

DIGITAL TUNER DTR-2

Owner's Manual

TONEWORKS
HYPERSOUND PRODUCTS
KORG

NOTICE

KORG products are manufactured under strict specifications and voltages required by each country. These products are warranted by the **KORG** distributor only in each country. Any **KORG** product not sold with a warranty card or carrying a serial number disqualifies the product sold from the manufacturer's/distributor's warranty and liability. This requirement is for your own protection and safety.

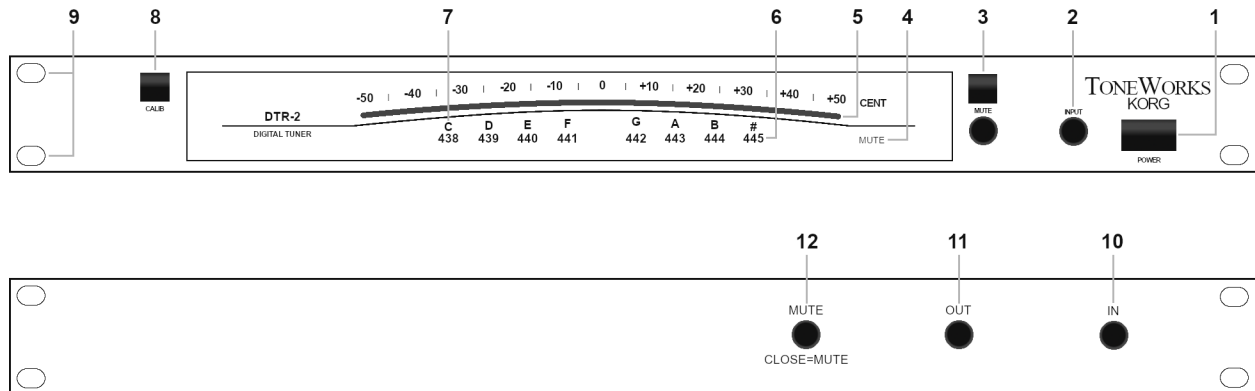
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SPECIFICATIONS / OPTIONS

- Scale: 12-tone temperament
- Meter: CENT indication
- Measuring range: A0 - C8 (27.5 Hz - 4186.0 Hz)
- Measuring system: ± 1 CENT
- Range of calibration:
 - Manual calibration: 438 Hz - 445 Hz (1 Hz steps)
 - Automatic reference calibration: 428 Hz - 452 Hz
- Connecting jacks:
 - Front panel: INPUT jack, MUTE jack
 - Rear panel: INPUT jack, OUTPUT jack, MUTE jack
- Power consumption: 3W
- Dimensions (W x H x D): 482 x 44 x 114 mm (19" x 1 1/2" x 4 3/4")
- Weight: 1.7Kg (3.75 lbs)
- Accessories: Insulation washer (x4), insulation bushing (x4), screw (x4)

* Appearance and specifications are subject to change for improvement without advance notice.

FRONT PANEL AND REAR PANEL



1) POWER switch

2) INPUT jack

Jack for connecting the instrument to be tuned. However when a plug is connected to this jack, the rear panel INPUT jack (10) cannot be used.

3) MUTE key/jack

Sets mute on/off. When mute is turned on, sound from the output jack is muted, enabling tuning without producing sound.

4) MUTE indicator

Lights when mute is set to on (3 MUTE key/jack).

5) LED meter

Indicates the difference between the reference pitch and input sound in units of CENTS (within the range of -50 cents to +50 cents). Adjust the pitch of the instrument so that the center LED lights.

6) CALIBRATION scale

Indicates a set reference pitch by a blinking NOTE LED (7) corresponding to CALIBRATION scale. For example, if the pitch is 440 Hz, E of the NOTE LED blinks, and if the pitch is 441 Hz, F of the NOTE LED blinks. If a reference pitch set by automatic reference calibration exceeds the range of 438 Hz - 445 Hz, either C or # of the NOTE LED blinks dimmer according the excess level.

7) NOTE LED

Indicates the pitch name closest to the input sound by lighting the LED and # during tuning. Indicates the set reference pitch with a blinking LED during calibrating (6 CALIBRATION scale).

8) CALIB key (Calibration key)

Sets the reference pitch (the center of a piano = A4) for tuning. There are two ways of setting the reference pitch; manual calibration and automatic reference calibration.

9) Rack mount hole

10) INPUT jack

The jack for connecting the instrument to be tuned. However when a plug is connected to the INPUT jack (2) on the front panel, this INPUT jack cannot be used.

11) OUTPUT jack

Connects to the amplifier, mixer, etc. Outputs the input from the INPUT jack (2 or 10).

12) MUTE jack

Selects mute on/off with the latching type footswitch connected to this jack. When Mute is ON, sound from the OUTPUT jack (11) is muted, enabling silent tuning. Mute lights on the MUTE indicator (4). However when a footswitch is connected to the MUTE jack (3) on the front panel, this MUTE jack cannot be used.

TUNING PROCEDURE

Connect an instrument to the INPUT jack (2 or 10). However when the plug is connected to the front panel, the rear panel INPUT jack cannot be used. When tuning by listening to the sound, connect an amplifier to the OUTPUT jack (11) of the **DTR-2**

1. **Turn the POWER switch (1) on and set the reference pitch according to the “CALIBRATION PROCEDURE”.** The left side LED of the LED meter lights and the system is ready for tuning. (When the **DTR-2** is turned on, the reference pitch is set to 440 Hz.)
2. **Play a single note on the instrument.** The note name nearest to the note is lit on the NOTE LED (7). If the pitch of the instrument is higher than the note by a semitone, a # (sharp) is indicated. If the pitch of the instrument is extremely off, the desired note name will not be indicated. In such a case, adjust the pitch of the instrument so that the correct note name will be indicated. Take care not to play two notes or more simultaneously.
3. **Adjust the pitch of the instrument.** Check that the desired note name lights on the NOTE LED before adjusting the pitch of the instrument so that the center LED lights on the LED meter (5).
4. **For stringed instruments, follow steps 2 and 3 for each string.**

About CENT:

Cent is the minimum unit for indicating the percentage of pitch. A semitone is 100 cents and 1 octave 1200 cents. The **DTR-2** meter indicates the error between the pitch of an input sound and the correct pitch in units cents. One cent is a very small unit, however, and an error of about ± 3 cents does not present a serious problem.

About the reference pitch and calibration:

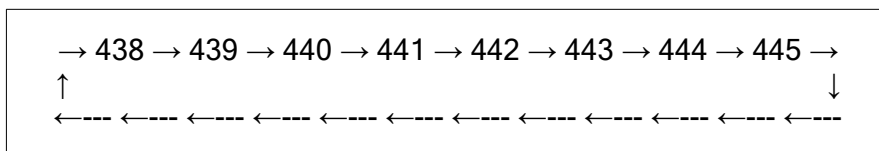
For tuning instruments, A4 (=440 Hz) at the center of a piano is used as the reference pitch. Setting the pitch by this reference is called calibration.

CALIBRATION PROCEDURE

Calibration consists of **manual calibration** that sets the reference pitch (the center of the piano = A4) using the **DTR-2** main unit and **automatic reference calibration** in which the **DTR-2** recognizes the pitch of the instrument and sets it as the reference pitch. Once set, the reference pitch will be retained until the POWER switch is turned off.

Manual Calibration

1. **Turn the POWER switch (1) on.** When the **DTR-2** is turned on, the reference pitch is set to 440 Hz.
2. **Press the CALIB key (8) several times and set the reference pitch within the range of 438 Hz to 445 Hz.** Press the CALIB key once to make E of the NOTE LED (7) blink when the reference pitch is 440 Hz, or F to blink when the reference pitch is 441 Hz. In other words, the LED corresponding to the current reference pitch set by the **DTR-2** blinks. (In the case the reference pitch is set beyond the range of 438 Hz to 445 Hz under automatic reference calibration, C or # darkly flashes according to a portion exceeded). Press the CALIB key continually to change the reference pitch. Each time the key is pressed, the blinking NOTE LED moves and the setting of the reference pitch rises by 1 Hz as shown below.



Note: If the CALIB key is pressed for more than one second, the automatic reference calibration starts functioning.

3. If the CALIB key is not pressed, the system is ready for tuning. (The NOTE LED turns off and the left side LED of the LED meter lights.)

Automatic Reference Calibration

1. Turn the POWER switch (1) on. When the DTR-2 is turned on, the reference pitch is set to 440 Hz.
2. To set the sound of the electric instrument or electric guitar as the reference pitch, play a single note on the instrument. The note need not necessarily be “A”. Since the DTR-2 measures the pitch error within the range of ± 50 cents, it makes automatic reference calibration after automatically determining the pitch name (within the range of ± 50 cents) if the reference pitch is not “A”. In this case, a LED of the NOTE LED (7) corresponding to the calibration value after replacing the input sound with “A4” (the center of the piano) flashes.

Note: Automatic reference calibration is disabled if the sound to the input is unstable or too weak to measure.

3. Press the CALIB key (8) for one second or longer when the lighting of the LED meter (5) becomes stable. Press the CALIB key (8) until you see the lighting of the LED meter is turned off for an instant. The DTR-2 measures the pitch of the input sound and calibrates automatically using the measured sound as the reference pitch. The center LED on the LED meter lights, and the NOTE LED blinks.

Note: Pressing and immediately releasing the CALIB key starts manual calibration.

Note: Pressing the CALIB key before the LED meter indication becomes fully stable may prevent the reference pitch from being correctly measured.

Note: In automatic reference calibration, the reference pitch can be set within the range of 428 Hz to 452 Hz. If the setting exceeds this range, C or # of the CALIBRATION indicator blinks dimly according to the portion exceeded.

4. After one second or more has elapsed when the NOTE LED flashes, the system is ready for tuning. (If no sound is input, the NOTE LED turns off and the left side LED of the LED meter lights up.)

Thank you for purchasing the TONEWORKS Digital Tuner DTR-2. To ensure long, trouble-free operation, please read this manual carefully.

