

I have been getting assistance from Mr. Wilcox on night vision projects for the last few years. I am the primary point of contact at our agency for 1033 Program issues, and I have been running our night vision program as well. These are all collateral duties; I am a Patrol Sergeant and a SWAT Team member, and those duties take up the majority of my time on the clock.

I was directed several years ago to get our agency back into the 1033 Program and start acquiring military gear that would be suitable for SWAT use. Night Vision equipment was one of the priority items. At the time, my agency had about 90 officers and our night vision gear consisted of one Gen 2 commercial monocular made by ITT and a handheld thermal imager.

I managed to scrounge up a few PVS-4s and PVS-5A goggles from 1033. These were older Gen 2 systems, which we issued to SWAT and Narcotics officers. We primarily used them for surveillance, and found them to be fairly useful in our suburban settings, as the amount of sky glow was enough that we could get better performance from the older tubes than one would get out in the woods.

I next got approved for a fairly large group of PVS-7A goggles. When these arrived, they were in pieces. It was around this time I first contacted Mr. Wilcox, and he gave me some guidance about assembly. I also, by this point in time, had acquired a fair number of II tubes for other systems, mainly by accident. The whole time, I had been searching for Gen 3 systems, and while I did get extremely lucky and get one batch of PVS-7B goggles in almost new condition from the military, with the war going on, NV systems of all types were rather scarce. Our agency is very well funded and our city is growing very, very rapidly, but the cost of outfitting our entire SWAT Team with new Gen 3 systems was prohibitive.

I did a fair amount of research, and decided that the best way to proceed was to obtain more parts for the Gen 3 systems through 1033, and then assemble devices from those parts. I decided to focus on two systems, the PVS-14 and the PVS-7B, as they are the most frequently used military NV systems for dismounted operations, and those are both well-understood systems with lots of institutional knowledge, parts availability and accessories available.

Through Mr. Wilcox, I obtained -20 level manuals for both systems, and created lists of parts needed. From there, it took a lot of patience and time. I check the 1033 Program website daily, as a part of my routine (like PT or checking my gear before work) and look for NV parts, accessories, and other things designated as a priority by my chain (right now I am tasked to look for blankets and cots to outfit out evacuee shelters; we got caught a little off guard last hurricane season). Lately, there have been a couple of surges of PVS-7B parts, but tubes of most varieties have dried up. We have had some luck getting 15mm ANVIS tubes, which can be used in a PVS-14; you just lose the manual gain function, so there are still some alternatives available.

I focus on the major components for each system; II tubes, frames, lenses and such. As I get to a critical mass of parts sitting around my office, I box them up and send them off to Mr. Wilcox. He lets me know if there are any critical components that would be needed to finish assembly of a night vision device, and I search for those on the 1033 Program website (you can create a .txt file with a list of NSNs or NIINs). Ed does a professional build-out of the device, adding minor components like seals, o-rings and such and then bills our agency, usually at a fraction of the cost of a new device. I have found about a 50% failure rate among our NV components, but they can often be repaired or cannibalized to make one good component out of two bad ones, so I typically request twice as many components as I need. I also have been obtaining occasional lots of PVS-4s, as well as the support items for NV systems that make them go from a hand held NV surveillance device to an all-around "system" that can be used to fight and win in low light scenarios. A full complement of NV gear for tactical officers (much of which you can get through 1033) should probably consist of the following:

-A Gen 3 helmet mounted device, probably a PVS-7B or PVS-14 (most all of ours were professionally rebuilt from 1033 parts by Mr. Wilcox, which is the only way we could really afford them)

-A helmet mount

-A long gun with a forward rail system. For M4s the SureFire M73 is probably the cheapest effective system, but we use LaRue (<http://laruetactical.com>) free float rails; they are a local company and make great gear, and I always get in plugs for them. They have pretty good agency pricing, too. If you are running MP5 variants, Knight's Armament (<http://www.knightarmco.com/>) or B&T ([www.brugger-thomet.ch](http://www.brugger-thomet.ch)) are pretty much your only options

-An NV-compatible optic for the long gun (EOTech, AimPoint, ACOG or such). These used to be available all of the time from 1033, but I haven't seen any in a while. You will probably have to bite the bullet and buy these, but they are invaluable. We even issue EOTechs on Patrol Carbines to the line troops, for various reasons. LaRue also sells these pretty cheap.

-An IR laser/illuminator; PEQ-2As, PAC-4Cs and occasionally VITAL-2s are available through 1033, but make sure that you get some training before you issue them, as you can cause severe eye damage with them.

-An IFF measure or two for officers to wear or carry; for active measures, IR strobes or "fireflies" are sometimes available from 1033 and are pretty cheap otherwise. They are also great for marking friendly positions, cleared lanes of approach or even planting one on a bad guy's vehicle for roving surveillance. For passive measures, glint tape is available (now to LE) from NVEC (<http://www.nvec-night-vision.com/>) or from Supply Captain (<http://www.supplycaptain.com/>), and Supply Captain is working on POLICE-specific glint tape markers.

We have all of this gear in place for our SWAT officers, but it has taken many years to get to this point. Barring a REALLY big budget (I would hazard about 5-8K per SWAT officer to do it right), it will probably take you some time as well, but the results are definitely worth it.

1033 is pretty much flooded with customers these days and some of the gear can be hard to get. For example, two years ago, if an NV device came up on the website, I had a fair chance of getting it. Today, it will be gone the next day with a dozen or more agencies requesting it. I am still having good luck getting the parts for build-outs though, but that will probably change in the near future as more agencies figure out what I did and do the same thing (and as I tell more folks about it).

We currently have 135 officers and serve a community of about 90,000. We issue a PVS-7B or PVS-14 to almost every SWAT officer, and I hope to have devices issued to the last few hold-outs along with a couple of spares by the end of the summer. We have discovered that some folks cannot process a single image from a monocular and must use a PVS-7B, and some can't handle processing both images and get vertigo if they don't have one eye free, and must use a monocular, so it is probably a good idea to have a mix of systems available. Patrol shifts each have about 10-12 NV systems, mostly PVS-4s with a few

PVS-5s and PVS-7As. I am keeping some PVS-7As in reserve for SWAT, but as I get SWAT outfitted, the PVS-7As are going to Patrol. Detectives have a "pool" of NV gear available from narcotics, and all of our Patrol Task Force Officers have NV. Patrol officers are routinely using them for perimeter and area search operations, and are catching burglars and other lowlifes using NV gear. I actually got forwarded a complaint from a rookie officer that he did not have a night vision scope like the rest of his shift. If only every LE agency had such problems...We also issued Night Augmented Day Sights we got from 1033 to our snipers. These are about a \$15,000 system and were a real score for us.

SWAT is still figuring out how and where we will employ NV systems for tactical operations, but we are routinely deploying at least our inner perimeter folks, scouts and snipers with NV gear for warrant service and barricades. I usually put my -14 on the helmet and fire up the laser for tactical operations in darkness. We are also in the midst of a healthy and sometimes loud internal debate about glint tape markers, but everyone agrees that they are necessary. Just not where and how many of what kind...

That is a fairly broad overview of what we are doing. Without Ed Wilcox's company and support, we would not be anywhere close to where we are today. His ability to turn boxes of 1033 surplus parts into functioning systems at reasonable prices has been invaluable to us during this process.