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# ***BNVD-G***

***BINOCULAR NIGHT VISION DEVICE WITH GAIN CONTROL***

In this line of work, it is often said, "two is one and one is none." This truth is evident in every facet of tactical applications for military and law enforcement. It is why we carry a primary and secondary weapon. It is why we carry two flashlights. It is why we work in teams. Enter: the rise of dual tube binocular night vision systems. While monocular systems have their advantages, more and more shooters have been gravitating to binocular systems for the dramatic increase in depth perception. The ability to see with both eyes is critical in deciphering how close or far objects are. This is why helicopter pilots use the legendary ANVIS-9. Always resourceful, US Special Operations Forces realized that the increased depth perception had by aviators could be very beneficial on the ground.

Night Vision Depot, of Allentown, PA, recognized the incredible potential of binocular style night vision devices and TNVC recently got a chance to demo their latest offering: The BNVD-G (Binocular Night Vision Device with Gain Control).

We at Tactical Night Vision Company pride ourselves on selling only the best night vision gear available. We do not pull punches or hesitate to “call a spade a spade.” Based on our real world experience with night vision in both military and law enforcement, we have come to expect a lot from the products we evaluate. If we won’t bet our lives on the gear, we won’t offer it.



With that said, we are thoroughly impressed with Night Vision Depot’s BNVD-G. The BNVD-G uses dual ITT Gen 3 (US) PINNACLE gated tubes. The tubes are fully collimated and feature independent gain control. The technical specs are available on Night Vision Depot’s website ([www.nvdepot.com](http://www.nvdepot.com)), so I will not belabor the details here. Instead, let’s discuss the practical applications and features.

To say the BNVD-G is built like a tank is an understatement. Night vision equipment is generally considered to be sensitive and I have seen some units in service that would be hard pressed to survive a drop onto carpeted floors. But, without hesitation, I would place the BNVD-G up against any other binocular night vision system in a survivability test. It just feels solid. Surprisingly, this does not come at the cost of weight. Wearing night vision devices for extended periods can cause neck fatigue. Its simple physics: cantilevering anything off your melon will cause strain. The BNVD-G weighs in at 20oz. Comparing apples to apples: The PVS-15 weighs 23oz, ANVIS-9 F4949 weighs 19oz, PVS-21 weighs 27oz, and the PVS-23 F5050 weighs 23oz. If you want to compare apples to oranges, a PVS-14 weighs in at 12oz. The weight is noticeable, but manageable. However, I would recommend running the BNVD-G on a ballistic helmet to keep it from diving towards your nose. Another way to help balance the weight is by installing the excellent Original SOE Gear Naval Special Warfare Helmet Ballast on the back of your Kevlar (TNVC is excited to now offer OSOE Gear on our new website!). I mounted the BNVD-G on an MSA TC2001 with a Wilcox Industries G12 Mount, Ops-Core Head-Loc, and OSOE Helmet Ballast. I ran this configuration for 4 hours with no headaches. One small problem is that the BNVD-G does not feature a hole that will accept the Wilcox retractable lanyard.



Function is familiar for the initiated among us. Power is controlled by a standard ITT-style knob located on the front of the unit. The placement of this knob is one thing I would like to see changed. It is easy to access, but the only fragile part of the entire unit; doubly so because it is left unprotected. While it is an easy part to replace if broken, it could be one more headache to deal with in the middle of a gunfight. If I was to redesign the housing, I would place the knob facing the back of the unit. This would provide some added protection while being a bit more intuitive to those familiar with the PVS-14 by keeping the rotation direction for power consis-

tent with established muscle memory. This brings us to the IR illuminator. While Gen 3 technology does not require external IR illumination to function, an IR illuminator is built in to most high-end units on the market. They are used to create light when there is none. The BNVD-G's IR illuminator is superb and on par with some stand-alone hand-held units. It easily focuses from spot to flood. Did I mention it is bright? The spot is especially impressive and can be detected at over 50 meters. Each tube features independent gain control via individual knobs that face towards the operator. Gain operation is typical of high-end units.



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Running dual tube binocular systems is extremely advantageous in wide-open country like the tribal valleys of Afghanistan or the rural plains of Texas where the ability to judge distance is of the utmost importance. Dual tubes collect the most ambient light available and excel when stealth-fully negotiating terrain enroute to a target location or observing bad guys during a recce. The BNVD-G performed admirably in personnel/material recognition out to 100 meters, which is typical of non-magnified Gen 3 tubes. The difference when compared to a monocular is that I was able to accurately judge distance much more accurately. The tubes feature independent focus adjustment (front and rear) which function just like the PVS-14; easy and intuitive. The image is incredible and, of course, has to be seen to be believed since there is no known camera available that can accurately replicate dual night vision images. The clarity and resolution is what's to be expected from ITT Gen 3 PINNACLE tubes: that is to say beautiful. There were no blemishes on the tubes I demoed. Overall, the image is a hair under the ANVIS-9, which is to say: spectacular. The BNVD-G does not have the same lens coating as the ANVIS which accounts for this. One thing to note is, like any dual tube system, there is a noticeable audible whine in proportion to the gain being observed. At its loudest, it can be heard from 5 feet away. However, it is the nature of the animal and not any worse than other comparable units on the market.



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Binocular night vision devices are not without limitations. The operator's field of view is limited to 40 degrees with little to no peripheral vision as opposed to the 140 degrees when wearing a monocular (because of the un-aided eye). Monocular units are beneficial since the un-aided eye picks up a lot of peripheral, providing the operator's brain with much more visual information. Situational awareness can suffer in built up areas and close quarters situations if running binocular units. This is where the advantages of a monocular system shine. If you have to perform any task up close, whether it be opening a door, manipulating a radio, changing a mag, or subduing a suspect, a monocular leaves one eye to focus on the immediate area. The night vision optic will generally not be focused for such a close distance (unless you take the time in the heat of the moment to adjust it). But, it will be there, focused at contact range, for when you need it.



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Recognizing this limitation of binocular systems, Night Vision Depot solved the problem with one of the most useful innovations in night vision interfacing. The BNVD-G uses independent pivots for each tube. Instead of “all or nothing,” the operator can experience the benefits of dual tube depth perception in open environments on the way to a target and pivot one of the tubes up to create a monocular style unit for increased situational awareness in close quarters. It doesn’t get much better than this! The pivots are strong and require a dedicated movement to actuate the tube out of the way. When pivoted up, the arm stays up until the operator repositions it. Everything about the construction says “quality.” Both arms can be pivoted up at the same time when the night vision is no longer needed, or the entire unit can be rotated up on the mount.



Speaking of mounts, the BNVD-G comes supplied with two, both made by Wilcox Industries. Wilcox has quietly made a name for themselves as the last word in over-engineered night vision helmet mounts and interfaces. Their products are being used by the most elite US forces all over the globe. The BNVD-G comes with both, a bayonet mount and a proprietary Wilcox dovetail interface. I highly recommend the dovetail for a couple reasons. The first is that the Wilcox shrouds are bomb-proof. They are simply the best units I have run to date and hold NODs more securely than any other interface. The second is that the dovetail is much lower profile than the bayonet. I tried the bayonet mount on several different rhino arms with several different shrouds. All the shrouds were mounted in the proper/standard location on several different helmets. The shrouds included any that accept a standard Rhino Arm (USGI, Norotos, Ops-Core). On all the helmets, the bayonet mount placed the unit about a half inch too low. I could remedy the problem by tilting the helmet back, but this compromises ballistic protection. However, everything lines up easily with the Wilcox mount due to the low profile of the interface and the increased adjustability of the mount.



The Night Vision Depot BNVD-G is one of the most impressive and innovative units I have tested in a while. It scores high in every category and gets bonus points for the outstanding execution of the individually pivoting tubes. It features greater versatility than dedicated binocular or monocular units and exponentially increases operational value. What's more, it is actually available! This is great news for Law Enforcement agencies and private individuals who have tried in vain to acquire a set of PVS-15's, or ANVIS-9's and been faced with the 14-month lead time. On top of that, the BNVD-G costs less. The BNVD-G is my current standard for judging innovation, quality, and operational relevance in new night vision systems. I would not hesitate to take this unit into harm's way.

