

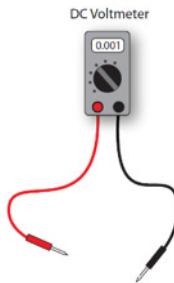
# MS101 VCO & CV Calibration Procedures



## Service Support Bulletin

### 1. Tools and preparation

- 1) A multimeter (with 1 mv resolution).



- 2) A 3.5 mm cable (mono, stereo should be ok).



- 3) Make sure your MS-101 has been powered on for at least 30 minutes, and that it is in a place where the temperature will not change drastically while performing the calibration.
- 4) Remove all unnecessary cables from the unit.

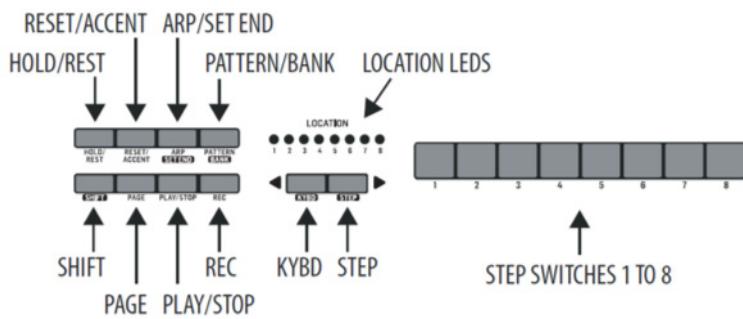
# MS101 VCO & CV

## Calibration Procedures

### 2. Calibration

No.	CV type	Describe
1	Internal CV	Calibrating the internal CV.
2	Output CV	Tune CV out.
3	External CV	Compensate oscillator offset for external CV in.

Key's name and LED



Set-up (Please follow all the settings in the below picture).



1	LFO RATE	M
2	WAVE FORM	~
3	GLIDE	M
4	RANGE	2'
5		MAIN
6	SUB OSC	2 OCT DOWN
7	VCA	GATE
8	ENVELOPE	GATE

Other faders, knobs and switches shown in the figure.

# MS101 VCO & CV Calibration Procedures

## 2.1 Internal CV Calibration

- 1) Press "KYBD + STEP" then power on device. All the sequencer LED will be lit up.
- 2) Press "Shift + STEP1" to start Internal CV calibration.
- 3) Waiting for the tuning to be finished.
- 4) All the sequencer LED will be lit up after finish.

## 2.2 Output CV Calibration

In this mode, the buttons has new function:

There are four test points A / B / C / D to be calibrated. Their target voltage is 0 V / 1 V / 3 V / 5 V respectively.

Button Name	Function	Button Name	Function
HOLD/REST	Select test point A	STEP1	Select X1 (about $\pm 1.5$ mV)
RESET/ACCENT	Select test point B	STEP2	Select X2 (about $\pm 7.5$ mV)
ARP/SETEND	Select test point C	STEP3	Select X3 (about $\pm 15$ mV)
PATTERN/BANK	Select test point D	STEP4	Select X4 (about $\pm 30$ mV)
SHIFT	—	STEP5	—
PAGE	—	STEP6	—
PLAY/STOP	—	STEP7	—
REC	Save	STEP8	—
		KYBD	Decrease
		STEP	Increase



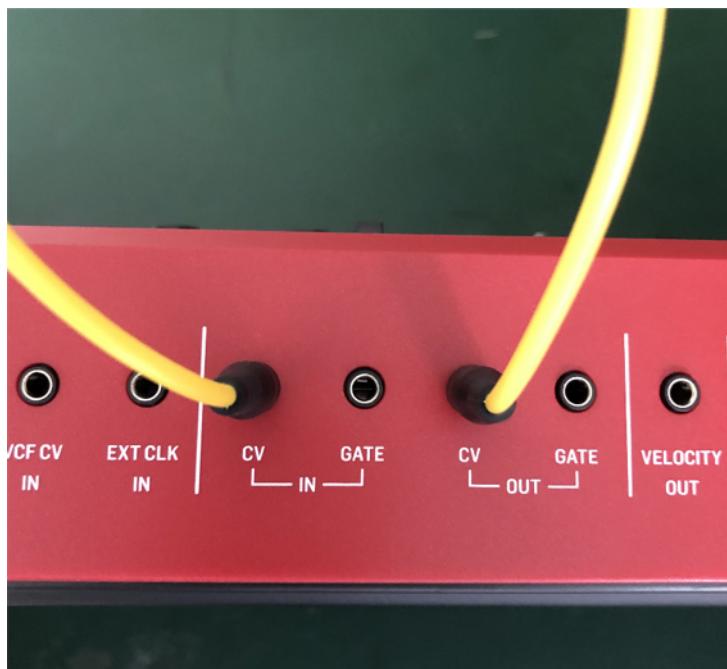
# MS101 VCO & CV

## Calibration Procedures

- 1) Make sure the Internal CV calibration is finished, then start Output CV calibration.
- 2) Press "Shift + STEP2" to enter user Output CV calibration mode.
- 3) Press "HOLD/REST", select test point A. You need to watch the multimeter to adjust the output voltage. You can press "KYBD" or "STEP" to adjust the CV value until it close to target level "0 V". (Press "STEP1" "STEP2" "STEP3" or "STEP4" to select the speed of adjust "X1" "X2" "X3" or "X4")
- 4) Press "RESET/ACCENT", select test point B. Press "KYBD" or "STEP" to adjust the CV value until it close to target level "1 V".
- 5) Press "ARP/SETEND", select test point C. Press "KYBD" or "STEP" to adjust the CV value until it close to target level "3 V".
- 6) Press "PATTERN/BANK", select test point D. Press "KYBD" or "STEP" to adjust the CV value until it close to target level "5 V".
- 7) Press "REC" to save and finish Output CV calibration.

### 2.3 External CV Calibration

- 1) Make sure the Output CV calibration is finished, then connect the CV out jack to the CV in jack with a 3.5 mm cable.



- 2) Press "Shift + STEP3" to start External CV calibration.
- 3) Wait for the calibration to be finished till all the sequencer LEDs are lit up.
- 4) All calibration have done. Power off/on MS-101.