

599
lab



PRODUCT
CATALOG **2025**



TX-500 DISCOVERY

HF/50Mhz Portable SDR Transceiver

The Lab599 TX-500 DISCOVERY is a compact amateur shortwave transceiver covering the 160–6 meter amateur bands (0.5–56.0 MHz) in all modes, with a maximum output power of 10 watts.

This transceiver provides essential features of a desktop radio, including a notch filter, noise reduction, impulse noise suppression, a 48 kHz-wide panoramic display, receive and transmit audio equalizers, I/Q outputs, CAT control capability, and easy USB firmware updates.

The transceiver's chassis is precision-milled from durable aluminum alloy and coated with an anodized protective layer, giving it a distinctive appearance, reliable impact resistance, and effective heat dissipation for the transmitter's final stage. High-precision machining and a sealed design with no through-holes make the transceiver splash- and dust-resistant, ensuring reliable performance even in extreme conditions.

PART NUMBER: LAB-TX500

MAIN FEATURES:

- 1160-6 meter amateur bands
- Continuous frequency range on receive: 0.5 to 56.0 MHz
- Adjustable power from 1 to 10 watts
- Supported modulations: SSB, CW, DIG, AM, FM
- High-performance 48 kHz wide real-time pan-adapter
- High performance 32-bit floating point DSP processor
- Efficient power consumption — up to 100mA in receive mode
- External DC 9-15V power supply, 1 to 3A in transmit mode
- High contrast monochrome LCD display, 256×128 pixels resolution
- Internal software update via USB interface
- Housing made of aluminum alloy
- Dimensions (L×W×H): 228 × 90 × 30 mm
- Weight: 550 gr.

PACKAGE INCLUDES:

1. HSM-500 Hand Speaker-Microphone — 1 pcs.
2. AD-502 CAT-USB Adapter — 1 pcs.
3. AD-504 Power Cable — 1 pcs.
4. AD-501 MIC/SPK/PTT Adapter — 1 pcs.
5. AD-503 CW Adapter — 1 pcs.
6. GX12 plug, 7 pin — 1 pcs.



TX-500PRO

HF/VHFL Portable SDR Transceiver

The professional compact shortwave transceiver Lab599 TX-500PRO is designed to ensure reliable communication in remote and hard-to-reach areas under challenging operating conditions. It can be used for organizing professional, emergency, or backup communication in various industries and sectors, as well as for tourism and emergency services.

The transceiver offers exceptional reliability thanks to its well-engineered circuitry and durable CNC-milled duralumin chassis. Its splash- and dust-resistant design, coupled with a non-glare, high-contrast monochrome display, ensures usability in demanding environments. Unique features such as ultra-low power consumption, lightweight construction, and compact dimensions provide excellent autonomy and portability.

The user interface is optimized for channel mode operation, making it easy to use even for operators with minimal training. Additionally, channel programming via PC minimizes setup time and allows for quick deployment of the transceiver in the field.

PART NUMBER: LAB-TX500

MAIN FEATURES:

- Continuous frequency range: 0.5 — 56.0 MHz;
- Adjustable power from 1 to 10 W
- 100 programmable channels
- Supported modulations: SSB (USB, LSB), CW, DIG, AM, FM
- Possibility of connecting an external digital speaker microphone
- Efficient power consumption — up to 100 mA in receive mode
- External power supply DC 9-15V, from 1 to 3A (in transmit mode)
- High-contrast monochrome LCD display, resolution 256 × 128 pixels
- Updating the internal software via USB interface
- Software for programming channels from a PC
- Housing made of aluminum alloy
- Dimensions (L×W×H): 228 × 90 × 30 mm
- Weight: 550 g.

PACKAGE INCLUDES:

1. HSM-500 Hand Speaker-Microphone — 1 pcs.
2. AD-502 CAT-USB Adapter — 1 pcs.
3. AD-504 Power Cable — 1 pcs.
4. AD-501 MIC/SPK/PTT Adapter — 1 pcs.
5. AD-503 CW Adapter — 1 pcs.
6. GX12 plug, 7 pin — 1 pcs.



TX-500PRO ALTAI

HF/VHFL Portable SDR Transceiver

The Lab599 TX-500PRO ALTAI is a professional-grade compact shortwave transceiver designed for reliable communication in remote and hard-to-reach areas under challenging conditions. While originally intended for professional use, it offers features that make it appealing to amateur radio enthusiasts seeking a rugged and versatile device.

The TX-500 ALTAI transceiver stands out with its durable CNC-milled aluminum alloy body, splash- and dust-resistant design, and a high-contrast display that remains easy to read even in bright sunlight. The absence of encoders and extra buttons simplifies operation, reduces the likelihood of user errors, and enhances the unit's sealing against the elements. Its exceptionally low power consumption, lightweight design, and compact size ensure outstanding portability and operational independence.

The user interface is streamlined for channel mode, making it intuitive even for users with minimal prior experience. PC-based channel programming further simplifies setup, allowing for quick and efficient deployment of the transceiver in the field or during portable operations.

PART NUMBER: LAB-TX500ALT

MAIN FEATURES:

- Continuous frequency range: 0.5 to 56.0 MHz
- Adjustable power from 1 to 10 W
- 100 programmable channels
- Modulation support: SSB (USB, LSB), CW, DIG, AM, FM
- Possibility to connect an external digital speaker-microphone
- Efficient power consumption — up to 100 mA in receive mode
- External power supply DC 9-15V, from 1 to 3A (in transmit mode)
- High contrast monochrome LCD display, 256×128 pixels resolution;
- Internal software update via USB interface
- Software for programming channels from PC
- Housing made of aluminum alloy
- Dimensions (L×W×H): 228 × 90 × 30 mm
- Weight: 525 g.

PACKAGE INCLUDES:

1. HSM-500 Hand Speaker-Microphone — 1 pcs.
2. AD-502 CAT-USB Adapter — 1 pcs.
3. AD-504 Power Cable — 1 pcs.
4. AD-501 MIC/SPK/PTT Adapter — 1 pcs.
5. AD-503 CW Adapter — 1 pcs.
6. GX12 plug, 7 pin — 1 pcs.

TX-500MP

HF/VHFL Manpack Transceiver

The TX-500MP is a unique compact portable HF transceiver in a «manpack» format, designed for professionals and enthusiasts who prioritize mobility, responsiveness, and extended autonomy. Built on the proven TX-500 platform, this transceiver has demonstrated its reliability over time.

The transceiver is engineered for demanding environments, featuring a rugged aluminum alloy chassis that protects against mechanical damage. Its sealed design with no through-holes prevents dust and moisture ingress. Exceptionally low power consumption, combined with the BP-550 battery pack, ensures extended autonomous operation.

The TX-500MP offers a comprehensive feature set while remaining user-friendly, appealing to both seasoned operators and those with limited experience. Its channel mode with pre-programmable settings simplifies operation and ensures quick deployment.

A built-in automatic antenna tuner enhances versatility, enabling seamless operation with various antennas, including portable models. This ensures rapid readiness for on-air communication, which is especially critical in emergency situations.



MAIN FEATURES:

- Continuous frequency range on receive: 0.5 - 56.0 MHz
- Frequency range on transmit: 1 - 30 MHz with ATU; 45 - 56 MHz
- Support modes: SSB, CW, AM, FM, DIG
- Built-in automatic antenna tuner, matching range: 6-400 ohms
- Frequency stability: ± 0.5 ppm (-10°C to $+60^{\circ}\text{C}$);
- High-performance 32-bit DSP processor floating point;
- Power consumption in receive mode - up to 100mA (with screen backlight, without preamplification, without signal);
- External power supply DC 9-15V, 1 to 3A (in transmit mode)
- High-contrast monochrome LCD display, 192x96 pixels resolution
- 100 programmable channels
- Software for programming channels from PC
- Dimensions (LxWxH): 90 x 207 x 21 mm
- Weight without battery pack: 525 g.
- Weight with battery pack (6Ah): about 1 150 g.

PART NUMBER: LAB-TX500MP

PACKAGE INCLUDES:

1. HSM-500-GX16 Hand Speaker-Microphone — 1 pcs.
2. AD-511 PWR/DATA/CW adapter — 1 pcs.
3. AD-502 CAT-USB Adapter — 1 pcs.
4. AD-504 Power Cable — 1 pcs.
5. Antenna adapter Type-N to BNC — 1 pcs.

ENHANCEMENTS

BP-550 Smart Battery Pack

PART NUMBER: LAB-BP550



The BP-550 battery pack is designed to power TX-500 series transceivers using replaceable 18650 Li-Ion batteries.

It supports charging via USB Type-C and from power sources with a voltage range of 13–50V, including vehicle power systems, solar panels, and more. The pack features LED charge indicators and provides battery status data directly to the transceiver's display.

The durable housing is made of impact-resistant plastic and includes protection for connectors and buttons against dust and splashes. Foldable legs allow for a convenient tilt angle and prevent accidental activation. An aluminum heatsink ensures optimal operating temperatures for the transceiver.

MAIN FEATURES:

- Compatibility with transceivers: TX-500 (DISCOVERY, PRO, ALTAI), TX-500MP
- Li-Ion 18650 cells, 6 pcs.
- External power supply DC 13–50V, 3A
- USB-C charging (standards PD 2.0/3.0, BC 1.2, power of the charger not less than 30W)
- Four-segment LED charge level indicator
- Materials:
 - housing: impact resistant plastic
 - heatsink: aluminum alloy
- Dimensions (L×W×H): 207×90×30 mm.
- Weight (without batteries): 350 g.

PACKAGE INCLUDES:

1. USB-C charging cable — 1 pcs.
2. 3 mm Allen key — 1 pcs.
3. 2 mm Allen key — 1 pcs.
4. M4 × 25 mm screws — 4 pcs.
5. User manual — 1 pcs.

Docking station DS-500

PART NUMBER: LAB-DS500



MAIN FEATURES:

- Compatibility with transceivers: TX-500 (DISCOVERY, PRO, ALTAI), TX-500MP
- Supported control protocols:
 - external ATU: Kenwood
 - external PA: Xiegu XPA125B
- Material: polyurethane, nylon, aluminum alloy
- Dimensions (L×W×H): 120×210×180 mm.
- Weight: 700 g.

PACKAGE INCLUDES:

1. Docking station DS-500 — 1 pcs.
2. Bracket — 1 pcs.
3. Fastening kit — 1 pcs.

The DS-500 docking station is a versatile module for TX-500 series transceivers, enabling control of additional external devices such as an antenna tuner (Kenwood protocol) and a power amplifier (Xiegu XPA125B protocol).

The docking station connects directly to the transceiver without the need for additional cabling or external power. Included in the package is a swivel mount, allowing for secure attachment in various orientations and convenient adjustment of the working position.

ACCESSORIES

LFE-12V6 External battery LiFePO4 Part number: BAT-LFE12V6  Lithium-iron-phosphate battery (LiFePO4) 12 V, 6 Ah Compatibility: TX-500 DISCOVERY, TX-500PRO, TX-500PRO AITAI, TX-500MP	CW-500 Iambic Paddle Key Part number: LAB-CW500-GX12P5  Compact direct-mount iambic paddle key for TX-500 series transceivers Compatibility: TX-500 DISCOVERY, TX-500PRO, TX-500PRO AITAI	CW-500U Universal Iambic Paddle Key Part number: LAB-CW500U-TRS  Compact universal iambic paddle key with 3.5 mm jack connector Compatibility: UNIVERSAL
CR-500 Advanced Pan/Tilt Cradle Part number: AC-CR500  360° rotatable cradle for TX-500 series transceivers Compatibility: TX-500 DISCOVERY, TX-500PRO, TX-500PRO AITAI, TX-500MP*	EX-550 Protected case Part number: AC-EX550  Compact, shockproof, waterproof case Compatibility: TX-500 DISCOVERY, TX-500PRO, TX-500PRO AITAI, TX-500MP	CB-2512 Compact Carry Bag Part AC-CP2512KH  Compact bag for carrying and storing the transceiver Compatibility: TX-500 DISCOVERY, TX-500PRO, TX-500PRO AITAI, TX-500MP*
HSM-500 Hand Speaker-Microphone Part number: AC-HSM500-GX12P6  Handheld waterproof speaker microphone with PTT, GX-12 6 pin plug Compatibility: TX-500 DISCOVERY, TX-500PRO, TX-500PRO AITAI	HSM-500-GX16 Hand Speaker-Microphone Part number: AC-HSM500-GX16P10  Handheld waterproof speaker microphone with PTT, GX-16 10 pin plug Compatibility: TX-500MP	

* Without Battery Pack

CABLES AND ADAPTERS

AD-501 MIC/SPK/PTT Adapter

Part number: AD501-MSP-GX12P6



Headset/speaker and microphone adapter with PTT button

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI)

AD-502 CAT-USB Adapter

Part number: AD502-CATUSB-GX12P4



Adapter for CAT control and firmware updates via USB

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI),
TX-500MP**

AD-503 CW Adapter

Part number: AD503-CW-GX12P5-TRS



Adapter for CW key connecting

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI)

AD-504 Power Cable

Part number: AD504-PWRC-GX12P2



Cable with 3A fuse for connecting an external power supply

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI),
TX-500MP**

AD-505 Car Power Adapter

Part number: AD505-PWRA-GX12P2



Car power (12V) adapter with a 3A fuse

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI),
TX-500MP**

AD-506 PC Audio-Data Cable

Part number: AD506-ADC-GX12P7-2TRS



Audio-data cable for digital mode operation with PC

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI)

AD-507 Smartphone Audio-Data Cable

Part number: AD507-ADC-GX12P7-TRRS



Audio-data cable for digital mode operation with smartphones

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI)

AD-508 USB-C Audio-Data Cable

Part number: AD508-ADC-GX12P7-USBC



USB-C Audio-data cable for digital mode operation

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI)

AD-509 USB PnP Audio Interface

Part number: AD509-ADINT-USB



SB audio interface for digital modes operation with a PC

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI)

AD-510**Compact CW adapter**

Part number: AD510-CWC-GX12P5-TRS



Compact adapter
for connecting a CW key

Compatibility:

TX-500 (DISCOVERY, PRO, AITAI)

AD-511**PWR/DATA/CW adapter**

Part number: AD511-PDC-GX16P9



Adapter for external power cable
AD-504, adapter AD-502 and CW key

Compatibility:

TX-500MP

AD-512**Power Adapter USB-C**

Part number: AD512-PWRA-USBC



USB-C PD/QC 12V power adapter

Compatibility:TX-500 (DISCOVERY, PRO, AITAI)
TX-500MP**

ANTENNAS AND MASTS

xTrap IV 204080**Shortwave antenna**

Part number: ANT-XT204080



Inverted V shortwave dipole antenna
for the range 20-40-80 m

xTrap IV 2040**Shortwave antenna**

Part number: ANT-XT2040



Inverted V shortwave dipole antenna
for the range 20-40 m

xTrap IV 4080**Shortwave antenna**

Part number: ANT-XT4080



Inverted V shortwave dipole antenna
for the range 80 m

DA-HFF**Shortwave antenna**

Part number: ANT-DAHFF



Fixed frequency Inverted V
dipole antenna

PA-HF27**HF portable antenna**

Part number: ANT-PAHF27



27 MHz portable
antenna

TM-FG9M**Telescopic Mast**

Part number: TM-FG9M



Telescopic fiberglass
mast 9 m high

TM-CF9M**Telescopic Mast**

Part number: TM-CF9M



Telescopic carbon
mast 9 m high

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