Sound Principles
Why the LATCH function does NOT mean you want a "Latching" button

This month we would like to focus on the difference between the PTT (push to talk) and the LATCH control devices. Both devices use mechanical push buttons that look exactly the same, but they differ in operation.

These push buttons are found on several of our products, namely
- the S80S switch plate for boundary mics
- the SM80S shock mount for our gooseneck line
- the S120S table top base series and
- the DMB bases for the dynamic gooseneck line

In designing a project, it is common for the system designer to automatically assign a LATCH push button to the Latch function, which is, most of the time, a mistake.

99% of conference rooms today are equipped with audio processing components that also include a control system. This control system often comes with a touch panel to simplify its operation for the benefit of the user.

During a meeting, some users may want to mute their microphone locally for a moment of privacy before expressing their thoughts. When a system combines a touch panel with mute switches at every microphone, the control panel MUST be allowed to override any muted microphone on the table without having to press the associated button at that microphone. This is NOT possible with a LATCH button.

This is exactly why a PTT button needs to be specified for any application involving a control system.

By definition, a PTT button needs to be held down to either mute or unmute the microphone it is assigned to, then released to revert to the previous status. As opposed to a Latch button, where one only needs to press and let go and then press it a second time to 'toggle' the status.

In the analog world, these buttons would execute their respective function as described. However, with today's technology, a control system can fake the LATCH function with a PTT button. That being said, in most applications, the latchfunction (not button) is the preferred method to operate the

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muting of a microphone. In most cases you will find that participants do not want to "hold down" the button to either mute or unmute a microphone.

When using a PTT, or momentary button, with a control system, in the written program, the associated command of that momentary button (or touch switch) can be set to toggle the status.

For example: Press once to mute the microphone, then press a second time to unmute the microphone (just like a LATCH button).
Another advantage for using a PTT button, is that it can be programmed to accomplish multiple tasks.

Programmers today have ingenious ways to use multiple presses of a button to operate different parts of the system.

For example: One can write a command line to mute the microphone the button is assigned to, with a single press, or to mute all microphones on the same table with two consecutive presses of the same PTT button.

What is sometimes overlooked, is that the mechanical LATCH button has only two statuses, closed or opened.

A disadvantage of using the LATCH button is that, if a participant has muted the microphone at the other end of the table, the LATCH button will need to be physically pressed to change its status, before the control system can operate it normally.

We hope this clarification will help you in choosing the right type of button for your next project.

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