tc electronic

out   in

polytune®

true **bypass**

tc electronic®

PolyTune 2

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Important Safety Instructions

The lightning flash with an arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Warning!
– To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture and objects filled with liquids, such as vases, should not be placed on this apparatus.
– Do not install this device in a confined space.

Caution
You are cautioned that any change or modifications not expressly approved in this manual could void your authority to operate this equipment.

Service
– All service must be performed by qualified personnel.

EMC/EMI

Electromagnetic compatibility/
Electromagnetic interference

This equipment has been tested and found to comply with the limits for a Class B Digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in residential installations. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

For customers in Canada
This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

About this manual

This manual will help you learn understanding and operating your TC product.

This manual is only available as a PDF download from the TC Electronic website.

Of course, you can print this manual, but we encourage you to use the PDF version, which has both internal and external hyperlinks. For example, clicking the TC Electronic logo in the upper left corner of each page will take you to the table of contents.

To get the most from this manual, please read it from start to finish, or you may miss important information.

To download the most current version of this manual, visit tcelectronic.com/support/manuals/

Enjoy your TC product!

Introduction

PolyTune 2: Polyphonic tuning revisited

As the world's first polyphonic tuner, the original PolyTune took the hearts of guitarists by storm. Features such as the MonoPoly technology (which automatically detects whether you want to tune a single string or all strings) made tuning a bass or guitar faster and easier than ever before.

But at TC Electronic, we are all about moving forward, and so the obvious question was: How can we improve on perfection?

Enter PolyTune 2.

Brighter than a thousand suns

When you need to tune, you need to tune. And the last thing you want to worry about at that moment is a display that is either too bright for the club stage or unusable in the bright sun of a late afternoon gig. The display on PolyTune 2 is primed with some of the brightest LEDs you have ever laid your eyes on. And the ambient light sensor makes sure you get just the right amount of brightness. It's the best of/for both worlds!

Strobe tuning

TC has received many requests from the guitar community for a strobe tuner, so we added a strobe mode, which is both lightning fast and ultra precise. And with a pitch detection accuracy of **±0.1 Cent,** (that's 1/1000 of a semitone!) this is the right tool for fine-tuning your precious instrument – wherever you may be.

Total recall

PolyTune 2 stores your preferences. From pitch reference to selected tuning mode, it hangs on to this information even after it is powered down – making sure you only have to set these parameters once. And just to be safe, it will display the current settings when you plug in your instrument. One less thing to worry about!

Of course, PolyTune 2 still has all the features from the original PolyTune that users know and love.

– PolyTune®: Tune all strings simultaneously
– For guitars and basses
– Supports Drop-D and capo tuning modes
– True bypass with silent tuning
– DC output for powering other pedals

PolyTune 2 will allow you to tune your instrument faster and easier than ever before, so you can go back to doing the one thing we know you care about: playing your music.

Enjoy!

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Setup

Ready…

The PolyTune 2 box should contain the following items:

– 1 PolyTune 2 pedal
– 2 rubber feet for "non-velcro" pedalboard mounting
– 1 TC Electronic sticker
– 1 leaflet about TC's guitar FX product range.

Inspect all items for signs of transit damage. In the unlikely event of transit damage, inform the carrier and supplier.

If damage has occurred, keep all packaging as it can be used as evidence of excessive handling force.

Set…

– Connect a 9V power supply with the following symbol to power in socket of PolyTune 2.
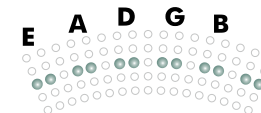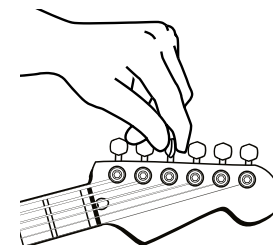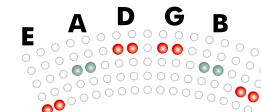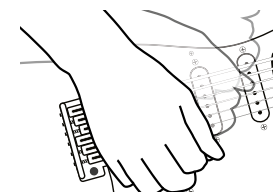
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! Please note that PolyTune 2 does not come with a power supply.
! You can also power PolyTune 2 using a standard 9V battery, but if you intend to power additional pedals using the power out jack, you need to use a power supply.
– Plug the power supply into a power outlet.
– Connect your instrument to the "in" jack on the right side of the pedal using a ¼" jack cable.
– Connect the "out" jack on the left side of the pedal to your amplifier using a ¼" jack cable.
– If you have another 9V guitar pedal that you want to power, connect it to the power out socket on the rear of the pedal.
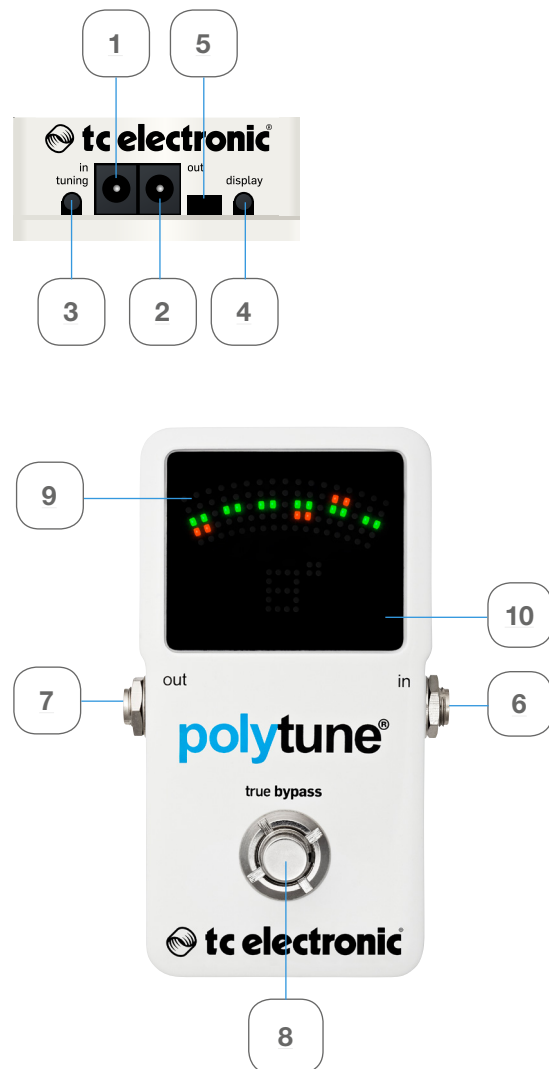
Get ready for a new tuning experience!

Tuning your instrument with PolyTune 2 is fast and intuitive. If you don't feel like reading the manual, just strum your instrument and watch the display. We think you'll like what you see.

If you want to learn more – read on!

Inputs, outputs, controls

1. Power input
The power input of this pedal is a standard 5.5/2.1 mm DC plug (centre = negative).

To power up your pedal, connect a power supply to its power input socket. PolyTune 2 requires a 9V power supply providing 100 mA or more (not supplied). To minimize hum, use a power supply with isolated outputs.

2. Power output
If you use are using an external power supply to power PolyTune 2, you can use the power out jack of PolyTune 2 to provide power to other, daisy-chained guitar pedals.

– Make sure that your power supply delivers sufficient power to cover the power consumption of all connected pedals.
– Current draw on pedals daisy-chained to the power out jack may not exceed 2A.

3. Tuning mode button
Set the tuning mode button according to the instrument's tuning. Use either standard ("e") or one of the several dropped tuning or capo modes.

Tuning modes are explained in the following section of this manual ("How to use PolyTune 2").

The selected tuning mode is stored and will be recalled when you power on PolyTune 2 again.

4. Display mode button
Use the display mode button to switch between the various display modes.

The various display modes are explained in the following section of this manual ("How to use PolyTune 2").

The selected display mode is stored and will be recalled when you power on PolyTune 2 again.

5. USB port
If there should be firmware updates for this pedal, they can be installed by connecting it to your computer using this port.

6. Audio input
Connect your instrument to the IN jack on the right side of the pedal.

The audio input of this pedal is a standard ¼" jack (mono/TS).

When you connect your instrument to the audio input, the following information will be displayed:

– Standard ("STD") or Drop D tuning mode
– the currently selected display mode (Needle / Strobe, Guitar / Bass)
– the currently selected tuning mode
– the reference pitch.

For best results, place PolyTune 2 in your signal chain **before** your drive, distortion and vibrato pedals. A distorted or modulated signal is harder to analyze.

If the pedal runs on battery power, we recommend removing your instrument from the audio input to preserve battery power when you don't play.

7. Audio output

Connect the OUT jack of PolyTune 2 to the input jack of the next device in the signal chain.

The audio output of this pedal is a standard ¼" jack (mono/TS).

8. Footswitch

To turn the tuner on or off, just tap the footswitch.

Notes regarding tuning and signal output

– When the tuner is active, the output will automatically be muted for silent tuning.
– When the tuner is active and no signal is detected, four red LEDs will light on the bottom of the display, indicating that PolyTune 2 is ready for tuning.
– PolyTune 2 features a true bypass circuit that leaves your beloved tone unaltered when the tuner is bypassed.

9. Display

The LEDs of the PolyTune 2 display are extremely bright; ensuring a clear readout even in broad daylight.

The various display modes are explained in the following section of this manual ("How to use PolyTune 2").

10. Ambilight sensor

In the lower right corner of the display is a so-called ambilight sensor. It detects the strength of the surrounding light and automatically adjusts the display brightness accordingly. This ensures you can see and correct your instrument's tuning under all conditions. This feature even extends battery life by reducing display brightness to what is required in a given situation.

How to use PolyTune 2

Chromatic vs. polyphonic tuning

A very simple guitar tuner will only allow you to tune open strings, one string at a time – e.g. E, A, d, g, b, and e' for the standard tuning of a guitar.

PolyTune 2 is a **chromatic** tuner – meaning it will detect and allow you to tune all twelve notes of the scale.

But that's not all. Other than a traditional tuner, PolyTune 2 allows you to play all your instrument's string **simultaneously** when tuning. PolyTune 2 will detect which strings need to be tuned and indicate those strings in its display. This allows you to tune your instrument much faster.

Finally, you may have tuned one or all strings on your instrument differently from standard tuning, or you may be using a capo to change the playable length of the strings.

In all these situation, PolyTune 2 has you covered.

Display modes

If you press the display mode button on the rear of PolyTune 2 once, the currently selected display mode will be shown. Pressing the display mode button repeatedly will cycle through these modes:

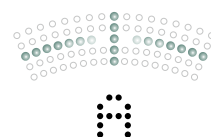– **Guitar / Needle mode** (indicated by a "G" and the center LED *column* lighting up).

– **Guitar / Strobe mode** (indicated by a "G" and the middle *row* of LEDs lighting up).
– **Bass / Needle mode** (indicated by a "B" and the center LED *column* lighting up).
– **Bass / Strobe mode** (indicated by a "B" and the middle *row* of LEDs lighting up).

Needle mode

In **Needle mode,** when you tune a single string, pitch is indicated by a column of five LEDs in the upper part of the display, and the name of the target note is displayed at the bottom of the display.

If the string you are tuning is too *low,* LEDs to the *left* of the center column will light up. If the string is too *high,* LEDs to the *right* of the center column will light up.

Tune the string until the middle column and the middle row of green LEDs lights up. This means you are "on target".

Needle mode – A string in tune

Strobe mode

In **Strobe mode,** the difference between the correct (target) frequency and the actual de-

tected frequency is displayed by two indicators simultaneously:

1. red LEDs to the left (pitch too low) or to the right (pitch to high) of the center LED column
2. rotating segments in the display. The closer the detected frequency is to the target frequency, the slower the rotation.
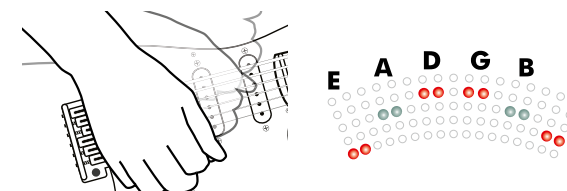   Tune the string until the rotating pattern has come to a stop and only the middle column of green LED lights up.
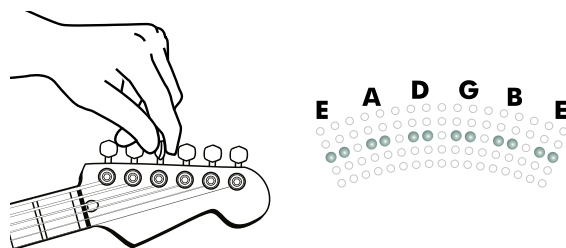
Polyphonic tuning

As you know by now, PolyTune 2 is a **polyphonic** tuner. You can strum your instrument, and PolyTune 2 will analyze and display the tuning of all strings.

So how do you activate polyphonic tuning mode?

You don't – it just works. Strum, tune, rock on!

Strum your guitar. Strings that are in tune will be represented by two green LEDs. Strings that need tuning are represented by two red LEDs below (flat) or above (sharp) the middle row.

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Tune your guitar and strum again. Your instrument is in tune when all strings are represented by two green LEDs in the middle row.

Of course, only the strings that are actually present and played will be shown in the display. So if you tune a four string bass, only four LED columns will light up.

Drop D tuning

"Drop D" is a popular tuning (also known as DADGBE) in which the lowest string of a guitar is tuned down ("dropped") from E to D.

– If you want to tune an instrument set to "Drop D", press and hold the PolyTune 2 footswitch for about three seconds.
   The word "DROP" will be displayed briefly, and the default "ready for tuning" indicator at the bottom of the display will change from a small square to a "d".
– If you want to switch PolyTune 2 back to standard tuning, press and hold the footswitch for three seconds again.
   "STD" will be displayed briefly, and the "ready for tuning" indicator will go back to a small square.

Alternate tunings and capos

There's more to life than E A d g b e'! You may have tuned all strings of your instruments down, or you may be using a capo. In that case, tell PolyTune 2 about your instrument's tuning by pressing the Tuning mode button (3).

If you press the tune mode button *once,* the current tuning will be displayed ("-- E --" for standard tuning). Pressing the tune button *repeatedly* will cycle through the following tunings:

Display	Mode
--- E ---	Standard tuning
Eb	All strings tuned down 1 semitone
D	All strings tuned down 2 semitones
Db	All strings tuned down 3 semitones
C	All strings tuned down 4 semitones
B	All strings tuned down 5 semitones
F 1	capo at first fret
Gb 2	capo at second fret
G 3	capo at third fret
Ab 4	capo at fourth fret
A 5	capo at fifth fret
Bb 6	capo at sixth fret
B 7	capo at seventh fret

If you do not touch the tune mode button for two seconds, the display will blink twice, and the selected tuning will be used.

The selected tuning mode is stored and will be recalled when you power on PolyTune 2 again.

Changing the reference pitch

In most cases, you may want to tune your what is considered standard pitch, where the A above the middle C has a frequency of 440 Hz. However, you and your band may prefer a different pitch, or you may have to tune to an acoustic instrument that cannot easily be retuned.

In that case, you need to change the reference pitch.

– To change the reference pitch, press the Display mode button (4) and the Tuning mode button (3) simultaneously.
   The display will show the current reference pitch (e.g. "440" for 440 Hz).
– To increase the reference pitch in 1 Hz steps, press the "tuning" button.
– To decrease reference pitch in 1 Hz steps, press the "display" button.
– To accept the currently displayed reference pitch and return to normal operation, do not press either button for two seconds.

The selected reference pitch is stored and will be recalled when you power on PolyTune 2 again.

FAQ

"I'm not hearing anything!"

When the tuner is active, the output will be muted for silent tuning.

"The pedal has power supply, but pressing the footswitch doesn't do anything!"

To operate PolyTune 2, you need to connect an instrument to the pedal's audio input jack.

"The display shows a red '#' – what does this mean?"

This is the symbol of the Secret Brotherhood of the Tune-O-Calypse of Doom – and it is telling you that you are not playing loud enough…

Just kidding. This symbol shows that your PolyTune 2 is not bypassed and ready to display the pitches of your instrument's strings. Please note that this also means that PolyTune 2's audio output is muted. To unmute, press the footswitch.

"How do I get the best (most accurate) results?"

We have found that you will achieve the most accurate tuning of electric guitars in polyphonic mode by selecting the guitar's *neck* pickup and using the *thumb* to strum the strings.

True bypass

Here at TC, we have a simply philosophy: When you are using one of our products, you should hear something great – and if you don't, you shouldn't hear it at all. This is why this pedal sports True Bypass. When it is bypassed, it is really off and has zero influence on your tone, resulting in optimum clarity and zero loss of high-end. Also please note that the pedal lets your dry, unprocessed sound pass without ever converting it to digital – keeping your original tone pure and without any latency.

Changing the battery

If you need to change the battery of your pedal, proceed as follows:

- Unscrew the thumb-screw on the back of the pedal and detach the back-plate.
- Unmount the old battery and attach the new battery to the battery clip making sure the polarity is correct.
- Remount the back-plate.

Notes regarding batteries
- Batteries must never be heated, taken apart or thrown into fire or water.
- Only rechargeable batteries can be recharged.
- Remove the battery when the pedal is not being used for a longer period of time to save battery life.
- Dispose batteries according to local laws and regulations.

Technical specifications

- Input Connector Type:
  1 Standard ¼" jack – mono/TS
- Output Connector Type:
  1 Standard ¼" jack – mono/TS
- Tuning Range: A0 (27.5 Hz) to C8 (4186 Hz)
- Tuning Accuracy: ±0.1 cent
- Reference Pitch: A4 = 435 to 445 Hz
  (1 Hz steps)
- Input Impedance: 500 kΩ (pedal on)
- Power Input: Standard 9V DC,
  centre negative >100 mA
  (power supply not included)
- Battery option: Standard 9V
  (battery not included)
- Current Draw: 45 to 50 mA (typical use)
- Dimensions (W x D x H):
  72 x 122 x 50 mm / 2.8 x 4.8 x 2.0"

- Weight: 300 g / 10.6 oz (incl. battery)

Due to continuous development, these specifications are subject to change without notice.

Getting support

If you still have questions about the product after reading this manual, please get in touch with **TC Support:**

http://tcelectronic.com/support/

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