

NON-LINEAR JUNCTION DETECTOR — A COMPULSORY TOOL FOR DETECTION OF HIDDEN ELECTRONIC DEVICES / COMPONENTS

APPLICATION AREAS



TSCM

technical surveillance
counter-measures,
bug sweeping



Anti-terror

detection of electronic
components of explosive
devices



Law enforcement

prevention of illegal
usage of electronic
devices

OUR CLIENTS



Counter-intelligence agencies



Private TSCM teams



Corporate security departments



Anti-terror and military bomb squads



Correctional facilities

THE MATRIX OF DEVICES

Series	08	24			36			STAR ¹	
Model	STAR 08	24	STAR 24	STAR 24s	STAR 36m	36	0836 ²	STAR 24s/36m	STAR 08/24/36m
Look									
Frequency	800 MHz	2400 MHz			3600 MHz		800 MHz 3600 MHz	2400 MHz 3600 MHz	800 MHz 2400 MHz 3600 MHz
Summary	CLASSIC	ULTRACOMPACT	OPTIMAL	ADVANCED	REMOTE	REMOTE+	DUAL	UNIVERSAL	ULTIMATE
	Still compulsory for indoor and on-ground inspections in humid climate	The best detectability for indoor easy-to-reach areas search with unique dimensional parameters	Applicable for all kinds of indoor tasks providing the best size-efficiency-usability-price ratio on the market	An integrated spectrum analyzer has made this unit the best solution for complex indoor TSCM ³ tasks	Ideal for indoor inspection when local areas have to be checked on distance up to 3 meters	Universal indoor / outdoor tool for remote detection (up to 5 meters) and various tasks	Simultaneous dual-frequency mode provides the unique solution for outdoor anti-terror tasks	The best for indoor TSCM tasks when search team regularly work within the same areas	3 inter-changeable antenna blocks with removable telescopic pole provide the ultimate solution
EXPERT APPLICABILITY									
 TSCM ³	●●○○○	●●●●○	●●●●○	●●●●○	●●●○○	●●●○○	●●●○○	●●●●○	●●●●●
 Anti-terror ⁴	●●●●○	●●○○○	●●○○○	●●○○○	●●●●○	●●●●○	●●●●●	●●●●○	●●●●○
 Law Enforcement ⁵	●●●○○	●●●●○	●●●●○	●●●○○	●●●○○	●●●○○	●●○○○	●●●●○	●●●●●
 Outdoor ⁶	●●●●○	●●○○○	●●○○○	●●○○○	●●●○○	●●●●○	●●●●○	●●●○○	●●●○○
 Humidity ⁷	●●●●●	●●●○○	●●●○○	●●●○○	●●○○○	●●○○○	●●●●○	●●●○○	●●●●●
 Dressed Person ⁸	●●●○○	●●●●●	●●●●●	●●●●○	●●○○○	●●○○○	●●○○○	●●●●●	●●●●○
REFERENCE RESULTS ⁹									
 SIM-card	—	25 cm	25 cm	35 cm	100 cm	—	— / 150 cm	35 / 100 cm	— / 25 / 100 cm
 Professional shielded voice recorder EDIC-mini Tiny+ B76	20 cm	40 cm	40 cm	70 cm	30 cm	30 cm	20 / 20 cm	70 / 30 cm	— / 30 / 40 cm
 Cell phone Fly model FF177	80 cm (50 cm ¹⁰)	80 cm	80 cm	100 cm	350 cm	500 cm	200 / 300 cm	100 / 350 cm	80 / 80 / 350 cm

¹ STAR – more combinations available; all STARs have a telescopic pole in package; all STARs have unified and universal control panels applicable for 5 different antenna blocks

² 0836 – 3 modes (800MHz, 3600MHz, 800 and 3600 simultaneously)

³ TSCM (technical surveillance counter-measures) – searching for unauthorized spying devices (bugs, primarily audio)

⁴ Anti-terror – detection of electronic components of explosive devices

⁵ Law enforcement – detection of unauthorized mobile phones and SIM-cards in prisons

⁶ Outdoor – expert opinion on how applicable a device for possible outdoor tasks

⁷ Humidity – more than 90% or water

⁸ Dressed person – searching for hidden electronic components on the dressed person

⁹ REFERENCE RESULTS – Recorded experiments have been

held inside an office; with medium humidity (50%); without obstacles between NLJD and target electronic device/component; antenna block surface parallel to target electronic device/component; maximum power

¹⁰ 50cm – wet sand / 0 degrees Celsius

UNIQUE NON-LINEAR JUNCTION TECHNOLOGIES

SPECTRUM ANALYZER

MODEL: LORNET STAR (24s)

Spectrum analyzer allows an operator to see VISUAL differences between natural (like metal corrosion) and artificial (electronic) semiconductors. In combination with traditional listening to responses on the 2-nd harmonics spectrum analyzer significantly increases the efficiency and speed of search process



HIGH FREQUENCY RANGE – 3600 MHz

MODEL: LORNET STAR (36m),
LORNET 36,
LORNET 0836

Non-linear detector with the probing signal frequency range of 3600 MHz and narrow beam pattern (only 15 degrees) can detect semiconductors AT THE DISTANCE (up to 10 meters) and identify its' exact location at the same time



DUAL FREQUENCY MODE

MODEL: LORNET 0836

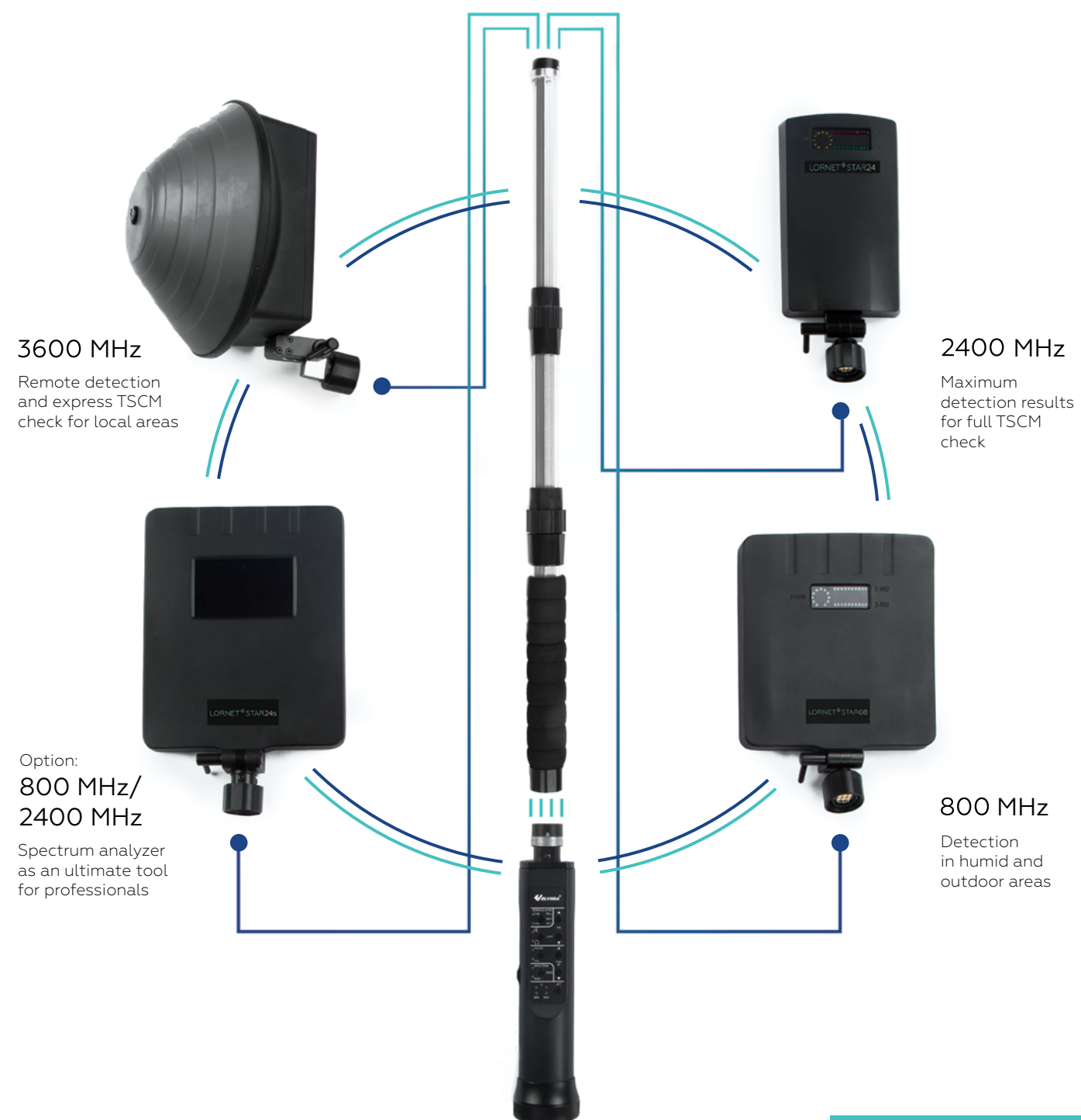
Combination of low (800 MHz) and high (3600 MHz) frequencies allows to detect various objects (including radio-controlled explosive devices) very fast covering radius of 10-15 meters

ELVIRA LORNET STAR

UNIQUE NON-LINEAR JUNCTION TECHNOLOGIES

ALL-IN-ONE & ONE-FOR-ALL DETECTOR:

one control panel, one telescopic pole and five different transceiver heads for all variety of possible tasks



TECHNICAL CHARACTERISTICS

Series	24			36		
Model	24	STAR 24	STAR 24c	STAR 36m	36	0836
WEIGHT & DIMENSIONS						
Device dimension	50x17x5 cm	39x10x5 cm	47x10x5 cm	50x17x5 cm	47x20x16 cm	52x32x22 cm
Rod extension (from min to max)	43-97 cm	n/a	43-97 cm	43-97 cm	43-97 cm	n/a
Full weight of operational device without rod * + 0,2 kg — rod weight	1 kg*	0,7 kg	1 kg*	1 kg*	1,2 kg*	1,4 kg
Full weight of the device with transportation bag	2,7 kg	1,5 kg	2,7 kg	2,7 kg	3 kg	4,4 kg
TECHNICAL CHARACTERISTICS						
Probing signal frequency range (number of channels)	788-792 MHz (9)	2406-2414 MHz (5)	2406-2414 MHz (5)	2395-2405 MHz (11)	3581,5-3607,5 MHz (3)	3581,5-3607,5 MHz (3)
Frequency selection is done automatically when you turn on the product by the criterion of minimum interference in the receiver path of the 2-nd harmonic						
The maximum power of the probing signal (peak / average):						
Low Duty Cycle Pulse Mode (Pulse)	10 W/230 mW			18 W / 112 mW	18 W / 112 mW	18 W / 64 mW
Continuous Wave Mode (CW)	300 mW	200 mW	330 mW	330 mW	n/a	n/a
Pulse mode with low pulse ratio (CW)	n/a	n/a	n/a	n/a	6 Bτ / 375 mW	12 Bτ / 600 mW
Probing signal power adjustment range	20 dB (11)		30 dB (17)	22 dB (11)	22 dB (11)	20 dB (8)
Receivers Sensitivity	<-110 dBm (measured in coaxial environment, without antennas, with a calibration signal applied from a test signal generator directly to the receiver input)					
Beamwidth of the transmitting antenna	110°	90°		16°		16° and 110°
Dynamic Range of the Receive Path	24 dB				30 dB	24 dB
Operation Time from the built-in accumulator at the maximum rated power						
Pulse mode	3 hours			2,5 hours	3 hours	2,5 hours
Continuous mode	2,5 hours in Low Duty Cycle Pulse Mode			1,5 hours in High Duty Cycle Pulse Mode		
Battery charging time	1 hour	4 hours	1 hour		4 hours	



Vladimir Orlov
Founder of Lornet Export

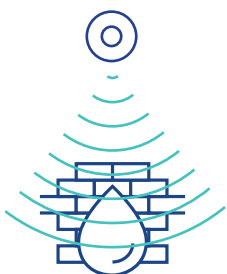
"What we hear from our customers is that modern spy devices have become incredibly compact and cleverly shielded demanding better skills and better technical solutions. What we also observe today is that NLJDs are implemented to solve a variety of tasks rather than just counter-surveillance and all this lead to the conclusion that "one-fits-all" formula is no longer working.

Therefore we see the future of non-linear detection in customization and very specific profound technical solutions for different applications.

We thought this way while we were developing the Lornet STAR: one control panel, removable telescopic pole, changeable antenna blocks and spectrum analyzer to better suit all variety of TSCM, anti-terror and other tasks".

FREQUENCIES

800 MHz



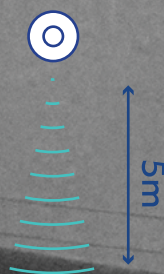
wide beam
high penetration rate
blind to small pieces

2400 MHz



medium beam
best detection results
TSCM standard

3600 MHz



narrow beam
low penetration rate
remote detection