

# EMP Program by Steve Vanndiver, AF5YM

*April 5<sup>th</sup>, 2018*

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EMP is an abbreviation for ElectroMagnetic Pulse. Weaponized EMP is several microseconds duration burst of terawatt level energy. Another source of EMP is a Coronal Mass Ejection or CME. CMEs originate from the sun and if striking the earth, can induce a petawatt geomagnetic storm capable of inducing damaging currents in almost all electrical and electronic equipment.

Amateurs should be interested in EMP because of its destructive effect on our radio equipment that serves as a vital backup to reliable and effective long distance communications. My presentation will discuss the origins of EMP, describe the mechanism of destruction, provide a brief overview of commercial EMP protective enclosures, and suggest low cost easily implemented countermeasures for our portable equipment. A bibliography, suggested readings, and list of vendors for some of the countermeasures items discussed will be provided for those seeking additional information of greater complexity.

Interest in amateur radio began early and had a profound effect upon my life. I often remark that I was raised in a socially and culturally impoverished area, a dusty west Texas cow town so small the solitary blinking red traffic light was called the electric stop sign.

The press office was an exciting place for a boy to hang around due to the typesetting linotype machine and printing press that offered unique mechanical attractions. A wall behind the editor's desk was busy with all sorts of radios replete with dials, knobs and speakers. Once in a while, that crusty old soul would be speaking on his radio with someone who just had to be far far away. I would marvel at being in the presence of such an absolute wizard and hero no less. This editor was a US Marine Corps veteran of Guadalcanal who would occasionally expound upon his experiences and travels.

For Christmas 1964, my parents gave me a Hallicrafters S-120 shortwave radio. It was one of the best Christmas gifts ever and soon the area around the house took on the appearance of a spider web as I strung long wire antennas from every

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height. I listened to frightened voices from a place known as Viet Nam and would occasionally hear serious voices from Elemdorf AFB recalling General LeMay's B52s back from polar sorties (Skyking, Skyking, this is Elemdorf, this is Elemdorf, do not answer, do not answer...). Little did I know, my future wife was the daughter of an airmen stationed at Elmendorf.

Voices from far away lands expanded my worldview, infecting me with the desire to travel. About that time I started hanging out at the airport where gray haired old ranchers would get into their shiny new V-tailed Bonanzas and fly away, off to adventures somewhere over the horizon and I knew one day I would be just like that editor and those aviators, talking with people in strange lands and flying my machine off into the sunset. Just like the Sky King of TV fame, I'd have a ranch, an airplane, a daughter named Penny, and all sorts of exciting adventures. A grizzled WWII colonel led the local Boy Scout troop. His stories completed the wanderlust infection.

Life got busy. At the ripe old age of 14, I suddenly had a girl friend, a driver's license, and a 1954 Oldsmobile. Sock hops eventually replaced hours and hours listening to the radio and pounding out Morse at a blazing five words a minute on an old J38 Signal Corps key. The romance of hot vacuum tubes faded...

With God's many blessings, life turned out just the way I always knew it should. I retired from an Executive Branch organization and returned home to be elected to a judicial position in that still dusty but now larger and more prosperous cow town. I am honored to have been a member of the Texas Judicial College, The Texas College of Probate Judges, and a voting member of the governing board of the West Texas Regional Public Defender for Capital Murder Cases. I served on the executive board of the Boy Scouts where just like that WWII colonel of my youth, I was in a position to have a positive effect of the lives of many youngsters.

One day I realized was just like those men who so influenced my youth. I went out and bought an airplane. And wouldn't you know it, by then I was a rancher and west Texas wildcatter with a daughter and son. I became a new Technician class operator and upon moving to Arkansas with more free time, an Extra class.

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Much of my career with the US Government was in operational Soviet Foreign Counterintelligence. I chaired several Intelligence Community coordinating committees and at various times have been a national program manager for TEMPEST, TSCM and other electronic countermeasures related programs. Early interest in amateur radio led me professionally to both The Old Crows and The Society of MAD Men.

I live on a mountaintop in Newton County not far from the Glory Hole and enjoy chatting with the group on the 3820 Round Table.