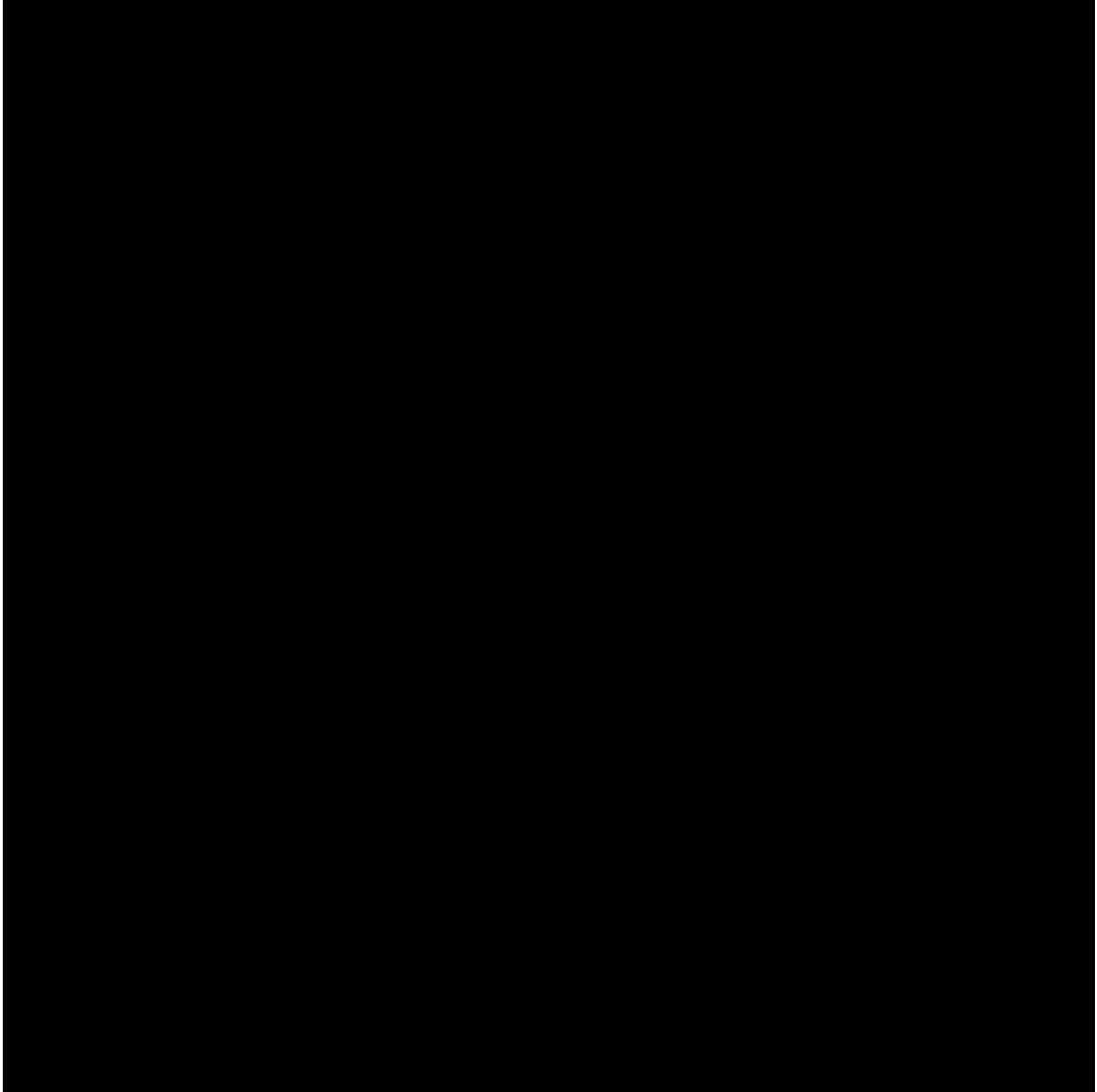




WATCH COLLECTION

NG770C / NG770D /
NG771D

INSTRUCTION
MANUAL



Dear Customer,

By purchasing this radio-controlled wristwatch, you have become the owner of a timepiece equipped with the very latest technology. It is operated simply with a corrector and a push button. The additional "manual start" function allows you to change the battery even when you are outside the transmitter range. Please keep these instructions in a safe place for ready reference.



GENERAL INFORMATION

In addition to the hour and minute hands, your watch displays the seconds digitally on the left-hand side of the LCD. Steady display of the radio tower symbol indicates that your watch is showing the exact radio-controlled time. The number to the right of the radio towers is the reception indicator. It shows how many days have elapsed since your watch last had contact with the DCF transmitter. Therefore, a "0" means that there are ideal reception conditions.

CHANGING THE LCD

If you press the push button (recessed right-hand button) with a pointed object briefly, the display changes from seconds to date (day/month). When you press the push button with a pointed object a second time, the display returns to the seconds with radio tower symbol and reception indicator.

TIME ZONE SELECTION

Press the corrector (left-hand recessed button) briefly with a pointed object. The number on the LCD now shows the hour. Each subsequent brief press on the corrector increases the hour by one, i.e., one time zone farther east. At the same time, the hands also move forward by one hour. From the 11th time you press the corrector, you start returning toward the current Central European Time from the westerly direction (apparently backward) in hourly steps. For example, in the case of Great Britain, which is one hour behind the DCF time, you must press the corrector 23 times. If you press it slowly, the hands will adjust themselves in unison. But if you press the corrector in very rapid succession, the hands may only move 11 hours instead of 23. This does not mean that your watch is malfunctioning. Nine seconds after you last press the corrector, the LCD returns to the normal display of seconds and date (adjusted to the new time zone). Instead of waiting for nine seconds, you can also finish the time zone selection immediately by briefly pressing the push button (on the right). To return to the DCF time (after changing a time zone), press the corrector (on the left) for longer than three seconds. Your watch then automatically sets itself to the DCF time. Due to the internal time memory, this is also possible at any time when traveling abroad, even outside the transmitter range.

Note: The manual transmitter call (refer to next section) and automatic reception (radio tower symbol and reception indicator both flash) are not possible if you have set a time zone beyond the DCF time plus or minus one hour. This limitation saves the battery.

TRANSMITTER CALL

Press the push button (on the right) for longer than three seconds. The seconds display jumps to "00." The hands move at high speed to the 12:00 position and remain there. If they do not reach this precise position, first follow the instructions under "Positioning the hands." If the hands do immediately reach the exact 12:00 position, keep your watch still (preferably lay it on a non-metal surface) to ensure reliable reception. The radio tower symbol and reception indicator both flash and the seconds display begins to count. After a few minutes, your watch automatically sets all the current time information and the transmitter call is then complete. You can interrupt the transmitter call prematurely by briefly pressing the push button (on the right). The time stored in the watch's memory is then displayed.

Positioning the hands

The hands have not reached the exact 12:00 position. Now press the corrector (left-hand side). The LCD shows "Po 0" (zero position of the hands). This message means that you must continue pressing the corrector (left-hand side) until the hands are exactly in the 12:00 position. When doing so, a brief press moves the hands in small individual steps, and continuous pressure makes the hands move at high speed. Once the correct position is reached, you must finish the positioning process by briefly pressing the push button (right-hand side). Everything else takes place automatically, as if the hands had moved immediately to the exact 12:00 position as described in the "Transmitter Call" section.

Error Information

If, by mistake, you press both the corrector and push button simultaneously for longer than three seconds, the microprocessor sets a hardware reset. All previous time information is then lost. In this case, follow the instructions

NEW START AFTER BATTERY CHANGE

The LCD shows "Po 0." You must first move the hands to the exact 12:00 position with the corrector (left-hand side) and finish with the push button (right-hand side), as described in the section "Positioning the Hands." Then, if the reception conditions are good, everything else takes place automatically, as described in the section "Transmitter Call." After your watch has received the transmitter signal for a few minutes, it displays the correct time and date. If conditions are bad, or your location is outside of the transmitter range, your watch will not be able to receive the transmitter signal completely and no time information will be displayed. In this case, the software enables you to carry out a manual start (next section).

MODE "Po 0" – MANUAL START

After positioning the hands as described in the previous section, press the corrector (left-hand side) briefly. The minutes are displayed on the LCD. If you continue to press the corrector (left-hand side), the LCD minutes and hands will be adjusted (brief press = step-by-step adjustment; continuous pressing = high-speed adjustment). In this way, you can synchronize your watch with another clock or watch, pressing the corrector for the last time on the minute. Finish the manual start by briefly pressing the push button (right-hand side). A steady "1" is displayed next to the LCD seconds to indicate the manual start. The radio tower symbol is not visible. In manual start mode your watch attempts to receive the transmitter signal every hour. A transmitter call is also possible, but should only be carried out when you are within the transmitter range. After successful reception, your watch automatically displays the radio-controlled time (radio tower symbol is visible).

AUTOMATIC FUNCTIONS OF YOUR WATCH

Synchronization accurate to the second

During the night, your watch's receiver is switched on at 2:00, 3:00, and if required at 4:00, 5:00, and 6:00 a.m. and the internal time memory is synchronized by radio signal accurately to the second. At these switch-on times the radio tower symbol flashes. If all automatic attempts to receive the radio signal fail to produce exact synchronization, the number in the reception indicator moves up by one. Days in which there is no reception are added together. On such days, your watch still operates very accurately on the quartz time base due to the internal time memory. The next time that a successful reception makes synchronization possible, the reception indicator is reset to zero.

Changeover from summer time to winter time and vice versa

If reception conditions are good, your watch changes from standard time to daylight savings time, or vice versa at 2 a.m. or 3 a.m. If the interface prevents reception, the changeover may be delayed until later in the morning.

Battery change indicator

If the second display or date display flashes, this indicates that the battery voltage has dropped below 2.4 V. All watch functions still operate normally; however, the battery should be changed within the next few weeks.

GENERAL INFORMATION

- Servicing, such as repairs to the crystal, seal, or wrist strap, should only be carried out by a specialist watch retailer.
- Seals and crystal should be inspected by an expert at regular intervals, approximately every two years.
- If condensation gets into the watch, have it inspected by Customer Service without delay. Penetration of moisture may damage the watch.
- Your watch is fitted with a quality wrist strap that has undergone multiple inspections at the factory. If, however, you decide to change the wrist strap, fit a new one of the same quality, preferably an original Eurochron wrist strap.
- Clean your watch and wrist strap with a dry or slightly moist, soft cloth. Caution: Do not use chemical cleaners (e.g., benzine or paint thinners) as these may harm the surface.

TECHNICAL DATA

Reception frequency modulated,	77.5kHz, amplitude DCF coding
Transmitter range (receiver sensitivity)	1,500 km radius of Frankfurt am Main
Quartz time base	32 kHz
Battery type	Li CR 1620 (3 V / 75 mAh)
Operating voltage range	2.4 V to 3.4 V
Battery life (normal use)	4 years
Time zone adjustment range	Worldwide
Operating temperature range	-5° C to + 55° C
Storage temperature range	-20° C to + 70° C
Water-resistance	10 ATM, 100 m

USING SLIDE RULE

This rule is good for...

Multiplication

Division

Proportion

Square root

Time required

Fuel consumption

Estimated flight time

Other flying problems

Note: Use the control turning bezel located above the crown to move the outer scale. This scale cannot place a decimal point; therefore, the calculation of this watch should be used as a guide only.

(1) Time Required

Example: Obtain the time required for the flight of an aircraft at 180 knots for 450 nautical miles.

Operation: Align "18" on the outer scale with the SPEED INDEX on the inner scale. Then, "45" on the outer scale corresponds to "150.1" on the inner scale (time scale). Thus, the time required for the flight is 2 hours and 30 minutes.

(2) Knots (Air Speed)

Example: Obtain the knots (air speed for 240 nautical miles with a flight time of 1 hour and 20 minutes).

Operation: Align "24" on the outer scale with "80" on the inner scale (time scale). Then, the SPEED INDEX on the inner scale corresponds to "18" on the outer scale. Thus, the air speed for the flight is 180 knots.

(3) Flight Distance

Example: Obtain the air distance when the air speed is 180 knots and the flight time is 40 minutes.

Operation: Align "18" on the outer scale with the SPEED INDEX on the inner scale. Then "40" on the inner scale corresponds to "12" on the outer scale. Thus, the air distance of the flight is 120 nautical miles.

(4) Rate of Fuel Consumption

Example: Obtain the rate of fuel consumption (gallons/hour) when the flight time is 30 minutes and the fuel consumption is 130 gallons.

Operation: Align "13" on the outer scale with "30" on the inner scale. Then the SPEED INDEX on the inner scale corresponds to "26" on the outer scale. Thus, the fuel consumption is 260 gallons an hour.

(5) Fuel Consumption

Example: Obtain the fuel consumption required for a flight when the fuel consumption is 236 gallons an hour and the flight time is 9 hours.

Operation: Align "23.6" on the outer scale with the SPEED INDEX on the inner scale. Then, "9:00" on the inner scale (time scale) corresponds to "35" on the outer scale. Thus, the fuel consumption is 3,500 gallons.

(6) Estimated Flight Time

Example: Obtain the estimated flight time when the fuel consumption is 260 gallons an hour and the aircraft has 650 gallons of fuel.

Operation: Align "26" on the outer scale with the SPEED INDEX on the inner scale. Then, "65" on the outer scale corresponds to "150" on the inner scale (time scale). Thus, the estimated flight time is 2 hours and 30 minutes.

(7) Difference in Altitude

The difference in altitude can be obtained from the rate of descent and the descent time.

Example: Obtain the difference in altitude when an aircraft continues descending for 20 minutes at a rate of 430 feet a minute.

Operation: Align "43" on the outer scale with "10" on the inner scale. Then, "20" on the inner scale corresponds to "86" on the outer scale. Thus, the difference in altitude is 8,600 feet.

(8) Rate of Climb (or Descent)

The rate of climb (or descent) can be obtained from the time required to reach an altitude.

Example: Obtain the rate of climb when an aircraft reaches an altitude of 7,500 feet after climbing for 25 minutes.

Operation: Align "75" on the outer scale with "25" on the inner scale. Then, "10" on the inner scale corresponds to "30" on the outer scale. Thus, the rate of climb is 300 feet a minute.

(9) Time of Climb (or Descent)

The time required for climb can be obtained from the altitude to be reached and the rate of climb (or descent).

Example: Obtain the time of climb when an aircraft is to climb to 6,300 feet at a rate of 390 feet a minute.

Operation: Align "39" on the outer scale with "10" on the inner scale. Then, "63" on the outer scale corresponds to "16" on the inner scale. Thus, the time of climb is 16 minutes.

(10) Conversion

Example: Convert 45 statute miles into nautical miles and kilometers.

Operation: Align "45" on the inner scale with STAT on the outer scale. Then, NAUT on the outer scale corresponds to "39" nautical miles on the inner scale and "KM" on the outer scale corresponds to "72" on the inner scale.

(11) Multiplication

Example: 39×20

Operation: Align "39" on the outer scale with "10" on the inner scale. Then, "20" on the inner scale corresponds to "78" on the outer scale. Take into account the position of the decimal point and add one zero to obtain 780. Note that with the watch scales, the position of the decimal point cannot be obtained.

(12) Division

Example: $900/47$

Operation: Align "90" on the outer scale with "47" on the inner scale. Then, "10" on the inner scale corresponds to "19.1" on the outer scale. Take into account the position of the decimal point to obtain 19.1.

(13) Proportion

Example: $30/10 = 60/x$

Operation: Align "30" on the outer scale with "10" on the inner scale. Then, "60" on the outer scale corresponds to "20" on the inner scale. At this point the proportion for every value and the inner and outer scales is 30:10.

(14) Square Root

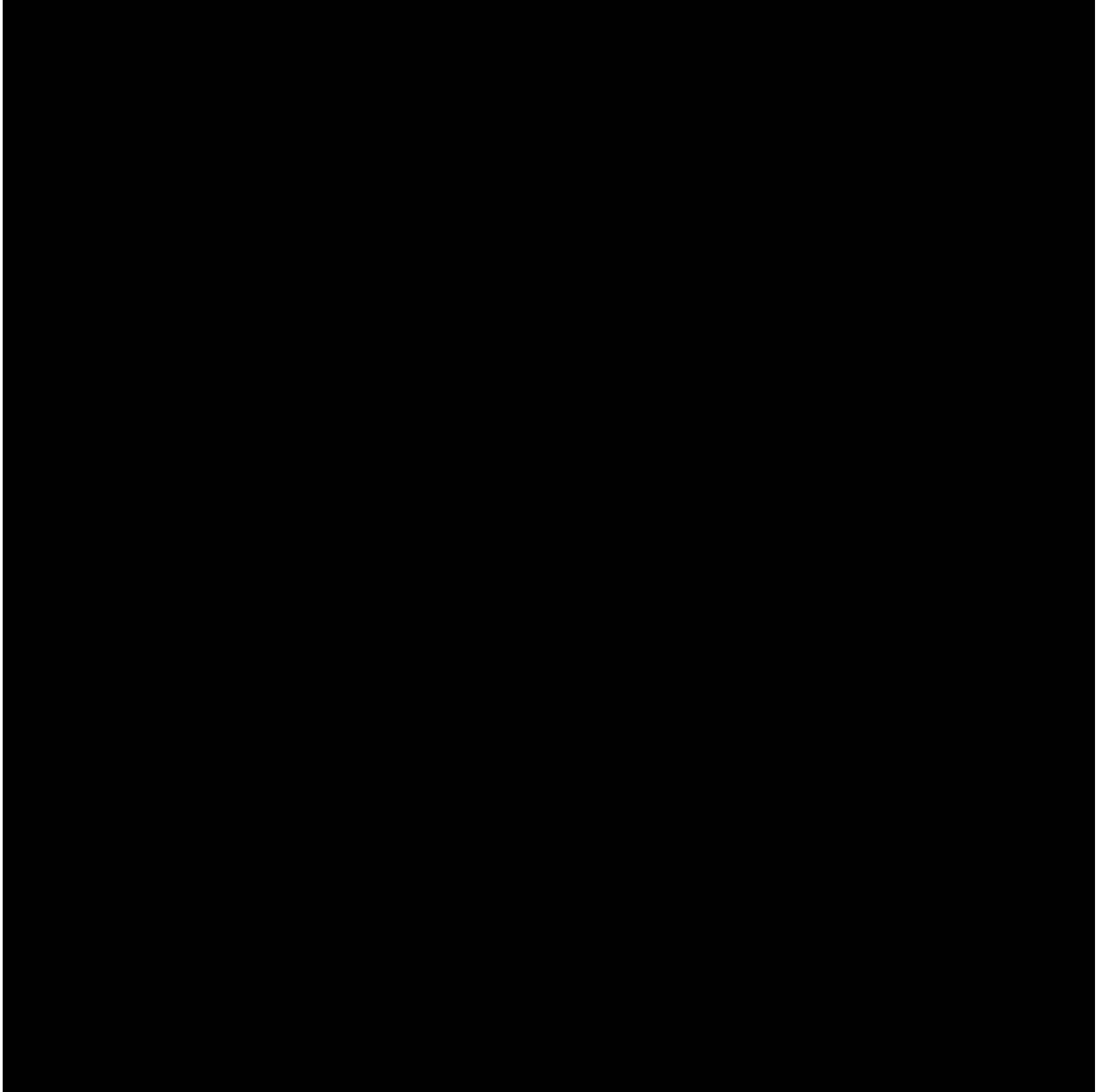
Example: Square root of 900

Operation: Turn the outer scale slowly and find a value that corresponds to both 90 on the inner scale and 10 on the outer scale. In this example, "90" on the inner scale corresponds to "30" on the outer scale and "10" on the outer scale corresponds to "30" on the inner scale, thus the answer is 30.

(15) Currency Operation

Example: Convert 35 Swiss Franc (CHF) into Euro. The exchange rate is 1.4 CHF to 1 Euro, therefore 14 CHF converts to 10 Euro.

Operation: Align "14" on the outer scale with "10" on the inner scale. Then, "35" on the outer scale corresponds to "25" on the inner scale. Thirty-five CHF is the equivalent to 25 Euro. All values on the inner scale correspond with the outer scale; CHF to EUR (or other currency).





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