Kornit Avalanche

QUICK REFERENCE GUIDE

Kornit Digital
bonding matters

Kornit Avalanche/ Avalanche DC Pro

Quick Reference Guide

Copyright

Trademark Notice

Important Notice

Table of Contents

Safety Instructions

NOTE:

This guide takes into account that you have prepared your printing site according to the instructions provided in the Kornit Avalanche Site Preparation Guide.

Safety Instructions provides you with essential information for safely operating the Kornit Avalanche printer. All operators are expected to be familiar with, and to follow, the safety instructions when operating the Avalanche.

In addition, we recommend that you read and practice the safety guidelines as outlined in the Material Safety Data Sheet (MSDS) for each ink, and post the document in the work area as required by prevailing law.

Safety Instructions includes:

- Safety Labels on page 5
- Personal Safety on page 6
- Hardware Safety on page 6
- Electrical Safety on page 6
- Ink, Consumable, and Waste Safety on page 7

Safety Labels

The following safety labels are positioned on interior and exterior areas of the
Avalanche printer.

Warning Symbol	Meaning	Location	Comments
	High Voltage	• Electronic Compartment-right door • Top of electronic card compartment	**Indicates a high voltage part; contact can result in major or fatal injury.**
	Moving Parts	• Below left side of left printing pallet • Below right side of right printing pallet	**Indicates moving parts; contact can cause minor or moderate injury.**
⚠WARNING ONLY authorized personnel may service this equipment. See manual for safety information.	Servicing by Authorized Personnel	• Both sides of electronic card compartment	**Indicates that the specific printer part can be serviced by authorized personnel only.**

Personal Safety

We advise that all Avalanche operators wear latex gloves and safety glasses and become familiar with the following recommendations.

➢ **To prevent damage and injury:**
- Allow only specially trained and authorized personnel to perform service and repair work on the Avalanche.
- Do not allow any personnel to wear loose-fitting clothing near the working Avalanche.
- Do not allow smoking, pilot lights, or open flames anywhere near the Avalanche.

➢ **To extinguish a fire:**
Use CO_2, foam, dry powder, or vaporizing liquids.

➢ **To prevent slipping/falling:**
Immediately clean up any oil, grease, or water from around the Avalanche.

Hardware Safety

We advise that all operators become familiar with the Hardware Safety recommendations.

➢ **To prevent injury to personnel:**
- Do not touch moving parts or put your hands into the Avalanche during operation.
- Remove tools and loose parts from the Avalanche before operation.
- Be aware of the weight of the printing pallets when changing (to prevent back strain).
- Close all compartment and service doors when operating the Avalanche.
- Make sure that the pallet frame is securely in place when you press the green start buttons to begin the printing process.

Electrical Safety

Even when the Emergency Stop has been pressed, the electronic system still receives electrical input. Therefore:

- Shut off the Main Power Switch before performing any electrical work; do not, under any circumstances, service electrical components while the Avalanche is in standby or printing modes.
- Allow only certified electricians to work on electrical devices.

Ink, Consumable, and Waste Safety

The Avalanche uses water-based inks and consumables such as flushing, wiping, fixation, and priming fluid. The Avalanche also creates waste fluids. Do not come into direct physical contact with ink, consumables, or wastes:

- Allow only authorized personnel to handle inks, consumables, or wastes.
- Avoid skin contact with ink, consumables, or wastes by wearing protective gloves.
- Wear protective goggles when handling ink, consumables, or wastes.
- Store inks and consumables in closed containers and in a cool, ventilated place.

➢ **To handle ink, consumable, or waste spills on the floor or on equipment:**

1. Use rags to stop the spill from spreading.
2. Use additional rags to clean up the spill and then wash the area of the spill with water.
3. Place all soiled rags into a closed container.
4. Incinerate the rags in a permitted, hazardous waste incinerator. Do not release to waterways or sewers.

➢ **To handle ink, consumable, or waste spills on people:**

- **Inhalation:** Move to fresh air.
- **Skin contact:** Wash with water and soap as a precaution. If skin irritation persists, call a physician.
- **Eye contact:** Rinse with plenty of water. If eye irritation persists, consult a specialist.
- **Ingestion:** Drink 1-2 glasses of water. Consult a physician if necessary.

Preparing the Kornit Avalanche Printer for Printing

Preparing the Kornit Avalanche Printer for Printing describes the daily procedures to perform prior to operating the Avalanche.

To prepare the Kornit Avalanche printer for printing, refer to the Beginning the Day/Shift and During the Day/Shift procedures found in the following document: 62-PMNT-0007 Periodic Preventive Maintenance Guide Avalanche and Avalanche DC Pro Series.

You can download this document from the Customer Support Site.

Printing a Job

Printing a job comprises the following procedures:

- Verifying that the Kornit Avalanche Printer is Ready for Printing on page 11
- Uploading a Job File into the Job Queue on page 12
- Loading a Garment onto a Printing Pallet on page 12
- Printing the Job on page 18
- Unloading a Garment from the Printing Pallet on page 18
- Drying the Garment on page 19

Verifying that the Kornit Avalanche Printer is Ready for Printing

After you perform all of the recommended procedures before beginning to print your first job of the day or at the start of your shift, the Avalanche should be ready for printing.

➢ **To verify that the Avalanche is ready for printing:**

In the Main Window, view the status buttons beneath the printing pallet images; the gray Ready indicator lights become green.
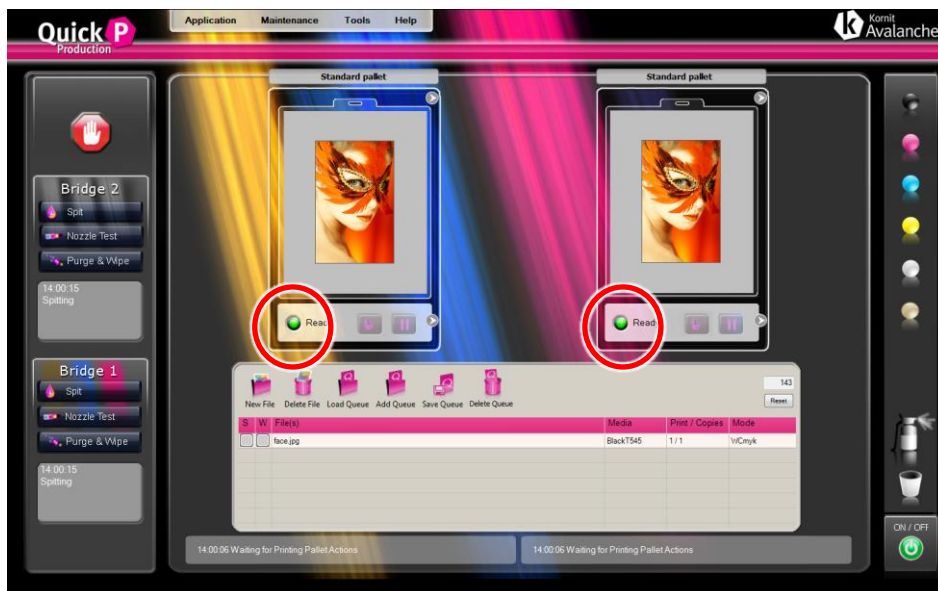
Uploading a Job File into the Job Queue

You can upload images in the following image color modes:

- RGB (8-bit)
- RGBA (Transparent Mask)
- CMYK (1 or 8-bit)
- CMYKWH (White and Highlight Channels – 8-bit only)

In addition, you can upload images in the following image file formats:

- .jpeg
- .png
- .psd
- .tiff
- Image files that were prepared with the QuickP Designer and arrive with three to six separations.

➤ **To upload an image file:**

1. In the Job Queue menu, click the **New File** button; the Load Image window appears.
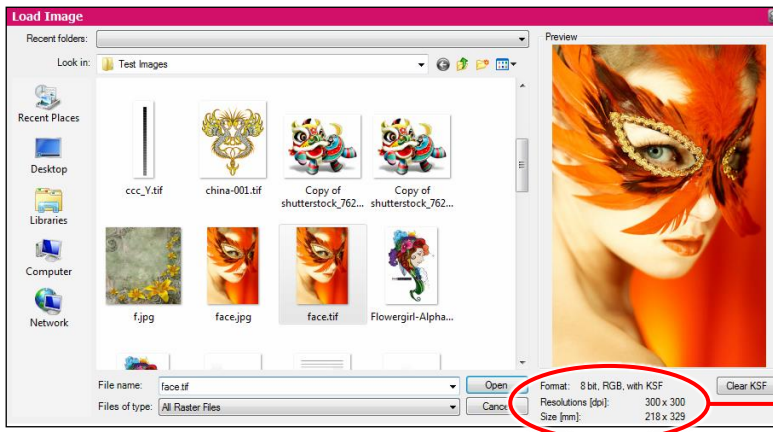
Image
Properties

2. Select an image file; the image appears in the Preview pane on the right side of the window and the image properties appear below the image.

> **NOTE:**
>
> 1. Kornit recommends that you upload your images (job files) in RGB color format to ensure maximizing the color potential of the Avalanche Hexa printer.
>
> 2. The Preview pane displays the following information:
>   - Format:
>   - 1-bit – for 4-6 color separation. A 1 bit file is uploaded with a .KSF file.
>   - 8-bit - for RGB, RGBA (A=Alpha mask- transparent), jpeg, png, psd and tiff file formats.
>   - 8-bit – for CMYK, CMYKW, CMYKWH (highlight) channels. An 8 bit file can be uploaded either with or without a .KSF file. (When the image file is coupled with a .KSF file, the Clear KSF button is enabled).
>   - Resolution – DPI
>   - Size – The size of the image.
>
> When you want to select new parameters for a file, rather than use previously-created calibration, delete the KSF file by clicking the Clear KSF button before clicking Open (i.e. before loading).

3. Click **Open**; the image file appears in the job queue and the image appears centered in the Preview pane above the job queue.
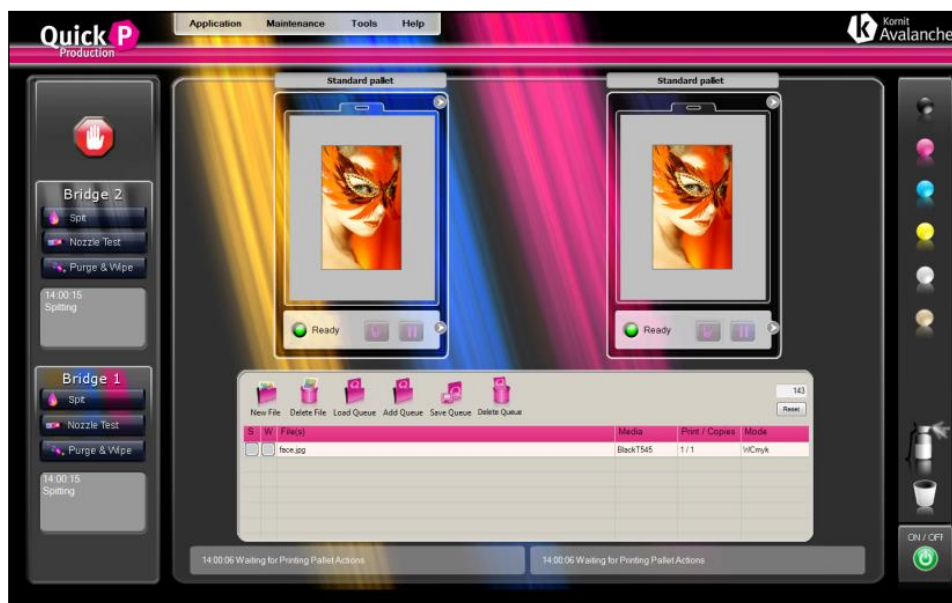
NOTE:

- When the image size is larger than the printing pallet, the image is scaled down to fit within the maximum dimensions of the pallet printing area and the following message appears:

  The exact size (as a percentage of the maximum printing pallet area) is determined according to the percentage that you entered in the Scale large area to print area % in the Tool configuration window.

- The position of the image in the File Preview pane reflects the position of the printed image on the printing pallet.

Loading a Garment onto a Printing Pallet

After each spraying or printing process, or at the start of the work day, the Avalanche automatically moves the printing pallets towards you, to the loading positions. In the loading positions, you can mount the garments onto the printing pallets.

NOTE:

The Loading Garment procedure is based on the Standard pallet. . For a list of other printing pallets available, contact your Kornit Regional Support Office.

➢ **To load a garment onto a printing pallet:**

1. Open the pallet frame:
   a. Pull out the black locking knob.
   b. Lift up the pallet frame.

2. Remove any printed garment already on the printing pallet. See .

3. Position the garment on the printing pallet:

    a. The print side up.

    b. The top of the garment (for example, the t-shirt neck hole) closest to you.

NOTE:

- The side that is not printed upon should be underneath the bottom of the printing pallet.

- The printing will appear upside down to you.

4. Fold any excess garment material underneath the printing pallet.

5. On the printing pallet, gently smooth out any visible garment wrinkles. Do not stretch the material.

6. Lower the pallet frame.
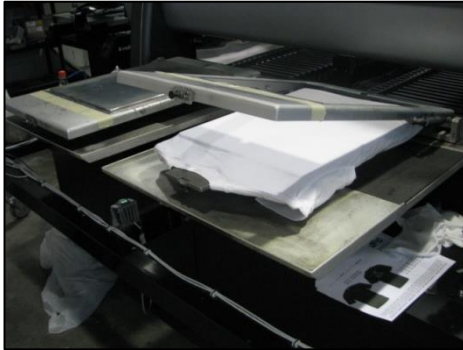
7. Push the pallet frame down, making sure that the latch snaps into place.

⚠️ **WARNING!**

Verify that the pallet frame is securely in place before continuing.

You can test whether the pallet frame is properly closed by trying to pull the frame up. When properly closed, the pallet frame does not open.

Printing the Job

When the Avalanche is ready for printing and you have mounted the garment onto the printing pallet, you can start printing.

➢ **To activate the Avalanche:**

1. On the Avalanche front panel, press the two green Print buttons of the printing pallet that you are currently using; the Avalanche begins to print the first job appearing in the Job Queue and runs until the printed image is completed.

2. For each subsequent copy:
   a. Unload the printed garment.
   b. Load the new garment.
   c. Press the two green Print buttons of the printing pallet being used.

NOTE:

Press the left and center Print buttons when printing on the left printing pallet and press the right and center Print buttons when printing on the right printing pallet.

When the last copy of the print job has been printed, the job is removed from the Job Queue and the next job moves to the top of the Job Queue.

Unloading a Garment from the Printing Pallet

After each spraying or printing process, the printing pallet automatically moves forward to the loading position. From this position, you can remove the current garment and load the next one.

NOTE:

Immediately after a printed garment has been unloaded from the printing pallet, the garment must be dried.

➢ **To unload a garment from the printing pallet:**

1. Pull out the black printing pallet locking knob and lift up the pallet frame.
2. Hold the garment at the top of each side and gently lift it off the printing pallet; do not wrinkle the garment.
3. Hold the garment so that it hangs straight down.
4. Gently lay the garment on the dryer, making sure that the garment does not wrinkle.

Drying the Garment

After printing, immediately remove the garment from the printing pallet and place it on the dryer.

NOTE:

- The average drying time suitable for most types of garments is 4 minutes (at 160°C / 350°F).
- Certain garment types and colors can require changing the drying system and parameters (for example, images printed with white ink require more drying time).

Testing Dryer Suitability

Before using the dryer for the first time, or before mass-printing, you should test the performance of the dryer.

➢ **To test dryer suitability:**

Print and dry a garment using all the standard procedures and parameters that you will be using on an ongoing basis:

Run the garment through the dryer and then:

- Smell the image – If you can smell the fixation spray, the image has not dried.
- Chafe the image with a piece of material – If ink rubs off on the material, the image is not dry.
- Wash the garment to make sure that the image does not fade.
- Examine for burning.

Burning

A burnt image has a yellowish color or is cracked.

➢ **To correct burning:**

1. On your dryer, adjust the temperature range according to the temperature listed in the Dryer Specifications. See the Avalanche Help.
2. Dry a second garment; if the image is still burnt, or if the image cracks when stretching the garment, reduce the drying temperature for this type of fabric.

End of the Day Procedures

At the end of the work day, perform the Ending the Day procedures described in the following document:
62-PMNT-0007 Periodic Preventive Maintenance Guide Avalanche and Avalanche DC Pro Series.

You can download this document from the Customer Support Site.

Regulations

Regulations include the following issues:

⊠ WEEE Notice

Disposal of Waste Electrical and Electronic Equipment and/or Battery by users in private households in the European Union.

This symbol on the product or on the packaging indicates that when last user wishes to discard a product, it must be sent to appropriate facilities for recovery and recycling. For more information about recycling of this equipment and/or battery, please contact the equipment supplier.

The recycling of materials will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and environment.

♻ Environmental Policy

Service personnel should dispose of replaced printer parts according to the laws and regulations of the local authority and recycled, where applicable.

For more detailed information regarding these recommended procedures, refer to your regional Kornit support office or distributor.

Declaration of Conformity

Kornit Digital
bonding matters

EC DECLARATION OF CONFORMITY

We   Kornit Digital Ltd

Of   12 Ha`Amal St., Afek Park
          Rosh-Ha`Ayin ,Israel
          Tel: 972-3-9085800 Fax: 972-3-9080280
          Email: kornit@kornit.com

In accordance with the following Directives:

EMC:	**Directive 2004/108/EC**
Safety:	**Directive 2006/42/EC**
LVD:	**Directive 2006/95/EC**
RoHS:	**Directive 2011/65/EU**

Hereby declare that:

Equipment: Textile Digital Printer
Model number: Avalanche (951)

Is in conformity with the applicable requirements of the following documents:

Ref. No.	Title
EN 61000-6-2:2005+AC 2005	Electromagnetic compatibility (EMC) - Part 6-2 Immunity for industrial environments
IEC 61000-4-2:2008	Electromagnetic compatibility (EMC) - Part 4.2: Testing and measurement techniques - Electrostatic discharge immunity test
EN 55011:2009; Amendment A1: 2010	Radio-frequency disturbance characteristics. Limits and methods of measurement
EN ISO 12100-2010	Safety of machinery. General principles for design. Risk assessment and risk reduction
EN 60204-1: 2006	Safety of machinery .Electrical equipment of machines - Part 1:General requirements
EN 614-1: 2006	Safety of machinery. Ergonomic design principles – Part 1: Terminology and general principles
EN 982:1996+A1:2008	Safety of machinery. Safety requirements for fluid power systems and their components. Hydraulics
2011/65/EU	Restriction of the use of certain hazardous substances (RoHS)

Manufacturer: Kornit Digital Technologies Ltd.

Signature: _____   Date: 04/12/2014   Position: Engineering Manager

Full Name: Shimon Hayoun   Place: Israel

The technical documentation for the machinery is available from:

Name: Wilfried Kampe   Address: Halskestrasse 29, Ratingen,
                                          D–40880, Germany

60-EDOC-9510_A

Kornit Regional Support Offices

For any enquiries, contact your Kornit regional support office.

Kornit Digital **North America Inc.** 10541 N. Commerce Street Mequon, WI, 53092,USA	**Hotline:** +1.414.678.9427 **Toll Free:** 888.456.7648 (USA) **Email:** supportkna@kornit.com **Skype:** kornitna
Kornit Digital **Asia Pacific Ltd** Unit 601, Westley Sq., 48 Hoi Yuen Road, Kwun Tong, Kowloon, Hong Kong	**Hotline:** +852.8120.5492 **Toll Free:** 400.120.3380 (China) 080.9088.290 (Taiwan) 007.803.321.8048 (Indonesia) **Email:** supportap@kornit.com **Skype:** kornit_ap
Kornit Digital **Europe GmbH** Halskestrasse 29, Ratingen, D–40880, Germany	**Hotline:** +49.2102.535.8022 (Europe) +44.20.3287.5485 (UK and Ireland) **Email:** supporteu@kornit.com **Skype:** kornit_eu
Kornit Digital Ltd **Head Office** 12 Ha`Amal St., Afek Park, Rosh-Ha`Ayin, 48092, Israel	**Hotline:** +44.20.3287.5487 **Email:** support@kornit.com **Skype:** kornit1