobs are manufactured with a serrated aluminum bushing precisely set to assure concentricity. Black is the standard color of A/V knobs, though other colors are

available. Your A/V equipment accessories may need aluminum embellishments and other customization, such as skirts, caps, disks and skirt markings. Buckeye's ability to create both enclosures and other accessories in-house saves A/V equipment suppliers time and money.

These real-world examples illustrate the many benefits of using Buckeye Shapeform for any A/V enclosure need:

#### **Antenna Distribution System**

Pulling off a flawless theatrical production, rock concert, or television broadcast requires a well-polished, behind-the-scenes production crew. Channel D Solutions was asked to create a wireless antenna distribution system to facilitate clear, wireless communication amongst members of elite production crews. And when Channel D needed a company to build a custom enclosure for all the components of the system, they called on Buckeye Shapeform. Not only did the case require significant customization, but a professional appearance was paramount—both of which Buckeye Shapeform handled in house. To date, the system has been purchased and used by likes of the production crews of Cirque du Doliel, Lady Gaga, WWE, and Blue Man Group, among others.

#### **Announcement Control System**

Innovative Electronic Designs, Inc. (IED), a developer of state

of-the-art commercial audio management systems, needed a custom enclosure to house its 500 Announcement Control System. Having created custom audio systems for facilities such as the Pentagon, Kennedy Space Center, O'Hare and LaGuardia International Airports and the Louisiana Superdome, IED enlisted the help of Buckeye Shapeform to create a professional, fully-customized enclosure to house the complex announcement control system. Buckeye Shapeform handled all aspects of enclosure creation, from CAD design to product finishing, and has worked with IED on continual custom enclosures for more than a decade.

### **Delivering cost-effective, user-friendly, high-performance A/V products**

In your efforts to provide the cost-effective, user-friendly, high performance audio-visual products and services to your customers, Buckeye Shapeform is in a unique position to assist. It is our business to help you. Our talents meet your needs for performance, ease-of-use, and economy in a dynamic A/V equipment market.

To learn more about how Buckeye Shapeform products will work for you, visit our Web site at [buckeyeshapeform.com](http://buckeyeshapeform.com), or call (614) 445-8433 or 1-877-728-0776 (toll free).

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