

In short:

bazi-calculator.com calculates Real Solar Time (RST) automatically.

This may change your birth hour pillar or even other pillars.

To see how to use it in the calculator, please refer to the last two pages (3-4).

In detail:

What is Real Solar Time?

Real Solar Time is the "real" or "natural" time that is based on the **current position of the Sun** in the sky.

Real Solar Time is usually **different from clock time**.

Which time do you think we should use when calculating our BaZi? Clock time or time based on the Sun position?

Of course we should use Real Solar Time, based on Sun position.

Centuries ago, there was no such problem. Why? Because there was no timezones, no time adjustments, no time standardization.

Old masters read BaZi basing on real solar time. They didn't use time standards. They told the time basing on the **position of the Sun** in their hometowns. This is why we will never read about RST in BaZi classics. But **it doesn't mean we shouldn't use it now**, when we use time standardization and tell the time looking at our clocks instead of observing the Sun.

Simply speaking:

calculating Real Solar Time brings the time back to its true natural state.

To many this seems obvious, however there are many significant BaZi schools out there that completely ignore this matter.

I get dozens of emails regarding this subject. Many of my bazi-calculator.com users have never heard about Real Solar Time because their masters never told them about it. I am surprised and I think this is a big mistake. There are cases of people that got their BaZi wrong for many years!

If you still are not sure what is RST (Real or Apparent Solar Time), you can get more information here:

https://en.wikipedia.org/wiki/Solar_time

Timezones and longitude correction

In order to count Real Solar Time, you need to first calculate the **minute difference** between the **center of your timezone** and the geographical longitude **you are located in**.

Every 1 degree difference makes four minutes difference between your **clock time** and Real Solar Time based on the current **position of the Sun** in your town.

bazi-calculator.com **counts this difference automatically**.

Example 1.

You live in UK. London is in the center of your timezone (GMT+0), its longitude is 0 degrees. But you live in a small town West of London, your geographical longitude is 1 degrees West. So at noon (12:00 on your clock), Real Solar Time is **11:56**, because based on the Sun position we currently have 12:00 hours **in London**. The Sun is moving towards you and **your town will have its noon in four minutes**.

Example 2.

There are two people born at the very same time. First is born in London (timezone: GMT+0) and second is born in Paris (GMT+1). London and Paris are nearly on the same geographical longitude, but the two governments decided to use different timezone. So, while in London it's **12:30**, in Paris it's already **13:30**. Clock time is different. But **the Real Solar Time is nearly the same**, because those two people were born at the same moment on similar longitude. Can we say that these two people have different hour pillar (Wu Horse, or Wei Goat) just because they were born in different countries? Hey, but they were born on the same very moment! The Sun was shining from nearly the same position. Real Solar Time was about 12:30 **in both places** (in fact there were 2 degrees = 8 minutes difference, not 1 hour difference). So how can they have different hour pillars in their BaZi? The Sun doesn't care what time we have on our clocks! BaZi is **not based politics and standards**. It's **based on current Sun position** in your city/town.



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Example 3.

You live in China. China is huge country that has **one timezone** (GMT+8), but in fact it **takes space of five different timezones** based on geographical longitude!

You are born in West of China. Your longitude is **80** degrees E. Center of your timezone is **120** degrees E (close to Beijing). It's **24:00** on your clock. But the geographical longitude difference is 40 degrees = **160 minutes**. You can still see the Sun setting in your town and Real Solar Time in your location is **21:20**. Could any BaZi master from your town claim that you are born at Rat hour just because the **clock said that**?

Please note that if in this case clock hour was 0:10 (next day), Real Solar Time would be 21:30

(previous day relative to Beijing time)! That would also **change the day pillar**. But as we said, the Sun doesn't care about our clocks. In West of China it's still the evening of previous day, while in Beijing it's already tomorrow.



From the examples above we can clearly see that **timezones and longitude correction can change your birth hour pillar**. In some border cases it could also change day, month or year pillar. You always need to consider this when calculating your BaZi. Forgetting about it is unfortunately a common mistake.

More about timezones: https://en.wikipedia.org/wiki/Time_zone

and nice graphics to the above examples:

https://en.wikipedia.org/wiki/Time_zone#/media/File:Standard_World_Time_Zones.png

Please note that in some countries timezones have changed from year to year.

Good example is Singapore, currently in GMT+8 timezone, but between 1945 and 1981 GMT+7:30 was used (more: <https://www.timeanddate.com/time/zone/singapore/singapore>).

Summer Time

Most countries in the world use summer time (DST). One hour is added to Real Solar Time. Daylight Saving Time (DST) should also be considered when calculating BaZi.

When we change the time on our clocks twice a year because of DST, we shouldn't expect the Sun adjust to our clocks. That's why we should consider it.

bazi-calculator.com takes DST into account when calculating Real Solar Time. All you need to do is tick the "DST" checkbox when inputting birth hour.

Please note that in many countries DST regulations change from year to year.

Good example in Singapore, where DST was observed only in 1932-1936 and was never used in later years (more: <https://www.timeanddate.com/time/change/singapore/singapore>).

Equation of Time (EoT)

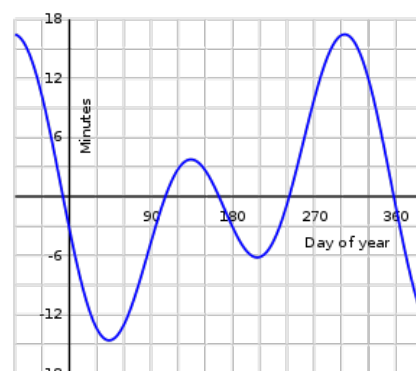
EoT is the difference between Real Solar Time (based on Sun position) and Mean Solar Time (which is simply speaking based on clocks).

Earth goes around the Sun with various speed. Earth orbit is an ellipse, not a circle, and thus its speed **varies** between 30.3 and 29.3 km/s.

Earth **speeds up** around November and **slows down** around February. So our clocks go too slow in Winter and too fast in Spring.

Equation of Time makes about **up to 16 minutes difference**. EoT can be calculated with quite high precision.

bazi-calculator.com always counts EoT, so you don't need to worry about it, you don't need to observe the Sun anymore!



More information about EoT and some nice graphs can be found here: https://en.wikipedia.org/wiki/Equation_of_time

Summary

Timezones, longitude, equation of time, I know this all may be confusing.

Different timezones and summer time law regulations that change with countries' history add up to the confusion.

However bazi-calculator.com solves most of the problems by calculating those things automatically.

This short manual is here just to clear some things.

I often get emails from my users suggesting that bazi-calculator.com is rubbish because it gets their birth hours wrong. This is because knowledge about timezone adjustments and Real Solar Time is currently (in 2018) not widespread among BaZi passionates. Many people have never heard about timezones and are **surprised to get different hour pillar on their charts**. There are users who got their four pillars wrong for many years. I hope I have roughly explained how things work.

I am aware that most calculators out there **do not count** Real Solar Time automatically and do not change birth hour inputted by the user.

This is why bazi-calculator.com will often give **different results** from many other calculators available in the internet.

I am also aware that many BaZi schools **forget about the difference** between **clock time** and **Real Solar Time**.

Here I have to note one thing.

Just because others don't take Real Solar Time into account, it **doesn't mean it's not real**.

bazi-calculator.com is not inventing anything, it's calculating real time as it was used **by old masters**.

If you are still not convinced, please refer to web resources I have cited above to get more clarifications, I hope these are helpful.

HOW TO USE IT IN BAZI-CALCULATOR.COM

PREMIUM VERSION

1. Input date of birth.

Input **clock time** of birth.

2. Input birth city and country name in "**Get longitude**" field

3. Click the "**Search**" button

All the required values (longitude, timezone, DST) are set for you.

4. After you click "Calculate" button,

Real Solar Time is calculated for you, the calculator counts timezone/longitude correction, equation of time, summer time correction. The four pillars are calculated using Real Solar Time. In this case, clock time was 19:55, while Real Solar Time was **18:07** (You hour).

Hour Day Month Year

19:55 24 5 1980

+ - + - + - + -

Show Calendar

GMT +1 Longitude: 2.3522

Get longitude: Paris Search

M F

DST

Calculate

Unknown hour

Minutes correction: -107.34 (Longitude: -50.59 + EoT: 3.25 - DST: 60); RST=18:07; Saturday

Month begins: 1980-05-05 09:04, GMT+1

As you can see, with premium version you can forget all the headache above, you only input birth date and city and the calculator does the rest.

FREE VERSION

1. Input date of birth. Input **clock time** of birth.
2. "Get longitude" field is available only in premium version, but you can set the required values manually as described below.
3. Please carefully set the following values:
 - Select **timezone** that was observed at the birth time.
If unsure, you can consult <https://www.timeanddate.com/time/change/>
Eastern timezones are positive (Paris: +1) and Western negative (New York: -5).
 - Input **geographical longitude** of the birth place.
You can use Google Maps to check it: right click the birth location, choose "What is here" option, you get pair of latitude and longitude, longitude is the second value, input it in the calculator "Longitude" field.
Eastern locations are positive (Paris: 2.35) and Western negative (New York: -76.00).
 - Check the DST (summer time) option if summer time was observed at the birth time (consult timeanddate.com).

Example

You were born in Paris, France in May 1980. **Longitude** is 2.35 degrees. **Timezone** was GMT+1. **DST** was observed. So you input **these three** values to the calculator and click Calculate.

Please note that in this case you can input: GMT+1 and DST: yes; or instead you can input GMT+2 and DST: no. **Result is the same.** Myself I prefer using always the same timzone for one location (here: GMT+1) and checking/unchecking DST option depending on birth month, as on the example above (this is recommended, since it's easier to change it during the year). But if you prefer, you can also omit DST option and only change timezone field.

The screenshot shows the calculator interface with the following fields and values:

- Hour: 19:55
- Day: 24
- Month: 5
- Year: 1980
- Timezone: GMT +1
- Longitude: 2.3522
- DST: DST
- Location: Paris
- Calculate button:
- Output: Minutes correction: -107.34 (Longitude: -50.59 + EoT: 3.25 - DST: 60); RST=18:07; Saturday; Month begins: 1980-05-05 09:04, GMT+1

4. After you click "Calculate" button, **Real Solar Time is calculated for you**, the calculator counts timezone/longitude correction, equation of time, summer time correction. Four pillars are calculated using Real Solar Time. In this case, clock time was 19:55, while Real Solar Time was **18:07** (Your hour).

Point no 4 works the same way as in premium version. So in free version you can still get precise calculations of Real Solar Time, you only need to manually input three more values.

Common mistake:

If you suppose bazi-calculator.com counts your birth hour pillar wrong, please have a look at the bottom of the table where you input dates. There is a section beginning with the text: "Minutes correction" (marked in green on the example above).

This section gives you Real Solar Time at the moment of birth you can verify.

Please also have a look at **GMT** (timezone) setting and geographical **longitude** you have set - are they correctly set? This is a common mistake to set these fields in a wrong way.

If you are still in doubt you can refer to <https://www.timeanddate.com/time/zone/> to check your timezone and summer time.

You can be sure that calculations made by bazi-calculator.com were thoroughly tested for many locations and timezones and they are really precise and accurate.