



Mega Futura

J604.90

JUNGHANS - DIE DEUTSCHE UHR

JUNGHANS – THE GERMAN WATCH

Many congratulations on your purchase of a timepiece from Junghans.

What began in 1861 with the founding of the firm in Schramberg quickly developed into one of the most fascinating success stories of the German watchmaking industry. While since that time the demands made of watches may have changed, the Junghans philosophy has always remained the same. Innovative flair and the constant pursuit of precision right down to the smallest detail define how the company works and thinks. You can see and sense this in every watch that carries the Junghans name. For as diverse as the Junghans range may be, it pursues one single goal: to combine traditional craftsmanship with cutting-edge watch technology and exciting design. That makes every watch with the Junghans star unique.

We hope you will enjoy this very special time-keeping instrument.

Yours,
Uhrenfabrik Junghans GmbH & Co. KG

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1. Radio technology

The most up-to-date way to keep time.

5,000 years have passed since timekeeping began with sundials. In the interim there have been water clocks, the mechanical clocks of the 13th century and quartz watches. Now we have the Junghans radio-controlled watch. This is a watch that, with good reception, will never go wrong and never need setting. The Junghans radio-controlled watch is absolutely precise, as it is linked via radio technology to the timing control of the most accurate clock in the world, For Europe this is the Caesium Time Base at the Physikalisch-Technischen Bundesanstalt in Braunschweig (Germany's Institute of Natural and Engineering Sciences). For Japan the Caesium Time Base of the National Institute for Information and Communications Technology (NICT), a public administration authority organisation. For North America it is the U.S. Commerce Department's Caesium Time Base at the National Institute of Standards and Technology (NIST) in Boulder, Colorado. These clocks are so accurate that they are expected to deviate by no more than 1 second in a million years.

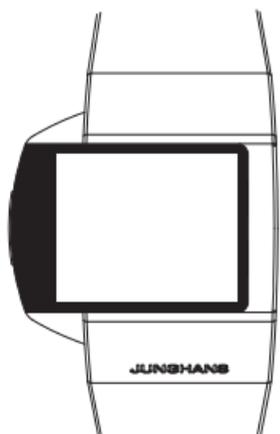


Your Junghans Mega Futura radio-controlled watch is able to automatically receive the radio signals of the following time signal transmitter stations:

- DCF77 in Mainflingen (24km south-east of Frankfurt am Main) for **Europe**,
- JJY40 on Mount Ohtakadoya (near Tokyo in north-east Japan) for **Japan**
- JJY60 on Mount Hagane (in south-west Japan) for **Japan**, the **East coast of China** (Shanghai), for **South Korea** and parts of **Taiwan**
- WWVB in Fort Collins, Colorado (USA) for **North America**

This means that within range of one of these 4 transmitter stations your Junghans Mega Futura will display the exact time when reception conditions are adequate. Junghans radio-controlled wristwatches automatically synchronise themselves every day with the DCF77, JJY40, JJY60 and WWVB time signal transmitters. If your Junghans Mega Futura radio-controlled watch is unable to receive a signal due to interference (e.g. thunder storms, electronic devices, lighting dimmer switches) it will automatically attempt to receive a signal the following day at the same time. The time can also be synchronised manually by calling a transmitter e.g. from a place with better reception. The most recent time information received is stored in an internal time memory. This time is then kept by a high-precision 32 kHz quartz oscillator until the next time your watch is synchronised. The radio-controlled time synchronisation function of your Junghans Mega Futura radio-controlled watch not only ensures total time accuracy, but also automatically switches (at night) from winter time to daylight saving time (Europe and North America) and vice-versa when reception is available. The Junghans Mega Futura time zone adjustment enables you to set your watch to the relevant local time when travelling in countries in other time zones.

2. Automatic time synchronisation



The automatic time synchronisation process always takes place at night based on the local time set on your watch:

EU – DCF 77: at 2 a.m. and 3 a.m.

JP – JY40 and JY60: c. 2 a.m.

US – WWVB: c. 2 a.m.

At the start of the synchronisation process the display automatically switches off. The display remains switched off for the full duration of the synchronisation process (max. 9 minutes) or until this is manually aborted. Automatic time synchronisation can be aborted by pressing any button.

For the USA's WWVB time signal transmitter the following specific feature applies:

After a successful transmitter call or battery change (restart), your Junghans Mega Futura always reads Pacific Standard Time. Due to the non-uniform changeover from summer to winter time and the differing time zones in the individual US states, you are given the opportunity to adjust winter time, summer time and time zone settings (see 6.1) manually. If, due to where you are, the time zone or summer / winter time that you have set differs from PST, it is nevertheless retained during any subsequent transmitter call or automatic synchronisation.

After automatic time synchronisation has been successfully performed, a permanent indicator is shown of the transmitter from which the signal was received.

The time signal always changes the date automatically. In leap years the 29th of February gets automatically taken into account.

If none of the attempts at picking up a signal lead to clear synchronisation, the reception indicator  gets deactivated (see section 4). Thanks to the internal time-memory, your watch will continue to run during any days without synchronisation with the precision of a quartz watch. The next successful reception of the time signal leads to synchronisation and the reception indicator  on the LC display becomes activated.

Recommendation: To ensure the best possible conditions for automatic reception of the synchronisation signal, the watch should not be worn and, if possible, not left near to any electrical appliances, mobile or cordless phones.

For picking up the signal it is also helpful to set the appropriate time zone for your location, as an attempt at synchronisation always begins at c. 2 a.m. based on the local time set on the watch. If the time zone is wrong, the watch will try to synchronise with the transmitter that was previously set.

For example: You travel from Europe to Japan. Your watch has CET saved and tries to synchronise in line with CET at 10 a.m. in Japan. At that time of day interference is disproportionately greater than when synchronising at night and the chances of optimum reception are thus less.

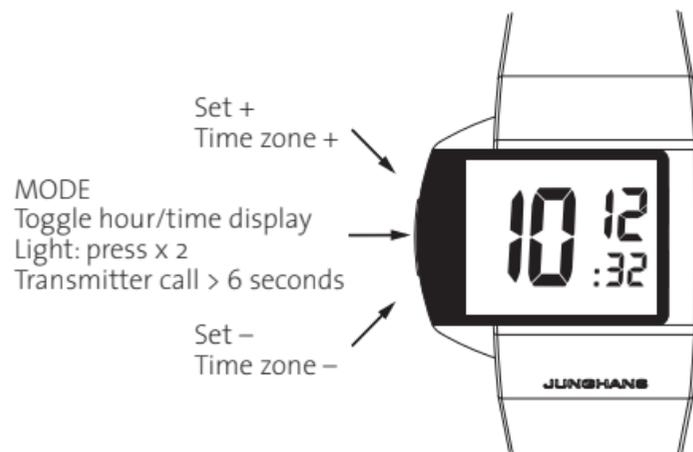
With the time zone set correctly the appropriate transmitter frequency gets checked as the first priority, thus reducing the length of the transmitter check and power consumption.

Important note:

When you travel into a different reception area (e.g. travelling from Germany to Japan), automatic time and transmitter synchronisation does not take place until the watch's next attempt at picking up a time signal. If the watch fails to pick up any transmitter signal, please check the transmitter pre-selection (see section 5.1) or perform a manual transmitter call (see section 5).

3. Functions

Your Junghans Mega Futura is operated via the Mode button and two recessed correctors on the side of the case. To operate the correctors please use a suitable pointed implement.



3.1 Time display



If no change is made via any of the controls, the time displayed is that of the last received local time.

3.2 Date display



There are two variants available for calling up the date:

Pressing the MODE button for less than 3 seconds switches the display to showing the date, day of the week and calendar week. This gets shown for 3 seconds.



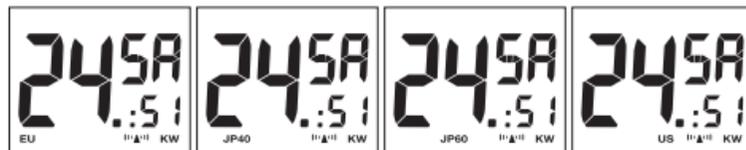
Pressing the MODE button for longer than 3 seconds switches the display to showing the date, month and year. After releasing the MODE button, the display reverts to showing the time.

N.B.: If the MODE button is pressed for longer than 6 seconds, manual synchronisation gets triggered. This can be aborted by pressing the MODE button again and the most recently imported time gets shown once more.

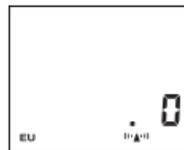
4. Reception indicator

In addition to the date display, you can also call up the reception indicator by pressing the MODE button briefly:

- Indicator of the time signal with which your watch last successfully synchronised
- The reception indicator  shows whether the watch received the time data during the last automatic synchronisation process.



5. Manual time synchronisation / transmitter calls



In addition to automatic synchronisation with one of the time signal transmitters, manual synchronisation is also possible. This is known as a 'transmitter call'.

To do this, press the MODE button for longer than 6 seconds. The radio tower and the indicator of the transmitter with which your watch last synchronised begin to flash on the LC display.

While the signal is being received, please keep your watch still or put it down.



If synchronisation is not possible with the transmitter shown, all other transmitters get checked for possible reception of the time signal. As soon as a time signal has been picked up, the digital seconds on the LC display start running.

Once your watch has picked up a signal, it automatically sets itself to the current time; the date display shows the transmitter from which the time signal was received and the radio tower.

Should you be in a time zone different to that of the transmitter that the watch picked up, you will need to set the applicable local time for that location (see section 6.1) once synchronisation has been successfully completed.

While the watch is receiving a signal from the transmitter the following time zones are shown:

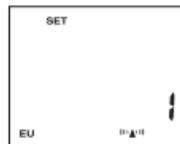
Transmitter	Time transmitted
EU: DCF77 (Europe)	CET or CEST
JP40: JJY40 (Japan)	Japanese local time
JP60: JJY60 (Japan)	Japanese local time
US: WWVB (North America)	Pacific time

Manual synchronisation can be aborted at any time by pressing the MODE button.

For the WWVB (USA) and JJY60 (Japan) time signal transmitters the following specific feature applies:

During reception of the signal the LC display switches off. After the time signal has been received, the indicator automatically becomes visible again on the LC display.

5.1 Automatic transmitter search



In areas with poor reception conditions (e.g. caused by an increased number of sources of interference or an unfavourable topographic situation) we recommend disabling automatic search.

To do this, press the SET button briefly once during a manual transmitter call or restart.

[SET] appears on the display and the currently set transmitter and radio tower flash. By using the numbers, you can select the order for the process of transmitter synchronisation. In the standard setting (number 2) synchronisation starts with the DCF77 transmitter.

Each number's meaning is as follows:

		Pre-selection
1	EU	DCF77, other transmitters do not get taken into account in the search
2	EU JP US (STANDARD)	DCF77, other transmitters do get taken into account in the search
3	JP40	JJY40, other transmitters do not get taken into account in the search
4	JP60	JJY60, other transmitters do not get taken into account in the search
5	EU JP US	JJY40, other transmitters do get taken into account in the search
6	US	WWVB, other transmitters do not get taken into account in the search
7	EU JP US	WWVB, other transmitters do get taken into account in the search
8	RC OFF	Receiver disabled

Confirm your entry by pressing the MODE button. If you do not press the button, the display switches back after 9 seconds to showing the time.

A manual transmitter call puts this setting back to number 2 (STANDARD).

6. Settings

6.1 Setting the time zone

Your Junghans Mega Futura can receive signals from the DCF77, JJY40, JJY60 and WWVB time signal transmitters and in each transmitter area reliably shows summer/winter time respectively (WWVB is an exception – see section 2.). When you are in other time zones, you can have your watch show the current local time by adjusting the time zone setting. To do this, press the SET+ button on the LC display. The currently set time is shown flashing and the [SET] symbol remains in view for as long as you are in Set mode. You adjust the time by pressing the SET+ and/or SET– buttons. Confirm your entry by pressing the MODE button. If you do not press the button, the display automatically switches back after 9 seconds to showing the time.

6.2 Setting the language

If you press the SET button briefly, [DE] for 'Deutsch' (German) gets displayed.

By pressing the SET button again, the date display can be switched to English. [EN] for English is now shown on the LC display.

To switch language, use the SET+ or SET– button. Confirm your entry by pressing the MODE button. If you do not press the button, the display automatically switches back after 9 seconds to showing the time.

6.3 12/24-hour display

If you press the SET button briefly, [DE] for 'Deutsch' (German) gets displayed.

By pressing the MODE button once, [24] appears on the LC display as the time format indicator. To switch between showing the time in 12-hour or 24-hour format, use the SET+ or SET- button. Confirm your entry by pressing the MODE button. If you do not press the button, the display automatically switches back after 9 seconds to showing the time.

6.4 Contrast setting

If you press the SET button briefly, [DE] for 'Deutsch' (German) gets displayed.

By pressing the MODE button once, [24] appears for how the time is shown. Press the MODE button again. [00] is now shown on the LC display. To adjust the contrast, use the SET+ button to increase it or the SET- button to reduce it. Confirm your entry by pressing the MODE button. If you do not press the button, the display automatically switches back after 9 seconds to showing the time.

Note: The higher the setting, the greater the power consumption.

7. Re-starting after changing battery

After a change of battery a restart is performed. In order to pick up time data, the watch searches for the time signal transmitters in the standard order of EU, JP, US. During this process the symbol of the transmitter being addressed flashes. As soon as the time data has been received, the seconds on the LC display start running. After a few minutes, if the reception process has been successful, the watch automatically sets itself to the correct time:

- DCF77: On successful reception of the DCF77 transmitter, CET / CEST gets shown, the reception indicator [EU] is activated on the LC display and the date is displayed with the day of the week in German.
- JY40 / JY60: On successful reception of the JY40 or JY60 transmitter, Japanese local time gets shown, the reception indicator [JP40/JP60] is activated on the LC display and the date is displayed with the day of the week in English.
- WWVB: On successful reception of the WWVB transmitter, the Pacific time zone gets shown, the reception indicator [US] is activated on the LC display and the date is displayed with the day of the week in English.

If the watch fails to pick up a time signal within two hours, the signal reception process is aborted in order to save power and resumes later at 8-hour intervals. Dashes are shown on the LC display. In order to nevertheless populate the time display, the watch can be manually set to the current time (see section 7.1).

For the WWVB (USA) and JJY60 (Japan) time signal transmitters the following specific feature applies:

During reception of the signal the LC display switches off. After the time signal has been received, the indicator automatically becomes visible again on the LC display.

7.1 Manual start

If the restart does not lead to any time synchronisation, the time and date can be manually set using Manual Start mode. To switch to Manual Start mode, briefly press the SET+ button. Manual Start can also be accessed from Radio mode. To do this, press the SET+ button for longer than 9 seconds.

First the year is displayed [??]. Every time you press the SET+ button the display advances by one year. Once you have entered the current year, confirm this with a brief press of the MODE button.

The LC display now switches to showing the month setting [?]. You adjust the month likewise via the SET+ and/or SET- button. You confirm your entry by briefly pressing the MODE button.

Perform the following settings using the procedure described above:

- Set the date - the LC display switches to [?]
- Set the hour - the LC display switches to [00:]
- Set the minute - the LC display switches to [:00]

After you have set the minutes and then confirmed this by pressing the MODE button, the programmed time gets shown on the LC display of your Junghans Mega Futura.

If necessary, the programmed time can be corrected by pressing the SET+ button again.

Note: If you do not confirm your entry, the display switches back after 60 seconds to the previous setting. Pressing the SET+ button takes you back to Manual Start mode.

The watch is now in quartz mode and will not perform any automatic attempts at time signal reception.

A manual transmitter call (see section 5) can be performed at any time. A successful transmitter call will overwrite the time set by a manual start and the Junghans Mega Futura then performs automatic time synchronisation again.

8. Illumination

Your Junghans Mega Futura has a function to illuminate the display. In order to prevent any loss of power through this being activated accidentally, the MODE button needs to be pressed twice to turn on the light. After the first press, the display switches to showing the date. When you press the MODE button a second time, the light comes on and the display switches for 3 seconds to showing the time. The display then switches automatically to showing the date (with date, day and calendar week) for 2 seconds.

If when pressing the MODE button for the second time you keep it held down, the display first switches to showing the time for 3 seconds and then automatically switches to showing the date for 2 seconds, this time with date, month and year.

9. Ready for use

To ensure that your watch is always ready for use, you should avoid allowing its power reserves to run down. You should check your watch regularly to make sure that it has enough battery power. If it no longer has enough (e.g. the battery has run out or ambient temperature is too low, which impairs battery performance), a battery symbol appears on the LC display. If the battery does not recover (e.g. through the ambient temperature getting better), you should take your watch to a specialist dealer within a couple of weeks to have the battery changed. Alternatively, send your watch to the Junghans Service Centre.

Battery type: CR 1620

Typical life: c. 2 years

Please ensure that the battery is disposed of properly in accordance with statutory regulations.



10. General information

External influences can damage the seals, winder and watch glass and such damage may allow moisture to get in.

We therefore recommend that you have your watch regularly inspected by your Junghans specialist.

Other servicing tasks should also be done by your Junghans specialist. Your watch is fitted with a quality wrist strap that has undergone multiple inspections in our factory. If, however, you decide to change the strap, please fit a new one of the same quality, preferably an original Junghans wrist strap.

Watch and wrist strap can be cleaned with a dry or slightly moistened cloth. Caution: do not use chemical cleaners (e.g. benzine or paint thinners). These may harm the surface.

11. Technical information

Synchronisation time when there is perfect reception approx. 3-10 minutes

Time zone adjustment range (UTC) +12 hours, - 12 hours

Changing from CET to CEST and vice-versa automatic

Synchronisation with the time signal transmitter DCF77 2am and 3am (UTC)

Synchronisation with the time signal transmitters JY40, JY60, WWVB approx. 2am

Operating temperature 0° to + 50° C

Free of charge and FTZ approve. We reserve the right to make technical changes.

Declaration of Conformity

Uhrenfabrik Junghans GmbH & Co. KG herewith declares that this product conforms to the principle requirements and other relevant stipulations of Directive 1999/5/EC.

A corresponding declaration of conformity can be requested from info@junghans.de.

12. Impermeability

Marking	Instructions for use				
	 Washing, rain, splashes	 Shower	 Bath	 Swimming	 Diving without equipment
No mark	No	No	No	No	No
3 ATM	Yes	No	No	No	No
5 ATM	Yes	No	Yes	No	No
10 ATM	Yes	Yes	Yes	Yes	No

Only watches in new condition are to be regarded as "3-10 ATM". External influences can, however, affect how watertight they are. Please have your watch checked on a regular basis.