



## Overview

Midian's voice privacy products are protecting communications worldwide in systems for Armed Forces, Intelligence Services, Public Safety (Police, Fire, Ambulance), Fleets (Taxi, Towing, Fishing, etc.), Industrial and Utility users.

Midian's voice inversion scramblers protect users against casual listeners.

The voice inversion scramblers can be installed into virtually any model of two-way radio and into most any type of radio system. In fact, Midian supports many radios from the most popular radio manufacturers with plug-in versions of the VPU-12, VPU-15, VS-1000 or VS-1050.

## Products

**VPU-12A:** Midian's VPU-12A is a 16-code voice inversion scrambler that is user-programmable for any inversion frequency between 2100-4096 Hz. The 16-codes are selectable using 4-line binary. The VPU-12A offers the same features as Midian's VPU-12, but now features mode indications and enhanced audio quality.

**VPU-15:** Midian's VPU-15 is user-programmable for up to 4 inversion frequencies from a list of 37 inversion frequencies. The VPU-15 is the only inversion scrambler that offers automatic detection of scramble/clear audio when used with other VPU-15 scramblers.

**VS-1000:** Midian's VS-1000 is a single-code or 16 code voice inversion scrambler that is KL-3 programmable to any inversion frequency between 2100-4096 Hz. The 16 codes are selectable using 4-line binary.

**VS-1050:** Midian's VS-1050 has the same features as the VS-1000, but adds ANI in Motorola's MDC-1200, Kenwood's FleetSync, M/A-Com's G-Star (aka GE-Star), DTMF or 5-Tone.



Shown: VPU-12A

## Features

**Plug-In Modules:** Midian offers plug-in versions of its voice inversion scramblers for HYT, Icom, Kenwood, Maxon, Motorola, Tait and Vertex radios. For radios without an options connector, Midian's VPU-12A, VPU-15, VS-1000 or VS-1050 will wire into the radio. Midian offers many application notes for installation into various radios.

**Voice Quality:** Midian's voice inversion scramblers provide excellent voice quality and speaker recognition between scrambled and clear audio.

**Midian's Kryptic Signaling:** The VPU-15 offers advanced signaling features using Midian's Kryptic signaling format. Midian's Kryptic is a digital form of signaling that offers the following features when used with Midian's CAD-300, DDU-300 or TRC-300 controllers:

- ANI & Emergency ANI
- Selective Calling
- Radio Kill
- Spy
- Radio Check
- Over-The-Air-Reprogramming (OTAR) of the security keys

**Use in Most Systems:** Midian's voice inversion scramblers can be used in conventional, trunked, simulcast, HF SSB and voted systems.

**Automatic Detection:** The VPU-15 can be programmed to automatically detect scrambled and clear conversations when used with other VPU-15 scramblers. This eliminates the need for the receiving radio's operator to manually toggle the mode of the voice scrambler.

**Product Quality:** Midian believes in and adheres to a strict quality program. This is backed up by Midian's 3-year warranty on parts and labor.



## VPU-12A: General Specifications

Operating Voltage	Varies on Module
Operating Current	3.5 mA
Operating Temperature	-30 to +60 C
RX Input Level	Varies on Module
TX Input Level	Varies on Module

## VPU-12A: Security Specifications

Inversion Frequency Range	2100-4096 Hz
# of Inversion Codes	16
Export Controls	NLR EAR99

## VPU-15: General Specifications

Operating Voltage	Varies on Module
Operating Current	< 9 mA
Operating Temperature	-30 to +60 C
RX Input Level	Varies on Module
TX Input Level	Varies on Module

## VPU-15: Security Specifications

Inversion Frequency Range	2340-3807 Hz
# of Inversion Codes	4
Export Controls	NLR EAR99

## VPU-15: Kryptic Signaling Specifications

ANI	0000-9999
Emergency ANI	Yes
Status	00-99
Location	100 (10 x 10 grid)
Selective Calling	Yes
OTAR of Security Keys	Yes
Radio Kill	Yes
Spy	Yes

## VS-1000/VS-1050: General Specifications

Operating Voltage	Varies on Module
Operating Current (80-10-10)	< 5 mA
Operating Temperature	-30 to +60 C
RX Input Level	Varies on Module
TX Input Level	Varies on Module

## VS-1000/VS-1050: Security Specifications

Inversion Frequency Range	2100-4096 Hz
# of Inversion Codes	16
Export Controls	NLR EAR99

## VS-1050: Signaling Specifications

MDC-1200 ANI Range	0000-FFFF
MDC-1200 Timing	~180 msec
FleetSync Fleet ID Range	100-349
FleetSync Unit ID Range	1000-3999
G-Star ANI Range	0001-16,383
G-Star Timing	320 msec
DTMF ANI Length	8-digits (maximum)
DTMF Timing	60/40 std (programmable)
5-Tone ANI Length	8-digits (maximum)
5-Tone Timing	Varies per format
Emergency ANI	Yes



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