



*“Powering Your Design”*



## **IMPLEMENTING DESIGN FOR MANUFACTURE WITH VEETRONIX CUSTOM MARKING**

### **New technology and kitting options for reed based switches for broadcast applications - discussed by Andy Eden of Luso**

Reed switch based technology has been employed over many years in equipment designed for use in the broadcast and audio/video production industry. The switches' proven technology offers a highly reliable solution that is both versatile and cost effective. Among the many characteristics such as the ability to work with a wide range of power requirements, high-switching speed, long life offering tens of millions of cycles, one of the most useful is its magnetic activation rather than electromechanical, which can transfer noise into a circuit.

US company Veetronix, which was set up in 1971, has been producing switches that have become the *de facto* standard in the broadcast industry for the past 15 or 20 years. In fact, virtually every major broadcast production equipment company in the world has used the company's 01- and 03-series switches. Recently, however, Veetronix has updated its switch designs: the 07 and 08 series switches have now superseded the 01 and 03 series, respectively.

#### **New Choices and Capabilities**

These new switches maintain the same high quality and feel of the old series switches, but also offer extra functionality. A key demand in the industry has been to offer illuminated switching options, including RGB based LED solutions – now offered by both the 07 and 08 series, which also meet low power requirements. Additionally, these devices also have push-fit connectors and locating pins, which makes fitting them to the PCB a significantly simpler task in the production process; it also ensures that the switch is perfectly square on the board.

One feature that the new switches have maintained from the original design is the fact that the reed switch itself is hermetically sealed, which means that no air, dust or liquids can penetrate the essential part of the switch. Clearly, this is essential to prevent damage from hot liquids, such as a cup of coffee spilt over a panel or console.

## Keycap Variations and Other Services

The Veetronix factory, based at Lexington, Nebraska, also offer many varieties of keycaps to accompany the switches. The majority of its customers use square keycaps, but additionally there are oblong double-space options and even round buttons if required – and all available in a rainbow of colour options.

One additional service that has proved to be particularly popular is the custom laser marking of caps. Instead of being supplied with the caps in kit form, customers can add their required lettering to the cap by using an insert, on which the factory can permanently laser etch the design on the inside of the cap cover. This design can be any customer-requested logo or font.

### Customer Requirements

This service was extremely useful for one UK-based customer in particular that had an extremely large panel of more than 1000 switches with nearly 200 different legends to be applied to various keycaps. Clearly, it is an incredibly time-consuming task to assemble this quantity of keycaps by hand. The solution offered was to supply the keycaps assembled and where required laser marked with legends. This was incorporated into a full logistics package, including holding more than 200 different caps against customer forecast in local stock at Luso warehousing in the UK. This meant that the customer could gain access to parts within 24 hours.

Another customer Luso assisted was designing a new switcher with 32 different legends required on the panel. The customer had contacted Veetronix, based upon the quality record of its products. We at Luso suggested that the customer used the new 08 series to gain the time and cost savings in production from the new easy-to-use push-fit system, in addition to using the custom-marking service. Based on customer requirements, the Veetronix factory in the US supplied a set of 32 different sample caps supplied as a kit and under one part number.

### A Full-Service Switch Package

This process delivers other benefits in the supply chain. For example, instead of buying 32 different parts, customers can place an order for a single part number and receives the full kit, saving time in ordering and invoice processing.

The full-service custom switch package from Luso and Veetronix provides full logistical support offering Kanban and consignment stock, pipeline ordering against customer forecasts and schedules, with local stock only 24 hours away.

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