toolbit.pl

USER MANUAL

LPTP

Laser Precision Tracer PRO

Image & PDF vectorization → DXF / SVG / PLT for CNC lasers

Program version: 12.5
Document: User Manual EN
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LPTP Laser Precision Tracer PRO is a Windows program that turns photos, graphics (including AI-generated ones) and PDF files into DXF, SVG and PLT files ready to load into your CNC laser software — with true arcs, no CAD skills needed, no subscription, no cloud.

Works offline after activation	One purchase lifetime license	Windows 10/11 64-bit

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1. System Requirements

Operating system	Windows 10 or Windows 11 (64-bit)
Processor	Intel/AMD, min. 2 GHz (4 cores recommended)
RAM	Min. 4 GB (8 GB recommended — large scans and 300 DPI PDFs)
Disk space	Approx. 150 MB (program + temporary files)
Screen	Min. 1440 × 900 — program window at least ~1340 × 850 px
Internet connection	Full version: only for license activation. Trial version: at start-up (trial status check; without a connection the program uses the last saved status)

ℹ **INFO** The program runs on Windows only. No macOS or Linux version is planned.

ℹ **INTERFACE LANGUAGE** On an English Windows system the slider names in the Obraz and Kontur tabs are shown in English (e.g. Threshold, Path Smooth). Most other labels are displayed in Polish only. This manual gives such labels in Polish exactly as shown on screen, followed by the English translation in brackets — e.g. **„📂 Importuj”** (Import).

2. Installation & First Run

The program needs no installer and no extra libraries — it is a single folder containing LPTP.exe.

Trial version (free — 30 days or 10 exports, whichever comes first):

1. Download **LPTP_trial.zip** from toolbit.pl/lptp.
2. Unpack the archive anywhere on your disk (e.g. C:\Program Files\LPTP\).
3. Run **LPTP.exe**. The trial starts automatically — no registration.
4. The trial status is shown in the status bar, e.g. **„⏳ Trial: 30 dni / 10 eksportów pozostało”** (Trial: 30 days / 10 exports left). Every export (DXF, SVG or PLT) uses one of the 10 exports.

When the trial ends, loading, preview and vectorization keep working — only export is blocked. Trying to export opens the **„Wersja próbna wygasła”** (Trial expired) window with the **„🛒 KUP PEŁNĄ WERSJĘ”** (Buy full version) button, which opens toolbit.pl/lptp. The **„🛒 Kup pełną wersję”** button in the status bar opens the same page.

Full version (after purchase):

1. Download **LPTP_full.zip** from the link you received by e-mail after purchase.
2. Unpack it anywhere on your disk (you may overwrite the trial folder).
3. Run **LPTP.exe** and activate your license — see chapter 3.

✔ **TIP** The trial and the full version share the same settings and presets. After switching to the full version your presets and last settings are kept.

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3. License Activation

The license key has the format XXXXX-XXXXX-XXXXX-XXXXX. The key is single-use and bound to one computer (Machine ID — an identifier based on the network card address).

How to activate:

1. Run the full version of LPTP.exe.
2. In the status bar (bottom-right corner of the window) click **„🔑 Aktywuj licencję”** (Activate license).
3. The **„🔑 AKTYWACJA LICENCJI — LPTP PRO”** (License activation) window opens. Your **Machine ID** is shown at the top — the 📋 button copies it to the clipboard.
4. Type or paste the key into the field **„Wpisz otrzymany klucz licencyjny:”** (Enter the license key you received).
5. Click **„AKTYWUJ LICENCJĘ”** (Activate license). The program connects to the toolbit.pl server and checks the key (message „⏳ Weryfikacja online...” — online verification).
6. After successful activation the window closes, the status bar shows **„✔ Licencja aktywowana! Dziękujemy za zakup.”** (License activated! Thank you for your purchase.) and the activation button disappears for good.

[SCREENSHOT: „AKTYWACJA LICENCJI — LPTP PRO” window — Machine ID, key field, AKTYWUJ LICENCJĘ button]

Message in the window	Meaning	What to do
✔ Licencja aktywowana! (License activated!)	Key valid, computer registered	Done — use the program
❌ Klucz już aktywowany na innym komputerze. (Key already activated on another computer.)	The key was used on another computer	Write to kontakt@toolbit.pl
❌ Nieprawidłowy klucz. Sprawdź pisownię. (Invalid key. Check spelling.)	The key does not exist in the database	Check that the whole key is pasted, without spaces
❌ Brak połączenia z serwerem. Sprawdź internet. (No connection to the server. Check the internet.)	No internet or server unreachable	Check your connection and try again
❌ Wpisz klucz licencyjny. (Enter the license key.)	The key field is empty	Paste the key from the e-mail

⚠ **NOTE** The key is bound to one computer. If you change computers or the network card, write to kontakt@toolbit.pl with your new Machine ID. License transfer is free of charge.

i INFO You receive the key by e-mail after purchase. Trouble activating? Write to kontakt@toolbit.pl with your order number and Machine ID (copy it with the 📋 button). The trial version has no activation window — you download the full version separately after purchase.

4. What's New in Version 12.5

Version 12.5 adds the **Mostki** (Bridges) tool. The program shows islands — pieces that would fall out after cutting — and lets you draw a bridge straight on the preview, with its width in millimetres. No more fixing the file in CAD after export. **The vectorization algorithm has not changed** — until you draw an edit, the same settings give the same contours as in 12.2.

Change	What it gives you	Chapter
✏ **Mostki (Bridges) — bridge, cut and eraser drawn on the preview**	You add bridges inside the program, as a straight line or freehand; the width is set in mm	10
⌫ **Gumka (Eraser)**	Removes small junk under the brush — black or white — and leaves no contour	10.3
Island detection	Red highlight and a counter in the status bar — you see what will fall out before the file reaches the laser	10.1
Separate parts	Pieces of material not connected to the main graphic (e.g. a leaf next to an ornament) are highlighted in yellow, and the status bar shows how many there are	10.1
Materiał: czarny / biały (Material: black / white)	Bridges and islands also work for stencils where the black shapes are cut out	10.5
Shortcuts: Enter, Ctrl+Z, Esc, Space + LMB	Recalculate, undo edits and control the drawing mode from the keyboard	10.2
Middle mouse button pans the preview	Panning also works while LMB draws bridges	9
Fix: hidden background	Import, cropping and window resizing with the background hidden no longer report an error	—
Epsilon slider in Arcs mode	Clearly greyed out, with the note „— tylko tryb Odcinki” (Segments mode only) — you can see why it does not move	7.2

This manual also covers fixes added late in version 12.2: the ↩ **RESTORE FULL IMAGE** button (chapter 6.1) and DXF import that keeps the drawing proportions (chapter 6).

Earlier — version 12.2

Version 12.2 tidied up the interface and added features requested by operators — with no change to the contours compared with 12.1.

Change	What it gives you	Chapter
New window layout: top bar + 3 tabs (Obraz / Kontur / Wyjście — Image / Contour / Output)	Import, preset, width and export always at hand; parameters grouped by work stage	5
Presets — 3 built-in + your own	One click instead of setting several sliders	8
Remembered settings	After a restart everything is as you left it	12
↺ Przywróć domyślne (Restore defaults)	Quick return to factory settings (width unchanged)	5, 7
New defaults	Threshold 128, Path Smooth 0, Arcs mode — good straight away for clean graphics	7
Error log + crash report	An error does not close the program; log files to send to technical support	16
Clicking the slider track and keyboard arrows refresh vectorization	Precise change by 1 without dragging	5
Mouse wheel does not change sliders or lists	No accidental changes when scrolling the panel	5
Chapter on preparing AI graphics	Ready prompts for ChatGPT, Midjourney, Stable Diffusion / ComfyUI	14

Unchanged since version 12.1: DXF export (R2000, mm, closed LWPOLYLINE with arcs), SVG (arcs, “laser” layer), PLT/HPGL (AA arcs, 40 units/mm), fixed zero point in the bottom-right corner, import of PDF, DXF, JPG, PNG, BMP, TIFF, WebP, AVIF, trial 30 days / 10 exports.

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5. Program Interface — Overview

The window has four areas: top bar, left panel with tabs, preview and status bar.

[SCREENSHOT: the whole program window with a loaded graphic — arrows pointing to: top bar, tabs, ↺ Przywróć domyślne, preview, status bar]

5.1 — Top bar

Element	Function
Laser Precision Tracer PRO · V12.5	Program name and version number. Quote the version number when you write to technical support.
📂 Importuj (Import)	Opens a file: PDF, DXF, JPG, PNG, BMP, TIFF, WebP, AVIF (chapter 6).
🗑️ Ukryj tło / 🖼️ Pokaż tło (Hide / Show background)	Hides or shows the grey image under the contours. With the background hidden you see only the blue contours — easier to judge the result.
✏ Mostki (Bridges)	Turns the drawing mode (bridge, cut, eraser) on and off. A tool bar then appears above the preview (chapter 10).
PRESET (list)	Choose a settings set. 🔒 = built-in preset. „— bieżące ustawienia —” (current settings) = settings changed by hand (chapter 8).
💾 (next to the list)	Save the current settings as a preset...
×	Delete the selected user preset (inactive for built-in ones).
SZEROKOŚĆ (WIDTH, mm)	Total width in the export: 0.1–99,999 mm, default 500 mm. Height is calculated proportionally (chapter 11).
💾 DXF / 💾 SVG / 💾 PLT	Export to the selected format (chapter 11).

5.2 — Left panel: tabs

Tab	Contents
Obraz (Image)	KOLOR → B&W (COLOR → B&W: conversion method + Próg B&W / B&W threshold), KOREKTA OBRAZU (IMAGE CORRECTION): Brightness, Contrast, Edge Smooth, Invert Colors, 🧹 REMOVE NOISE, ↩ RESTORE FULL IMAGE
Kontur (Contour)	VECTORIZATION PARAMS: Threshold, Próg adaptacyjny (Adaptive threshold) + Blok adaptacyjny (Adaptive block), Tryb krawędzi (Canny) (Edge mode) + two thresholds, Path Smooth, Segment Simplify (Epsilon), Filter Small Details

Tab	Contents
Wyjście (Output)	TRYB ŚCIEŻKI (PATH MODE): Łuki (Arcs, recommended) / Odcinki (Segments, older controllers), PUNKT ZERO (ZERO POINT), NARZĘDZIA DXF (DXF TOOLS): 🔄 KONWERTUJ SPLINE → POLILINIA, POMOC TECHNICZNA (TECHNICAL SUPPORT): 📄 FOLDER Z LOGAMI BŁĘDÓW

The program remembers the last open tab. On first start the **Kontur** (Contour) tab opens. Below the tabs is the **„↺ Przywróć domyślne”** (Restore defaults) button — it restores factory vectorization settings (all sliders, options, the B&W method and the path mode). **It does not change the width.**

5.3 — Status bar

Field	Meaning
Messages (left side)	E.g. „Kontury: 128 | Zoom: 85%” (Contours) after vectorization, file-save confirmation, selected preset, errors.
⚠ 3 wyspy wypadną po wycięciu · 2 osobne elementy (3 islands will fall out after cutting · 2 separate parts)	Warning about islands — pieces of material that would fall out after cutting — and about separate parts not connected to the main graphic (chapter 10.1). Shown only when the program finds something.
📐 2048 × 1536 px → 500.0 × 375.0 mm	Working image size in pixels and export size in mm. Updates immediately when you change the WIDTH.
Tryb: Łuki / Tryb: Odcinki (Mode: Arcs / Segments)	Active path mode (Wyjście tab).
License	Full version: „🔑 Aktywuj licencję” (Activate license) button (disappears after activation). Trial: status „⏳ Trial: X dni / Y eksportów pozostało” (X days / Y exports left) and the „🛒 Kup pełną wersję” (Buy full version) button.
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5.4 — Using the sliders

- ▶ Drag a slider — vectorization recalculates **when you release** the mouse button.
- ▶ Click the slider track or use the keyboard arrows (after clicking the slider) — change by one step, the preview refreshes automatically.
- ▶ **The mouse wheel does not change sliders or lists** — you can safely scroll the panel.
- ▶ During vectorization the preview shows „Trwa wektoryzacja...” (Vectorizing...) and the import and export buttons are temporarily locked.

i INFO Keyboard shortcuts exist only for bridges: Enter recalculates the drawn bridges, Ctrl+Z undoes the last edit, Esc leaves the drawing mode, Space + LMB pans the preview (chapter 10.2). All other functions are available from the buttons in the top bar and in the tabs.

6. Loading a File

Click **„📂 Importuj”** (Import) in the top bar and select a file. The program remembers the last folder used. After loading, the image is fitted to the window and vectorization starts automatically with the current settings.

Format	Extensions	How the program loads it
Raster image	JPG, JPEG, PNG, BMP, TIFF, TIF, WebP, AVIF	At full resolution. A transparent background (PNG with alpha channel) is replaced with white.
PDF document	PDF	**First page only**, rendered at 300 DPI.
DXF drawing	DXF	Geometry (lines, polylines, circles, arcs, splines, blocks) is drawn as a image that keeps the drawing proportions (longer side 2048 px) with 2 px lines, then vectorized again.

⚠ **NOTE — DXF** After DXF import every line becomes a narrow strip, so vectorization gives a contour on both sides of the line. DXF import is meant for preview and “re-tracing” a drawing — not for carrying over dimensions. If you only want to replace SPLINEs with polylines in an existing DXF, use 🔄 **KONWERTUJ SPLINE → POLILINIA** (Convert spline → polyline, Wyjście tab) — it works directly on the file, without vectorization.

ℹ INFO If the image has bridge or eraser edits, loading a new file removes them — the program asks for confirmation first (chapter 10.6).

6.1 — Cropping

1. In the preview hold the **right mouse button (RMB)** and drag a rectangle — a yellow dashed frame appears.
2. Release the button — the image is cropped to the selection, fitted to the window and vectorized again.
3. You can crop repeatedly — each crop narrows the current image.

✔ **UNDO** Cropping is undone with the **↩ RESTORE FULL IMAGE** button in the Obraz tab — the whole loaded image comes back (it also undoes 🧹 REMOVE NOISE). Slider settings, WIDTH and bridge edits are kept; the bridges return to their places.

✔ **TIP** Crop tightly to the motif. The export WIDTH applies to **the whole crop**, including the white margin (chapter 11). With a PDF of documentation, crop just the drawing — without the frame, title block and notes.

ℹ INFO Multi-page PDF: the program loads page 1 only. Save the page you need as a separate PDF (Print → Microsoft Print to PDF → page range) and load that file.

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7. Vectorization Parameters

Every parameter change recalculates the vectorization automatically — there is no “Recalculate” button. The image always passes through the stages in the same order:

Color → B&W → Invert Colors → Brightness, Contrast → auto-contrast (always) → **Edge Smooth → binarization** (Threshold / adaptive / Canny) → **Path Smooth → contour tracing** + Filter Small Details

Auto-contrast (brightness stretch + local CLAHE equalization) is always applied and has no slider. That is why Brightness and Contrast can stay at 0 for clean graphics.

7.0 — Parameter table

Name in the program	Tab	Range	Default	Purpose
KOLOR → B&W (COLOR → B&W)	Obraz	5 methods	Luminancja	How color turns into grey levels
Próg B&W (B&W threshold)	Obraz	0–255	128	Only with the „Próg (czarno-biały)” method
Brightness	Obraz	−100…+100	0	Lighten / darken before binarization
Contrast	Obraz	−100…+100	0	Increase / reduce contrast
Edge Smooth	Obraz	0–15	0	Blur — scans, photos, JPG artifacts
Invert Colors	Obraz	on / off	off	Light motif on a dark background
🧹 **REMOVE NOISE**	Obraz	button	—	Median filter, the effect accumulates
Threshold	Kontur	0–255	128	Black / white boundary; 0 = automatic (Otsu)
Próg adaptacyjny (detale) (Adaptive threshold)	Kontur	on / off	off	Uneven lighting, scans, photos
Blok adaptacyjny (Adaptive block)	Kontur	5–100	17	Size of the adaptive threshold area
Tryb krawędzi (Canny) (Edge mode)	Kontur	on / off	off	Contours along edges (outline)
Canny dolny próg (lower threshold)	Kontur	0–255	50	Weak edges
Canny górny próg (upper threshold)	Kontur	0–255	150	Strong edges
Path Smooth	Kontur	0–100	0	Smooths the mask before contour tracing
Segment Simplify (Epsilon)	Kontur	0–100	0	Fewer points — Segments mode only
Filter Small Details	Kontur	0–2000	0	Skips contours smaller than the value [px²]
TRYB ŚCIEŻKI (PATH MODE)	Wyjście	Łuki / Odcinki	Łuki	How curves are written to the file
SZEROKOŚĆ (WIDTH)	top bar	0.1–99,999 mm	500 mm	Export scale (not part of a preset)

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7.1 — Obraz (Image) tab

[SCREENSHOT: Obraz tab — KOLOR → B&W, KOREKTA OBRAZU, Invert Colors, 🧹 REMOVE NOISE, ↩ RESTORE FULL IMAGE]

KOLOR → B&W (COLOR → B&W)

Defines how a color image turns into grey levels. Rule: choose the method in which the motif is darkest and the background lightest.

Method	When to use
Luminancja (naturalny) — Luminance (natural)	Default. Good for black-and-white graphics and most photos.
Próg (czarno-biały) — Threshold (black & white)	First a hard cut into black and white with the **Próg B&W** (B&W threshold) slider (0–255, default 128), then the rest of the processing. Useful when light colors should disappear completely.
Kanał R (czerwony) — R channel (red)	Red elements become light and disappear. Use it to remove red markings or to extract a blue/green/black motif.
Kanał G (zielony) — G channel (green)	Green elements disappear; red and blue stay dark.
Kanał B (niebieski) — B channel (blue)	Blue elements disappear; good for a yellow/red motif on white.

Parameter	Function
Brightness (−100…+100)	Adds or subtracts a constant brightness. Positive: light-grey elements disappear; negative: faint lines get darker.
Contrast (−100…+100)	Multiplies contrast by (1 + value/100): +100 = twice as much, −100 = flat grey.
Edge Smooth (0–15)	Gaussian blur before binarization (value 2 = 5 px window). Removes scan grain and JPG “steps”. Too much rounds corners and merges nearby elements.
Invert Colors	Swaps black and white. Turn on when the motif is light on a dark background or the program traces the background instead of the motif.
🧹 REMOVE NOISE	One-off 3 × 3 median filter on the working image — removes specks and JPEG artifacts. Each click strengthens the effect.
↩ RESTORE FULL IMAGE	Brings back the whole loaded image: undoes cropping and Remove Noise. Slider settings and WIDTH are unchanged.

⚠ **NOTE — REMOVE NOISE** The filter changes the working image and converts it to grey. After using it the „Kanał R / G / B” methods no longer have any effect. To undo: **↩ RESTORE FULL IMAGE** (it also undoes cropping).

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7.2 — Kontur (Contour) tab

[SCREENSHOT: Kontur tab — VECTORIZATION PARAMS with Próg adaptacyjny on (Blok adaptacyjny visible)]

Threshold — 0–255, default 128

The boundary between “black” and “white”. Pixels darker than (or equal to) the threshold become black and are traced; lighter ones become white.

0	Automatic threshold (Otsu method) — the program picks the boundary itself. A good start for unknown scans.
50–100	Only dark pixels stay black. Light-grey shadows and dirt disappear.
100–150	Compromise. **128 — recommended start** (and the default).
150–240	Light-grey pixels also turn black — for weak, faded scans.

✔ **TIP** Picking up too much noise — lower it. Losing thin or light details — raise it.

Próg adaptacyjny (detale) (Adaptive threshold) + Blok adaptacyjny (Adaptive block, 5–100, default 17)

Each part of the image gets its own threshold calculated from its surroundings. Helps with uneven lighting, photos of plates and scans with a darker edge. **Blok adaptacyjny** is the size of the surroundings: window = 2 × value + 1 px (17 → 35 px). Small block — more fine detail and noise; large — result close to the normal threshold.

⚠ **NOTE** In adaptive mode the **Threshold** slider works as a correction (−15…+15, 128 = 0) and **in reverse**: a higher value = less black (thinner lines, less noise), a lower value = more black.

Tryb krawędzi (Canny) (Edge mode) + Canny dolny próg (lower, 0–255, 50) / Canny górny próg (upper, 0–255, 150)

Instead of filled shapes it detects **edges** — light/dark boundaries. Each edge becomes a narrow strip, so the result has two contours along every edge. This mode is for engraving/marking outlines, **not for cutting filled shapes**. Edges stronger than the upper threshold are certain; those weaker than the lower one are discarded; in-between ones are kept if they connect to certain ones. Rule: upper ≈ 2–3 × lower.

- ▶ Adaptive threshold and Canny are mutually exclusive — turning one on turns the other off.
- ▶ In Canny mode the Threshold slider has no effect.

▶ The background is then treated as material, so the result also contains a rectangular contour along the image edge — delete it in CAD before cutting.

▶ Bridges and island detection are switched off in Canny mode (chapter 10.6).

Path Smooth — 0–100, default 0

Morphological smoothing of the mask (closing + opening) before contour tracing: fills small holes and gaps, trims small protrusions. It works **in steps**:

Value	0	1–39	40–59	60–79	80–99	100
Smoothing size	off	3 px	5 px	7 px	9 px	11 px

⚠ **NOTE** Lines and gaps narrower than the smoothing size disappear. For clean graphics (AI, logos) leave 0. For scans start at 10.

Segment Simplify (Epsilon) — 0–100, default 0

Works **only in Odcinki (Segments) mode** — in Łuki (Arcs) mode the slider is greyed out and its label carries the note **„— tylko tryb Odcinki”** (Segments mode only). Switch the mode in the Wyjście (Output) tab (chapter 7.3). Removes points lying almost on a straight line (tolerance 0.025–0.175 image px). Higher value = fewer points and a smaller file, but more “angular” curves.

Filter Small Details — 0–2000, default 0

Skips contours whose bounding rectangle has an area smaller than the value in px² (image pixels, not mm). It also removes small specks already at the tracing stage.

0–20	Practically all contours stay. 20 = „Logo / tekst” preset.
50–300	Removes scan noise and JPG artifacts.
500+	Only large shapes stay — the silhouette alone.

⚠ **NOTE** The filter also removes small **holes** (dots on “i”, small holes). After changing it, check the preview zoomed in.

7.3 — Wyjście (Output) tab

[SCREENSHOT: Wyjście tab — TRYB ŚCIEŻKI, PUNKT ZERO, NARZĘDZIA DXF, POMOC TECHNICZNA]

TRYB ŚCIEŻKI (PATH MODE)

Mode	What goes into the file	When
Łuki (zalecane) — Arcs (recommended)	Curves as true arcs: DXF — arcs in the polyline, SVG — A command, PLT — AA command. Tolerance set automatically from the pixel size (min. 0.02 mm).	Always, if the laser software reads arcs. Smooth head motion, no table jerking, smaller file.
Odcinki (starsze sterowniki) — Segments (older controllers)	Curves split into short segments. The number of points is set with Segment Simplify (Epsilon).	Only for programs that cannot read arcs from DXF/SVG/PLT.

The active mode is shown in the status bar („Tryb: Łuki” — Mode: Arcs). After export the message gives the number of arcs, e.g. „(128 konturów, łuki: 2140)” (128 contours, arcs: 2140).

PUNKT ZERO (0,0) (ZERO POINT)

Fixed: **bottom-right corner of the image** (after cropping). In DXF and PLT the X coordinates are therefore negative and Y positive. SVG has its own system — it starts at the top-left corner of the outline (SVG standard). Move the part as needed in your laser software.

NARZĘDZIA DXF (DXF TOOLS) — 🔄 KONWERTUJ SPLINE → POLILINIA (Convert spline → polyline)

Fixes DXF files from other programs (Inkscape, Fusion, CorelDRAW) that your laser controller cannot read because of SPLINE curves.

1. Click the button and select a DXF file.
2. Enter the output file name (default *name*_converted.dxf).
3. The program replaces every SPLINE with an LWPOLYLINE (accuracy 0.1 drawing units) and saves the file as R2004. The status bar shows the number of converted entities.

> **i INFO** Entities in model space are converted. SPLINEs hidden inside blocks stay unchanged — explode the blocks in CAD before converting.

POMOC TECHNICZNA (TECHNICAL SUPPORT) — 📄 FOLDER Z LOGAMI BŁĘDÓW (Error log folder)

Opens the folder with LPTP_error.log and LPTP_crash.log — see chapter 16.

8. Presets

A preset is a saved set of vectorization settings. Choosing a preset from the **PRESET** list in the top bar immediately sets all sliders and recalculates the preview. The width does not change.

[SCREENSHOT: expanded PRESET list — „— bieżące ustawienia —", 3 presets with 🔒, separator, user presets]

8.1 — Built-in presets 🔒 (read-only)

Preset	Settings	When to use
🔒 **Grafika AI / czarno-biała (AI graphic / black & white)**	Exactly the default settings: Threshold 128, no blur, Path Smooth 0, Filter 0, Luminance, Arcs mode	Clean black-and-white graphics, AI graphics, exports from vector programs
🔒 **Logo / tekst (Logo / text)**	As above + Filter Small Details 20	Logos, lettering, plates — removes single noise pixels
🔒 **Skan / zdjęcie (Scan / photo)**	Edge Smooth 2, Adaptive threshold on (block 17), Path Smooth 10, rest default	Drawing scans, photos of plates, uneven lighting

8.2 — Your own presets

Saving:

1. Set the sliders and options the way you want.
2. Click 💾 next to the PRESET list → „Zapisz preset" (Save preset) window.
3. Enter a name (max. 40 characters) and click OK. The preset appears in the list below the separator and is selected.

▶ If a preset with that name already exists, the program asks: **„Preset „…" już istnieje. Nadpisać?"** (Preset "…" already exists. Overwrite?) (Yes / No).

▶ When a user preset is selected, 💾 suggests its name — the fastest way to update an existing preset.

▶ Built-in preset names cannot be used (they are reserved).

Deleting:

Select a user preset and click × → confirm „Usunąć preset „…"?" (Delete preset "…"?). The × button is inactive for built-in presets and for the „— bieżące ustawienia —" entry.

8.3 — What a preset stores

Stored in the preset	NOT stored
All sliders and options of the Obraz and Kontur tabs, the KOLOR → B&W method with Próg B&W, path mode (Łuki / Odcinki)	WIDTH — depends on the job. Cropping and 🧹 REMOVE NOISE — these are image operations. Bridge and eraser edits — they belong to one specific image. Zero point — it is fixed.

If you change any slider after choosing a preset, the list shows **„— bieżące ustawienia —”** (current settings). The preset is not overwritten — to return to it, select it again from the list. To keep your changes, save them with 💾.

8.4 — Preset file, backup and transfer

Location	%APPDATA%\ToolBit\LPTP\presets.json
Program update	The file stays — presets survive updates and the move from trial to full version.
Backup / other computer	Close LPTP and copy presets.json to the same folder on the other computer.
Damaged file	The status bar shows „⚠ Nie udało się wczytać presets.json: …” (Could not load presets.json). At the next preset save the old file is renamed to presets.json.uszkodzony (damaged) and a new one is created.

✔ **TIP** Paste the path %APPDATA%\ToolBit\LPTP into the Windows Explorer address bar or the Win + R window. Presets work the same in the trial and the full version.

9. Preview & Navigation

The preview shows exactly the contours that will go into the file — before export.

Action	Mouse	Notes
Zoom	Mouse wheel	Zooms around the cursor, range 5–3000%. The zoom value is shown in the status bar.
Pan	LMB + drag, or middle button + drag	The cursor turns into a hand. In bridge mode LMB draws — pan with the middle button or Space + LMB (chapter 10.2).
Crop	RMB + drag	Yellow dashed frame. Details — chapter 6.1.
Fit to window	—	Automatic after import and after cropping.

What the colors mean:

Color	Meaning
Blue lines	Contours that will be exported.
Red areas	Islands — material that would fall out after cutting (chapter 10.1).
Yellow areas	Separate parts — material not connected to the main graphic (chapter 10.1).
Orange, violet and turquoise strips	Edits: bridge (orange), cut (violet) and eraser (turquoise) — chapter 10.
Darkened grey image	The working image after B&W conversion and corrections — shows what the algorithm “sees”. Hidden with the „🗑️ Ukryj tło” (Hide background) button.
Yellow dashed frame	Crop area while dragging with RMB.

i INFO The status bar shows the number of contours, e.g. „Kontury: 128 | Zoom: 85%”. If there are many more contours than shapes you can see, you have noise — raise Filter Small Details.

i INFO The preview draws the contour shape. Curves are converted into arcs during export — the difference is within the tolerance (hundredths of a millimetre).

10. Bridges & Islands

An **island** is a piece of material surrounded by a cut on all sides — the centre of the letter O or A, of the digit 8, an eye inside a cut-out silhouette. It falls out after cutting. A **bridge** is a narrow strip of material that joins the island to the rest of the sheet. A **separate part** is a piece of material lying next to the main graphic without being connected to it — e.g. a leaf set apart from an ornament. It is loose after cutting too. LPTP finds islands and separate parts itself, and you draw the bridges on the preview — with their width in millimetres. All labels of the bridge tool are shown in Polish; this chapter gives them with an English translation in brackets.

[SCREENSHOT: preview with red islands inside the letters, yellow separate parts and the „⚠ … wysp wypadnie po wycięciu · … osobne elementy” warning in the status bar]

10.1 — Detecting islands and separate parts

After every vectorization the program checks whether any material inside an opening is left unconnected to the rest. Such pieces are shown **in red** on the preview, and the status bar shows a warning, e.g. **„⚠ 3 wyspy wypadną po wycięciu”** (3 islands will fall out after cutting). With no islands the warning disappears.

- Detection always runs — also when the bridge drawing mode is off.
- The program assumes **black = material**. For stencils with black cut-out shapes change the Materiał (Material) switch (chapter 10.5).
- Specks smaller than **Filter Small Details** are not counted — they do not reach the file anyway.
- The counter includes all islands; the preview highlights at most the 400 largest.
- The **Wyspy** (Islands) box in the bridge bar turns detection off. In edge mode (Canny) it is always off.

Separate parts (yellow)

The program treats the **largest** piece of material as the main graphic. Every other piece that is not connected to it and does not lie inside one of its openings is shown **in yellow**. The status bar then adds their number, e.g. **„⚠ 1 wyspa wypadnie po wycięciu · 2 osobne elementy”** (1 island will fall out after cutting · 2 separate parts). The same rules apply as for islands: the Materiał switch, Filter Small Details, the 400-highlight limit and the **Wyspy** (Islands) box.

If a separate part should be one piece with the graphic, join it with a bridge — the same way as an island (chapter 10.2). After recalculation the yellow highlight disappears.

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i INFO The warning only says that a piece is not connected to the rest. If it is meant to fall out, or it is a separate part on purpose — ignore it. A graphic deliberately made of many parts (e.g. separate digits of a house number) is yellow everywhere except the largest part — you can then untick **Wyspy**.

10.2 — Drawing a bridge

1. Load the graphic, crop it and set the **SZEROKOŚĆ** (WIDTH) in the top bar — the mm-to-pixel conversion depends on it.
2. Click ✏ **Mostki** (Bridges) in the top bar. A tool bar appears above the preview and the cursor becomes a cross with a circle showing the real bridge width.
3. Keep ➕ **Mostek** (Bridge) and **/ Linia** (Line) selected. Enter the bridge width in mm in the **SZER.** (width) field.
4. Click the start point on the island, then the end point on the material on the other side of the cut. The bridge appears immediately as an orange strip.
5. Add bridges to the other islands the same way. The program does not recalculate anything yet — you do not wait after every click.
6. Click ✔ **Przelicz** (Recalculate) or press **Enter**. Vectorization runs once for all new bridges: the blue contour now includes them and the island counter goes down.
7. Leave the mode by clicking ✏ **Mostki** again or pressing **Esc** — bridges not yet recalculated are then recalculated automatically.

✔ **TIP** Start and end the line clearly **on the material**, not right on the edge of the cut. The bridge has rounded ends, so a few pixels of overlap guarantee a full connection.

[SCREENSHOT: drawing mode — bridge bar above the preview, orange bridges in the letters, hint in the top-left corner of the preview]

Bridge bar

Element	Function
➕ **Mostek (Bridge)**	Draws **material** — what remains after cutting. Joins an island to the rest of the sheet.
✂ **Wycięcie (Cut)**	Draws a **cut**, i.e. removes material: separates shapes that have merged or adds a slot.
⌫ **Gumka (Eraser)**	Removes a small feature under the brush — black or white — and fills the stroke with the surrounding color (chapter 10.3).

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Element	Function
/ Linia (Line)	Straight line — click the start point, click the end point. Default.
~ Odręcznie (Freehand)	Freehand — hold LMB and drag. A single click places a dot.
SZER. (width)	Bridge, cut or eraser width: 0.1–50 mm, default 1.5 mm. Next to it the conversion to image pixels is shown, e.g. „≈ 6,0 px”.
Materiał: czarny / biały (Material: black / white)	Which color of the graphic remains as material (chapter 10.5).
Wyspy (Islands)	Turns detection of islands (red) and separate parts (yellow) on and off.
✓ Przelicz (Recalculate)	Recalculates the vectorization with the drawn edits — the same as Enter. Active when there are edits to recalculate.
↶ Cofnij (Undo)	Undoes the last stroke — the same as Ctrl+Z.
× Wyczyść (N) (Clear)	Removes all edits — after confirmation. This cannot be undone. N is the number of edits.

Mouse and keyboard in drawing mode

Action	How
Draw	LMB
Recalculate the drawn bridges	Enter or ✓ Przelicz
Pan the preview	Middle mouse button + drag, or Space + LMB
Zoom	Mouse wheel
Crop	RMB + drag — as outside drawing mode
Undo the last edit	Ctrl+Z or ↶ Cofnij (also works after leaving the mode)
Cancel a started line	Esc
Leave the mode	Esc (a second time if a line was started) or ✏ Mostki

Until you click ✓ Przelicz, the contour and the island counter show the state before the new bridges — the island warning then carries the note **„(przed przeliczeniem)”** (before recalculation). Recalculation also starts by itself: when you leave the mode, after any slider change and **before export** — clicking 💾 DXF / SVG / PLT first recalculates the bridges and then opens the save window. The file therefore always contains all drawn bridges.

Edits stay visible after you leave the mode as semi-transparent strips: bridges orange, cuts violet, eraser strokes turquoise. Outside drawing mode Ctrl+Z recalculates the contour immediately.

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10.3 — Cut and eraser

The three tools of the bar differ in what they do with the brush stroke:

Tool	What it does with the stroke	When to use
➕ **Mostek (Bridge)**	Paints it in the **material** color	Joining an island to the rest of the sheet; painting over a larger cut-out you do not want cut
✂ **Wycięcie (Cut)**	Paints it in the **cut** color — removes material	Separating shapes that have merged; adding a slot; cutting a piece off
⌫ **Gumka (Eraser)**	Fills it with the **surrounding color** — removes what is under the brush	Specks, small accidental cut-outs, bumps and notches on an edge

How the eraser works

- A feature covered **completely** disappears — whether it is black or white.
- No new contour appears around the eraser stroke. A contour that ran through the stroke continues straight: a bump or notch on the edge disappears.
- A large shape covered only partly stays unchanged. To remove a larger feature, increase **SZER.** or scribble over it in **~ Odręcznie** (Freehand) mode — successive eraser strokes add up.
- The eraser does not depend on the Materiał switch.

✔ **TIP** Bridge and Cut always leave a stroke as wide as the brush — also when you miss. The eraser draws nothing, it only removes. Use the eraser to clean up a graphic, the bridge to join islands and the cut to separate shapes.

10.4 — Bridge width in millimetres

The scale is the same as in the export: WIDTH ÷ image width in pixels. A bridge entered as 1.5 mm is therefore 1.5 mm in the DXF — accurate to about half a pixel, because the program draws it on the image pixel grid.

Image	WIDTH	Pixel size	1.5 mm bridge	Accuracy
2000 px	200 mm	0.10 mm	15 px	approx. ±0.05 mm
2000 px	500 mm	0.25 mm	6 px	approx. ±0.13 mm
1000 px	500 mm	0.50 mm	3 px	approx. ±0.25 mm

- After you change the WIDTH, bridges **keep their millimetres** — the program converts them again.
- Each edit remembers the width it was drawn with. Changing the SZER. field affects the next strokes.
- The thinnest possible bridge is approx. 1.5 pixels — with a coarse pixel a thinner one cannot be drawn.
- Which width to choose: usually 1–1.5 mm for thin sheet metal, and for thicker material at least its thickness (chapter 14.1). Test on a sample.

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✔ **TIP** If the conversion next to the SZER. field shows less than approx. 4 px, load the graphic at a higher resolution — the bridge will be more accurate.

10.5 — Material: black or white

The program has to know which color of the graphic is the sheet. This decides the bridge color and what counts as an island. The switch does not change the contours — the same lines go into the file with either setting.

Setting	Graphic	Bridge and island	Typical use
Materiał: czarny (black, default)	Black = sheet, white = cut-outs	The bridge draws in black. Island = a black piece inside a white opening.	Openwork panels, decorations, silhouettes, a plate with digits cut out as white openings
Materiał: biały (white)	White = sheet, black = shapes to cut out	The bridge draws in white. Island = a white piece inside a black shape.	Stencils: black letters or digits on a white background that are to be cut out

⚠ **NOTE** Drew a bridge and the contour did not change? Most often the Materiał switch is set the wrong way round — the bridge then has the same color as the area you draw on.

10.6 — What happens to the edits

The program does not paint on the loaded graphic. It keeps a list of edits and applies them after all filters, just before contour tracing. Therefore:

- **Sliders keep working.** Threshold, smoothing, Path Smooth and Invert Colors do not destroy bridges — you can adjust settings after drawing them.
- **Cropping:** edits move together with the crop, and ↩ RESTORE FULL IMAGE puts them back in place.
- **A new import removes the edits.** The program asks: „Wczytanie nowego pliku usunie poprawki (mostki / wycięcia / gumka): N. Kontynuować?” (Loading a new file will remove N edits. Continue?).
- **Edits are not saved** in a preset or after the program is closed — they belong to one specific image. Export the file before closing the program.
- **Edge mode (Canny)** switches bridges and islands off. The edits stay in memory and return when Canny is turned off.
- Without edits, vectorization works exactly as in version 12.2.

11. DXF / SVG / PLT Export

1. Check the preview (preferably with the background hidden and thin areas zoomed in). If the status bar shows a warning about islands or separate parts, add bridges (chapter 10).
2. Set the **SZEROKOŚĆ** (WIDTH) in the top bar. The export size is shown in the status bar (📐).
3. In the **Wyjście** (Output) tab choose the path mode — Łuki (Arcs) by default.
4. Click 💾 **DXF**, 💾 **SVG** or 💾 **PLT**.
5. Choose the folder and name (default laser_export.dxf / .svg / .plt; the program remembers the last export folder) → Save.
6. The status bar confirms the save, e.g. **„✔ DXF saved: C:\…\plate.dxf (12 konturów, łuki: 342)”** (12 contours, arcs: 342).

11.1 — Width and scale

Scale = WIDTH ÷ image width in pixels. Height is calculated proportionally.

⚠ **NOTE** WIDTH applies to **the whole image (crop)**, not to the motif alone. Example: image 2000 px, motif takes 1600 px, WIDTH 500 mm → the motif in the DXF is 400 mm. Before setting the size, crop the image tightly to the motif (RMB).

11.2 — File parameters

Parameter	DXF	SVG	PLT (HPGL)
Format	DXF R2000 (AutoCAD 2000)	SVG, size in mm	HPGL: IN; SP1; PU / PD
Units	mm	mm	40 units = 1 mm
Geometry	Closed LWPOLYLINE; with arcs (bulge) in Arcs mode	path elements; arcs as the A command	PD segments; arcs as AA
Layer / pen	Layer 0, color 7	“laser” layer (Inkscape), black stroke, no fill	Pen SP1
Zero point	Bottom-right corner of the image	Top-left corner of the outline (SVG standard)	Bottom-right corner of the image
Coordinate precision	0.0001 mm	0.0001 mm	0.025 mm (1 unit)
Use	Fiber / CO2 lasers, CNC, CAD	LightBurn, Inkscape, web	Plotters, plasma

DXF R2000 opens in LightBurn, AutoCAD, DraftSight, QCAD and practically any laser software. In PLT very flat arcs (sagitta below 0.0125 mm) are written as segments.

i INFO If clicking export does nothing, the program has no contours yet — load a file and wait for vectorization to finish. In the trial, after the limit is reached, the „Wersja próbna wygasła” (Trial expired) window appears.

12. Remembered Settings

On closing, the program saves its settings and restores them at the next start. You continue exactly where you left off.

Remembered	NOT remembered
All sliders and options (Obraz, Kontur), B&W method, path mode, WIDTH, selected preset, last open tab, last import and export folder, bridge tool settings (width, line / freehand, material, Wyspy)	The loaded file, cropping, the 🧹 REMOVE NOISE effect, bridge and eraser edits — load the file again after start-up

The preset is restored in the list only if the saved settings are identical to it — otherwise the list shows „— bieżące ustawienia —” (current settings).

First start (default settings):

Threshold	128 (Adaptive threshold and Canny off)
Edge Smooth / Path Smooth / Filter / Epsilon	0 / 0 / 0 / 0
Brightness / Contrast	0 / 0
KOLOR → B&W	Luminancja (naturalny) — Luminance
Path mode	Łuki (zalecane) — Arcs
WIDTH	500 mm
Preset / tab	🔒 Grafika AI / czarno-biała / Kontur

↺ **Przywróć domyślne** (Restore defaults) restores the vectorization settings above at any time — without changing the width. It does not change the bridge tool settings (on first start: 1.5 mm, straight line, Materiał: czarny, Wyspy on).

i INFO Settings and the license state are stored in the Windows registry (HKEY_CURRENT_USER\Software\toolbit\LPTP), presets and logs in the %APPDATA%\ToolBit\LPTP folder. Do not delete the registry key — you would lose the activation.

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13. What Graphics Work Best?

DXF quality depends mainly on the quality of the input file, and only then on the program settings.

Rating of graphic types:

Graphic type	Result	Why
AI graphic prepared per chapter 14 (PNG, black/white)	★★★★★ Ideal	Clean edges, no grey — „Grafika AI” preset.
Vector logo → PNG (export from Illustrator/Corel/Inkscape)	★★★★★ Ideal	Sharp edges, no noise, full contrast.
Logo on a white background (PNG or JPG)	★★★★☆ Very good	Great with a uniform background. PNG better than JPG.
Scan of a technical drawing (min. 300 DPI)	★★★★☆ Very good	„Skan / zdjęcie” preset. Resolution matters.
Photo of a plate (smartphone, good light)	★★★☆☆ Good	Needs contrast; avoid shadows and reflections. Adaptive threshold.
Product photo (silhouette on a uniform background)	★★★☆☆ Good	Needs a uniform, contrasting background.
JPG with artifacts (logo from the web, low resolution)	★★☆☆☆ Average	Noise — 🧹 REMOVE NOISE and Filter Small Details.
Multi-color photo, uneven background	★☆☆☆☆ Poor	The program cannot tell motif from background — needs editing.
Scan below 150 DPI	★☆☆☆☆ Poor	Resolution too low — edges will be stepped.

Golden rules for input graphics

- **Contrast matters most.** Black motif on a white background = ideal.
- **Resolution:** scans min. 300 DPI (engraving to 0.1 mm — 600 DPI), graphics min. 2048 px on the longer side.
- **PNG instead of JPG.** JPG compresses lossily and creates a “halo” around edges.
- **White background.** A PNG with transparency is fine too — the program fills a transparent background with white.
- **No shadows, gradients or textures** — the algorithm sees only black and white.
- **Improve the graphic before loading** if you have an editor (even Paint.NET): raise contrast, remove the background.

✔ **TIP** Quick fix for a weak graphic: free IrfanView → Image → Enhance Colors → contrast +50, brightness +10 → save as PNG.

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14. Preparing AI Graphics for LPTP

Image generators (ChatGPT, Midjourney, Stable Diffusion / ComfyUI) can produce graphics that LPTP turns into a clean DXF with no touch-ups. The condition: from the start you ask for a graphic “for the laser”, not an illustration.

14.1 — Rules for good vectorization graphics

- **Only two colors:** pure black on a pure white background. No grey, gradients, shadows, textures, 3D or sketch effect. **Black = material that remains; white = background and openings.**
- **Sharp, smooth edges and bold, solid shapes.** No hairline strokes.
- **No floating islands.** Everything black must form one piece. The centre of the letters O, A, R, a pupil inside a cut-out eye — will fall out after cutting. Ask the AI for a *stencil* style with bridges or for a silhouette joined into one piece. If islands remain anyway, LPTP shows them in red (and loose pieces next to the graphic in yellow), and you add the bridge in the program (chapter 10).
- **Flat view, straight from the front,** the whole motif in frame with a margin, nothing cut off at the edge.
- **High resolution:** min. 2048 px on the longer side. AI JPGs contain noise — PNG is better.
- **Text:** AI often garbles letters. Add lettering later in CAD (with a stencil font) or check every letter.

Minimum element width

After scaling, the thinnest element must be wider than the cutting gap (kerf) plus a margin. Rule of thumb: **min. approx. 1–1.5 mm for thin sheet metal**, and for thicker material — at least its thickness. The value depends on material, thickness and laser — test on a sample.

Converting to pixels: **min. px = min. mm × image width [px] ÷ WIDTH [mm]**. Example: 2048 px graphic, 400 mm part, 1.5 mm minimum → 1.5 × 2048 ÷ 400 ≈ **8 px**. Thinner elements in the graphic — ask the AI for bolder lines.

14.2 — Universal prompt template

Replace [SUBJECT] with your motif. The English version usually gives better results in Midjourney and Stable Diffusion; ChatGPT understands both.

EN	`[SUBJECT], laser cut stencil style silhouette, solid black filled silhouette on pure white background, flat vector style, bold thick lines, sharp clean edges, no shadows, no gradients, no grayscale, no textures, all elements connected into one single piece, white margin around, high contrast, front view`
PL	`[TEMAT], sylwetka w stylu szablonu do cięcia laserowego, czysta czarna wypełniona sylwetka na czysto białym tle, wektorowy styl płaski, grube linie, ostre krawędzie, bez cieni, bez gradientów, bez szarości, bez tekstur, wszystkie elementy połączone w jedną całość, z marginesem wokół, wysoki kontrast, widok z przodu`

14.3 — Variants

Wall decoration / openwork panel

EN	laser cut decorative wall panel, [SUBJECT] motif, rectangular frame with solid border, solid black shapes on pure white background, every element connected to the frame with thick bridges, uniform bridge width, no thin lines, flat vector style, no shadows, no gradients, front view
PL	panel ażurowy do cięcia laserowego, motyw [TEMAT], prostokątny kadr z pełną ramą, czarne wypełnione kształty na czysto białym tle, wszystkie elementy połączone z ramą grubymi mostkami, jednakowa grubość mostków, bez cienkich linii, płaski styl wektorowy, bez cieni, bez gradientów, widok z przodu

House number plate

EN	black rectangular house number plate with rounded corners for laser cutting from sheet metal, number "[NUMBER]" cut out as white openings, bold stencil style digits with bridges in closed digits, [MOTIF] in the corner connected to the plate, black on pure white background, flat style, no shadows, no gradients, front view
PL	czarna prostokątna tabliczka z zaokrąglonymi narożnikami do cięcia laserowego w blasze, numer „[NUMER]” wycięty jako białe otwory, grube cyfry w stylu szablonu (stencil) z mostkami w zamkniętych cyfrach, [MOTYW] w rogu połączony z tabliczką, czarne na czysto białym tle, płaski styl, bez cieni, bez gradientów, widok z przodu

Logo / emblem

EN	[SUBJECT] emblem inside a circle for laser cutting, solid black graphic on pure white background, bold simple shapes, all elements connected to the outer ring, symmetrical composition, flat vector style, no text, no shadows, no gradients
PL	emblemat [TEMAT] w okręgu do cięcia laserowego, jednolita czarna grafika na czysto białym tle, grube proste kształty, wszystkie elementy połączone z obwódką, symetryczna kompozycja, płaski styl wektorowy, bez tekstu, bez cieni, bez gradientów

Animal / silhouette

EN	[ANIMAL] silhouette in side profile for laser cutting, solid black filled silhouette on pure white background, no inner details, thick legs, tail and ears, no thin whiskers or fur, whole shape in one single piece, flat style, no shadows, full silhouette in frame with margin
PL	sylwetka [ZWIERZĘ] z profilu do cięcia laserowego, jednolita czarna wypełniona sylwetka na czysto białym tle, bez szczegółów wewnętrznych, grube nogi, ogon i uszy, bez cienkich wąsów i sierści, cały kształt w jednym kawałku, płaski styl, bez cieni, cała sylwetka w kadrze z marginesem

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Repeatable ornamental pattern

EN	`seamless ornamental pattern tile, [STYLE e.g. geometric / floral / moorish], for laser cutting, square repeat module matching on all edges, black shapes on pure white background connected into one lattice, uniform bridge width, symmetrical, flat vector style, no shadows, no gradients, no grayscale`
PL	`bezszwowy wzór ornamentowy [STYL, np. geometryczny / roślinny / mauretański] do cięcia laserowego, kwadratowy moduł łączący się na krawędziach, czarne kształty na czysto białym tle połączone w jedną siatkę, jednakowa grubość mostków, symetria, płaski styl wektorowy, bez cieni, bez gradientów, bez szarości`

14.4 — Negative prompt

In Stable Diffusion / ComfyUI paste it as the negative prompt; in Midjourney after the **--no** parameter.

NEG	`shadow, gradient, grayscale, texture, 3d, photorealistic, sketch, thin lines, noise, blur, background details, text, watermark, frame cut off`

14.5 — Tool-specific tips

Tool	Tips
ChatGPT / DALL·E	Write full sentences and add: *“PNG, pure black #000000 and pure white #FFFFFF only”*. Refine in follow-up messages: “thicker lines”, “connect all elements”, “remove the text”. The image is approx. 1024–1536 px — with fine details enlarge it 2× before import (e.g. IrfanView → Image → Resize, Lanczos method).
Midjourney	Prompt in English. Add **--style raw** (fewer “artistic” additions), **--no shadow, gradient, texture, 3d, text** and an aspect ratio matching the part, e.g. **--ar 1:1**, **--ar 3:2**. Upscale the chosen version.
Stable Diffusion / ComfyUI	EN prompt + the negative prompt from 14.4. After generating, upscale the image 2× and apply posterization or a threshold of approx. 0.5 (a threshold-type node) — you get pure black and white with sharp edges. A fixed seed makes it easier to refine one motif.

14.6 — Bad vs good

Bad (in the prompt)	Why it is a problem	Good
“realistic deer in a forest at sunset”	Background, texture, half-tones — hundreds of junk contours	“deer silhouette in side profile, black on white, no background”
“logo with shadow and 3D effect”	The shadow becomes a separate shape, edges blur	“flat logo, solid black, no shadows”
“delicate pencil sketch”	Thin, broken, grey lines — they vanish when thresholded	“bold continuous lines of uniform width”
“the name Smith in a decorative font”	AI distorts letters, thin serifs, islands inside letters	“no text” — add the lettering in CAD with a stencil font
“close-up, motif fills the whole frame”	Motif cut off at the edge — open contours	“whole motif in frame, with a margin around”

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Bad (in the prompt)	Why it is a problem	Good
“colorful illustration”	Colors turn into greys — hard to pick a threshold	“pure black and white only”

14.7 — From AI graphic to DXF

1. Save the graphic as **PNG** (min. 2048 px on the longer side).
2. In LPTP click 📂 **Importuj** (Import).
3. Choose the 🔒 **Grafika AI / czarno-biała** (AI graphic / black & white) preset.
4. **RMB — crop tightly to the motif** (cut off the AI margin here, because WIDTH applies to the whole crop).
5. Check the preview — blue contours. Click „🗑️ Ukryj tło” (Hide background) and zoom into thin areas and places where islands may occur.
6. Small junk → raise **Filter Small Details** (20 → 50 → 100).
7. The program traces the background instead of the motif → turn on **Invert Colors**.
8. Set the **SZEROKOŚĆ** (WIDTH) in mm.
9. Does the status bar show ⚠ **… wysp wypadnie po wycięciu** (islands will fall out) or **… osobne elementy** (separate parts)? Click ✏ **Mostki** and join the red islands and yellow parts to the rest of the material (chapter 10).
10. Wyjście (Output) tab → **Łuki (zalecane)** (Arcs) → 💾 **DXF**.
11. In your laser software check the minimum element width and that nothing will fall out after cutting.

[SCREENSHOT: example — AI graphic after import with the „Grafika AI / czarno-biała” preset, background hidden, blue contours]

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15. Troubleshooting

▶ Jagged, “stepped” edges

Cause: Resolution too low or a heavily compressed JPG.

Solution: Use a file of min. 2048 px / 300 DPI (PNG). Set Edge Smooth 1–2 and/or Path Smooth 20–40. Export in Arcs mode.

▶ Too many small contours (“junk”)

Cause: Scan noise, JPG artifacts, small specks.

Solution: Raise Filter Small Details (20 → 100 → 300). Click 🧹 REMOVE NOISE. Lower the Threshold. For scans use the „Skan / zdjęcie” preset.

▶ Thin lines or small details have disappeared

Cause: Lines narrower than the smoothing, or the filter too high / threshold too low.

Solution: Set Path Smooth 0 and Edge Smooth 0, lower Filter Small Details, raise Threshold. Remember: an element thinner than approx. 1–1.5 mm may not cut anyway (chapter 14.1).

▶ The laser table jerks, the head slows down on curves

Cause: Curves written as thousands of short segments.

Solution: Wyjście tab → **Łuki (zalecane)** (Arcs). If Arcs mode is on but the message after export shows „odcinki” (segments) instead of „łuki: N” (arcs: N), the program cannot use the arc module — send the logs (chapter 16).

▶ The laser software does not read arcs, or shapes are distorted

Cause: An older controller does not support arcs in polylines (bulge) / A, AA commands.

Solution: Wyjście tab → **Odcinki (starsze sterowniki)** (Segments). For a smaller file set Epsilon 20–40. For DXF files from other programs use 🔄 KONWERTUJ SPLINE → POLILINIA.

▶ Inverted shapes — the background is traced, a rectangle surrounds the whole image

Cause: The motif is lighter than the background.

Solution: Obraz tab → **Invert Colors**. In Canny mode a rectangle around the image is normal — delete it in CAD.

▶ Size after export differs from what you expected

Cause: WIDTH applies to the whole crop, including the white margin.

Solution: Crop tightly to the motif (RMB) and set WIDTH again. Check the size in the status bar (📐).

▶ Clicking 💾 DXF / SVG / PLT does nothing

Cause: No contours (file not loaded or vectorization still running).

Solution: Load a file and wait until „Trwa wektoryzacja...” disappears. In the trial, after the limit, the „Wersja próbna wygasła” (Trial expired) window appears.

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▶ I want to undo cropping or „REMOVE NOISE”

Solution: Obraz tab → ↩ **RESTORE FULL IMAGE**. Slider settings, WIDTH and bridge edits are kept.

▶ Letter centres or parts of the pattern fall out after cutting

Cause: Islands — material surrounded by a cut on all sides.

Solution: Before export check the „⚠ … wysp wypadnie po wycięciu” warning and the red areas on the preview. Click ✏ **Mostki** and join every island to the rest of the material (chapter 10).

▶ A piece that lay next to the graphic comes off after cutting (a leaf, an ornament dot)

Cause: A separate part — material not connected to the main graphic.

Solution: Before export check the yellow areas on the preview and the „… osobne elementy” note in the status bar. Join each such part to the graphic with a bridge (chapter 10.1).

▶ Almost the whole graphic is yellow

Cause: The graphic consists of many separate parts (e.g. letters or digits cut one by one) — the program treats only the largest of them as the main graphic.

Solution: If the parts are meant to be separate, the information is correct — untick **Wyspy** if it gets in the way. If the background is highlighted instead of the motif, the **Materiał** switch is set the wrong way round (chapter 10.5).

▶ I drew a bridge and the contour did not change

Cause: Bridges are recalculated only after you click ✔ Przelicz (Enter). If nothing changes after recalculating, the Materiał switch is set the wrong way round — you draw black on black (or white on white).

Solution: Click ✔ **Przelicz**. If that does not help, change **Materiał** in the bridge bar (chapter 10.5) and check that the line crosses the whole cut — from material to material.

▶ The eraser does not remove anything

Cause: The feature is larger than the eraser stroke — covered only partly, it stays unchanged.

Solution: Increase SZER. or scribble over the whole feature in ~ Odręcznie mode and click ✔ Przelicz (chapter 10.3). A larger cut-out can also be painted over with Mostek.

▶ The ✏ Mostki button does not turn on

Cause: No graphic is loaded, or Tryb krawędzi (Canny) is on.

Solution: Load a file. In the Kontur tab turn off Tryb krawędzi (Canny) — bridges do not work in it. The message in the status bar gives the reason.

▶ The program shows a great many islands, or islands where there are none

Cause: Noise (small specks inside openings) or the Materiał switch set the wrong way round.

Solution: Raise Filter Small Details or click 🧹 REMOVE NOISE. Check the Materiał switch (chapter 10.5). If you do not need the warning, untick **Wyspy** in the bridge bar.

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▶ The bridge in the DXF has a different width than entered

Cause: The bridge is drawn on the image pixel grid.

Solution: Accuracy is approx. half a pixel (pixel = WIDTH ÷ image width in px). Load the graphic at a higher resolution or enter the width with a margin (chapter 10.4).

▶ The license key does not work

Solution: Paste the key without leading or trailing spaces, check the internet connection. Message meanings — table in chapter 3. If the problem persists, write to kontakt@toolbit.pl with your order number and Machine ID.

▶ The program does not start

Solution: Update Windows (min. Windows 10 1903). Run as administrator (right-click LPTP.exe → Run as administrator). Check that your antivirus has not blocked files in the program folder.

▶ PDF: black or empty preview, or the wrong page

Cause: Protected / encrypted PDF; the program reads page 1 only.

Solution: Print the page you need to a new PDF (Print → Microsoft Print to PDF) and load that file.

▶ Message „⚠ Nie udało się wczytać presets.json” (Could not load presets.json)

Cause: The preset file is damaged.

Solution: Restore the file from a backup or save a new preset — the program will set the damaged file aside as presets.json.uszkodzony (chapter 8.4).

▶ The program showed an error or closed

Solution: The program saves the details in a log. Send LPTP_error.log and LPTP_crash.log to kontakt@toolbit.pl — chapter 16.

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16. Error Log & Technical Support

16.1 — When an error occurs

The program **does not close** after an error. It saves the details to the log, unlocks the interface and shows the **„LPTP — wystąpił błąd”** (An error occurred) window: „Wystąpił nieoczekiwany błąd. Program działa dalej — spróbuj powtórzyć operację.” (An unexpected error occurred. The program keeps running — try the operation again.)

[SCREENSHOT: „LPTP — wystąpił błąd” window with 📂 Otwórz folder z logiem / 📋 Kopiuj raport / OK buttons]

Button	Function
📂 **Otwórz folder z logiem (Open log folder)**	Opens the folder with the log files in Explorer.
📋 **Kopiuj raport (Copy report)**	Copies the report to the clipboard — paste it (Ctrl+V) into your e-mail.
Show Details…	Expands the full technical report in the window (system button).
OK	Closes the window — continue working.

If the program closed unexpectedly (e.g. a system-level crash), at the next start it shows the **„LPTP — poprzednie zamknięcie”** (Previous shutdown) window: „Ostatnim razem program zamknął się nieoczekiwanie.” (Last time the program closed unexpectedly.) — with the 📂 Otwórz folder z logiem button.

16.2 — Where the logs are

Folder	%APPDATA%\ToolBit\LPTP\logs\
LPTP_error.log	Program errors with a description: version, system, parameters, last ~40 actions, error details.
LPTP_crash.log	Hard crashes (program terminated by the system).
***.log.old**	Older part of the log — a file over 1 MB is set aside as .old.
How to open	Wyjście tab → 📄 FOLDER Z LOGAMI BŁĘDÓW, the button in the error window, or Win + R → %APPDATA%\ToolBit\LPTP\logs

i INFO The log contains the name and size of the loaded file and the settings — it **does not contain** the graphic itself. The log stays on your computer; the program sends nothing by itself.

16.3 — How to report a problem

1. Open the log folder (📄 FOLDER Z LOGAMI BŁĘDÓW).
2. Attach **both files: LPTP_error.log and LPTP_crash.log** to an e-mail.
3. Describe in 2–3 sentences what you were doing (e.g. “PDF import, crop, DXF export in Arcs mode”).
4. If you can — attach the file on which the error occurred.
5. Send to **kontakt@toolbit.pl**.

17. FAQ — Frequently Asked Questions

Q: How many computers does one license cover?

A: One license = one computer (Machine ID based on the network card address). If you change computers, write to kontakt@toolbit.pl — the transfer is free.

Q: Does the program work without internet?

A: Full version — yes, fully offline after one-time activation. Vectorization runs locally, no file is sent to a server. The trial checks its status on the toolbit.pl server at start-up; without a connection it uses the last saved status.

Q: Are updates free?

A: Yes — the purchase includes future updates. You pay once, no subscription. Presets and settings survive updates.

Q: Can LPTP load SVG files?

A: No. Supported formats are PDF, DXF, JPG, PNG, BMP, TIFF, WebP and AVIF. Export SVG to PNG (e.g. in Inkscape) and load it.

Q: Can I use DXF files from LPTP in LightBurn?

A: Yes. DXF R2000 in mm — import via File → Import. You can also use the SVG export (“laser” layer).

Q: Why are the X coordinates in the DXF negative?

A: The zero point is fixed in the bottom-right corner of the image, so the part lies to the left of zero. Move it in your laser software.

Q: Can I change the zero point?

A: No — the zero point is fixed (bottom-right corner).

Q: Does LPTP add bridges by itself?

A: No. The program detects islands (red) and separate parts (yellow), but you draw the bridges — you decide where they will be least visible. Details — chapter 10.

Q: Are bridges saved in a preset or after the program is closed?

A: No. Edits belong to one specific image — export the file before closing the program or loading the next graphic. Only the tool settings (width, drawing method, material) are remembered.

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Q: Will my trial presets carry over to the full version?

A: Yes. Both versions use the same presets.json file and the same settings.

Q: How do I move presets to another computer?

A: Copy %APPDATA%\ToolBit\LPTP\presets.json to the same folder on the other computer (with the program closed).

Q: The trial has expired and I want to buy — what now?

A: Click „🛒 Kup pełną wersję” (Buy full version) in the status bar or go to toolbit.pl/lptp. After purchase download LPTP_full.zip and activate it with the key. There is no need to uninstall the trial.

Q: Can I get a VAT invoice?

A: Yes — after purchase write to kontakt@toolbit.pl with your company details.

Q: Which Windows versions are supported?

A: Windows 10 or 11, 64-bit. The program does not run on Windows 7/8 or on 32-bit systems.

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18. Contact & Support

Company	toolbit.pl — software for CNC laser operators and SMEs
E-mail	kontakt@toolbit.pl
Program page	toolbit.pl/lptp
Response time	Within 24 hours on business days
Technical support	Free for licensed users

Before writing, please check:

- Chapter 15 — Troubleshooting.
- Chapter 17 — FAQ.
- That you have the latest version — toolbit.pl/lptp. Your version number is shown in the top-left corner of the window (e.g. V12.5).
- If the program reported an error, attach LPTP_error.log and LPTP_crash.log (chapter 16).

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