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## Accessories October 2013 Issue

By Larry Anglisano

### David Clark DC Pro-X: Supra-Aural Comfort

**David Clark focuses on comfort and performance with a new noise-canceling headset. It has a compact frame and advanced electronics.**

David Clark has a lot to prove with the new DC Pro-X noise-canceling headset. Not only does the mid-priced ANR headset market offer a healthy variety of good-performing models—including the Lightspeed Sierra and Telex Stratus 30XT, to name a couple—but the company's X11 model was a disappointing performer, based on our evaluation and feedback from other users.

The DC Pro-X is a completely redesigned model that resembles previous David Clark models only by its signature green earphones and familiar headband. Based on our recent evaluation, we're pleased with the DC Pro-X performance, comfort and features.

#### Clamping Control

As with all of our headset evaluations, we had several pilots fly with the unit so we can get a feel for how it performs on different heads and in different aircraft.

The DC Pro-X has a supra-aural design, which means the ear cups rest on the ears, rather than fully enclosing the ears. While a supra-aural design isn't a cure-all for the pain caused by some large over-the-ear models, the leatherette ear seals have slow-recovery memory foam that's effective at reducing clamping pressure.

It also helps that the DC Pro-X weighs only 7.5 ounces and has an adjustable magnesium alloy headband. The band includes an adjustable stirrup-design suspension, which allows the user to fine-tune the fit. David Clark says the swivel hinge stirrup on the headband disperses clamping pressure, rather than creating pressure points. The bottom of the headband is surrounded by a breathable and vented leatherette pad. All of our testers raved about the DC Pro-X comfort and noted that the unit is comfortable to wear with sunglasses and with ball caps.

The supra-aural design requires precise positioning of the ear cup over the ear canal. If it's not positioned properly, you'll struggle with hearing the phone audio. It's easy, however, to find the sweet spot once the headband and ear cups are properly adjusted to your head. David Clark suggests wearing the headset so the head pad lightly touches the top of the head.

The M-55 electret microphone succeeded in reducing ambient noise in all of our test aircraft—including singles and piston twins—that were equipped with newer and vintage audio systems. The adjustable microphone boom is rigid enough to remain in place precisely and easy to adjust so the microphone sits at an appropriate distance from the lips—avoiding clipping or over-modulating.

The headset collapses to save space during storage (it's compact enough to stuff into a map pocket). The collapsible design also makes it easy to store the unit in the included headset bag or for tossing into a small flight bag.

Hybrid Enc



There's no mistaking the new DC Pro-X as a David Clark headset. It has a sturdy headband and flexible mic boom found on previous models, but the small footprint and leatherette ear seals contribute to a higher level of comfort no other Clark model has delivered.

The DC Pro-X electronic noise-canceling circuitry (ENC) is a feed-forward/feedback design, where two miniature microphones are installed on the unit's ear dome. A microphone is located on the exterior of the dome while a second microphone is installed internally, near the speaker. The exterior microphone registers the unwanted noise before it makes it to the human ear canal. Each microphone outputs to individual inversion circuits, where the signals are converted to an antinoise signal. David Clark calls this Hybrid ENC, a design that ultimately results in 30 dB of noise-canceling performance.

The ENC circuitry is powered by two AA batteries. David Clark said that the expected battery life is up to 50 hours, and the company is working on a panel interface for connecting the unit to ship's power. In our evaluation, we found that low battery power resulted in deteriorated noise-canceling performance, evident by a rumbling noise in the noise-canceling circuitry.

Speaking of dead batteries, the unit has a failsafe mode that allows the unit to work in a passive state. David Clark calls this dual voice coil technology, which is a failsafe design that allows audio to bypass the noise-canceling circuitry in case of battery failure. There's a passive version of the headset—the DC Pro—that we didn't evaluate.

The DC Pro-X has an automatic shutoff feature that powers the unit down after 5 minutes when it isn't connected to live audio jacks. The automatic shutoff can be disabled via a switch inside the control module.

#### Control Set

The DC Pro-X has a simple control module that also houses the two AA batteries. We were afraid of breaking the swivel battery cover each time we changed the batteries—it seemed fragile enough to snap off. The battery compartment also houses a stereo/mono slide switch and the automatic shutoff switch.

We think the simple user controls are logically and easily positioned for single-handed operation. There's a simple pushbutton power switch at the top of the module that pulses a green annunciator when the unit is on, and it pulses red to indicate low battery power. When the unit is initializing, the button pulses yellow.

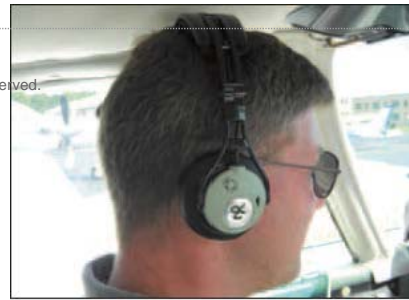
Volume controls for the left and right earphones are linear, and an audible beep represents the gain level when changing volume. Since these volume controls are only usable when the unit is powered, the system defaults to maximum volume when passive.

As we would expect from a headset in this price category, the DC Pro-X comes standard with wireless Bluetooth that's controlled with a single Bluetooth button on the control module. When you hold the button for a couple of seconds, the key pulses yellow during pairing—a process that was seamless with both Android and Apple devices we used. Once the device is paired with the headset, the key pulses blue. If the device is paired but not connected, the key pulses green. Weak batteries will hinder Bluetooth performance, as we discovered on one flight.

Whether using the Bluetooth function for making cell phone calls or for listening to music, the headset has impressive features. For instance, when the headset is plugged into the aircraft intercom, you'll hear side-tone (that's the sound of your own voice as you speak on the phone). If there's chatter on the aircraft radio or the intercom, the cell phone receiver audio is muted. To answer a call, simply press the Bluetooth button on the control module.

When connected to a smartphone while listening to music, the music audio will mute with aircraft radio activity and then gradually fade back in when communication is completed. That's a nice touch.  
mission-capable

"I like these better than the Bose A20 headset—especially the price." That's what a flight instructor said after he took the DC Pro-X on a three-hour training flight in a Piper Arrow. As he put it, the headset has good audio and a lot of high-end features. Best of all, it's comfortable.



The rest-on-ear supra-aural cups on the DC Pro-X make the headset sunglasses-friendly, top photo. The feed-forward/feedback noise-canceling circuitry uses dual noise-sampling microphones that are mounted in each ear cup, middle photo. The control module, bottom photo, has good ergonomics but a fragile battery lid.

The DC Pro-X has a street price of around \$650—not a bargain, but still fair, in our view. On the other hand, we think the model can serve a broad mission profile. It's a solution for quieter turbine cockpits due to its supra-aural design, while offering enough protection in louder piston cabins, too.

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