SPECIFICATION & INSTRUCTIONS

THE NLJD



DATE

22 AUGUST 2026

VERSION

2.0

BASIC OVERVIEW

KIT CONTENTS

1 x NLJD instrument

1 x Charger

2 x Battery cartridges

1 x Carrying case

PURPOSE

Professional technical surveillance countermeasures (TSCM) inspection and location of non-linear junction responses.

CONTROLS

Single-press power button, three operating buttons and two harmonic level-indicator columns.

START-UP

Allow 60–90 seconds for calibration, set Tx power, then conduct a proximity test.



CALIBRE NLJD / PRODUCT VIEW

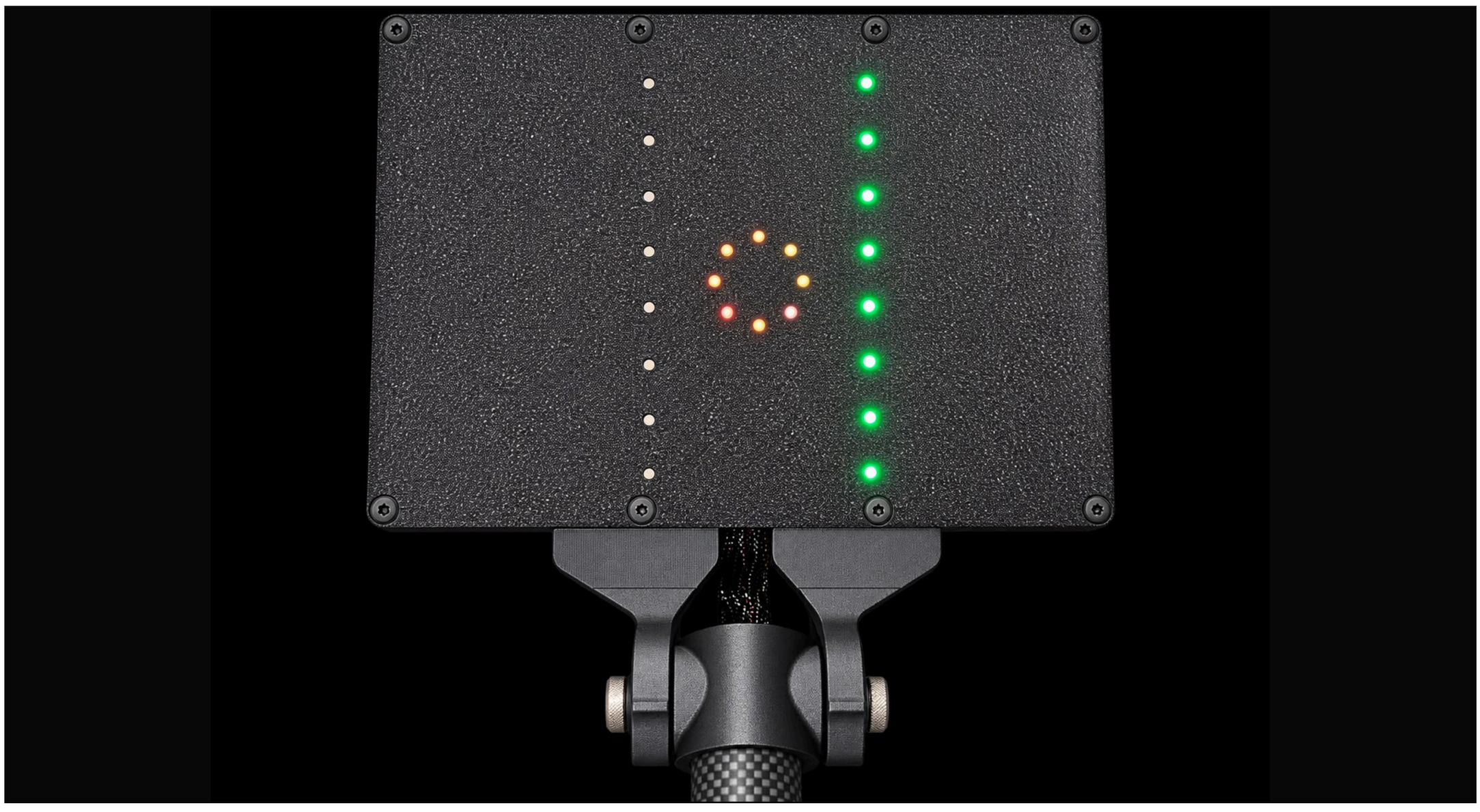
INTRODUCTION

WHAT IS A NON-LINEAR JUNCTION DETECTOR?

An NLJD transmits a radio-frequency signal and monitors harmonic responses arising from non-linear junctions. It can help locate electronic components even when the equipment containing them is switched off.

HOW TO INTERPRET A RESPONSE

Both the second and third harmonic responses can provide useful information. A reading alone does not prove that a device is electronic or concealed: corroded or dissimilar-metal contacts can also produce responses. Verify all points of interest.



FRONT PANEL / HARMONIC-LEVEL DISPLAY

INSTRUMENT AT A GLANCE



FRONT FACE / DUAL HARMONIC LED BARS

LEFT

Tx UP

Increase transmitted power.

MIDDLE

MUTE

Silence the audible alert.

RIGHT

Tx DOWN

Decrease transmitted power.

POWER BUTTON — Press once for ON; press once again for OFF.

SAFETY INFORMATION

GENERAL HANDLING

Protect the equipment from impacts, moisture and contamination. Do not insert objects into openings or expose electrical contacts to conductive debris.

RF TRANSMISSION

Operate only within applicable radio regulations and product approval conditions. Do not point an active antenna at people from close range; follow the manufacturer’s RF-exposure guidance.

BATTERY & CHARGER

Use only compatible, manufacturer-approved battery cartridges and charging equipment. Do not charge a damaged, swollen, wet or unusually hot battery. Never short the cartridge terminals.

CHARGING ENVIRONMENT

Charge on a stable, non-flammable surface in a dry area with reasonable supervision. Keep the charger uncovered and disconnect it once charging is complete.

SERVICE & REPAIR

Do not dismantle, modify or repair the NLJD yourself. If it becomes damaged, overheats or behaves abnormally, stop operating it and contact Calibre support.

GETTING STARTED

01

FIT THE BATTERY

Insert a suitably charged battery cartridge and ensure it is correctly seated.

02

POWER ON

Press the power button once. The illuminated switch ring indicates power.

03

ALLOW CALIBRATION

Wait up to 60–90 seconds before relying on harmonic readings.

04

SET Tx POWER

Use the left and right operating buttons to increase or decrease transmitter power.

05

PROXIMITY TEST

Place the antenna near a known electronic component and verify a response.

06

BEGIN INSPECTION

Scan methodically. At the end of use, press POWER once to turn the unit off.

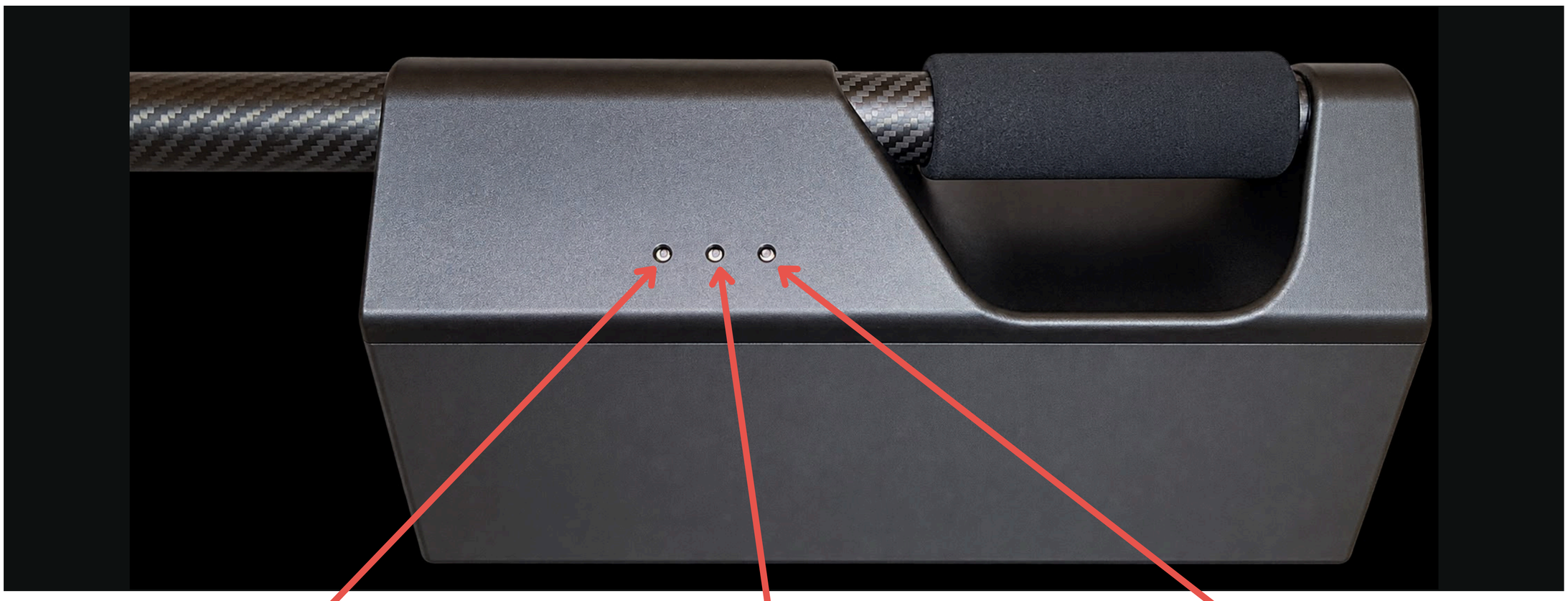


POWER OFF



POWER ON

OPERATING CONTROLS



01 / LEFT

Tx UP

Press to increase the transmitter-power setting.

02 / CENTRE

MUTE

Press to silence the buzzer during detection.

03 / RIGHT

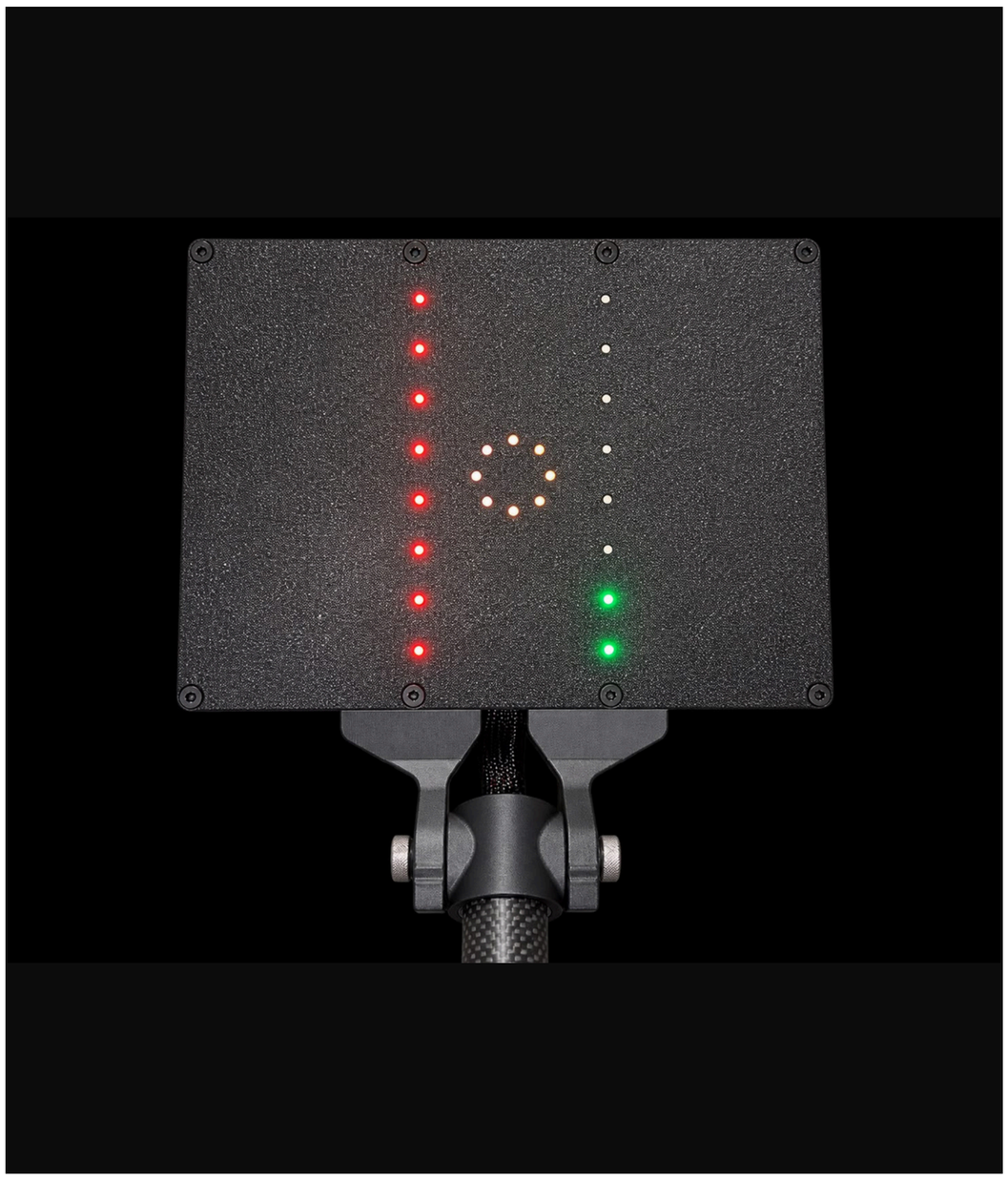
Tx DOWN

Press to reduce the transmitter-power setting.

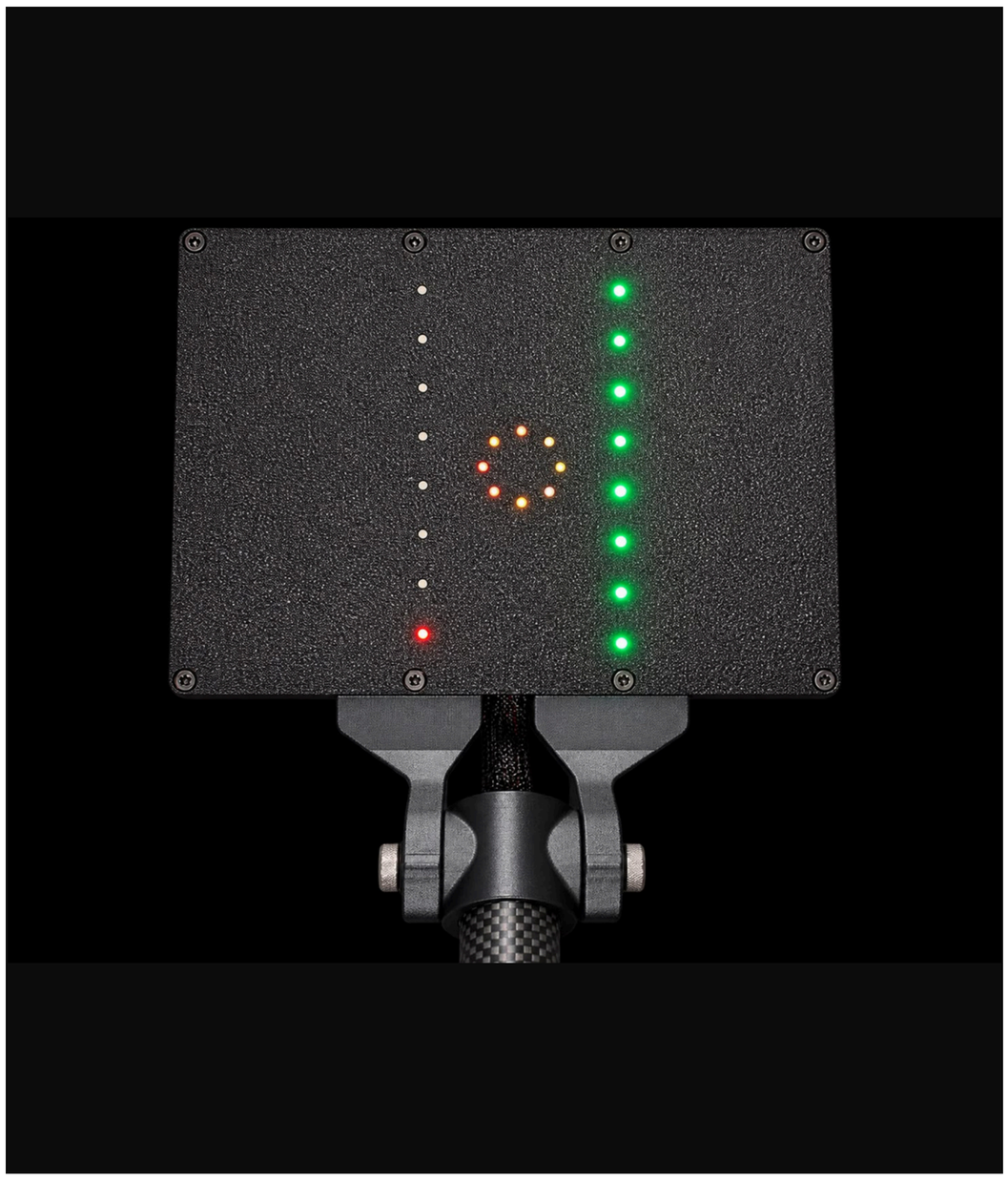
BUZZER BEHAVIOUR

The buzzer is activated when either harmonic response crosses the programmed threshold. Muting the buzzer does not disable the visual LED indications.

HARMONIC INDICATORS



RED LED COLUMN / LEFT



GREEN LED COLUMN / RIGHT

WHAT THE LED BARS SHOW

Illuminated segments indicate relative harmonic response strength. More illuminated segments correspond to a stronger reading on that channel. Compare the two columns at the same antenna position and Tx setting.

IMPORTANT: CHANNEL IDENTIFICATION

The photographs establish left/red and right/green placement, but the mapping of second versus third harmonic to these columns must be confirmed from the production electronics before release.

PROXIMITY TEST

BEFORE EACH INSPECTION

Perform a short check on a known electronic item to confirm that the instrument responds after calibration.

01

SELECT A REFERENCE

Use a known electronic component or circuit as a repeatable test object.

02

POSITION THE ANTENNA

Approach carefully, keeping a consistent test distance and orientation.

03

ADJUST TRANSMITTER POWER

Use Tx UP or Tx DOWN to obtain a clear, unsaturated LED response.

04

CONFIRM OPERATION

Check for a repeatable harmonic indication before inspecting the unknown area.



REFERENCE CHECK / ILLUSTRATIVE PANEL RESPONSE

SCANNING PROCEDURE

01

START AT A MODERATE POWER

Begin with a Tx setting that gives a usable reference response without saturating the display.

02

MOVE METHODICALLY

Inspect the target area in a slow, repeatable pattern and maintain a broadly consistent antenna orientation and separation.

03

LOCALISE THE RESPONSE

If a harmonic indication appears, revisit the area from different positions and angles to find the strongest consistent point.

04

REDUCE POWER IF SATURATED

Use Tx DOWN when many LEDs stay illuminated; a lower setting can help pinpoint the source.

05

ASSESS BOTH CHANNELS

Compare second- and third-harmonic behaviour. A response is a lead for investigation, not proof of a specific device.

BATTERY CARTRIDGES

SUPPLIED WITH THE CASE

The standard case contains two interchangeable battery cartridges. Keep a charged spare available for inspections and store the unused cartridge so that its terminals cannot short.



SWITCH UNLIT

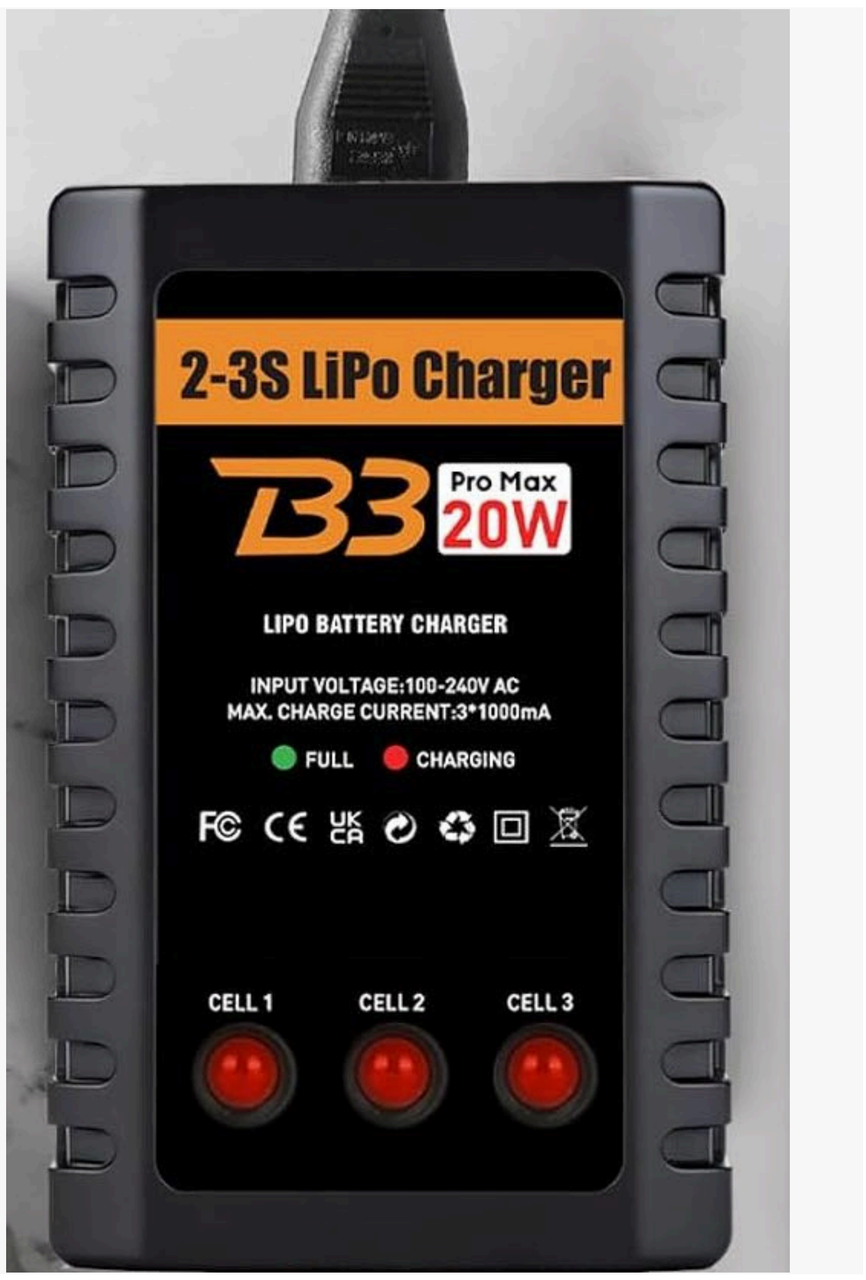


SWITCH ILLUMINATED

HANDLING AND STORAGE

Power the instrument off before changing a cartridge. Check that the cartridge is seated securely before restart. Protect the connection points from moisture, dust and metal objects. Do not operate or charge a damaged cartridge.

CHARGING THE BATTERY



RED LEDs / CHARGING



GREEN LEDs / FULL

CONNECTING THE CHARGER

Use the supplied charger and lead. Connect the charger cable to the battery-cartridge charging connection and then connect the charger to a suitable mains outlet. Monitor charging on a safe, dry, ventilated surface.

UNDERSTANDING THE THREE LIGHTS

The charger is labelled CELL 1, CELL 2 and CELL 3. Three green LEDs indicate charging is complete. Its printed legend identifies red as CHARGING; three red LEDs should not be described as a definitive 0% battery reading.

TROUBLESHOOTING

UNIT WILL NOT START

Check the cartridge is correctly installed and charged. Inspect external terminals for dirt or damage; do not open the equipment.

NO HARMONIC RESPONSE

Allow the full 60–90 seconds for calibration. Check Tx output and repeat the proximity test against a known electronic component.

BUZZER CANNOT BE HEARD

Check whether the middle MUTE control is engaged. The visual harmonic indication should remain available while sound is muted.

CHARGER DOES NOT INDICATE FULL

Confirm the compatible cartridge, secure lead connection and suitable power source. Stop charging if the cartridge overheats or appears damaged.

PROBLEM PERSISTS

Turn off using a single press, then restart and recalibrate. If normal operation does not return, stop using the instrument and contact Calibre support.

MAINTENANCE & SUPPORT

GENERAL CARE

Keep the exterior and battery contacts clean and dry. Use a soft, dry cloth on the housing. Avoid solvents, immersion, rough treatment, excessive heat and unprotected storage alongside metallic items.

SUPPORT

If the unit appears faulty, switch it off using a single press, confirm the cartridge is charged, restart, allow calibration and conduct a proximity test. If the problem remains, contact Calibre support.

CONTACT

info@Calibre-Defence.com

WARRANTY

Calibre products are covered by a 12-month warranty from the date of purchase for manufacturing defects and faults in materials, subject to applicable terms. Misuse, accidental damage and normal wear are excluded. This does not affect statutory rights.

DOCUMENT NOTES

Draft version 1.0. Final publication requires confirmation of second/third harmonic column mapping and battery-cartridge charging interface.