DTF Printer User Manual

24" (60 cm) DTF Printer — Full Reference Guide (PrintEXP)

Models covered by this document

Model	CobraFlex SKU	Description
24" DTF printer, 2-head	CF-24-DTF-2HT652	24" DTF Printer 2-Head White/Black; package CF-24-DTF-2H-Wht-Blk-Package
24" DTF printer, 4-head	CF-24-DTF-4HT654	24" DTF Printer 4-Head White/Black; package CF-24-DTF-4H-Wht-Blk-Package
24" DTF printer, 6-head	CF-24-DTF-6HT656	24" DTF Printer 6-Head White/Black; package CF-24-DTF-6HT656-Package

Document	User Manual
Revision	2026-11
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Based on	CobraFlex DTF Printer User Manual — 60 cm DTF Printer Full Reference Guide (based on the manufacturer's DTF printer user manual)

This manual covers safety guidance, installation, the PrintEXP control software, calibration, common troubleshooting, and the factory-level configuration reference for the CobraFlex 60 cm (24-inch) DTF printer platform.

CobraFlex Service and Support

Email: **service@cobraflexprinters.com** Phone: (602) 930-1858

Support hours: Monday–Friday, 8:00 AM–4:00 PM Arizona time

Need help? Submit a service ticket: https://cobraflexprinters.zohodesk.com/portal/en/newticket

You can also email service@cobraflexprinters.com (this link opens a pre-filled email for the CobraFlex 24" (60 cm) DTF Printers, SKU CF-24-DTF-4HT654).

Please include your company name, the machine serial number, a description of the problem, and photos or a short video. For printers, also attach a current nozzle check print.

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1. Safety Guidance

- Place the printer on a stable, level surface in a climate-controlled environment. Avoid direct sunlight, moisture, and excessive dust.
- Make sure the power outlet is properly grounded. Do not modify or bypass the power cord's grounding pin.
- Turn off and unplug the printer before performing any maintenance, cleaning, or hardware adjustment.
- Keep hands, hair, and loose clothing away from the carriage rail and feed rollers while the printer is powered on.
- Do not touch the print-head nozzle plate — skin oils and static discharge can damage the nozzles.
- Use only inks and cleaning solutions approved for this printer. Unapproved chemicals can damage the ink path and void the warranty.
- Keep a fire extinguisher rated for electrical fires nearby, and make sure the work area has adequate ventilation.

2. Installation Guidance

2.1 Install the Machine Body

Refer to the installation video for the complete assembly sequence. Attach the printer body to the stand, and level the unit using the adjustable feet at the base of each leg.



Adjustable leveling feet at the base of the stand

2.2 Install the Feed-In Device

Mount the feed-in device on the rear support rail. The left and right mounting brackets are marked Left and Right — install each one on its matching side.



Feed-in device — left and right roller brackets

2.3 Computer Configuration Requirements

- Gigabit Ethernet network adapter
- 64-bit computer operating system
- Mainstream, current-generation hardware configuration

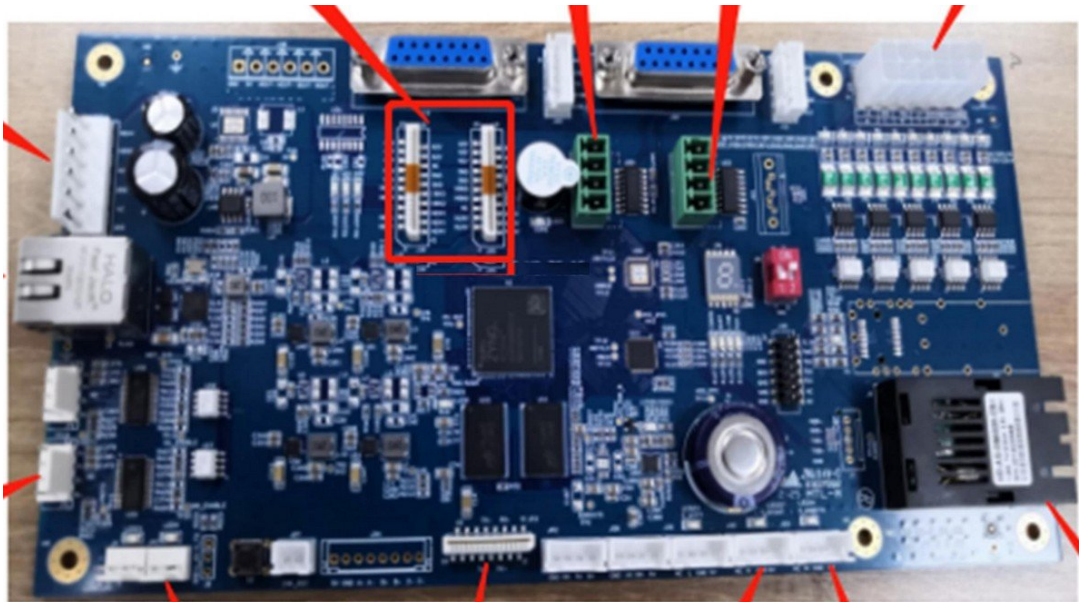
2.4 Fully Assembled Machine



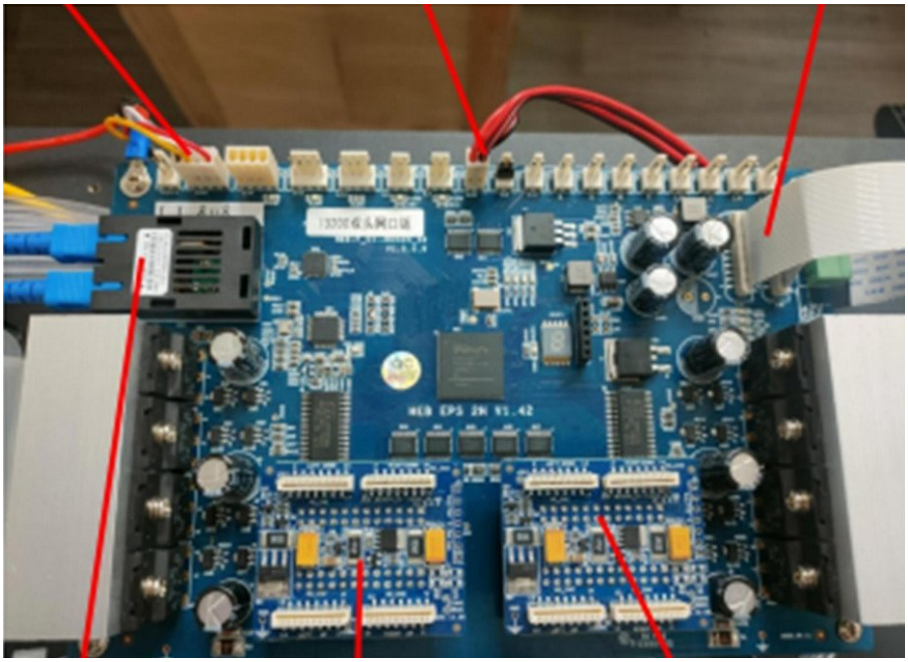
Fully assembled 24" printer on its stand (left) with the matching powder shaker dryer and take-up stand (right). See the installation video for detailed steps.

3. Board Wiring Diagram

The mainboard handles initialization of the mechanical motion parameters, the cleaning-system logic, and data upload and download. The head board stores the waveform files and handles print-head power and data transmission.



Mainboard connection layout



Head board connection layout. The arrows at the top point to the encoder sensor, the carriage anti-collision interface, and the head-plate power supply connections.

Caution: Always power off the printer completely before connecting or disconnecting any board-level cable. Incorrect wiring can damage the mainboard, the head board, or the print heads.

4. Production Capacity Reference

Throughput varies with print mode (pass count), resolution, media, and ink coverage. Higher pass counts and higher DPI settings improve print quality at the cost of speed; lower pass counts favor throughput for simpler designs.

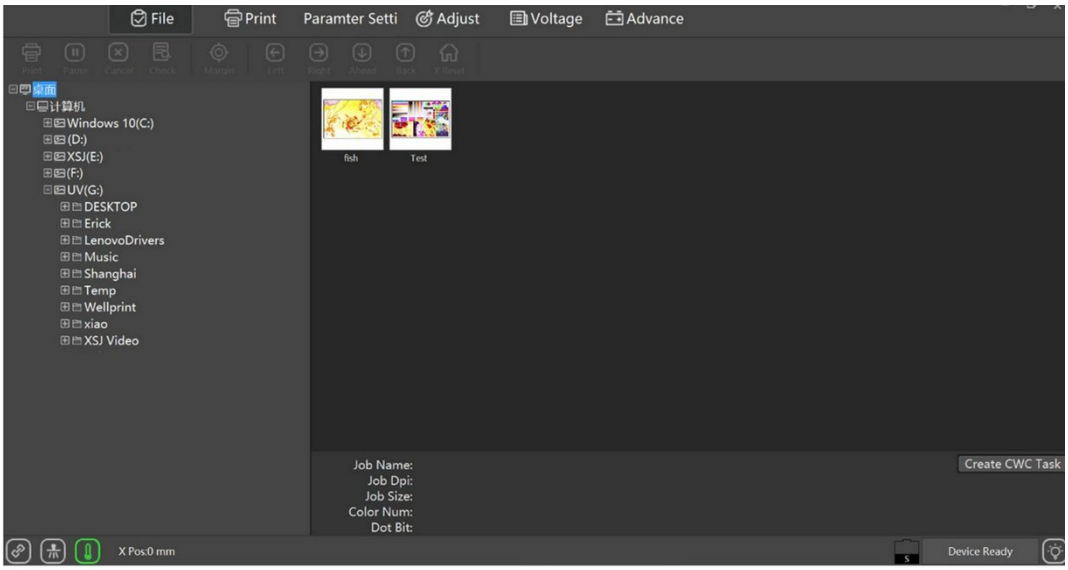
- Use higher-pass, higher-resolution modes (for example, 720 × 1080, 6-pass) for fine detail and photographic images.
- Use lower-pass, lower-resolution modes (for example, 360 × 180, 1-pass) for bulk runs of simple graphics where maximum speed is the priority.

5. Control Software Overview (PrintEXP)

The printer is controlled by PrintEXP, dedicated control software that manages the physical position of the print head, calibration information, common function settings, and incoming RIP data. PrintEXP works together with the RIP driver to process and send print jobs to the printer.

5.1 File Menu

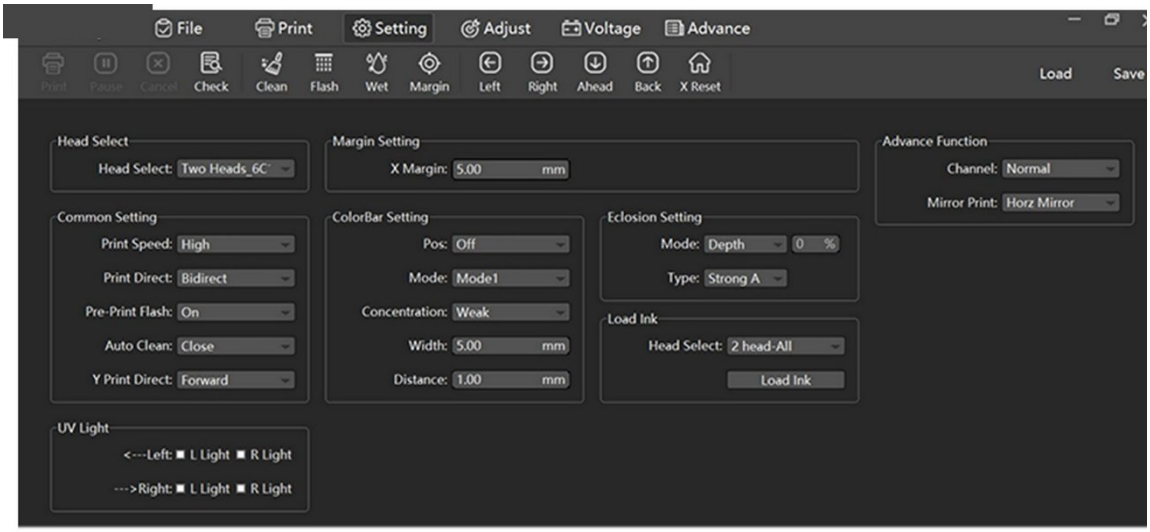
Use the File tab to browse and select print jobs from local or network folders. It shows job details (name, DPI, size, color count, and dot bit depth) before printing.



PrintEXP — File menu and job browser

5.2 Setting Menu

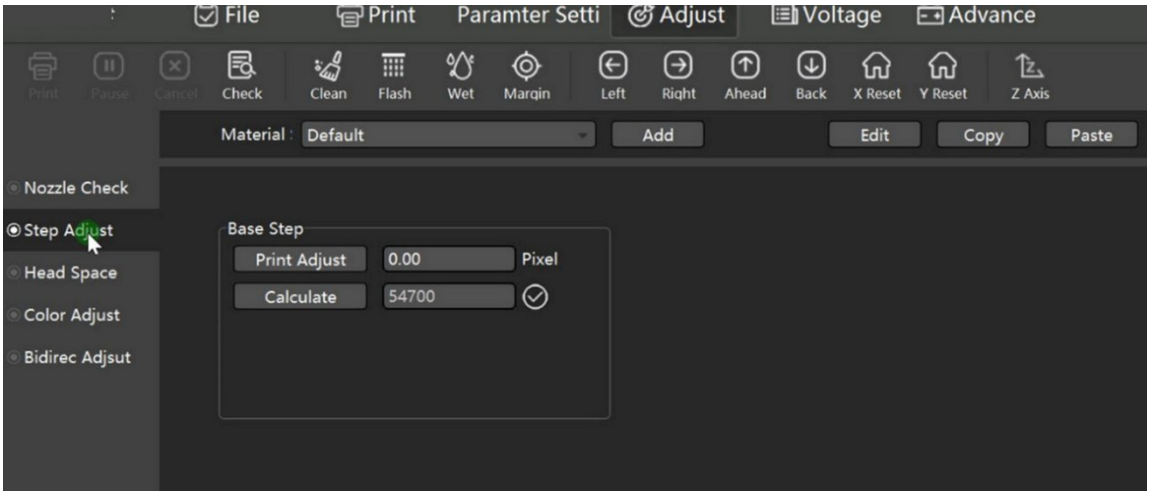
The Setting tab controls head selection, print speed and direction, pre-print flash, auto-clean behavior, margin, color bar, eclosion (edge feathering), UV light zones (UV models), advanced channel and mirror options, and ink loading.



PrintEXP — Setting menu

5.3 Adjust Menu — Calibration

Function	Purpose
Nozzle Check	Check nozzle status, print-head horizontal alignment, and vertical tilt before printing.
Step Adjust	Fine-calibrate the paper feed step (base step and per-pass step offset) using a printed test bar.
Head Space	Mechanically calibrate the horizontal and vertical spacing between print heads.
Color Adjust	Calibrate the vertical and horizontal registration of each print-head pass.
Bi-directional Adjust	Correct the bi-directional offset, which varies with print speed.



PrintEXP — Adjust menu, Step Adjust

Nozzle Check Pattern

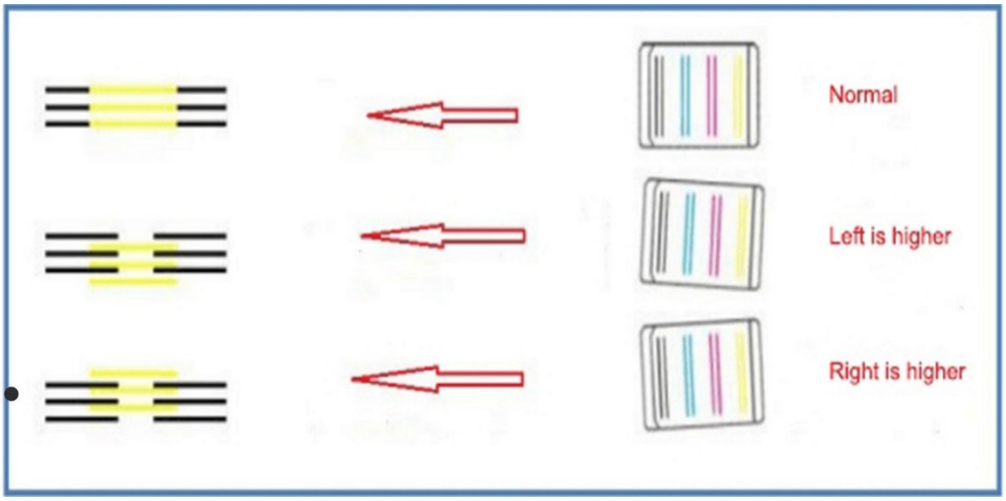
Clicking **Nozzle check** prints the nozzle status pattern shown below. A clean, unbroken pattern across every color means the nozzles are in good working condition.



Normal nozzle check

Horizontal Check

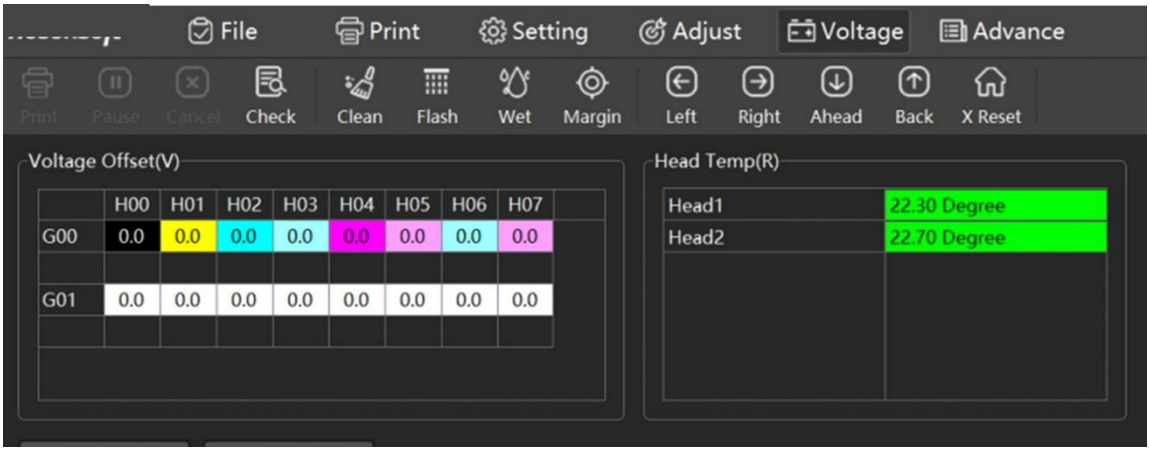
Clicking **Horizontal check** prints a pattern that verifies the print-head surface is parallel to the horizontal plane. If the vertical lines lean left or right, the head is higher on one side and must be adjusted mechanically with a screwdriver.



Horizontal check — normal, left side higher, and right side higher

5.4 Voltage Menu

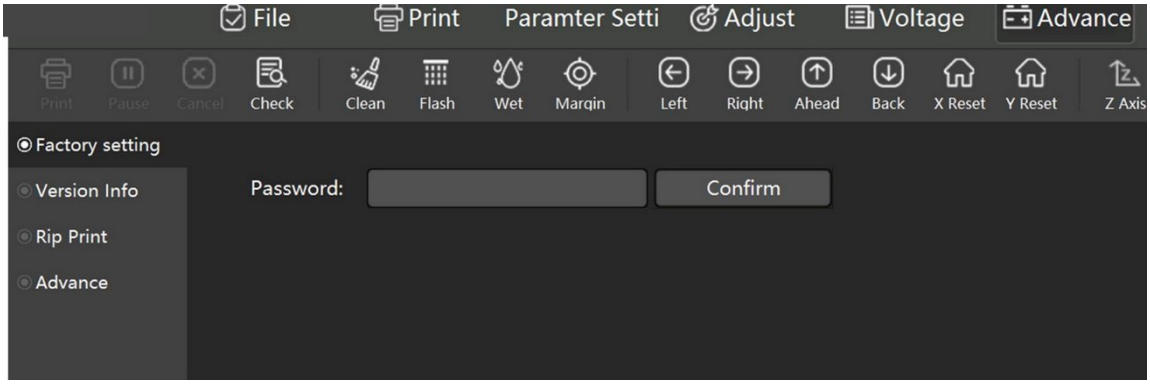
Shows and adjusts the per-nozzle voltage offset for each print head, and shows the real-time head temperature.



PrintEXP — Voltage menu

5.5 Advance Menu

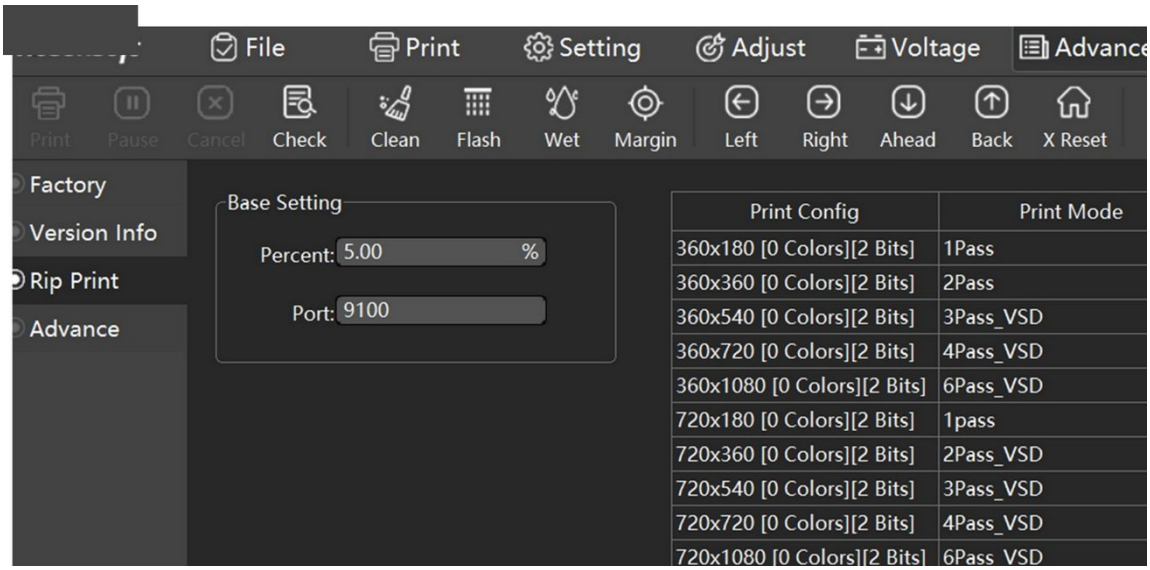
Gives access to the factory settings (password-protected), version information, and the RIP print network configuration.



PrintEXP — Advance menu

RIP Print Configuration

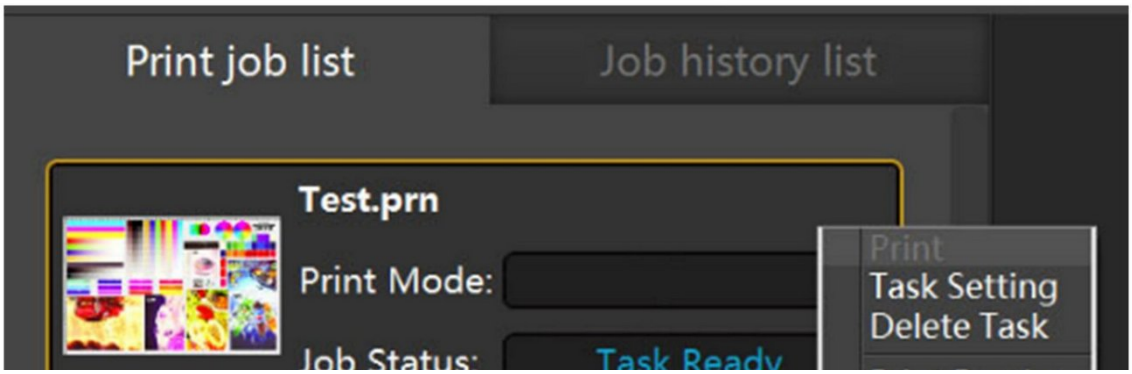
Sets the RIP listening port and print percentage, and lists the available print-mode configurations (resolution, color count, bit depth, and pass count).



PrintEXP — Advance, RIP Print configuration

5.6 Print Job Management

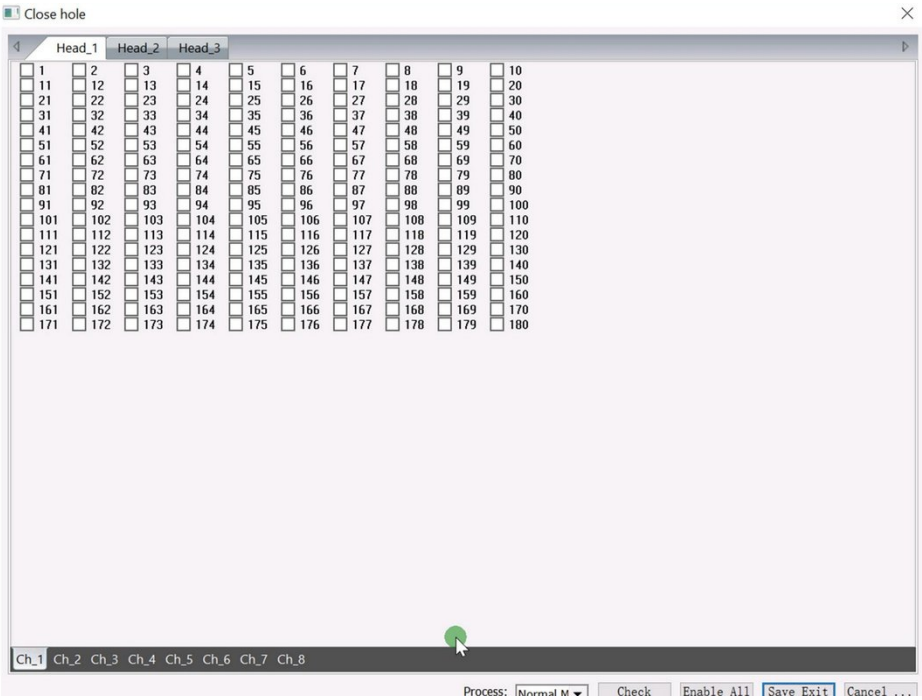
The Print tab lists queued and completed jobs with their name, size, and status, and lets you reprint, delete, or reorder jobs in the queue.



PrintEXP — Print job list

5.7 Close Hole (Channel Masking)

The Close Hole dialog lets you disable individual nozzle channels on each print head. Use it to mask a permanently clogged or damaged nozzle so it is skipped during printing instead of leaving a visible defect.

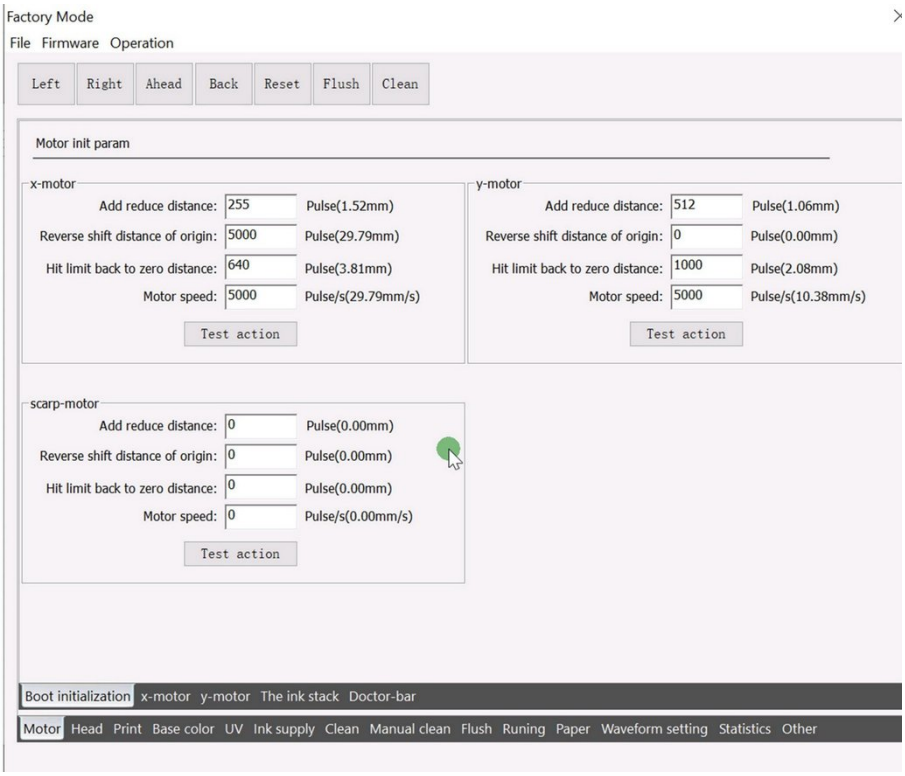


Close Hole — per-nozzle channel masking, by head and channel

6. Factory Mode (Engineer Reference)

> **Caution:** Factory Mode is password-protected and intended for trained engineers only. Incorrect changes to motor, head, or timing parameters can cause mechanical damage or unpredictable printer behavior.

Factory Mode organizes the configuration into tabs: Motor, Head, Print, Base color, UV, Ink supply, Clean, Manual clean, Flush, Running, Paper, Waveform setting, Statistics, and Other.



Factory Mode — Motor tab, boot initialization (X, Y and scraper motor parameters)

6.1 Clean and Flash Settings

Setting	Purpose
Clean Mode	Turn automatic head flash on or off, select which print head(s) are cleaned, and set the auto-flash interval (in passes).
KeepWet Position	X/Z position of the keep-wet station. Set at the factory; not user-adjustable.
Print Before Flash	Flash frequency, flash count, single flash time, and the interval between flashes performed before printing.
Printing Flash	Flash frequency, flash count, single flash time, and the interval between flashes performed during printing.

6.2 Paper Feed and Drying

Setting	Purpose
Print Before/After Printing Mode	Selects paper-skip and forward/backward feed behavior before and after each print job.
Print Before/After the Paper Length	Sets the forward/backward feed distance before and after printing.
Drying After Print	Automatically feeds the media a set distance after printing so the finished print can pass under an external dryer, and sets the per-pass wait time during that feed.
Paper Test Sensor Offset / Valid Space	Engineer-only distance settings for the paper-width sensor; not user-adjustable.

Setting	Purpose
Paper Left Offset	Micro-adjustment for media-width measurement error on the left side.

6.3 Other System Settings

Setting	Purpose
Offset (X White Edge Start/Location, Y White Edge Start)	Factory ruler and positioning reference points — for factory use, or for fine adjustment if a pasted ruler shows deviation.
Color Potency (Weak / Middle / Strong)	Sets the concentration of the printed color bar.
Raster Set (X Physical Raster)	Sets the encoder raster resolution. Engineer only.
Check Lack Ink	Show a no-ink warning, block printing when out of ink, or warn without blocking.
Broken Line (Print Over Pause / Auto Recovery Time)	If printing is interrupted longer than the pause time, the carriage returns to the origin and pauses; if data resumes within the recovery time, printing continues automatically.
Head Between Eclosion Mode	Feathering applied at the seam between multiple print heads.
Moisture / Channel Control Checks	Enables moisture monitoring and per-channel ink control.
Alarm Setting	Enables the mainboard alarm buzzer for impact or out-of-paper conditions, and sets its ring interval and rate.
Function Switch	Chooses which status shortcut icons (no-ink, laser test, fan, DPI display, height signal, wetting duty, and so on) appear on the main menu.
Calibration — Color Split Type	Engineer only. Do not modify.

7. Common Problems and Daily Maintenance

Problem	What to do
Nozzle blockage or ink breakage on a test strip	Run the Clean function from the Setting menu, then reprint the nozzle check. If the breakage continues, clean the affected print head manually and check the damper and ink line for blockage.
Uneven or slanted vertical lines on the Horizontal Check pattern	Re-level the print head mechanically with a screwdriver, using the Normal / Left side higher / Right side higher diagram in section 5.3.
Step misalignment between passes	Use Step Adjust (Base Step, then Step Offset) in the Adjust menu to fine-calibrate.
Color registration drift	Use Color Adjust to recalibrate the vertical and horizontal position of each pass.
A single nozzle defect that cleaning cannot fix	Use the Close Hole dialog to mask that channel so it is skipped instead of printing a visible streak.
Media feed problems	Check the Print Before/After printing mode and paper-length settings in Factory Mode, and make sure the paper-width sensor is not blocked.

Caution: If a problem continues after you follow the steps above, contact CobraFlex Service before making any further changes in Factory Mode.

Screenshots and diagrams are for reference. Always confirm exact settings against the on-screen software before making changes.

Proper Operating Environment

Set up the equipment in conditions that match the requirements below. Each requirement is taken from the CobraFlex documentation named in brackets. Operating outside the machine's site specifications is not covered by the warranty.

Requirement	Specification
Location	Place the printer on a stable, level surface in a climate-controlled environment. Avoid direct sunlight, moisture, and excessive dust. [CobraFlex DTF Printer User Manual]
Room temperature	60–80 °F (16–27 °C) — CobraFlex standard.
Humidity	No numeric range is stated. Low humidity in the workshop is a common cause of partial ink breakage on the test strip. [PrintX T/S Series Maintenance Manual]
Ventilation and fire safety	Make sure the work area has adequate ventilation, and keep a fire extinguisher rated for electrical fires nearby. [CobraFlex DTF Printer User Manual]
Electrical power	Use a properly grounded power outlet. Do not modify or bypass the power cord's grounding pin. Turn off and unplug the printer before any maintenance, cleaning, or hardware adjustment. [CobraFlex DTF Printer User Manual]
Computer and network	Gigabit (1000M) Ethernet network adapter — the printer supports only a Gigabit Ethernet card; 64-bit operating system; mainstream, current-generation hardware. [CobraFlex printer installation manuals]
Inks and chemicals	Use only inks and cleaning solutions approved for this printer. Unapproved chemicals can damage the ink path and void the warranty. [CobraFlex DTF Printer User Manual]
Idle periods	If the printer will sit unused for more than 1 week, flush it completely and leave cleaning solution in the ink path. Contact CobraFlex to flush the printer if it will be unused for more than 2 weeks. [CobraFlex Warranty Terms and Conditions]
Site and relocation	Site conditions must conform to the machine site specifications. Do not move the equipment without notifying CobraFlex or your dealer; follow the proper shutdown and start-up procedure. [CobraFlex Warranty Terms and Conditions]

Warranty Summary

This is a summary of the CobraFlex Printers Warranty Terms and Conditions. The full terms are in the document *CobraFlex-CF-ALL-PRINTERS-DTF-UV-Printers-Warranty-Terms-and-Conditions-Rev2026-11.pdf* and online at https://cobraflexprinters.com/policies/terms-of-service; the full terms govern if anything here differs. CobraFlex Printers may change the warranty at any time.

- Limited warranty: the printer is free from defects in material and workmanship under normal use and service for a period of one (1) or two (2) years, depending on the model and purchase agreement, from the original date of purchase, excluding wear-and-tear items and consumable parts. The warranty is non-transferable and applies only to the customer who purchased directly from CobraFlex or an authorized CobraFlex dealer. CobraFlex will repair, substitute, or replace covered defective parts at its discretion.
- Remote technical service and support (phone and virtual) for 12 months from the installation date, with an optional extended warranty and service package for an additional 12 months, which must be purchased before the original term expires. On-site service and travel expenses are not covered.

- Remote service call-backs average within 6 business hours. Support hours are Monday–Friday, 8:00 AM–4:00 PM Arizona time. Emergency or after-hours service must be scheduled in advance through the CobraFlex Help Desk and is handled case by case.
- Print head: one print head is covered, prorated over 12 months, and is replaceable once during the first year. Clogging from a dried-out head (the wet-cap and cleaning procedure must be used daily), improper use, or a head strike on the film is not covered.
- Not covered: consumable and wear items such as dampers, filters, pump/capping stations, ink, ink lines, the ink train, the encoder strip, the head carriage, and anything that contacts ink or the capping station; damage from accident, misuse, forces of nature, or service by anyone other than a certified CobraFlex technician.
- Training is required. Customers who do not take part in CobraFlex training void the warranty, and every operator must have a training certification on file with CobraFlex.
- Use only CobraFlex-approved inks, media and chemicals. Third-party inks, chemicals or supplies void warranty coverage for related problems, and service is then billed at standard rates.
- If the printer will sit unused for more than 1 week, it must be completely flushed with cleaning solution left in the ink path; contact CobraFlex to flush the printer if it will be unused for more than 2 weeks.
- Site conditions must conform to the machine site specifications. Moving the equipment without notifying CobraFlex or its dealer voids the warranty immediately; a proper shutdown and start-up procedure must be followed.
- Returns: no returns after ink is put into the machine. A Dead-on-Arrival (DOA) period of 10 business days applies from customer sign-off at install, during which CobraFlex covers ground shipping for failed parts. Never sell or book product until 10 days after install.

CobraFlex Service and Support

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