

Stabi XL DC turntable

**KUZMA STABI XL DC DRIVE KIT- Instruction manual  
2015-3**

# KUZMA LTD

## INSTRUCTION MANUAL FOR STABI XL DC DRIVE KIT

**The Stabi XL DC kit :** converts a Stabi XL ( XL2, XL4) turntable into a STABI XL DC turntable with a new unique platter drive system.

**Description:** Stabi XL DC turntable has a DC motor with its own power supply ( PS XL DC), a new precision machined stiff blue plastic belt and a control pad. The new DC drive gives smooth, more precise rotation to the platter thus improving the performance of all STABI XL turntables. The old PS XL, belts, AC motor towers, motor supports and cables are then obsolete.

The platter reaches 33rpm speed in less then 5 sec and 45rpm in 8 sec. There is a built in optional 78rpm speed.



Fig. 1. Stabi XL DC kit parts.

### **Contents:**

DC Motor tower , DC power supply, Control pad, blue belt, connecting cables 2x, motor positioner, Allen key 2.5 mm, instruction manual. See Fig. 1.

### **Unpacking:**

The kit is packed in one box. The box and some parts inside are very heavy, so handle very carefully and place parts on a smooth assembly surface.

### **Safety instructions:**

The power supply is connected to the mains via the cable. Please keep the PS away from moisture and be careful not to damage the mains cable. The same precaution applies to cables feeding the motor tower and control pad.

### **Remove platter, belts, AC motor towers and supports!**

#### **DC motor tower:**

The three phase frequency controlled DC motor is encapsulated in the heavy brass tower (7.2 kg) via a sophisticated rubber/brass damping system, which lowers motor noise while keeping motor torque high. Fig. 2.

Position the new DC motor tower on the left side of the subplatter ( it does not matter where around platter circumference). The gap between the round bearing base and the motor tower should be at least 30-40 mm (the actual distance from the centre of the subplatter to the centre of the motor tower is 191 mm). Remove the top cover by unscrewing two screws on the top of the motor tower using 2.5mm Allen key and carefully lift it up and put aside.



Fig. 2. DC motor tower



Fig. 3. Black PVC Motor positioner

Put the blue belt around the subplatter and position platter on top of it. You can fit the platter later if you wish.

Fit the motor positioner on the top of the motor tower- see Fig. 3, then slowly move the motor tower closer to the platter until the motor positioner touches the outer edge of the platter. Fit the belt around the subplatter and then, stretching the belt, fit it over the motor pulley. Rotate the motor tower to ensure that the belt is not touching the grooves in the motor tower.

Rotate subplatter (or fit platter carefully\*) by hand to be sure that the belt is in the correct position. Fig. 4-7.

Carefully position the platter over the subplatter taking care that the platter does not touch the top of the motor tower\*. Check again that the belt is in its proper place and runs smoothly.

The top cover can be fitted after the platter is already on top of the subplatter. Slide the brass lid on the motor tower under the platter, fit in the two screws, rotate the lid and the screws will lock in the correct holes. Then gently tighten them with the Allen key.

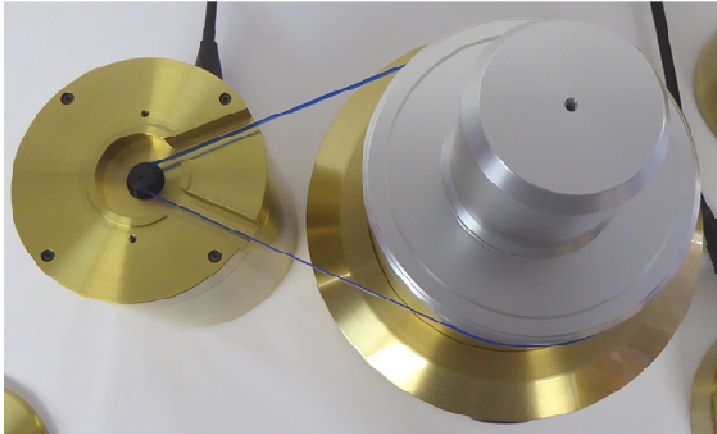


Fig. 4. DC belt drive

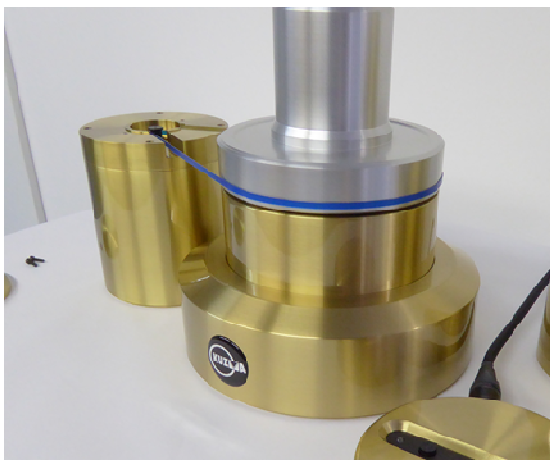


Fig. 5. Belt in the » grooves« position

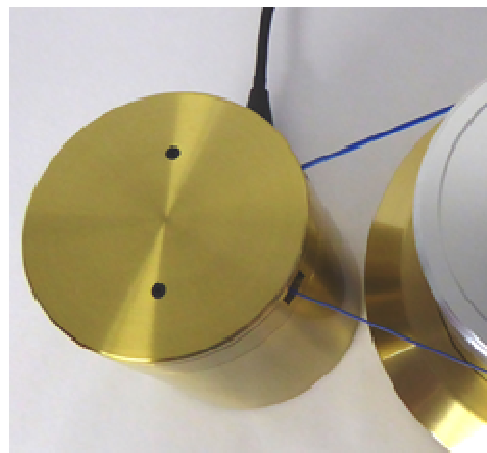


Fig. 6. Motor tower with top lid

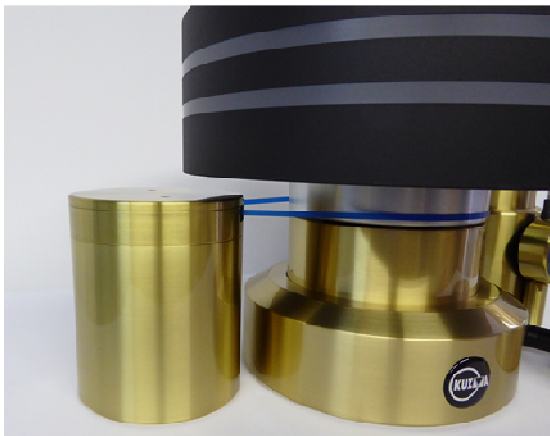


Fig. 7. XL DC drive



Fig. 8. Control pad

### **Power supply PS DC:**

The DC motor controller unit generates a precise sine wave output to control the speed and rotation of a three phase frequency controlled DC motor. The signal is generated by a sophisticated computer based program. This generates a smooth undistorted sine wave with very fine and stable speed adjustment. Each speed can be selected, finely adjusted independently and then stored in the memory.



Fig. 9. PS DC front panel



Fig. 10. PS DC rear panel

### Connecting:

Position the PS DC so that there is space above, of at least 10-20 mm, for ventilation. By using the control pad the PS does not need to be readily accessible.

At the rear of the PS are two female XLR outputs: 7pin XLR for motor connection and 5pin XLR for control pad.

Connect the XLR cables to the motor input in the motor tower and at the back of the control pad. Connect the other ends of the cables to the XLR outputs on the rear of PS DC panel.

Connect the mains cable and then switch on POWER on the front panel, which is then left permanently on. A red LED above the START button and a green display will light up on the front panel. There is a row of 4 round buttons. With the round button marked SPEED you select the speed ( 33, 45, indirectly also 78 ), which is then displayed on the green screen. The START button has LED above( red). Pressing it will start platter rotation and the LED will turn to green. The middle two buttons are for fine speed adjustments. Above them is a small push “store” button.

### Control pad:

This controls start/stop and speed selection. On the left side is a red/green LED and start/stop button and on the right hand side is a button for speed selection with two green LED ( left indicating 33rpm speed and right 45rpm).Fig.8.

### Operation:

1. Press the power button at the front of the PS DC firmly. After 10 sec the PS is ready. The display will show 33( or 45) and above the start button a red LED will be shown. You can keep the PS DC switched on all the time.
2. On pressing the start button the red LED will turn green and the platter should start rotating. To stop the platter, simply press the start button again. The red LED will show and the platter will slowly stop rotating.
3. Press the speed button and the selected speed will change from 33 to 45. Press again and it will return to 33.
4. Do not press and hold the start button before the mains switch is on( see Reset function).
5. 78rpm- see below

**Fine speed adjustment:**

Observe on a strobe disc if the bars are stationary- that is the correct speed. If they are not (for example if bars move in the same direction as platter rotation then the speed is too high) then press the plus or minus buttons a few times until the bars are stationary (there are very small steps, press several times). On the display you will see a green dot in the right bottom corner indicating that a change is in process. Using a pointed pen or toothpick, press the “store” button and the green dot will disappear.

Resetting the PS causes the speed change\*\*. After the PS is reset there will be comparatively large steps towards plus or minus speed change. When the “store” button is pressed next the changes will be smaller until, finally the speed changes are barely visible.

Check the speed independently for both speeds. When using the strobe disc, be sure to use it properly. Check that you are looking at the correct speed and are using the correct strobe light.

**Temporary options:****78 rpm speed:**

Platter not rotating (press start/stop button), then press and hold + button for 7- 10 seconds, then press speed button to show 78. Then press start for platter rotation. Pressing the speed button will show all three speeds.

**Display off:**

Platter not rotating (press stop function), then press and hold – button for 7-10 seconds and display will be switch off after 7-8 seconds. However when speed change or fine speed adjustment is used the display will turn back for 7-8 seconds.

**Temporary options will be switched off, when the PS power button is turned off.**

**Factory preset speed:**

If you find that your speed selection is out of range for some reason, you should reset the PS DC to factory set outputs.

Turn the power off, wait 10 sec, press and hold the speed button and then press the power on. When the display shows CU, release the speed button. The display will now show FA and then 33. Your PS is now preset for factory preset speeds.

You need to repeat the very fine speed adjustments.

If you set up the platter’s fine speed after a PS reset you will find that the first steps are bigger until you put the adjusted speed into the memory, then next steps will be much finer\*\*.

**Maintenance:**

Periodically remove the platter and remove the belt. Clean the belt and running surfaces of the motor pulley and the subplatter with a soft cloth soaked in alcohol (every 8-12 months). For best performance replace belts every 5-7 years. If the platter needs more then 5 seconds to reach 33 rpm, then the belt tension should be increased by checking motor tower distance. If the platter reaches 33 rpm speed in less then 4 seconds, then the motor tower distance should be also checked.

**Troubleshooting:**

**Platter not rotating:**

Motor controller unit- check if the red LED is on

-green display should show 33 or 45, if not re-plug PS DC

-unplug mains and check both connection cables from PS DC to motor

Consult dealer or qualified electrician.

**Very slow start:**

Remove the platter and belt and check position of the belt and tension.

**Wrong speed:**

Perform fine speed adjustment and check position of the belt.

If you find out that your speed selection is way out of range for some reason, you should perform factory preset on PS.

**Factory preset:**

If the speed is totally incorrect: Reset to factory preset and then adjust correct speed on the PS DC by using a strobe disc.

Turn the power off, wait 10 sec and then press and hold speed button, then press power on. When display will shows CU, release the speed button. The display will now show FA and then 33. Your PS is now reset for factory preset speeds. Perform fine speed adjustment.

If this fail consult your dealer. The problem will be probably be solved by a microchip replacement.

**For more general information look also on our web site at the STABI XL DC instruction manual!**

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