

868 MHz RADIO CONTROLLED PROJECTION ALARM CLOCK

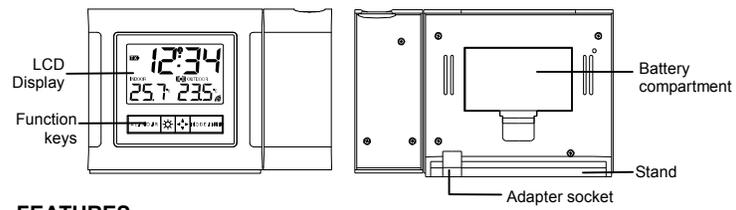
Instructions manual



INTRODUCTION:

Congratulations on purchasing this innovative 868MHz projection alarm clock which displays indoor and outdoor temperature. To enjoy the full benefits of this innovative product, please read this operating manual.

PROJECTION ALARM CLOCK

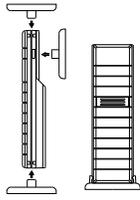


FEATURES

- DCF-77 Radio controlled time with manual setting option
- 12/24 hours time display (hour, minutes, seconds)
- Projection of time (hour and minute) and outdoor temperature
- Projection with adjustable brightness and projection orientation possible
- Calendar display

- Alarm setting with snooze function
- Time zone setting ± 12 hours
- Temperature display in $^{\circ}\text{C}/^{\circ}\text{F}$
- Indoor and outdoor temperature display
- E.L. back-light
- Wireless transmission at 868 MHz
- Signal reception intervals at 4 seconds
- Low battery indicator

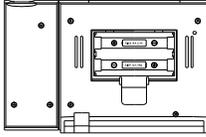
TEMPERATURE TRANSMITTER:



- Remote transmission of outdoor temperature to the Projection clock by 868 MHz signal
- Wall mounting case
- Mounting at a sheltered place. Avoid direct rain and sunshine

TO INSTALL AND REPLACE BATTERIES INTO THE PROJECTION CLOCK

The Projection clock uses 2 x AA, IEC LR6, 1.5V batteries. To install and replace the batteries, please follow the steps below:



1. Insert finger or other solid object in the space at the bottom center of the battery compartment and lift up to remove the cover.
2. Insert batteries observing the correct polarity (see marking).
3. Replace compartment cover.

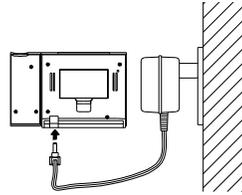
In addition or instead of inserting batteries, the AC adapter can be used:

1. Connect the power adapter to a wall socket
2. Insert the adapter into the jack at the bottom of the clock

3. The Projection clock will now start receiving the DCF time signal. After approximately 3 to 5 minutes, the DCF time will be displayed (Also see "**Setting up**" below).

Important!

Use only the adapter provided with the projection clock and make sure that your household voltage is appropriate to the working voltage of the transformer. Otherwise your Projection clock may be damaged.

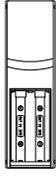


POWER SUPPLIED BY BATTERIES AND AC/DC ADAPTER

If the Projection clock is first powered by batteries and the power adapter is subsequently used for extended period of time, the main power source of the Projection

clock will switch to AC/DC power. The batteries will then act as a backup power source in case of power failure.

TO INSTALL AND REPLACE BATTERIES IN THE TEMPERATURE TRANSMITTER



The temperature transmitter uses 2 x AA, IEC, LR6, 1.5V batteries.

To install and replace the batteries, please follow the steps below:

1. Remove the cover.
2. Insert the batteries, observing the correct polarity (see marking).
3. Replace the battery cover on the unit.

Note:

In the event of changing batteries in any of the units, all units need to be reset by following the setting up procedures. This is because a random security code is

assigned by the transmitter at start-up and this code must be received and stored by the Projection alarm clock in the first three minutes of power being supplied to it.

SETTING UP

The Projection clock can be batteries operated or powered by the provided 3.4V AC/DC adapter.

1. First, insert 2 x AA, IEC LR6, 1.5V batteries into the projection clock (or use the A/C adapter to power up). Once the batteries are in place, all segments of the LCD will light up briefly. Then the indoor temperature, the time as 0:00, will be displayed. If the indoor temperature is not displayed after a few seconds, remove the batteries and wait for at least 1 minute before reinserting them. Once the indoor data is displayed proceed to step 2.
2. Within 1-1/2 minutes of activating the Projection clock, place 2 x AA, IEC LR6, 1.5V batteries into the transmitter.
3. After a few seconds of inserting the batteries into the transmitter, the projection clock will start receiving data from the transmitter. The remote temperature will

- then be displayed on the clock. If this does not happen after 2 minutes, the batteries will need to be removed from both units and reset from step 1.
4. When the transmitter is set up, there is a testing period. Then DCF-77 time code reception is automatically started just after the clock is activated. This takes typically between 3-5 minutes in good conditions. This time period is an excellent opportunity to locate the transmitter in suitable location outdoors. In order to ensure sufficient 868 MHz transmission however, the distance between the Projection clock and the transmitter should not be more than 100 meters (see notes on "**Positioning**" and "**868 MHz Reception**").
 5. If after 10 minutes the DCF time has not been received, use the MODE/ MIN key to manually enter a time (and date) initially. The clock will automatically attempt to receive the DCF time each day at 2:00 am. When this is successful, the received time will override the manually set time.

Note:

Should the total time of inserting the batteries into the transmitter take longer than 1-1/2 minutes from the time of inserting the batteries into the projection clock then

temperature reception problems may occur. If the temperature is not being received, then see "**868MHz reception**", before resetting the units.

In the event of changing batteries to the transmitter, the projection clock needs to be reset. (See **Resetting the projection clock**)

RESETTING THE PROJECTION CLOCK

To reset the Projection clock to the factory default setting or in case of a malfunction or changing batteries to transmitter, please remove all batteries from the unit and unplug the AC/DC adapter from any power source. Wait at least for 3 minutes before powering up the Projection clock again.

BATTERY CHANGE:

It is recommended to replace the batteries in all units on an annual basis to ensure optimum accuracy of these units.



Please participate in the preservation of the environment. Return used batteries to an authorized depot.



PROJECTION OF TIME / OUTDOOR TEMPERATURE

Note:

The projection is a red light, not harmful under normal usage, yet care should be taken to **avoid looking directly into the light.**

1. When plugged into an AC outlet, the projection alarm can continuously project the time and the outdoor temperature
2. When operating on batteries alone, the projection alarm will only project when the SNOOZE button is pressed or the alarm is sounding.
3. The projection will auto-focus for display from about 1.7 to 2.0 metres away. A dark surrounding will be necessary to clearly see the projection.

The direction of the display can also be rotated 360° in 90° increments by pressing the Projection Direction  button. The projector case can be rotated 180° to further help orient the projected display.

Note:

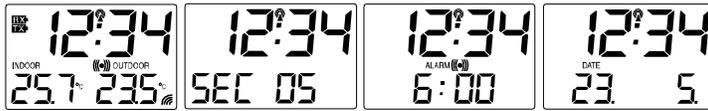
If the Projection clock is powered through the adapter, the projection will be constantly ON at the highest brightness level unless the brightness level is manually changed to a lower brightness level afterwards. And the brightness of the projection can be change accordingly to enhance the clarity of the projected time by pressing the ✨ key.

If the Projection clock is battery operated, the projection will be ON at the highest brightness level only when the SNOOZE key is pressed. The intensity of the brightness level of the projection cannot be changed. If the SNOOZE is released, the projection will be turned OFF.

**TOGGLE BETWEEN THE DISPLAY OF TEMPERATURES, SECONDS,
PRESET ALARM TIME AND CALENDAR**

By pressing shortly the MODE/MIN key, you will toggle between the following displays:

1. Indoor and outdoor temperature
2. Seconds
3. Preset alarm time
4. Day and Month



DCF-77 RADIO CONTROLLED TIME

The time base for the radio controlled time is a Cesium Atomic Clock operated by the Physikalisch Technische Bundesanstalt Braunschweig which has a time deviation of less than one second in one million years. The time is coded and transmitted from Mainflingen near Frankfurt via frequency signal DCF-77 (77.5 kHz) and has a transmitting range of approximately 1,500 km. Your radio-controlled Projection alarm clock receives this signal and converts it to show the precise time in summer or wintertime.

The quality of the reception depends greatly on the geographic location. In normal cases, there should be no reception problems within a 1500km radius of Frankfurt.

Once the outdoor reception test period is completed, the DCF tower icon in the clock display will start flashing in the upper center. This indicates that the clock has detected that there is a radio signal present and is trying to receive it. When the time code is received, the DCF tower becomes permanently lit and the time will be displayed.

DCF reception is done twice daily at 02:00 and 03:00 am. If the reception is not successful at 02:00 am, then the next reception takes place the next hour and so on until 06:00am, or until the reception is successful. If the reception is not successful at 06:00 am, then the next attempt will take place the next day at 02:00 am.

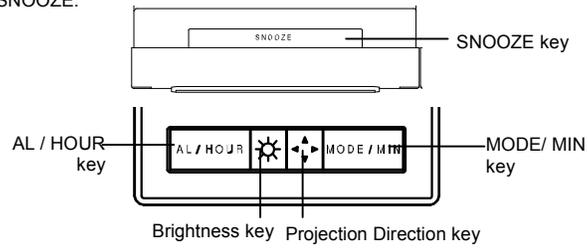
If the tower icon flashes, but does not set the time or the DCF tower does not appear at all, then please take note of the following:

- Recommended distance to any interfering sources like computer monitors or TV sets is a minimum of 1.5 - 2 meters.
- Within ferro-concrete rooms (basements, superstructures), the received signal is naturally weakened. In extreme cases, please place the unit close to a window and/or point its front or back towards the Frankfurt transmitter.

During nighttime, the atmospheric disturbances are usually less severe and reception is possible in most cases. A single daily reception is adequate to keep the accuracy deviation below 1 second.

FUNCTION KEYS

There are 4 function keys located on the front of the projection alarm and one on the top. The function keys are: AL/HOUR, MODE/MIN, Projection Direction, Brightness, and SNOOZE.



SNOOZE key:

- Activate snooze function
- Activate the projection brightness at the highest level
- Exit the setting modes
- E.L.Back-light-On

AL/HR key:

- Enter alarm setting mode
- Activate or deactivate alarm
- Stop alarm and snooze function
- Set the hours and day
- E.L.Back-light-On

MODE/MIN key:

- Enter time zone, manual time, year, day, month, 12/24 hour time display, °C / °F temperature format setting modes
- Set the minutes, year, month, 12/24 hour time format, °C / °F temperature format
- Toggle between temperatures, seconds, alarm time, and date display

- Stop alarm and snooze function
- E.L.Back-light-On

 **Brightness key**

- Set the brightness level of the projection (in A/C power mode):4 levels: High, Medium, Low, OFF
- E.L.Back-light On

 **Projection Direction key**

- Press to rotate the time/ outdoor temperature projection image in 90° increments
- Press to activate the EL back-light

MANUAL SETTINGS:

The following manual settings can be changed when pressing the MODE/MIN key for:

- Time zone setting
- Manual time setting
- Calendar setting

- 12/24-Hour setting
- °C/°F setting

TIME ZONE SETTING

The time zone default of the Projection clock is "0h". To set a different time zone:



1. Press and hold the MODE/MIN key for about 3 seconds. The current time zone value at the bottom of the LCD display starts flashing.
2. Press and release MODE/MIN key to adjust the time zone. The range runs from 0h to 12h, then -12h to 0h, in consecutive 1-hour intervals.
3. Confirm with the SNOOZE key and enter the **Manual time setting**.

MANUAL TIME SETTING

In case the Projection clock cannot detect the DCF-signal (for example due to disturbances, transmitting distance, etc.), the time can be manually set. The clock will then work as a normal Quartz clock.



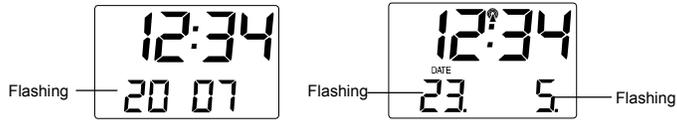
1. The hour and the minute digits will start flashing.
2. Use the AL/HOUR key to set the hour; MODE/MIN key to set the minute.
3. Confirm with the SNOOZE key and enter the **Calendar setting**.

Note:

The unit will still try and receive the signal at 2:00 am despite it being manually set. When it does receive the signal, it will change the manually set time into the received time.

CALENDAR SETTING:

The date default of the Projection clock is 1. 1. in the year 2006. Once the radio-controlled time signals are received, the date is automatically updated. However, if the signals are not received, the date can also be set manually.



1. The year starts flashing.
2. Use the MODE/MIN key to set the year (between year 2001 to 2029).
3. Press the SNOOZE key to confirm and to enter the month and day setting. The month and day digits will start flashing.
4. Use the AL/HOUR key to set the day and MODE/MIN key to set the month.
5. Confirm with the SNOOZE key and enter the **12/24 hour time display setting**.

12/24 HOUR TIME DISPLAY SETTING:



1. "12h" or "24h" flashes in the LCD.
2. Press the MODE/MIN key to select the "12h" or "24h" display mode.
3. Confirm with the SNOOZE key and enter the **°C/°F temperature setting**.

°C/°F TEMPERATURE SETTING:

The default temperature reading is set to °C (degree Celsius). To select °F (degree Fahrenheit):



1. The "°C" will be flashing.
2. Use the MODE/MIN key to toggle between "°C" and "°F".
3. Press the SNOOZE key again to confirm and return to the normal display.

TIME ALARM

SETTING THE ALARM



1. Press and hold "AL/HOUR" button for about three seconds until the alarm time is flashing.
2. Press and release "AL/HOUR" to advance the hour, and "MODE/MIN" to advance the minute.
3. Press the SNOOZE key to confirm. The alarm is now set and activated.

ACTIVATING / DEACTIVATING THE ALARM

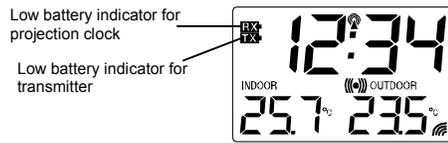
1. After entering the alarm setting mode, the alarm is activated.
2. To toggle between activating and deactivating the alarm, press the "AL/HOUR" button briefly. Alarm-on icon, "(((•)))" will be displayed next to the time display when the alarm is activated.

TURNING ALARM OFF (WHILE SOUNDING)

1. While the alarm is sounding, press and release the SNOOZE bar to disable the alarm for 6 minutes. (After the SNOOZE bar is pressed, the alarm icon will keep flashing. After 6 min, the alarm will sound again.)
2. To disable the alarm, press and release the AL/HOUR or MODE/MIN button.

LOW BATTERY INDICATOR

Low battery indicator is displayed on the LCD when the batteries require changing.



TEMPERATURE TRANSMITTER

The outdoor temperature is measured and transmitted every 4 seconds. The range of the temperature transmitter may be affected by the temperature. At cold temperatures the transmitting distance may be decreased. Please bear this in mind when placing the transmitter.

868MHz RECEPTION

If the outdoor temperature data is not being received within three minutes after setting up (or outdoor display always show "-. -." in the outdoor section of the Projection clock during normal operation), please check the following points:

1. The distance of the projection alarm clock or transmitter should be at least 2 metres away from any interfering sources such as computer monitors or TV sets.
2. Avoid placing the transmitter onto or in the immediate proximity of metal window frames.
3. Using other electrical products such as headphones or speakers operating on the 868MHz-signal frequency may prevent correct signal transmission or reception. Neighbors using electrical devices operating on the 868MHz-signal frequency can also cause interferences.

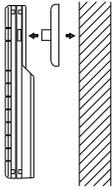
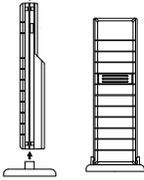
Note:

When the 868MHz signal is received correctly, do not re-open the battery cover of either the transmitter or projection alarm clock, as the batteries may spring free from the contacts and force a false reset. Should this happen accidentally then reset all units (see "**Setting up**" above) otherwise transmission problems may occur.

The transmission range is around 100 metres from the temperature transmitter to the projection alarm clock (in open space). However, this depends on the surrounding environment and interference levels. If no reception is possible despite the observation of these factors, all system units have to be reset (see "**Setting up**" above).

POSITIONING THE OUTDOOR TEMPERATURE TRANSMITTER

The sensor is supplied with a holder that may be attached to a wall with the two screws supplied. The sensor can also be positioned on a flat surface by securing the stand to the bottom to the transmitter.



To wall mount:

1. Secure the bracket onto a desired wall using the screws and plastic anchors.
2. Clip the sensor onto the bracket.

Note:

Before permanently fixing the transmitter wall base, place all units in the desired locations to check that the outdoor temperature and humidity readings are receivable. In event that the signal is not received, relocate the transmitter(s) or move them slightly as this may help the signal reception.

The mounting surface can, however, affect the transmission range. If for example the unit is attached to a piece of metal, it may then either reduce or increase the transmitting range. For this reason, we recommend not placing the unit on any metal surfaces or in any position where a large metal or highly polished surface is in the immediate proximity (garage doors, double-glazing, etc.). Before securing in place, please ensure that the Projection alarm clock can receive the 868 MHz signal from the Outdoor Transmitter at the positions that you wish to situate them.

CARE AND MAINTENANCE:

- Extreme temperatures, vibration and shock should be avoided as these may cause damage to the unit and give inaccurate forecasts and readings.

- Precautions shall be taken when handling the batteries. Injuries, burns, or property damage may be resulted if the batteries are in contact with conducting materials, heat, corrosive materials or explosives. The batteries shall be taken out from the unit before the product is to be stored for a long period of time.
- Immediately remove all low powered batteries to avoid leakage and damage. Replace only with new batteries of the recommended type.
- When cleaning the display and casings, use a soft damp cloth only. Do not use solvents or scouring agents as they may mark the LCD and casings.
- Do not submerge the unit in water.
- Special care shall be taken when handling a damaged LCD display. The liquid crystals can be harmful to user's health.
- Do not make any repair attempts to the unit. Return them to their original point of purchase for repair by a qualified engineer. Opening and tampering with the unit may invalidate their guarantee.
- Never touch the exposed electronic circuit of the device as there is a danger of electric shock should it become exposed.

- Do not expose the units to extreme and sudden temperature changes, this may lead to rapid changes in forecasts and readings and thereby reduce their accuracy.

SPECIFICATIONS:

Temperature measuring range:

Indoor : -9.9°C to +37.7°C with 0.1°C resolution
14.2°F to 99.9°F with 0.2°F resolution
("OF.L" displayed if outside this range)

Outdoor : -39.9°C to 59.9°C with 0.1°C resolution
-39.8°F to +139.8°F with 0.2°F resolution
("OF.L" displayed if outside this range)

Indoor temperature checking intervals : every 15 seconds

Outdoor Temperature reception : every 4 seconds (or every 15 minutes if
data are lost and display "--.")

Transmission range : up to 100 meters (open space)

Power consumption:

Projection alarm clock : 2 x AA, IEC LR6, 1.5V

Outdoor transmitter : 2 x AA, IEC LR6, 1.5V

Battery life cycle : approximately 24 months (Alkaline batteries recommended)

Dimensions (L x W x H):

Projection alarm clock : 134.1 x 48.5 x 90.6 mm

Outdoor transmitter : 38.2 x 21.2 x 128.3 mm (wall bracket excluded)

LIABILITY DISCLAIMER

- The electrical and electronic wastes contain hazardous substances. Disposal of electronic waste in wild country and/or in unauthorized grounds strongly damages the environment
- Please contact your local or/and regional authorities to retrieve the addresses of legal dumping grounds with selective collection
- All electronic instruments must from now on be recycled. User shall take an active part in the reuse, recycling and recovery of the electrical and electronic waste.

- The unrestricted disposal of electronic waste may do harm on public health and the quality of environment.
- This product must however not be thrown in general rubbish collection points.
- As stated on the gift box and labeled on the product, reading the "User manual" is highly recommended for the benefit of the user.
- The manufacturer and supplier cannot accept any responsibility for any incorrect readings and any consequences that occur should an inaccurate reading take place.
- This product is not to be used for medical purposes or for public information.
- The specifications of this product may change without prior notice.
- This product is not a toy. Keep out of the reach of children.
- No part of this manual may be reproduced without written consent of the manufacturer.



R&TTE DIRECTIVE 1999/5/EC

Summary of the Declaration of Conformity : We hereby declare that this wireless transmission device does comply with the essential requirements of R&TTE Directive 1999/5/EC.