



TVS-2 Hopping Code Scrambler

Midian's TVS-2 offers a high-level of voice security for two-way radio communications. By using the hopping code type of rolling code scrambling, Midian's TVS-2 offers a higher level of security versus other rolling code scramblers (see comparison below). The TVS-2 incorporates Midian's Kryptic signaling format which allows for greater control of fleet communications (see below) and the automatic detection of scrambled/clear audio. A Dual Mode option is available upon request for systems that require both rolling code and voice inversion scrambling for interoperability.

The TVS-2 series has the following features:

- Number of possible codes: ~ 40 Trillion
- Number of selectable keys: 4
- 5 user-programmable levels of security
 - Level L4: 12-25 hops per second
 - Level L3: 6-12 hops per second
 - Level L2: 1.2-2.4 hops per second
 - Level L1: 0.8-1.2 hops per second
 - Voice Inversion
- Midian's Kryptic signaling format for:
 - ANI & Emergency ANI
 - Selective Calling
 - Radio Kill
 - Spy
 - Radio Check
 - Over-The-Air-Reprogramming (OTAR) of the security keys
- Dimensions: 1.64" L x 0.84" W x 0.2" H
- Requires Midian's KL-4 Programmer



Shown: TVS-2



Shown: MOT-TVS-2-PRO

TVS-2 plug-in modules are available for Hytera, Icom, Kenwood, Motorola, Tait and Vertex.

Hopping versus Sweeping Rolling Code Scramblers: Midian's TVS-2 uses the hopping type of rolling code scrambling, instead of the sweeping type, for higher security. Both types of scramblers claim a certain number of hops per second. Sweepers imply a higher level of security because they "hop" hundreds of times per second. However, it is the length of the hop that is important rather than the number of hops per second. Each "hop" of a sweeper is approximately 1 Hz in length whereas each hop of a true hopping scrambler is at least 300 Hz. Therefore it would take ~300 hops of a sweeper to equal the change of a true hopper in one hop. Because of the negligible frequency change of a sweeper, sweepers are susceptible to attack by tracking the sweeping with a phase lock loop (PLL) circuit.

