



ANTI-UAV DEFENCE
AND COUNTER-
MEASURES

ADDITIONAL EQUIPMENT





LEGEND



RX
TYPICAL UAV FEEDBACK CHANNEL:
TELEMETRY, CONTROL, ETC.



GPS/GLONASS
TYPICAL UAV CHANNEL FOR ORIENTATION IN SPACE
USING SATELLITE SYSTEMS



VTX
TYPICAL UAV VIDEO COMMUNICATION CHANNEL



DOME TYPE PROTECTION (HEMISPHERE AOE)
FOR EXAMPLE, A TRUNCATED SPHERE OR A HEMISPHERE
WITH A DIAMETER UP TO 100M WITH THE DEVICE
IN IT'S CENTRE



SECTOR TYPE PROTECTION (CONE AOE)
FOR EXAMPLE, RADIATION IN THE FORM OF A PYRAMID
WITH THE DEVICE AT ITS APEX, SPREADING AT A 45° ANGLE
AND REACHING A HEIGHT OF UP TO 4KM



MIXED TYPE PROTECTION
COMBINATION OF DOME AND SECTOR PROTECTION TYPES
ACHIEVED THROUGH DIFFERENT ANTENNAS

DO NOT

- * INSTALL OR OPERATE DEVICES INSIDE VEHICLES, SHELTERS, DUGOUTS, ETC.
- * USE DEVICES WITH VISIBLE STRUCTURAL DAMAGE OR THE LOSS OF INTEGRITY
- * USE DEVICES FOR UNINTENDED PURPOSES
- * KEEP THE DEVICES IN A SWITCHED ON STATE CONTINUOUSLY
- * USE HOMEMADE ANTENNA CAPS, COVERS OR ANY FORM OF CUSTOM ANTENNAS SHIELDING

STRICTLY PROHIBITED



TO HAVE A FRIENDLY FPV DRONE WITH THE INITIATED
WARHEAD CLOSER THAN 100 METRES TO AN OPERATING
DEVICE



POWER

ACCUMULATORS
CHARGERS
ADAPTERS

STORAGE BATTERY LI-FE-PO4 24-100



Nominal Voltage	25,6V (24V)
Nominal Capacity	105 Ah (2688 Wh)
Operating Time (1 Bandwidth)	345-360 min
Input / Output Connectors	2 / 5
Recommended Charging Voltage	29,2V
Recommended Charging Current	10-40A
Recommended Consuming Devices Switch-off	22V
Maximum Continuous Discharge Current	60A
Peak Short-term Discharge Current	100A
Temperature Conditions	Discharge from -10°C up to +30°C Charge from 0°C up to +30°C
Casing Material	Metal
Size	525 x 338 x 170 mm
Weight	25 Kg

STORAGE BATTERY LI-ION 24-120



Nominal Voltage	25,9V (24V)
Nominal Capacity	120 Ah (3108 Wh)
Operating Time (1 Bandwidth)	345-360 min
Input / Output Connectors	2 / 5
Recommended Charging Voltage	29,2V
Recommended Charging Current	10-40A
Recommended Consuming Devices Switch-off	22V
Maximum Continuous Discharge Current	60A
Peak Short-term Discharge Current	100A
Temperature Conditions	Discharge from -10°C up to +30°C Charge from 0°C up to +30°C
Casing Material	Metal
Size	525 x 338 x 170 mm
Weight	25 Kg

STORAGE BATTERY LI-FE-PO4 24-280



Nominal Voltage	25,6V (24V)
Nominal Capacity	280 Ah (7168 Wh)
Operating Time (1 Bandwidth)	345-360 min
Input / Output Connectors	2 / 4
Recommended Charging Voltage	29,2V
Recommended Charging Current	20-80A
Recommended Consuming Devices Switch-off	22V
Maximum Continuous Discharge Current	60A
Peak Short-term Discharge Current	100A
Temperature Conditions	Discharge from -10°C up to +30°C Charge from 0°C up to +30°C
Casing Material	Metal
Size	765 x 350 x 215 mm
Weight	59,3 Kg

STORAGE BATTERY LI-FE-PO4 24-60

Nominal Voltage	24V
Nominal Capacity	60 Ah (1440 Wh)
Operating Time (1 Bandwidth)	345-360 min
Input / Output Connectors	1 / 4
Recommended Charging Voltage	29,2V
Default Charging Current	15A
Recommended Charging Current	30A ≤
Recommended Consuming Devices Switch-off	23,5V
Maximum Continuous Discharge Current	50A
Peak Short-term Discharge Current	80A
Casing Material & IP Rating	Metal (IP65)
Size	445 x 135 x 450 mm
Weight	12 Kg



STORAGE BATTERY LI-FE-PO4 24-6



Nominal Voltage	25,6V (24V)
Nominal Capacity	6 Ah (144 Wh)
Operating Time (1 Bandwidth)	60-120 min

STORAGE BATTERY LI-FE-PO4 24-12



Nominal Voltage	25,6V (24V)
Nominal Capacity	12 Ah (288 Wh)
Operating Time (1 Bandwidth)	180 min

STORAGE BATTERY LI-FE-PO4 24-220

Nominal Voltage	25,6V
Nominal Capacity	280 Ah (7168 Wh)
Output Voltage	24V
Assembly Blueprint	8S1P
Charge Voltage	29,2V
Recommended Charging Current	20-140A
Recommended Consuming Devices Switch-off	22V
Maximum Continuous Discharge Current	140A
Casing Material & IP Rating	Metal (IP20)
Size	371 x 795 x 587 mm
Weight	82 Kg
Temperature Conditions for Discharge	from -10°C up to +30°C
Temperature Conditions for Charge	from 0°C up to +30°C
Built-in Inverter	
Feature of continuous power supply	Yes
Output Voltage	220 V
Maximum Output Power	3000 W
Output Frequency	50 Hz
Output Waveform	Pure Sine Wave
Inverter Efficiency	88%
Switching Time (maximum)	10 ms
Integrated Charging Device	45 A
Output Interfaces	
1x XT60 connector (40 A), 2x XT90 connectors (60 A), 1x USB QC 3.0/Type-C connector	
Charging port: Single-phase socket (220 V)	
Through terminals, 1 pair (140 A)	
Socket (220 V)	



10A CHARGING STATION FOR STORAGE BATTERIES



Output Connector

XT60-M

20A CHARGING STATION FOR STORAGE BATTERIES



Output Connector

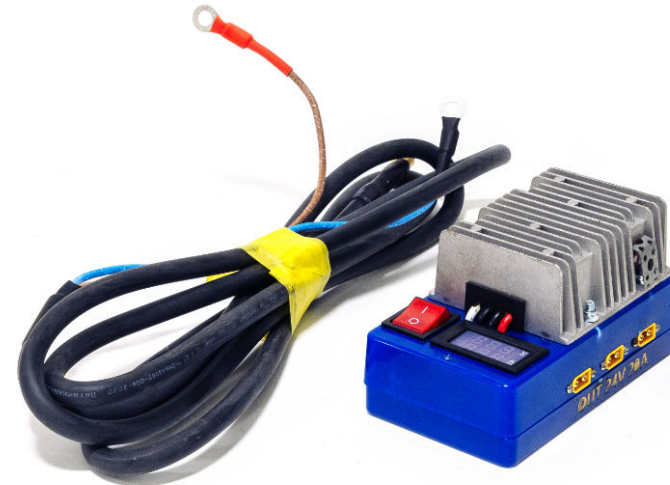
XT60-M

DC-DC VOLTAGE CONVERTER, 12V TO 28V, 5A



Current per 1x STR50-1	5A
Input / Output Connectors	1/1
Controls	One Button for 2 states
Status Indication	Embedded Screen
Voltage	DC 12V - DC 28V
Delivery Package	<ul style="list-style-type: none"> • Voltage Converter • On/Off Button

DC-DC VOLTAGE CONVERTER, 12V TO 28V, 15A



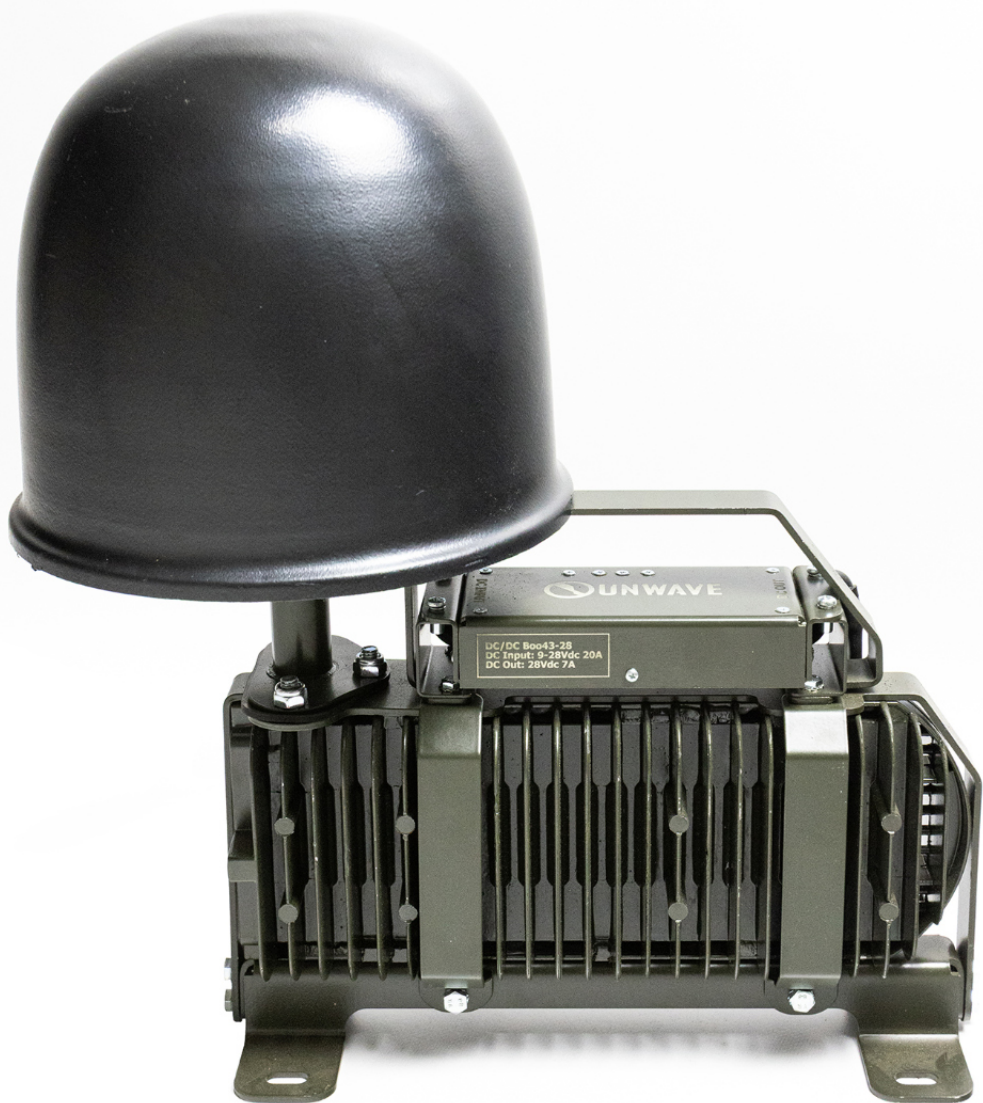
Current per 1x STR50-1	5A (x3)
Input / Output Connectors	1/3
Controls	One Button for 2 states
Status Indication	Embedded Screen
Voltage	DC 12V - DC 28V
Delivery Package	<ul style="list-style-type: none"> • Voltage Converter • On/Off Button

**DC-DC CURRENT CONVERTER,
BOOSTING 12V TO 28V**



In	9-28 V, 20A
Out	28 V, 7A
Input / Output Connectors	1/1
Voltage	DC 12V - DC 28V
Delivery Package	<ul style="list-style-type: none">• Voltage Converter• On/Off Button

EXAMPLE OF MOUNT ON STR50-1 V



A black ruggedized equipment case with a red handle, lying in a field of tall grass and reeds. The case is positioned in the center-left of the frame, partially obscured by the foreground vegetation. The background shows a dense field of tall grass and reeds under a clear sky.

COMMUTATION

CABLE AND SWITCHING PRODUCTS,
BUTTONS, MOUNTING FRAMES

UNIVERSAL JUNCTION KIT

9 OUTPUTS AND
A REMOTE WITH
STATUS INDICATION



Power Supply	DC 24-28V
Input / Output Connectors	1/1 9 device connectors
Control	1 power supply button 3 group activation buttons
Status Indication	Indication Panel Button Glow Light
Delivery Package	<ul style="list-style-type: none"> • Junction box • Control Remote And cable
Optional Equipment	—

STR50-1 REMOTE CONTROL KIT

NO DC-DC
CONVERTER
INCLUDED



Power Supply	DC 24-28V
Input / Output Connectors	2/1 1/1
Control	1 button and 2 states
Status Indication	Button Glow Light
Delivery Package	<ul style="list-style-type: none"> • Junction box • Cable 20m
Optional Equipment	—

3xSTR50-1 JUNCTION BOX

NO DC-DC
CONVERTER
INCLUDED



Power Supply	DC 24-28V
Input / Output	2/3
Control	1 button and 2 states
Status Indication	Button Glow Light
Delivery Package	<ul style="list-style-type: none"> • Activation Remote w/separate Button Connector
Optional Equipment	<ul style="list-style-type: none"> • Activation Button w/20m Cable (separate purchase)

UNIVERSAL REMOTE CONTROL BUTTON



Power Supply	DC 24-28V
Input / Output	1/1
Control	1 button and 2 states
Status Indication	Button Glow Light
Delivery Package	• Universal remote control button
Optional Equipment	—

CABLE FOR UNIVERSAL REMOTE CONTROL BUTTON 20m



Power Supply	—
Input / Output	1/1
Control	1 button and 2 states
Status Indication	—
Delivery Package	• Cabel 2m
Optional Equipment	—

COMMUTATION 3xSTR50-1 KIT WITH UNIVERSAL REMOTE CONTROL BUTTON

NO DC-DC
CONVERTER
INCLUDED



Power Supply	DC 24-28V
Input / Output	2/3 1/1
Control	2 button 2 states per button
Status Indication	Button Glow Light
Delivery Package	• Activation Remote w/separate Button Connector
Optional Equipment	• Cable 20m • Button

UNIVERSAL REMOTE CONTROL BUTTON KIT



Power Supply	DC 24-28V
Input / Output	1/1
Control	1 Two-State Button
Status Indication	Button Lighting
Delivery Package	<ul style="list-style-type: none"> • Universal Remote Control Button • 20m Cable
Optional Equipment	—

REMOTE CONTROL BUTTON FOR 'BOOMBOX' UNITS



Power Supply	DC 24-28V
Input / Output	1/1
Control	3 Two-State Button
Status Indication	Button Lighting
Delivery Package	<ul style="list-style-type: none"> • Remote Control Button for BOOMBOX Units • 6m Cable
Optional Equipment	—

1xSTR50-1 COMMUTATION KIT

**NO DC-DC
CONVERTER
INCLUDED**

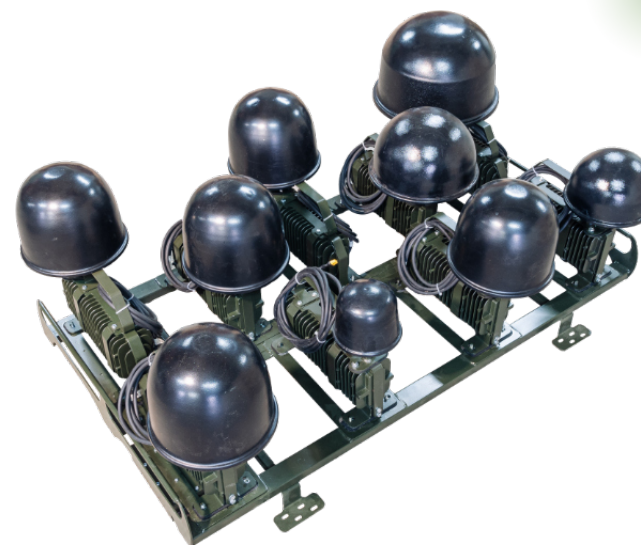


Power Supply	DC 24-28V
Input / Output	1/1
Control	1 Two-State Button
Status Indication	Embedded Screen
Delivery Package	<ul style="list-style-type: none"> • 1xSTR50-1 Commutation Block • Power Supply Cable
Optional Equipment	<ul style="list-style-type: none"> • Built-in Ammeter and Voltmeter



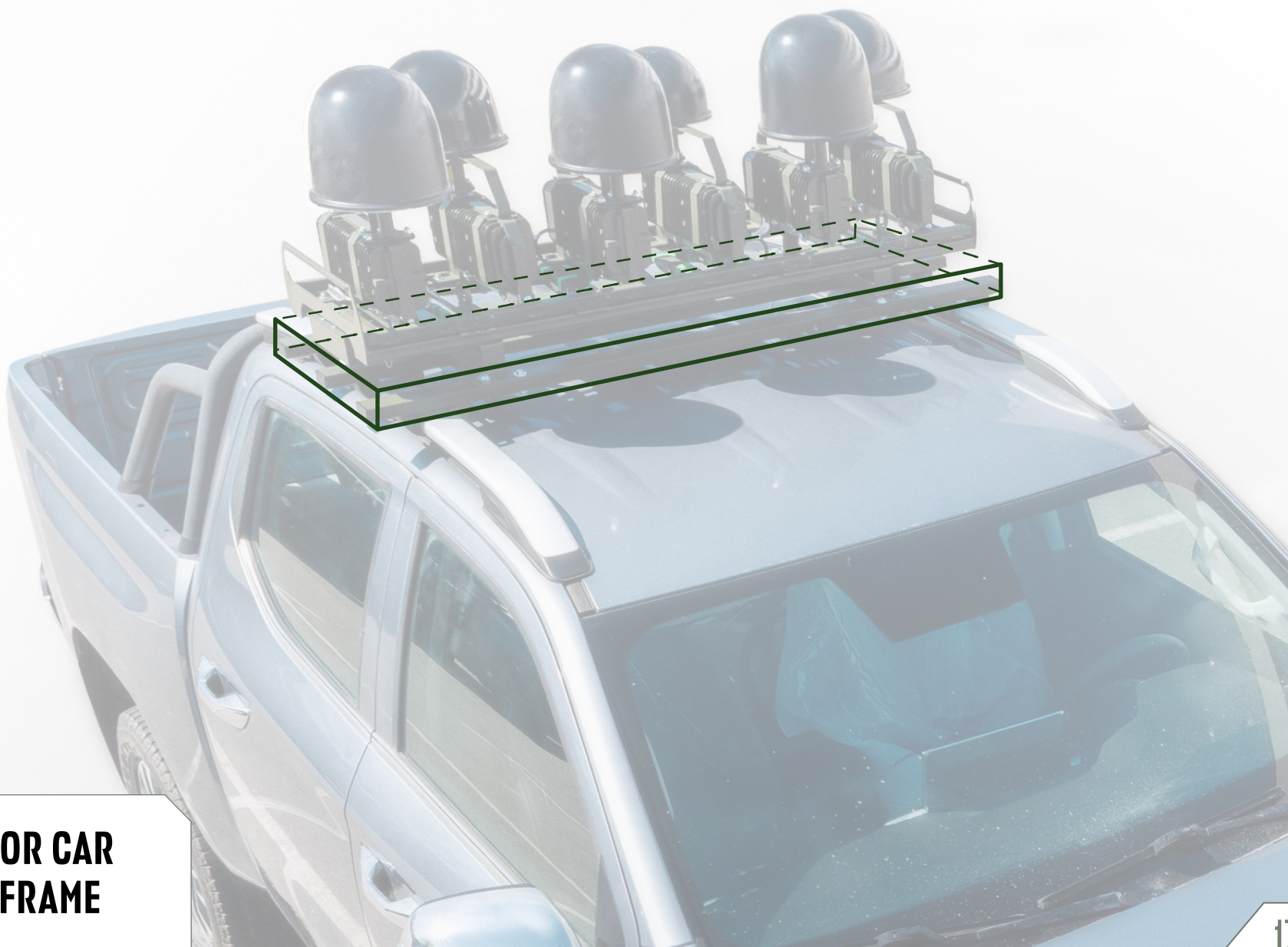
6x STR50-1 FRAME FOR MOUNTING

Power Supply	DC 24-28V
Control	Commutation kit for STR50-1 Or/and button on a frame
Status Indication	—
Size	1 300 × 420 × 210 mm



9x STR50-1 FRAME FOR MOUNTING

Power Supply	DC 24-28V
Control	Commutation kit for STR50-1 Or/and button on a frame
Status Indication	—
Size	1 300 × 810 × 210 mm



**RAILINGS FOR CAR
MOUNTING FRAME**



**TURNKEY INSTALLATION
SERVICE OF THE CAR
'STR50-1' KIT**



SIGINT

SIGNALS INTELLIGENCE DETECTION
OF FPV AND SIMILAR

THESE TOOLS WILL HELP YOU QUICKLY CHECK IF YOUR EW DEVICE OR COMPLEX IS IN WORKING ORDER AND IF IT IS WORKING RIGHT NOW



SPECTRUM ANALYZER VS-MINI SA V2

Purpose	Electronic Warfare Equipment Checkout		
Bandwidths	420-450 MHz	702-850 MHz	840-940 MHz
	970-1020 MHz	2400-2500 MHz	4950-6000 MHz
Control	Embedded Buttons		
Status Indication	Embedded Screen		
Interface/Power Supply	USB-C / Embedded 18650 Type Battery		
Autonomy	Up to 5 hr		
Size	84 x 36 x 46 mm		
Weight	120 g		
Delivery Package	• Spectrum Analyzer VS-MINI SA V2		

PERSONAL EW/ER DEVICE «RADIO VISION 25»

Purpose	Portable Signal Detector with built-in Spectrum Analyzer	
Виявлення	Stationary EW Complexes	Up to 15 km
	DJI, Matrice and similar drones	Up to 3 km
	Radiostations and Small Radius EW	2,5-3 km
	Cellular Phones	1,5 km
Control	Built-in Buttons, Stylus	
Status Indication	Embedded Screen	
Interface/Power Supply	USB-C / Embedded Battery	
Autonomy	60 min with 18°C (Embedded Battery) Unlimited with External Power Supply	
Size	40 x 155 x 200 mm	
Weight	400 g	
Delivery Package	<ul style="list-style-type: none"> • Personal ER Device «RADIO VISION 25» • Waterproof Pouch 	
Optional Equipment	—	

Thanks to its directional antenna, the 'Radio Vision 25' personal EW/ER device enables the operator to scan the environment in 360° and detect electronical emission sources/hostiles both through analogue and digital signals.

The unique transforming body allows you to quickly set up the device for the field application even in harsh conditions.



SIGINT EW-DEFENCE TESTING DEVICE - „EW TESTER”

Purpose	Frequency radiation tester of EW-Defence Devices	
Detection	Stationary EW-D. Device	5–10 km
Frequency Range	240-1020 MHz	
Scan Time	4 seconds	
Interface/Power Supply	USB-C / built-in battery	
Autonomy	26 hours at 18°C (battery) Charging time = 5 hours (DC 5V 2A)	
Size	70 x 105 x 30 mm	
Weight	225 g	
Delivery Package	<ul style="list-style-type: none"> • EW-DEFENCE TESTING DEVICE • USB Type-C charger • User manual • Warranty card 	



SIGINT «MIL. F. A.»

Purpose	Detection of electronic signals from unmanned aerial vehicles (UAVs), transmission of video information to an external monitor
Frequency Analysis	1.2 GHz band - 860–1760 MHz
	5.8 GHz band - 4850–6200 MHz
Antenna	Omnidirectional antenna
Detection Range	15 km
Indicators of device being active & threat found	Light (Visual) alarm
	Sound (Audio) alarm
Video Transmission	Transmission to an external monitor via cable
Power Supply	Battery 2×3400 mAh (18650)
Autonomy	Up to 8 hours
Weight	0.33 kg
Dimensions	115 x 90 x 40 mm
Enclosure Protection	IP52 (partial protection against dust and moisture)
Temperature Range	From -10°C to +35°C
Full Band Scan Time	6 seconds



PRODUCT ANNOUNCEMENT
device still in development






SIGINT "BASHUR"

UAV DETECTOR AND ANALYZER

CREATED TO AUTOMATE DRONE PROTECTION

Intended Purpose	Detection of radio-frequency emissions from unmanned aerial systems (UAS).	
Features	<ul style="list-style-type: none">• Detection and classification of UAS types via data analysis of transmitted communication channels• Video feed interception• Live streaming to external servers and/or services• Data transmission via API• Control of electronic defense devices connected to the system (f.e. SHATRO or BMX by Unwave)	
Detection Range	70 MHz – 6.2 GHz	
Effective Range	Up to 2 km	
Power Supply	DC 9–30 V, ≤20 W	
Supported Target Recognition	<ul style="list-style-type: none">• FPV drones with analog video• FPV DJI O3+• Autel 2	<ul style="list-style-type: none">• FPV Walksnail• DJI Mavic 3 Classic• Autel 4
Cooling	Active cooling	
Weight	0.5 kg	
Dimensions	260 × 440 × 895 mm	
Enclosure Protection	IP54	
Operating Temperature	-10 °C to +35 °C	
System Startup Time	≤5 minutes	
	<div> PRODUCT ANNOUNCEMENT Device still in development</div>	



SIGINT “Bashur” (or others)

Frequency detection range: 70 MHz – 6.2 GHz
Detection range: up to 2 km

EW complex “Shatro”

Up to nine products that can cover the range
from 220 MHz to 5.8 GHz.

Control panel and display

Full control: automatic operation with manual
override capability.
Visual monitoring of threats and system status.



AUTOMATED PROTECTION

of mobile equipment against drones

GLORY TO UKRAINE!



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