

For use with SYNTAX 60-Cycle Kits, 96 Oligos & SYNTAX 80-Cycle Kits, 96 Oligos

This Quick Guide is for use with the SYNTAX System, Model STX-100 and either the SYNTAX 60-Cycle Kits, 96 Oligos or the SYNTAX 80-Cycle Kits, 96 Oligos. For full user instructions, see the *SYNTAX System User Guide*, www.DNAScript.com/STX-100UserGuide.

1. Before You Begin

- Gather the SYNTAX cycle kit(s), 96 oligos containing the consumables and reagents for DNA synthesis and post-processing.
- If printing labeled probes, gather the SYNTAX 192 Label Kit and labels (for use with SYNTAX 80-Cycle Kits only).
- Gather the user-supplied reagents: 80% ethanol (ETH), 100% isopropanol (IPA), and ultrapure water (H₂O).
- Generate and transfer the print job to the SYNTAX instrument using the Console Software.

2. Reagent Preparation

1. Prepare fresh user-supplied reagents for each run:

User-Supplied Reagent	Volume
ETH – 80% ethanol	250 mL
IPA – 100% isopropanol	150 mL for unlabeled oligos 205 mL for labeled oligos
H ₂ O – ASTM Type II water or better	400 mL

2. Add the entire volume of enzyme reagent to the corresponding reagent solution and mix gently:

Enzyme Reagent	Reagent Solution	Enzyme Volume: SYNTAX 60-Cycle Kits, 96 Oligos	Enzyme Volume: SYNTAX 80-Cycle Kits, 96 Oligos
S1 Enzyme	S1 Solution	45 mL	60 mL
P1 Enzyme	P1 Solution	1.0 mL	0.4 mL
P2 Enzyme	P2 Solution	1.5 mL	4 mL

3. Run Setup

1. On the Home screen, press **Start a Run**.
2. On the Load File screen (Figure 1A), search for the print job's ID number.
3. Press **LOAD** for the print job to run.
4. On the plate viewer (Figure 1B), press **MANAGE SYSTEM**.
5. On the Manage System screen, press **REAGENTS**.
6. Follow the on-screen instructions to replace the reagents. Ensure the sippers are fully raised before removing the reagent tray.
7. Uncap and place the reagent bottles in the correct location after you scan one bottle barcode of each reagent family.

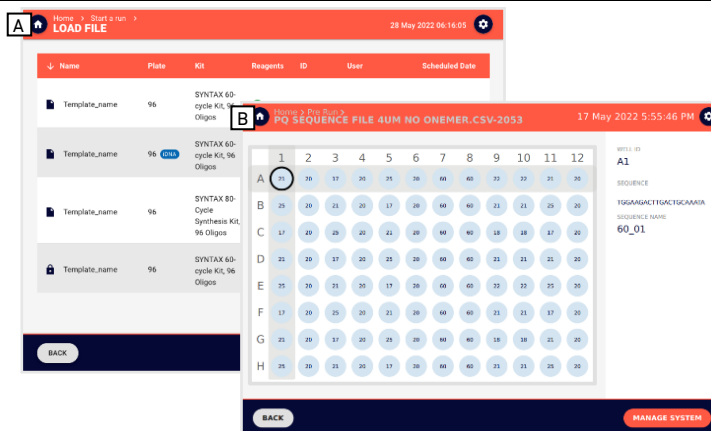


Figure 1. Load File Screen (A) and Plate Viewer (B)

Recommendation: Open and vent the S2 bottle under a chemical hood for a few minutes.

NOTE: Before you insert the reagent rack into the cooler, wipe any moisture in the cooler's condensation trap.

8. On the Manage System screen, press **CONSUMABLES**.
9. After scanning the plate barcodes, place plates and synthesis transfer tips box on the deck (Figure 2). Ensure the plates are oriented with well A1 at the top left.
10. Follow the on-screen instructions and remove the caps from the appropriate columns of the iDNA plate.

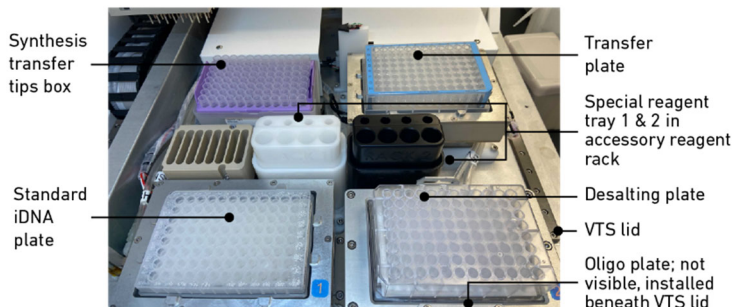


Figure 2. Placement of Plates and Synthesis Transfer Tips

- On the Manage System screen, select **VACUUM BOTTLE**.
- Press **EMPTY**.
- Follow the on-screen instructions to remove the vacuum bottle. See Figure 3 for disconnecting and reconnecting the vacuum bottle.
- Dispose of the process fluid according to local material handling guidelines. Reinstall the vacuum bottle in the cabinet.

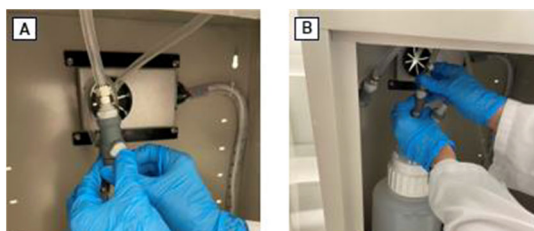


Figure 3. Disconnecting (A) and Reconnecting (B) the Vacuum Bottle

4. Run Start

- On the Manage System screen, press **START SYNTHESIS**.
- On the Pick Start Delay screen (Figure 4), use the slider to indicate when you want the synthesis process to complete and press **START SYNTHESIS**.

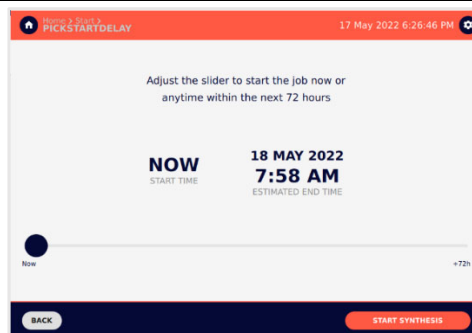


Figure 4. Pick Start Delay Screen

5. Post-Run Tasks

- On the Run Completed Successfully screen, press **GET PLATE**.
- If the remaining reagents are sufficient and have been in the reagent rack for <7 days, a prompt appears asking if you plan to use the loaded reagents for a subsequent run (Figure 5):
 - Yes:** The instrument performs an end of run wash and keeps the reagents available for the next run.
 - No:** The instrument performs an end of kit wash. Reagents cannot be reused after an end of kit wash.
- Remove the oligo plate (Figure 6) from station 1. Seal the plate and store at -20°C.
- Remove and dispose of the used plates and tip box before you close the instrument doors. The system then performs the necessary wash.
- After completion of the wash, dispose of the process fluid according to local material handling guidelines.

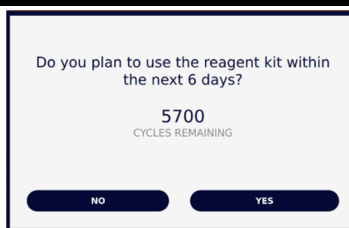


Figure 5. Prompt to Use Remaining Reagents for Subsequent Run

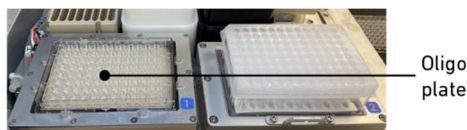


Figure 6. Location of the Oligo Plate after the Run

6. System Maintenance Wash & Shutdown

- It is recommended to switch to idle mode and perform a maintenance wash weekly or if left unused, every 30 days. You need to supply approximately 3.3 L of ASTM Type II water or better for the maintenance wash.
- The SYNTAX System is designed to be left running. However, if the system will be idle for an extended period, press **Shutdown** on the Settings screen.

Technical Support

support@DNAScript.com

USA & Canada: +1 888-693-4022

Europe: +33 1 84 88 02 42