Electronic
Tape Feeders

RUBRÖDER
RUBRÖDER GMBH
FACTORY AUTOMATION



- For electronic feeding of all EIA 481-A packaged SMT components and objects in 8, 12, 16, 24, 32, 44, 56 and 72 mm tapes on reels
- Programmable feed distance and pickup position
- Continuous tape rewind for emptying

ELECTRONIC TAPE FEEDERS

Electronic Tape Feeders for SMT components and objects

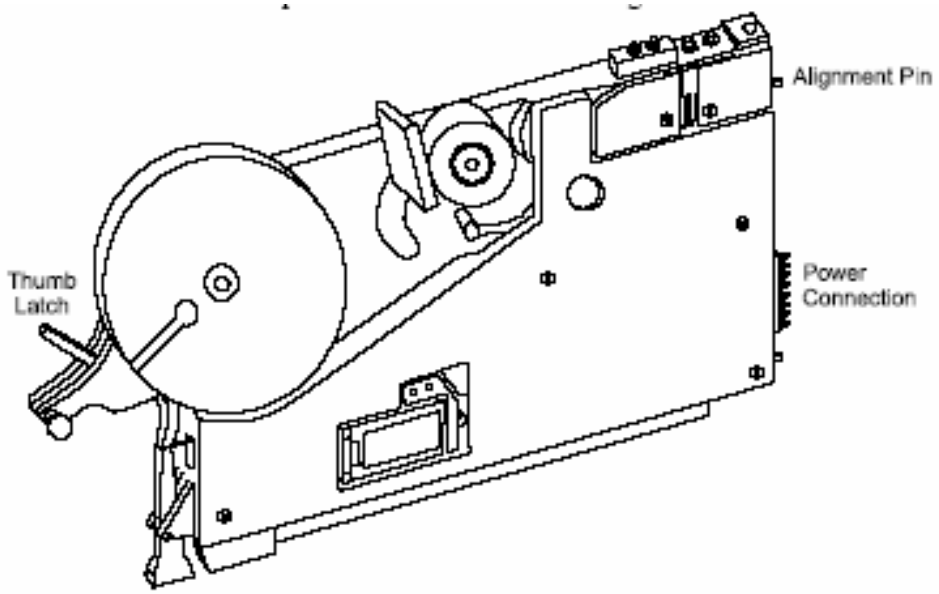
The electronic tape feeders provides fast and reliable feeding of SMT components or objects sealed in 8, 12, 16, 24, 32, 44, 56 and 72 mm tapes. The feeders can handle all EIA 481 packaged components, whether in large or small component reels. The feed width can be programmed by binary input using two keys. The exact pick-up position can also be programmed. The integrated motor drive guides the belt to the pick-up position of the component in the respective tape pocket. The precision of the component feed is ensured by two optical encoders. The cover tape is peeled off the component tape and wound up on a take up reel.

An automatic rewind is also possible. LEDs indicate whether the feeder is selected for forward or reverse, whether it is in programming mode or ready.

The feeders of all component tape sizes fit into similar slots in a feeder base. A simple lever secures the latching feeders in place. The feeders are supplied with voltage via connector pins located on the front of the feeder. A connection of seperate cables is not necessary.

The tape feeders are mechanically very precise and durable. Special feeders are available for components down to size 0402 and 0201.

Electronic Tape Feeders



Tape Feeder Installation

The tape feeder latches into the feeder base to receive power and to locate the feeder in a fixed, repeatable location. The feeder mounts on tracks that guide it into position. The tape feeder has an alignment pin that enables proper feeder positioning when inserting it into the feederbase.

To install the feeder perform the following steps:

1. Adjust the safety guide to its down most position.
2. Align the front pin in a slot on the feeder base.
3. Press the thumb latch, then push the feeder forward, and down into position.
4. Release the thumb latch to secure the feeder in place.
5. Press the thumb latch, pull and lift the feeder from the slot to remove the feeder from the feeder base.

Loading the Feeder Tape

To load the feeder tape perform:

1. Pull an eight-inch strip of tape from the component reel. Cut the end of the tape straight through one sprocket hole.
2. Insert the tape with the sprocket hole on the left into the tape entry location and push the tape until it stops.

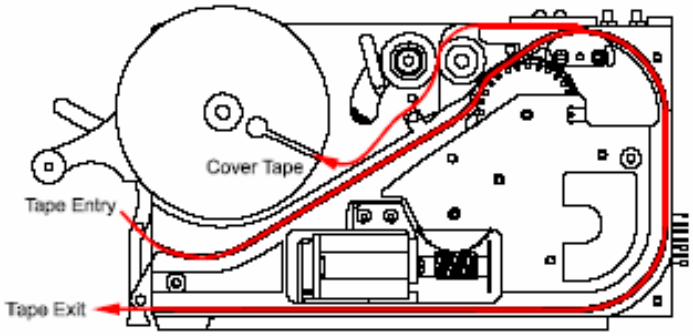


Figure 17: Tape Feeder Path

3. Press the **Red** (tape forward) button to advance the tape to the point where the tape meets the spring stabilizer and the sprockets take hold. Stop and pull the sprocket engaged tape back slightly.

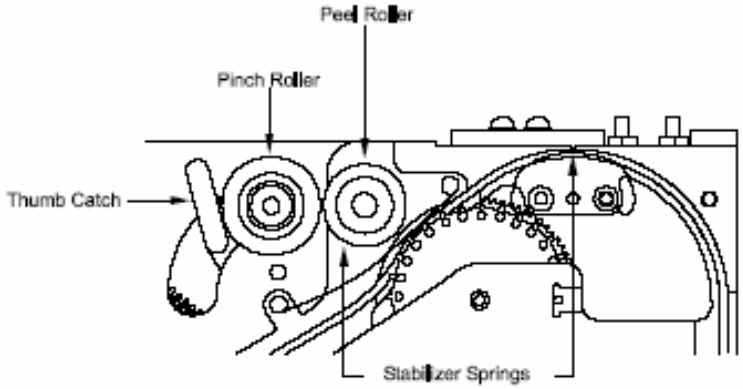


Figure 18: Tape Feeder, Internal View

4. If the tape is not on the sprockets, push the **Black** button to remove the tape from the feeder and return to Step 1.
5. Pull the top clear cover tape away from the bottom pocket tape using tweezers.
6. Hold the clear cover tape and press the **Red** button to advance the tape at least 6 inches (the two tapes should separate).
7. Thread the cover tape through the peel slot, located just behind the pickup position. Turn the clear tape 90 degrees clockwise and slip the tape into the slot. Turn the tape back.
8. Pull the pinch roller release back and thread the cover tape over the peel roller and under the pinch roller and finally through the take-up reel slot.
9. Wind the cover tape around the reel several times. Pull the tape through the slot cut into the side of the take-up reel and into the hole at the end of the slot to tie off the tape.
10. Tighten the slack of the cover tape by turning the take-up reel clockwise.

11. Push the **Black** button to back up the tape four component positions.
12. Pass your finger over the pickup sensor to advance the tape, thus positioning the tape correctly on the sprocket. At this point, do not use the **Red** button to advance the tape.
13. If you performed pocket position programming properly, the tape feeder should advance (index) one component at a time (with the component stopping at the sensor pickup point over the spring stabilizer).
14. Verify pocket positioning by moving the downward-looking camera over the feeder sensor. Visually check the position and alignment of the component.

Pocket Position Programming

This procedure centers components properly at the feeder pickup point.

If you press the wrong button at any time during programming, reset the feeder by removing it from the feeder base and re-inserting it into position. This disconnects feeder power and resets the program to the previously saved pocket position.

To program the pocket position:

1. Press the **Red** button and **Black** button simultaneously, but slowly (otherwise, the feeder will not set properly) to enter Programming mode.

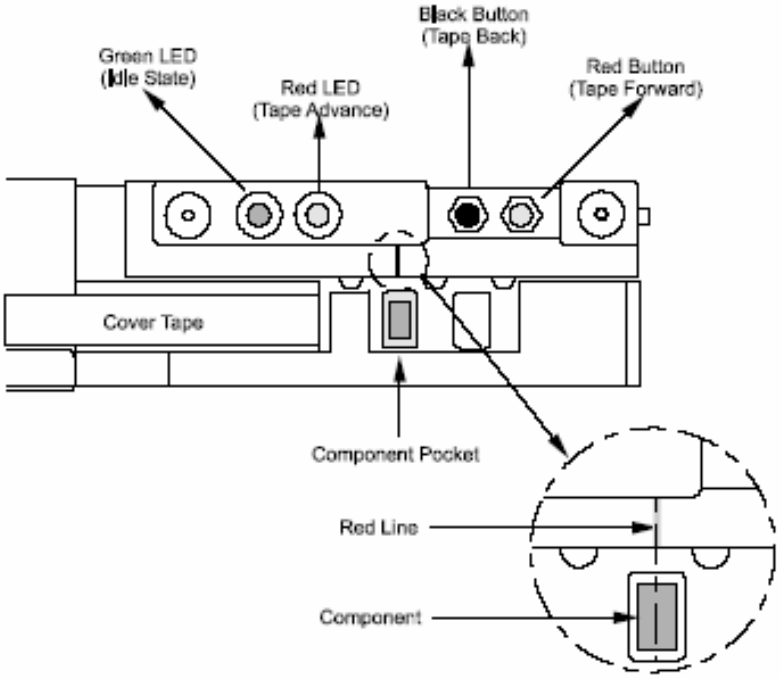


Figure 19: Pocket Position Programming

2. Press the **Black** button three times to enter Pocket Positioning mode.
3. Press and release the **Red** button quickly to advance the tape and center one component at a time.
4. Press and hold this button to advance the tape at a faster rate.
5. The component pocket should either line up along the leading edge of the Red line or center along the diamond shaped notches etched in metal (called witness marks) on the left side of the tape feeder.

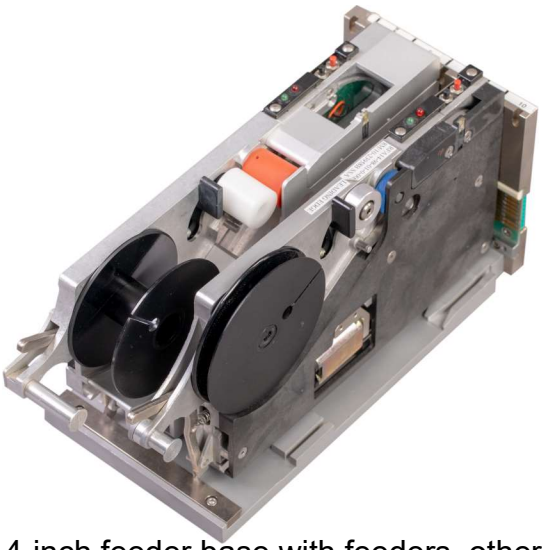
Electronic Tape Feeders

for SMT components and objects

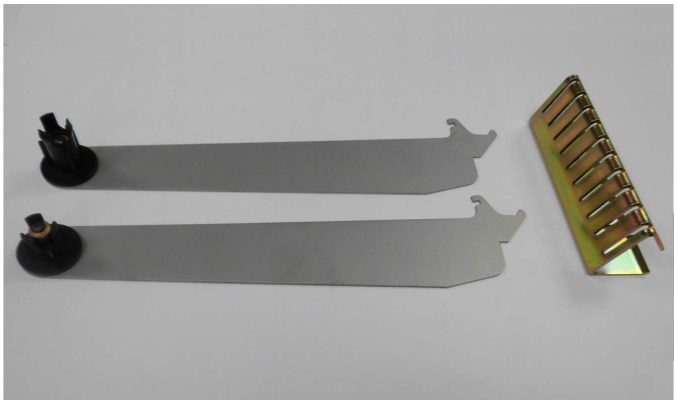
The Eletronic Tape Reeders provide a fast, reliable, and versatile way to present a wide variety of SMT components on 8mm, 12mm, 16mm, 24mm, 32mm, 44mm , 56 mm, and 72mm tapes. All size feeders latch next to each other for efficient use of space and setup flexibility. A simple finger latch allows for quick loading without the use of electrical or pneumatic cables.

The Electronic Tape Feeders are very mechanically precise and durable. A direct motor gear drive advances advances platic, paper, and foil tapes to the pick position very smoothly. Controlled acceleration and deceleration eliminates jarring of the part. And two optical encoders assure precision component presentation.

All you have to do is enter a three button binary code to set the pitch of the component tape at 4mm, 8mm, 16mm, etc. the feeder retains the current pitch setting until a new pitch is manually selected. The component tape easily adjusts forward or backward to compensate for non-symmetrical Dpak type packages. LED status lights indicate feeder ready, indexing, and programming modes.



4-inch feeder base with feeders, other feeder base sizes available



Reel arms and brackets, other sizes available