MAKING ENERGY WEAPONS STEALTHY

A PROPOSAL

By LGen Scott A. Akers, SFMC-ret.

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For years, Starfleet Marines have used a combination of Energy Weapons for their powerful punch, and low weight to fire sustainability. They also used a combination of more "primitive" chemical or electro-magnetic propellant based firearms for their massive stopping power and with the proper equipment stealthiness. On many missions, a SFMC Special operator managed to infiltrate enemy defenses, elude detection by sensors and guards alike and set up in position. Then, upon the first shot of the best Phasers that the Federation has developed, every opposition threat knows of the presence of the marine(s) and for those with visual observation, (more so at night – which is normally the operators closest ally) the general if not specific location of the operator is revealed. What the SFMC Special Operations branch needed was the invisibility of the firearm, and the power of the beam weapon, almost a contradiction in terms, and a problem for decades.

To solve this problem is the development of the "Clark-M31a A/V Inhibiting Suppressor".

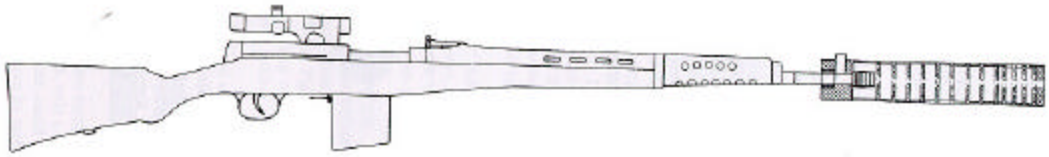
The primary intent of the Inhibiting Suppressor is to capture the sound energy emitted by a Phaser Rifle (the coupling allows it to fit various Federation standard designs) then use that energy to power the Phaser Array Conversion Field. The Field allows the operator to dial in the desired frequency of the EM spectrum. Because of the energy emitted and the crystals used to focus the beam, some EM bleed will occur. The Suppressor takes that bleed and converts it into anything from High Infrared, to Low Ultraviolet. The operator will determine which spectrum is least detectable by threat forces, dial that in, and perform their duties a more secure environment.

This thesis will examine the history, need, use, and technology of the Suppressor. A breakdown diagram, explanation of its workings, and an analysis of its usefulness will conclude the thesis.

Prior to 1909 the only record of silencer technology, was the use of extremely high-powered air rifles by a special Austrian Jaeger unit from 1788-1815. Thought unworthy to serve with regular forces, because of their stealthiness, the weapon never caught on for larger unit use, only about 1300 were ever deployed.

However in 1909 the son of the machine gun designer Maxim received his first patent of the Maxim silencer. His idea was to swirl the gases generated by the explosion of the powder charge (the sound of which created the muzzle blast, the loudest part of using sub-sonic rounds, and the one that most easily determines the location of the shooter). Swirling the gases in turbine like chambers was very successful. However his follow-up silencer patent in 1910 was even more successful. With this new design he forced the

gases not only through a circular motion, but also at the same time through sloping holes to whirl around the length of the silencer to reduce the gas dam behind the bullet.
In 1910 the Germans and Austrians tested the Maxim silencer as well the American Army. The Maxim silencer was developed for the German 98 Mauser Rifle and the American M1903 Springfield, and the Luger pistol P08 was threaded for the Maxim silencer. The silencer was made in quantity for civilian use and hunting in quantity until the National Firearms Act in 1934, they were sold in quantity in America.
In World War One sniper forces of the German, American, and the British, using Scottish game wardens as long-range expert snipers, used the silencer.
The next use of the silencer in combat operation was in the Terran World War Two. Many attempts were made to silence sub sonic weapons, especially for close in combat operations. The US Rangers, British Commandos, German Skorzeny units, Waffen SS Elite units, Partisan units all over the European Theatre used them as well. The American OSS developed a silencer for the M1.30 Carbine; the British developed the silencer for the Sten Mk VI, which the Germans shortly copied. The Germans and the Russians both developed sub sonic rounds for their sniper rifles, that with the use of Silencers (see diagram) made the sniper on the eastern front almost impossible to detect, before, after and during the shot that killed many an unwary soldier.



Following World War Two, elite units worldwide used Silenced Weapons to combat guerilla forces that did likewise. In the South Asian wars of the 1960s-70s the indigenous Viet Cong, used captured or abandoned M3 carbines from WWII, fitted with primitive Silencers using Rubber Discs to capture the gas explosion while these discs had to be replaced frequently, special ops for the VC only needed a few shots to paralyze their opponents. From the 1980's on, special operations concentrated more on speed then silence, and the silencer went back into the snipers bag of tricks as their focus of not being found.

As the 20th century slipped away into the 21st, Special Forces units grew in importance to the various national militaries, as small brush wars, counter terrorism operations and anti-drug task forces were deployed. The silencer became more high tech as it was both designed by computers and used new and advanced materials, and composite foams to control the sound emissions. With the advent of case less ammo and plastic flechette weaponry, the muzzle blast became almost imperceptible while the ballistic crack was controlled by using smaller and even higher speed rounds, that took the pitch of the crack near the upper limit of human hearing. Non-Military silencers were more and more legislated out of existence, and by the beginning of the Third World War, were solely in the possession of legitimate dealers/ collectors and outlawed militia types.

By the late 2100's and unto the 2200's chemical based firearms were no longer the basic weapons of the infantry weapon, as at first clumsy and then more sophisticated

energy beam weapons became the primary weapon of the Terran and later Federation ground forces. With that development and the focus on ship to ship combat in all but the larger conflicts, silencers became irrelevant to all but the most elite Special Forces. This trend continued until the late 2300's, reference the Special Operations Manual for current equipment and tactics for projectile weapons.

The need and possible use of the suppressor can be divided into two categories for the Starfleet Marines: Covert Operations and Overt Operations. In the covert operations, stealth is essential, the cloak that the special operator wears at all times. Energy weapon that fires invisible and silent to the enemy greatly increases that stealthiness, and can provide for that operator the extra edge in extraction. In addition, a device that allows the operator to control which frequency the weapon fires in, can then be used to either take advantage of different threat species blind spots, or to mimic hostile weapon effects, thus causing more confusion. This misdirection can be combined with simple light emitters, which can simulate Federation weapon characteristics and mislead the enemy to where the real threat lies.

Like wise Overt Operations can utilize this device to some advantage. When the Strike Group comes into first contact with the enemy, or when they are executing an ambush, being able to hide their firing locations if even for a few seconds, can mean the difference between victory and defeat. The frequency control, which would not normally be used as much for deception purposes in overt operations, can be used to remove the difficulties of or take advantage of low light, twilight, and fog/haze and other atmospheric difficulties. Finally the tactical level officer may decide to have a large fraction of the troops dial in a frequency that cannot be seen so as to deceive the enemy on the actual strength or power of the friendly unit.

So how does the suppressor work? The device is made up of three operating sub-components and the logic circuit. The First sub-component is the Sonic Inhibitor. This provides both the sonic silencing which is the trademark of any good silencer and the actual power to operate the device. The trailing end of the suppressor fit over the phase generation coils exhaust ports. Where waste energy from the phase generation is usually vented out of the weapon as sound, the collection manifolds absorb this sound and energy through what in effect are highly dense and advanced microphones. All of the sound is trapped by the foam like polymers and converted into electrical energy, much like a microphone captures those sound waves that hit it and converts same to electrical signals. While a small percentage of the emitted power of a Phaser (.034 - .042 percent) it is enough to power the A/V converter. This converter is referred to as the Leach Buffer. The final stage is a filter monitored by a separate AI circuit that recycles the energy through the buffer into it matched the cycle and frequency needed by the converter.

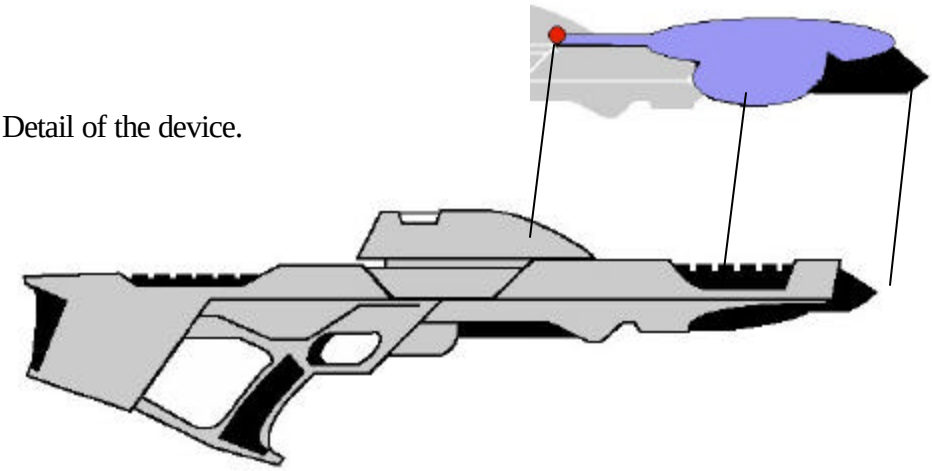
The next sub-component of the suppressor is the Audio/Visual Converter. The converter is powered by the energy provided by the inhibitor. All light beams even phased beams are waves of energy. Different wavelengths generate different frequencies of emissions, from infrared to ultra violet. For humans the visible spectrum goes from violet to red. For other species the spectrum is either larger, lower, higher, or even some are smaller. The beam is intercepted and the wave is either expanded or condensed by the converter. Both require large amounts of energy, and the use of manufactured

crystals. These crystals are essentially artificial dilithium crystals, which can shift the wavelength of phased energy from one emitted frequency to another.

The Beam Wave Controller is a small multiple emitter above the artificial crystal that creates the first facet of the crystal. This controller will adjust that facet microscopically to control the emitted beam. The crystal will have some inherent power bleed, the crystal chamber captures that bleed and recycles that energy back through the A/V converter to be used again.

The Suppressor uses nanite level multitronic processors. This 4.5 terabyte computer is necessary to adjust the sides and facet surface of the crystal in increments measured in fractions of an Angstrom. The BIOS used is of a level classified higher then the release level of this document. The interesting feature of the processor is the secondary feedback feature. Has the beam strikes the target; a small portion of the energy is normally reflected/fed back through the beam itself. The processor analyses this feedback and uses that information to continually update the facet to maintain the desired frequency. While the beam duration may only be .5 to 2.5 seconds, the adjustments made are in the .0001 to .0005 ranges.

Detail of the device.



In Conclusion, it is this Researcher opinion, that Special Operations Units should obtain this device for further testing and for select main line Marine Infantry Units for use in unconventional situations.