



JUNGHANS

GERMANY. SINCE 1861

JUNGHANS
MULTIFREQUENZ
ALARM CHRONOGRAPH
W 615.97

”BY THE WORK ONE KNOWS THE WORKMAN.”

Jean de la Fontaine

We are delighted that you have chosen the Junghans Multi-frequency Alarm Chronograph.

Please read the following information on how radio-controlled watches work in general and on how to use your Junghans Multi-frequency Alarm Chronograph so that you are able to benefit from all of the watch's functions.

We hope that you will get a lot of pleasure from this very special watch.

Yours,

Junghans Uhren GmbH

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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 radio-controlled watch.

A watch that in good reception conditions never goes wrong and never has to be set. The Junghans radio-controlled watch is absolutely precise, as it is linked by radio frequency to the time control systems of the most accurate clocks 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 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.

For Japan the Ministry of Post and Telecommunication's Caesium Time Base at the Commercial Research Laboratory (CRL).

All of these clocks are so accurate, that they are expected to deviate by no more than 1 second in a million years.

1.1 Usable time signal transmitters

Your Junghans multi-frequency radio-controlled watch is capable of fully automatic reception of time signals from the following transmitters:

- DCF77 in Mainflingen (Frankfurt am Main) for **Europe**
- WWVB in Fort Collins, Colorado (USA) for **North America**
- JY40 on Mount Otakadoya (near Tokyo in the North East of the country) for **Japan**
- JY60 on Mount Hagane (in south western Japan) for **Japan**, the **east coast of China** (Shanghai), für **South Korea** and parts of **Taiwan**.



With good reception, the Junghans multi-frequency radio-controlled watch thus always shows the perfectly correct time within any of these four transmission areas. The watch automatically synchronises itself overnight with the DCF77, WWVB, JY40 and JY60 time signal transmitters.

If reception fails due to interference (e. g. stormy weather, electrical appliances or dimmer switches), the Junghans multi-frequency radio-controlled watch will launch renewed attempts to pick up the signal fully automatically the following night.

It is also possible to use a 'transmitter call' to synchronise the time manually, for example at a location where reception conditions are better.

The latest time information received is stored in a time memory. This original time continues to be kept using a high-precision 32 kHz quartz movement until the time is synchronised again. The radio-controlled time synchronisation of your Junghans multi-frequency watch not only ensures an always precise display of the time, but – given good reception – also takes care of switching from winter to summer time, and vice versa, fully automatically (at night).

Please note that this does not apply to the USA's WWVB time signal transmitter (see section 3).

If you travel to a country in a different time zone, the time adjustment facility on your Junghans multi-frequency radio-controlled watch makes it easy to switch to the appropriate local time.

2. Readiness for use

So that your watch is always ready for use, you should make sure that it does not run low on power. The watch regularly checks to see if it has sufficient 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), the second hand stops at the 12 o'clock position. A battery symbol and the current second also appear on the LCD display. If the battery does not recover (e.g. through an increase in the ambient temperature), you should take the watch as soon as possible to your authorised specialist to have the battery changed, or send it to have this done to the Junghans Service Centre.



Battery type: CR 1632
Typical life: Approx. 2 years

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

3. Automatic time synchronisation

Daily, fully automatic time synchronisation takes place overnight. While the signal is being received the second hand temporarily stops in the 9 o'clock position. During this time, the LCD display is turned off (nothing is shown).

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

After a successful transmitter call or battery change (restart), your Junghans multi-frequency radio-controlled watch always reads in 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 5.7) 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 the time has successfully been automatically synchronised, the original mode is again shown in the display. The date is always advanced automatically by the time signal. This process also takes the 29th of February into account in leap years.

If all of the attempts at picking up a signal lead to no clear synchronisation, the reception indicator goes up by 1 (see also the description of 'Reception indicator' mode in section 5.5). Any further days without synchronisation are added to this. During any such days without synchronisation, your watch continues

to run with the accuracy of a quartz timepiece, using the internal time memory. As soon as the signal is picked up again successfully, your watch is synchronised and the reception indicator is reset to '0'.



Recommendation: To ensure the best possible conditions for night-time reception of the synchronisation signal, you should ideally not wear your watch at night and you should, if possible, not put it down near to electrical appliances, mobile or cordless phones.

4. Functions

The Junghans Multi-frequency Alarm Chronograph features a variety of functions. These are indicated in the two areas of the LCD display and are operated via the four buttons on the left and right of the watch case.

RESET ON-OFF

Functions

Press for 3 seconds to lock/unlock 2nd time
 Press for 3 seconds to switch to Set mode
 Press for 3 seconds to lock/unlock 1st time
 Reset chronograph when stopped
 Alarm on/off
 Timer on/off

MODE

Functions

Display mode (2nd time)
 Reception indicator / Set mode
 Analogue time (1st time)
 Chronograph
 Alarm
 Timer
 Digital second display (only in Low Batt mode)

Winder lock:

On the winder of your radio-controlled watch there is a black line that acts as a marker. If this line is aligned as an extension of the 3 o'clock position, all of the watch button functions are enabled. If the mark is not visible as an extension of the 3 o'clock position, the button functions are disabled.

SET+

START STOP

Functions

2nd time (display) + 30 minutes
 Press 3 seconds for transmitter call /
 Set+ adjustment
 1st time analogue time + 1 hour
 Start / stop chronograph
 Alarm time + 1 minute
 Timer time + 1 second

SET-

SPLIT

Functions

2nd time (display) - 30 minutes
 Year output / Set adjustment
 1st time analogue time - 1 hour
 Chrono split
 Alarm time - 1 minute
 Timer - 1 second



4.1 Base mode

In base mode the LCD display shows the date and day of the week in the top section and the digital time in the bottom section. The latter is the 2nd time. Depending on the setting in use, this thus either reproduces the analogue time or displays another, user-defined time.

In this mode the watch can be adjusted via the following buttons:

- RESET
- SET+
- SET-

In order to avoid changing any settings accidentally, you can use the winder lock. You will find a description of this function on the inside cover of your watch instructions.

4.2 Other functions

The following functions can be accessed sequentially via the 'MODE' button:

- 1 – 2nd time
- 2 – Reception indicator
- 3 – 1st time
- 4 – Chronograph stopwatch function with split times
- 5 – Alarm
- 6 – Count-down / count-up timer

The date and day of the week remain showing in the upper part of the LCD display. The display can be shown in German, English or French. How to set the relevant language is described in section 5.8.

The LCD display continues to show the selected mode until another mode is selected via the 'MODE' button.

5. Description of watch functions and how to use them

5.1 – Chronograph stopwatch function with split times



Press the 'MODE' button repeatedly until you reach 'CHRONO' mode. On the display you will see hour, minute, second and tenths of a second.



The chronograph is started and stopped again using the 'SET+' button. When the chronograph is running, 'ON' is displayed in front of the 'CHRONO' item on the menu.



Pressing the 'RESET' button resets the counted time to '0:00:00.0'. The reset function can only be used once the chronograph has already been stopped. When the chronograph is running, the current split time can be displayed by pressing the 'SET-/SPLIT' button for about 5 seconds. The chronograph continues running in the background.

5.2 Alarm



Press the 'MODE' button repeatedly until you reach 'ALARM' mode.

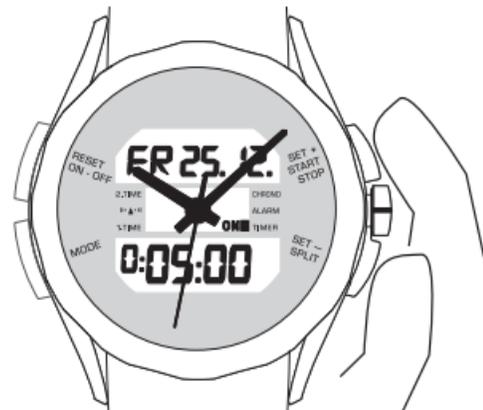


You set the alarm time by using the 'SET+' and 'SET-' buttons. You can adjust the time by the minute by pressing either button briefly or adjust it in fast forward or fast rewind mode by holding the relevant button down for longer.



You use the 'ON/OFF' button to turn the alarm on or off. If the alarm is active, the indicator 'ON' is shown in front of the 'ALARM' menu item on the LCD display. When the alarm time is reached an acoustic signal sounds.

Once the alarm has gone off, it is no longer active. If you want to use the alarm again, please set it and activate it as described above.



You set the timer using the 'SET+' and 'SET-' buttons. If you press briefly the display moves a second at a time. If you press for longer, the setting changes rapidly.

5.3 Count-down timer



Press the 'MODE' button repeatedly until you reach 'TIMER' mode.



You use the 'ON/OFF' button to turn the timer on or off. If the timer is active, the indicator 'ON' is shown in front of the 'TIMER' menu item on the LCD display. When the timer gets to 0:00:00, an acoustic signal sounds.

5.4 2nd time

The 2nd time function gives you the option, independent of the analogue time, to have another time shown on the LCD display (e.g. if you are on holiday in another time zone and want to see the time at home).



Press the 'MODE' button repeatedly until you reach '2nd TIME' mode.

Second time is set in 30-minute steps using the 'SET+' and 'SET-' buttons.



You can protect this function from accidental adjustment by pressing the 'RESET' button for more than 3 seconds. A 'lock symbol' on the LCD display then indicates that the function is 'protected'.

To enable yourself to make a new setting, press the 'RESET' button for over 3 seconds.

5.5 Reception indicator

You can tell from the reception indicator whether your watch has synchronised with the signal from the synchronisation transmitter.

Press the 'MODE' button repeatedly until you reach the reception indicator, a '■■▲■■'. The abbreviation for the language that is currently set appears next to the date in the top section of the LCD display, while the bottom part shows the transmitter from which the signal was received and another number, the reception indicator.

If the reception indicator is showing '0', the watch has picked up the signal properly during overnight synchronisation. The numbers '1-9' show for how many days the watch has been unable to synchronise automatically due to poor reception conditions. The next time that synchronisation is successful the indicator will revert back to '0'.



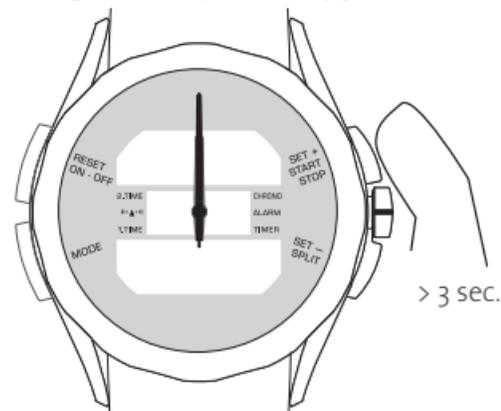
5.6 Manual time synchronisation (transmitter calls)

Your Junghans Multi-frequency Alarm Chronograph can also be synchronised manually, by performing what is called a 'transmitter call'.

To do so, press the 'SET+' button for more than 3 seconds while in reception indicator mode.

The hands start to move and come to a stop at the 12 o'clock position. As soon as the reception stage begins (i.e. when the hands are in the 12 o'clock position) the indicator on the display goes out.

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



When the watch has successfully picked up the time signal (after 2-3 minutes), the hands automatically move to the correct time and the LCD display switches back to what it was showing before. You are also able to abort the

manual synchronisation process, as soon as the hands are in the 12 o'clock position. To do this, you press the 'SET+' button. The hands then reset themselves to the original time.

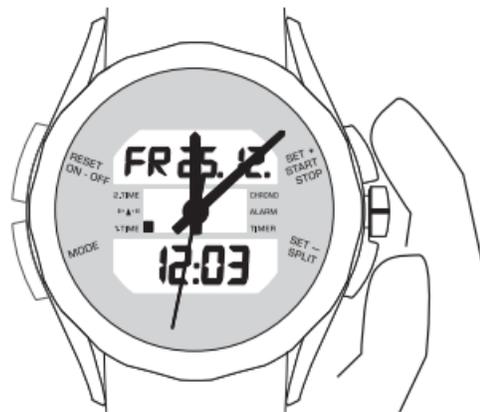
Whenever manual synchronisation has been performed successfully, the reception indicator reverts to '0'. If the transmitter call was not successful, the reception indicator does not change and the hands reset themselves to the time that was displayed before the transmitter call.

5.7 Setting the time zone

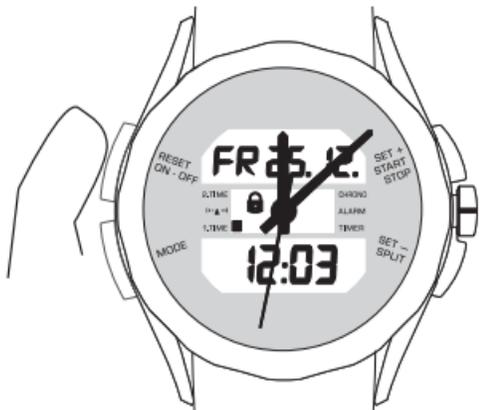
If you travel to a country with a different time zone, you can set the current local time as the second time shown in the lower section of the LCD display (see section 5.4), and/or adjust the analogue time display to what the time is locally.



To do so, press the 'MODE' button repeatedly until you reach '1st TIME' mode. The analogue time being shown is now also shown digitally in the bottom part of the LCD display.



You adjust the time zone setting, and thus also the position of the hands to the time in that zone, an hour at a time by pressing the 'SET+' (plus 10 hours) and 'SET-' (minus 13 hours) buttons. If necessary, the date is also changed automatically during such adjustment.



You can protect this function from being altered accidentally by pressing the 'RESET' button for more than 3 seconds. A 'lock symbol' on the LCD display then indicates that the function is 'protected'.

To enable yourself to make a new setting, simply press the 'RESET' button for over 3 seconds.

5.8 Setting the language (day of the week display)

Your Junghans Multi-frequency Alarm Chronograph is shipped with the language for the day of the week display set to German. Switching the setting to English or French is done in reception indicator mode (i.e. with the '■▲■■' displayed).



To change the day of the week display to another language, press the 'MODE' button until you reach 'Reception indicator' mode.

Press the 'RESET' button for longer than 3 seconds. The 'DE' symbol starts to flash. Using the 'SET+' or 'SET-' button, you can now set the language you want.

DE = German

En = English

FR = French

If you press the 'MODE' button and move on further, you can then use the 'SET+' or 'SET-' button to set the date format to either day/month or month/day.

If you move on still further by pressing the 'MODE' button, you can again use

the 'SET+' or 'SET-' button to change from a 24-hour to a 12-hour display. The latter is indicated on the LCD display by 'AM' or 'PM'.

6. Restart / getting started

Following a change of battery, your watch will automatically begin a restart routine. After you insert the battery, the hands will move to the 12 o'clock position and your watch will start trying to pick up the time signal. During this process the LCD display is switched off. After a few minutes, if the reception process has been successful, the watch automatically sets itself to the correct time.

- On successful reception of the DCF77 transmitter, German local time is shown, the reception display for the DCF77 is activated on the LCD and the date is displayed with the day of the week in German.
- On successful reception of the WWVB transmitter, the Pacific time zone is shown, the reception display for the WWVB is activated on the LCD and the date is displayed with the day of the week in English.
- On successful reception of the JJY40 or JJY60 transmitter, Japanese local time is shown, the reception display for the JJY40 or JJY60 is activated on the LCD and the date is displayed with the day of the week in English.

If the watch fails to pick up a signal within 30 minutes, the reception process is aborted in order to save power. However, your Junghans Multi-frequency Alarm Chronograph will automatically start the signal reception process again at a later time. You can also manually attempt to pick up a signal at any time using a transmitter call.

If you are too far away from a transmitter for any attempt at reception to succeed, you will need to set your watch to the current time manually (this is called a manual start). It will then run like a normal quartz watch.

6.1 Manual start

After an unsuccessful restart (at least 30 minutes with no reception from any transmitter), you can initiate the manual start routine. This can also be done during the restart process.



After the hands have reached the 12 o'clock position in the restart routine, please press the 'MODE' and 'SET-' buttons at the same time.

If the watch is in 'manual start' mode an 'H' for starting by 'hand' is shown on the LCD display.

The potential parameters to be set now flash. These can be set using the 'SET+' and 'SET-' buttons. Please confirm each setting by pressing the 'MODE' button.

- Year
- Month
- Day
- 12-hour display
- 24-hour display
- Time – Hour, minute, second

When setting the second it is important to confirm this at the 'top' of the minute so that the correct time is shown.

Once you have confirmed the time, the hands move automatically to the correct position.

7. General information

- Servicing, such as repairs to the glass, seal or wrist strap should only be carried out by an authorised specialist.
- Please have the seals and the glass inspected regularly by an expert, approx. every 2 years.
- If condensation gets into your watch, have it inspected by the Customer Service Unit without delay. Water inside the watch can damage it.
- Your watch is fitted with a quality wrist strap that has undergone multiple inspections in our factory. If, however, you decide to change the wrist strap, please fit a new one of the same quality, preferably an original Junghans wrist strap.
- Clean your watch and wrist strap with a dry or slightly moist cloth. Caution: do not use chemical cleaners (e.g. benzene or paint thinners). These may harm the surface.

Water resistance

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

The level of 'water resistance' applies only to brand new watches. External influences can however affect this. Please have your watch checked regularly.

Declaration of Conformity

Junghans Uhren GmbH herewith declares that this radio-controlled 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.

8. Technical information

Time taken to self-set with good reception (DCF) Approx. 3 minutes

Time zone adjustment range +10 hours
-13 hours

Switching from CET to CEST and vice versa Automatic

Synchronisation with the time signal transmitters 02:00 and
03:00 hours

Operating temperature 0°C to 50°C

No licence fee. Approved by the German Post Office.

Subject to technical modifications

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