

I. WARNING

Location
Using the unit in the following locations can result in a malfunction or direct damage:
Locations of extreme temperature or humidity
Locations of direct air blowing
Locations of excessive vibration
Close to magnetic fields

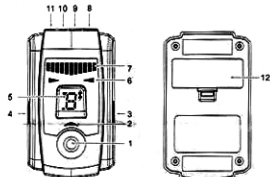
Power supply
Please connect the designated AC adapter to an AC outlet of the correct voltage. Do not connect to an AC outlet of voltage other than that for which your unit is intended.
Interference with other electrical devices
Rattles and buzzers played nearby may experience response interference. Operate the unit at a suitable distance from radios and televisions.

Maintenance
To avoid damage, do not apply excessive force to the switches or controls.
Care
If the surface becomes dirty, wipe with a clean, dry cloth. Do not use liquid cleaners such as benzene or alcohol, or cleaning compounds or flammable polishes.
Notes
After reading the manual, please keep it for later reference.
Preventing foreign matter and dust from entering
Never get any container with liquid in it near the equipment. If liquid gets into the equipment, it could cause a breakdown, fire, or electrical shock.
Be careful not to let metal objects get into the equipment. If something does slip into the equipment, unplug the AC adapter from the wall outlet. Then contact your nearest dealer to see where the equipment was purchased.

Regarding disposal
Do not dispose of this product along with your household trash. By disposing of this product properly, you can avoid environmental harm or health risk. The correct method of disposal will depend on your locality, so please contact the appropriate local authorities for details.

Important notes to customers
This product has been manufactured according to strict specifications and voltage requirements that are applicable in the country in which it is intended that this product should be used. If you have purchased this product via the internet, through mail order, or as a telephone sale, you must verify that this product is intended to be used in the country to which you reside.
If you use this product in any country other than that for which it is intended could be dangerous and could invalidate the manufacturer's or distributor's warranty.
Please also retain your receipt as proof of purchase otherwise your product may be recalled from the manufacturer's or distributor's warranty.

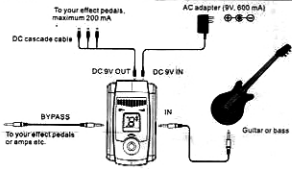
II. PART NAMES AND FUNCTIONS



1. Tuner ON/OFF switch
2. Tuning LED indicator
3. INPUT jack (mono)
4. True BYPASS OUTPUT jack (mono)
5. Note name Display
6. Tuning Guide LED

7. Tuning LED Meter
8. DC 9V IN Jack
9. DC 9V OUT Jack
10. Display Button
11. CALIB Button
12. Battery Compartment

III. CONNECTIONS



Turn off the power of all devices before you make any connections to avoid damaging your equipment.

■ **INPUT and BYPASS jacks** are mono. Stereo (TRS) cables will not work.

INPUT Jack

Connect a cable from your instrument to the INPUT jack of the tuner. When connecting, A4 Frequency and the display mode will be shown separately for 2 seconds in the note name display and then the BYPASS will be on. The Tuning Guide LED will also light to indicate the display. The left LED is for A4 Frequency and the right LED is for display mode. Note: Connecting a cable to the INPUT jack will turn the power on, but the tuner will not turn on. Press the Tuner ON/OFF switch to change input mode.

■ **To conserve battery life**, disconnect a cable from the INPUT jack when not in use.

BYPASS Jack

Connect a cable from the BYPASS jack to your effect pedals or amp etc. Note: When the tuner is switched on, the signal from INPUT jack will be muted for a short time but will not be affected by any circuitry.

DC 9V IN Jack

If you use an AC adapter for power, be sure it is 9 volt (\oplus \ominus) and at least 600 mA. Using other AC adapter that not JOYO recommends may cause a malfunction or damage.

DC 9V OUT Jack

If you use an AC adapter, you can supply power to more than one effect pedal with the DC cascade cable.

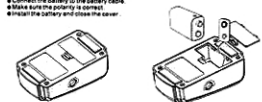
■ **When using an DC cascade cable**, make sure that the total amount of current consumption does not exceed 200 mA, and please check the polarities: \oplus \ominus of all connected effect pedals.

■ **Do not connect the AC adapter to DC 9V OUT jack**, which will cause a malfunction or damage.

■ **If the tuner is using a AC battery**, you cannot supply power from the DC 9V OUT jack.

IV. BATTERY INSTALLATION

1. Please replace the battery when the TUNER ON/OFF LED blinks.
2. Open the battery cover.
3. Connect the battery to the battery case.
4. Make sure the polarity is correct.
5. Replace the battery and close the cover.



V. TUNER OPERATION

1. Press the TUNER ON/OFF switch to activate the tuner. The TUNER ON/OFF LED will light. Because the tuner has a True Bypass circuit, you can only turn "bypass" meaning you will not hear your audio signal through an amp etc.

2. Press the TUNER ON/OFF switch only when an instrument is connected to the INPUT jack.

2. If needed, adjust the calibration and select the display mode. The tuner comes from the factory with the calibration set to A4=440 and the tuning mode set to meter mode and can be adjusted by CALIB Button and display mode. (Please check "Frequency Adjustment" & "Choosing Display Modes" for a reference).

3. Play a single note on your instrument and tune so that the desired note appears in the note name display.

4. Use your instrument during the tuning LED meter. The method for indicating whether your instrument is in tune, sharp or flat depends on which display mode you choose. Please see "Choosing Display Modes" for a reference.

5. After you finish tuning your instrument, press the TUNER ON/OFF switch to turn the tuner off. Your signal will be heard through your amp etc.
Note: During tuning, when the battery gets the end of its life, the TUNER ON/OFF LED will blink and then please replace the battery. (Please see "Battery Installation" for a reference).

VI. BYPASS FUNCTION

Connect a cable from your instrument to the INPUT jack of the tuner. The BYPASS function will be automatically activated. Press the Tuner ON/OFF switch on tuner mode. The BYPASS function will be restored.

VII. FREQUENCY ADJUSTMENT

The tuner comes from the factory with the calibration set to A4=440Hz and it can be adjusted with the range of 436-448Hz.

1. Press the CALIB Button. The current calibration setting will be shown for 2 seconds in the note name display and in calibration setting. The left side of Tuning Guide LED will light.

2. While the current calibration setting is shown in the note name display, press the CALIB button again to adjust the setting. Each time you press the CALIB button you will cycle through the following settings:

• 440 Hz, 1. 441 Hz, 2. 442 Hz, 3. 443 Hz, 4. 444 Hz, 5. 445 Hz, 6. 436 Hz, 7. 437 Hz, 8. 438 Hz, 9. 439 Hz.

3. When you have made the desired calibration setting, wait approximately two seconds without pressing any buttons. After Tuning Guide LED is off, the new calibration has been set. The tuner will automatically return to tuner mode or Bypass status.

Note: The calibration setting will be automatically restored even if the power is turned off or restarted. (Please see "Restores to Factory Defaults" for a reference).

VIII. CHOOSING DISPLAY MODES

The tuner allows you to choose one of the four display mode settings. The factory setting is Meter mode.

1. Press the DISPLAY button. The current setting will be shown for 2 seconds in the note display and in display mode setting. The right side of Tuning Guide LED will light.

2. While the setting is shown in the note name display, press the Display button again to set the display mode. Each time you press the DISPLAY button you will cycle through the following 4 different settings:

1. **METER**
When the note is in tune, the tuning LED meter will turn green and the tuning guide LEDs will light.

2. **SHARP**
If the note is sharp, the LED will be on the right side of the center indicator and if the note is flat, the LED will be on the left side of the Tuning LED meter. The tuning guide LEDs also indicate if the note is sharp or flat, according to their position in relation to the center indicator. The number of LEDs indicates the level of sharpness or flatness.

2. **Stroke 1**
When the note is in tune, the tuning LED meter will be on and tuning guide LEDs will light. If the note is sharp, the LED meter will move from left to right and if the note is flat, the LED meter will move from right to left. The tuning guide LEDs will also indicate if the note is sharp or flat. The number flashing speed indicates the level of sharpness or flatness.

3. **Stroke 2**
When the note is in tune, the tuning LED meter will turn green and tuning guide LEDs will light.

4. **Stroke 3**
If the note is sharp, the LED meter will stream from the center out to the right side, if the note is flat, the LED meter will stream from the center out to the left side. The tuning guide LEDs will also indicate if the note is sharp or flat.

5. **Stroke 4**
The number of LEDs will indicate the level of sharpness or flatness.

Note: The display mode setting will be remembered even if the power is turned off or restarted. (Please see "Restores to Factory Defaults" for a reference).

IX. RESTORE TO FACTORY DEFAULTS

The calibration setting and display mode will be remembered even if the power is turned off or restarted. To restore to factory defaults, please connect the tuner to 9V battery or an AC adapter, press the CALIB or DISPLAY button and plug in the INPUT jack (mono), all stored data will be removed and the tuner will return to the factory defaults: A4 = 440 Hz, DISPLAY MODE = 1.

X. SPECIFICATIONS

Tuning range: 0A1 27.5Hz-30C(118.0Hz)

A4 Frequency: 436Hz-448Hz(1Hz/steps)

Detection accuracy: ± 1 cent

Power supply: one 9V type battery or AC adapter

(9V/600 mA or greater \oplus \ominus)

Impedance: $1 \text{ M}\Omega$ (minimum)

Current consumption: maximum 50 mA

Battery life: approximately 8 hours continuous use with tuner on

(All input continuously, Meter mode)

Weight: 430g(including battery)

Dimensions: 75(W) x 50(D) x 30(H)mm

XI. ACCESSORIES

- A. Manual B. 9V Battery *1