

SATCOM

WIDEBAND MILITARY
SDR RADIO

PANEL / 19" RADIO



Badger
LAND

Shark
SEA

Hawk
AIR

H - 1.6 MHz to 30 MHz

HV - 1.6MHz to 170 MHz

VU - 30MHz to 512 MHz

HU - 1.6 MHz to 512 MHz

GTAU - 112MHz to 160MHz

GTAU - 225MHz to 400MHz

VERSATILE MILITARY COMMUNICATIONS



This range of radios are designed for panel and rack mount applications with standard low power capabilities.

The performance, features and capabilities are exactly the same as the Leopard1 SDR. The only difference is the larger control head, display and keypad for convenient operations in base stations and mobile applications.

ERGONOMICS

The considerably large display and keypad offer ease of operation for mobile and naval applications. Front peripheral connectivity has been duplicated at the rear of the Badger to allow connection of accessories from either side. This feature permits a clean installation with minimal to no cables protruding from the instrument panel. Additionally, the Badger boasts a built-in three-way antenna switch, capable of automatically selecting the appropriate RF-output for either the HF, VHF or UHF band antennas.

RACK CONFIGURATIONS

The Badger has been specifically designed to be rack or panel mounted, an extension kit facilitates standard 19" rack installation. Various rack configurations for tactical or 19" mountable racks are available with or without additional power amplifier for mobile, base station and cross-band repeater applications. Tactical Racks feature a rapid release (Jerk-And-Run) capability for radios and the Power Amplifiers.

INTEGRATED SATELLITE POSITION RECEIVER

Various satellite positioning systems can be implemented. (GPS, GLONASS*, GPS & GLONASS*, BDS*) The satellite position receiver is integrated and provides timing, position and heading information which can be viewed in the field. The front mounted GPS antenna is highly sensitive, but can be remotely mounted for reception when the Badger is installed in armored vehicles or bunkers. The satellite position data can be displayed in Latitude/Longitude, UTM or MGRS formats. This data can be remotely acquired from a radio in the field or obtained by radio operator initiation.

ANTENNAS

Various wideband or band-specific high gain antennas are available depending on the application and requirements.

HANDSETS AND HEADSETS

The radio interface can accommodate a wide variety of audio devices which includes but is not limited to military-standard handsets, headsets with passive and active Noise Reduction, as well as VOX and Bone Transducer technology for a hands-free operation.

REPEATERS AND RE-BRO

A tactical repeater or re-broadcasting configuration is possible by connecting any two Satcom radios with the AUX cable, and requiring minimal menu set-up. Purpose made repeater racks include a duplexer, band pass filter, power supply and charger for medium to long term repeater deployments. Repeaters and re-bro systems utilising this radio and any other legacy radio is possible using a cross patch box.



Badger



Badger



Hawk



Shark

CONFIGURATION SOFTWARE APPLICATION

The Configuration Software runs on Ruggedised PC's, Laptops or Field Tablets with Windows, enabling users to configure radios with all network parameters such as Channels, Address Book, Quick Messages, Call Sign and ALE network.

KEY GENERATOR SOFTWARE APPLICATION

The Key-Generator is embedded in the Configuration Software and enables the user to create and manage their own secure AES128, 256 and the OTP encryption keys for COMSEC and TRANSEC modes.

BATTLESHIP GREY

AMS STD 595A
#36076

SKY GREY

FED STD 595C
#36473

DESERT TAN

FED STD 595C
#33446

OLIVE DRAB

FED STD 595C
#34088

MODEL	H	HV	HU	VU	GTAV	GTAU
1.6 - 30MHz (30W)	●	●	●			
30 - 88MHz (18W)		●	●	●		
88 - 170MHz (10W)		●	●	●		
170 - 512MHz (5W)			●	●		
112 - 160MHz (15W AM)					●	
225 - 400MHz (15W AM)						●

FEATURE SUMMARY	
Combat Net Radio Channel	STANAG 5066 PC Data Application
Link Establishment	200 Programmable 3G ALE 1 channel every 1.35 sec. 2G ALE 2 / 5 CH per second. SELCALL EIA (EEA, CCIR, ZVEI1, ZVEI2) *
Frequency Stability	0.5 ppm / 0.05 ppm*
Modes	USB/LSB, AM, FM, FSK, MSK (BPSK, QPSK, PSK, QAM, DSSS)*
Power Source	12 VDC (nom) 10 - 36 VDC (operational)
RF Impedance	50-ohm nominal, unbalanced
Dimensions	367W x 85H x 243D mm (excluding Battery) 367W x 85H x 334D mm (13 Ah Battery)
Weight	4.2 kg (excluding Battery)
Interfaces	Serial RS232, (*USB1.1, *Ethernet 10Base-T)
A/F Power + Distortion	External speaker 8 W in 4 ohm, THD 1% Internal Speaker 1 W in 8 ohm, THD 10%
Battery Capacity	Li-Ion (13.0 Ah) 1.2 kg each (Small Battery Pack) Li-Ion (26.0 Ah) 2.2 kg each (Large Battery Pack)
Expected Mission Time	72 hrs (1:1:30) with 26 Ah Battery in Standby mode. 20 hrs (1:1:30) with 26 Ah Battery in full COMSEC MODE
Standard Modem included	
Modes	FSK/MSK
Bit Rates	2400 bps / 1200 bps
Audio Scrambling	Fixed tone inversion
Power Consumption	Hopping tone inversion* 340 mA @12 V (Conditional muted)

TRANSMITTER	
Audio Bandwidth	300 to 2550/3000 Hz (Selectable)
Harmonic Suppression	>50 dB
Undesired Side-band Suppression	>60 dB
Spurious Suppression	>60 dB
Antenna Tuning Capability	3 m Whip (3 to 30 Mhz) Profiled Tune Automatic Antenna Tune 1.6 to 60 Mhz Tuner bypass selectable

RECEIVER	
Sensitivity	-125 dBm (SSB) 10 dB SINAD TYP. -116 dBm (AM) 10 dB SINAD TYP. -118 dBm (FM) 12 dB SINAD TYP.
Image Rejection	>80 dB
IF Rejection	>80 dB
Blocking	>90 dB
Audio Output	Handset: Via 6-way connector Internal Speaker: Selectable on/off External Speaker via 5-way connector
Noise Reduction	DSP Proprietary Compander (2:1)
Squelch Modes	Syllabic Voice Detect RF Signal Level CTCSS

STANDARDS	
Environmental	MIL-STD-810G
EMI/RFI	MIL-STD-461E
Operating Temperature	-30 to +65°C
Storage Temperature	-40 to +85°C

TRANSEC*	
FFH (Fast frequency Hopping)	
Hop Sequence	OTP (One Time Pad), AES128, User Specific
Hop Rate	1/2/5/10/20/50/100/200/400/600 hops per second
Hop Widths	100khz, 1,2,5,10,20,40Mhz wide / User defined frequency bands*
Hopping Key	8-digit decimal Key on OTP (One-Time-Pad) or AES128 More than 40,000 nets.
Synchronization	SPHS (Satellite-Pulse-Hopping-Syn-chronization; GPS / GLONASS) OTAHs (Over-The-Air-Hopping-Syn-chronization) *

COMSEC*	
SDV* (Secure Digital Voice)	AES256 Encryption
VOCODER*	DATA RATES (B/S)
MELPe	2400, 1200, (600, 480, 300) *
TWELP	2400, 1200, (600, 480, 300) * (Export Controlled)

DATA CAPABILITIES*	
Advanced Modem	HF / VHF
Narrowband Data	Up to 64000 bps in 12kHz
Wideband Data	Up to 128000 bps in 24 kHz
SUPPORTED WAVE FORMS	PSK / MSK / QAM Proprietary
Standards and Compliance	
MIL-STD & STANAG	

OPTIONAL MODEM	
INTEROPERABILITY	
All VHF/UHF Features are inter operable with the Cheetah3, Cheetah 3+ and Leopard1 Radios.	
Interoperability with other Military Radios is subject to their implementation of MIL-STD and STANAG protocols.	

IMPLEMENTABLE HF FEATURES*

SSB data Up to 9600 bps in 3 kHz

ISB data Up to 19200 bps in 2x3 kHz

Standards and Compliance MIL-STD & STANAG

SUPPORTED WAVE FORMS

MIL-STD-110A

MIL-STD-110B

MIL-STD-110C

STANAG 4415

STANAG 4285

STANAG 4529

STANAG 4481

STANAG 4065

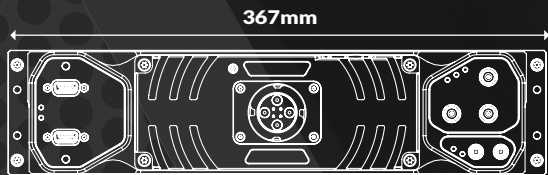
STANAG 4539

SOFTWARE OPTIONS:	
Automatic Link Establishment (ALE)*	
Radios operates in full COMSEC (SDV) and TRANSEC(FFH) Modes during ALE operations.	
Radio can offer either one or both standards of ALE.	
3G ALE (ARCS)	2G ALE
STANAG 4538 FLSU xDL	MIL-STD-188-141B / FED-STD 1045 / FED-STD 1049
TacTalk	RC50
Messaging, Chat, E-mail, File Transfer	Messaging, Chat, E-mail, File Transfer
TacTalk-plus	
Messaging, Chat, E-mail, File Transfer plus Front line Battlefield Awareness.	

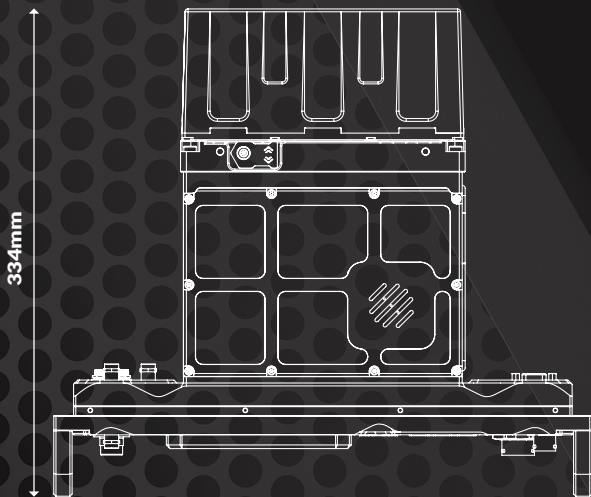
* Optional Choices

Product specifications are correct at time of print. Please verify specifications with our sales department.

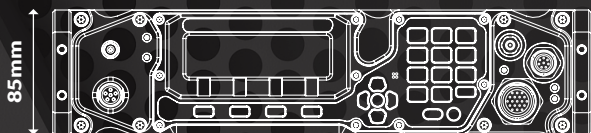
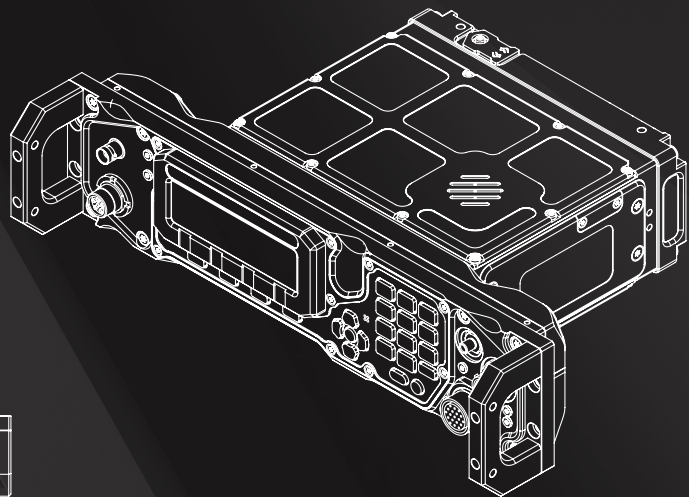




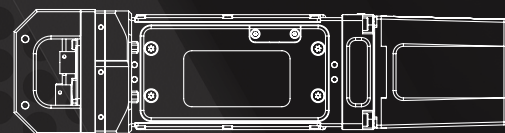
REAR VIEW



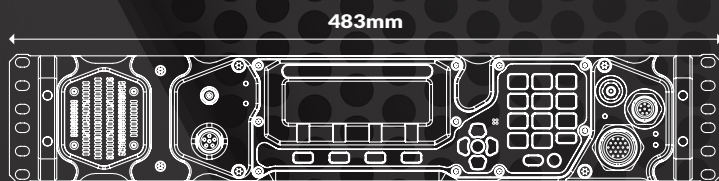
TOP VIEW



FRONT VIEW



SIDE VIEW



19" Extension Kit



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