

Installation Instructions for the Digital-Clock AMC-20

Turning on the clock

Please try to avoid possible sources of interference that may deteriorate or prevent the radio reception of the clock before you switch the clock on. Sources of interference can be for example television, monitor, computer, metall walls or buildings with reinforced concrete. Then the best reception will probably be on your window sill.

1) Please note that our clocks will be delivered already pre-set and switched on! In case you have switched off the clock for any reason you can switch it ON again at the small black slide switch on the reverse side. Please do not move the clock during the radio reception progress of 20 minutes maximum (standard setting)! Two points on the display show information of the reception quality. The upper point should blink once per second. The lower point is switched on when 4 correct impulses have been received and switched off after missing impulses. This gives you the possibility to check how good the reception in particular areas is. The clock requires 3 minutes of proper reception to indicate time and date. After 20 minutes latest the clock hands should start moving autonomous to the right time. In case of bad reception please do not move the clock for 20 minutes before you try a different location.

How to proceed in case of radio interference

Sources of interference such as television, monitors, computers, metal walls or buildings with reinforced concrete walls may deteriorate or even prevent reception. Check the receiving quality by watching the tow indication points. If the lower point is often invisible please change location. Put the clock on your window sill where you will have the best reception. **Avoid moving the clock during the reception process!**

In case of enduring interference, there are four options to solve the problem:

- 1) Install the clock somewhere else in the room in order to obtain best receiving results.
- 2) Change the clock to quartz-controlled mode. (see: Setting of the Operation Mode)
- 3) Keep the clock in the radio mode but set the current time manually for the present. At 2 and 3 a.m. for 20 minutes each, the clock will attempt synchronisation with radio operation. Sources of interference such as computers and neon lamps are disconnected at night enabling improved reception. Should these attempts however not be successful, the life of the battery will be reduced due to longer receiving hours at night.
- 4) An external antenna is optionally available. Connect this antenna to the clock and install the antenna cable at a place with a better reception quality. If the cable is not long enough, it can be extended up to max. 30 m. We recommend the cable: **I-Y(ST)Y 2x2x0.6**. Therefore please lay the shielding and free lead to the 0-volt phase of the cable and connect it to the antenna. The colour code of the antenna cable is as follows: White = +3V, green = data, brown = 0V

Assignment of keys for manual settings

Our clocks will be delivered switched on and pre-set. In case you would like to do any modifications, you will find 3 labelled switches top right on the backside, which are inscribed with M, S and +. Beneath, you will see a compartment with so-called Dip-Switches, which can be switched up and down. The illustration shows the assignment of keys on the backside and the order of the Dip-Switches:

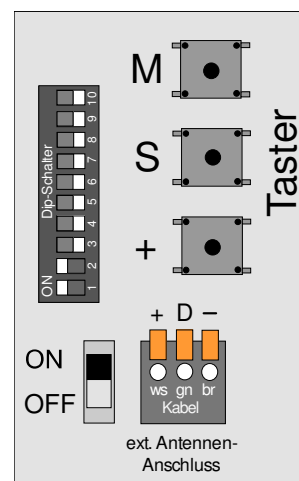
Setting of the Operation Mode

Please do only change the operation mode to quartz mode if there is absolutely no radio reception available!

Before you change the operation mode, the clock hands of the analogue clockwork must be set manually to 12:00 o'clock. Otherwise the clock would show a wrong time later. The clock hands have to be set with the help of a small wheel on the backside of the clock. The wheel can rotate into both directions. In order to choose the operation mode **press and hold** the respective keys **during switch-on mode**. First please press the respective keys and then switch on the clock and wait appr. 2 seconds. Afterwards please release the key.

The key 'M' activates the quartz mode and cuts off the DCF-77 radio reception signal. 'S' activates the DCF-mode again. The last chosen mode will be stored in the clock and activated with the next switch-on of the clock.

Clock backside:



Manual Setting of Time and Date

In order to get to the time and date settings, turn on the clock and press the **M** button. Preferably proceed as shown in the example below. By actuating the **S** button for entering hour → minute → day → month → year you can make changes in the sequence as indicated. Press the **+** button for setting the chosen values. Save and terminate the settings by pressing the **M** button and the clock will show the changed settings.

Setting example

Press '**M**' once and set the hour with '**+**' → press '**S**' once and set the minute with '**+**' → press '**S**' once and set the day with '**+**' → press '**S**' once and set the month with '**+**' → press '**S**' once and set the year with '**+**'

Now you have done all settings in this menu and by pressing the '**S**' button you would return to the beginning of the cycle, which means you would return to the hour setting. Therefore please press '**M**' to terminate all settings. The seconds will be set automatically to zero and will start counting from this point. The clock will return to normal operation mode and all your executed settings are stored.

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Setting of the timezones

The timezone for Germany, Austria, Switzerland, France and Benelux is already pre-set by our factory to +1 hour UT (Universal Time) and **only must be changed if the time deviates from this timezone** e.g. in Great Britain. Therefore you can set an 'Offset' which adds or deducts time of the received radio-time (regarding UT). Then the possibility is given to use the clock as a UT-Clock or to use the clock in close-by timezones, which are still able to receive the DCF-77 signal from Frankfurt.

Press the button 'S' during the normal operation mode and the display will now indicate 'Offset:' in the upper line the hours (the first two digits) and the minutes (the last two digits) in the lower line. By pressing 'M' for +30 minutes and '+' for -30 minutes the offset can be set between +/- 12 hours. By pressing 'S' another time you will terminate and store the new settings. For operation in the above mentioned timezones '+0100' is pre-set Please note: the clock will only change to the new settings after the next DC-Synchronisation.

Setting of summer- / wintertime parameter

The summer- / wintertime settings are due to legal provisions, but can be changed in case of a possible change of these times. You get to the operation mode for summertime by pressing the '+' button during normal operation mode. Now the clock shows 'So:' for summertime und either 'On' (automatic change over for summer- / wintertime) or 'OF' (no automatic change over). You can change between 'On' and 'OF' with the button '+'. In 'OF' position the clock returns to normal operation mode after pressing the button 'S'. If you change to position 'On' you can enter the data for the beginning and ending of the summertime after pressing the button 'S'. Or if you press 'S' a few times it will return to the standard settings. Therefore the button 'S' must be pressed as long as the normal operation mode will appear on the display again (4 times).

Setting of beginning / end of summertime

Change over of the time takes place always on Sundays, so that only the two months and the equivalent Sundays must be set. First, summertime start-dates will be asked for. The clock displays the start month as number: the month is blinking and can be set with the button '+' between 1 and 12. You can change to the equivalent Sunday with the button 'S'. Again you can now choose with '+' between the numbers 1 to 4 and 'L'. The numbers 1 to 4 represent the different Sundays of the month and 'L' represents the last Sunday during one month. Please press the button 'S' in order to finish your entries. Now you can enter the data for the end of summertime exactly with the same method. After termination of all settings please press 'S' again in order to return the clock to normal operation mode. All settings are now stored. **For Germany the last Sunday in March is pre-set from our factory as the beginning of summertime and the last Sunday in October is pre-set as it's end.**

Batteries

The clock has four AA batteries. In order to remove the cover of the battery compartment please press it slightly inward above the word 'press' and then draw it off downwards. If you replace batteries please replace them all together at once. **The clock time adjustment will set the clock automatically to the right time after battery change!**

External connection for DCF-radio receiver:

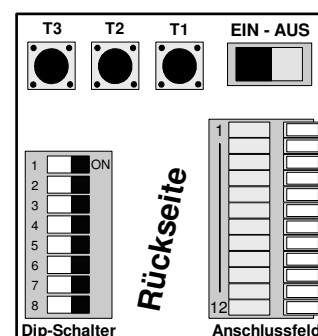
A DCF-Antenna can also be connected to the backside of the clock. Therefore please set the equivalent Dip-Switches as shown below:

DIP- Switch	ON	OFF
1 + 2	Please use internally DCF-77 antenna	Please use externally DCF-Antenna
3,4,5	Language selection for weekdays, see below schedule	
6	First line: time instead of weekday	
7	Third line: Date xx.xx. 20xx	
8,9,10	SMS reception times, please see separate schedule	

Language settings for displaying the weekdays by Dip-Switch 1, 2 und 3

DIP-Switch 3	DIP-Switch 4	DIP-Switch 5	Language
Off	Off	Off	German
On	Off	Off	English
Off	On	Off	Dutch
On	On	Off	French
Off	Off	On	Spanish
On	Off	On	Polish
Off	On	On	Turkish
On	On	On	Italian

Displays in **bold letters** are set ex-works.



Day parts displayed in relation to the time

00:00 – 05:59	Night
06:00 – 08:59	Morning
09:00 – 10:59	Pre-noon
11:00 – 12:59	Noon
13:00 – 17:59	Afternoon
18:00 – 21:59	Evening
22:00 – 23:59	Night

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SMS-reception times, duration and battery consumption

DIP-Switch 8	DIP-Switch 9	DIP-Switch 10	Reception times & duration	Minimum battery life
Off	Off	Off	6 o'clock, 1 minute	2,7 years
On	Off	Off	6 Uhr, 2 minutes	1,4 years
Off	On	Off	6 Uhr, 4 minutes	8 months
On	On	Off	6 Uhr 5 minutes	6 months
Off	Off	On	6 + 12 Uhr, 1 minutes	1,4 years
On	Off	On	6 + 12 Uhr, 2 minutes	8 months
Off	On	On	6, 12 und 15 Uhr, 2 minutes	5 months
On	On	On	Dauer-Empfang mit USB- Steckernetzteil	

If you have any question regarding installation, please do not hesitate to contact us: +49 (0)202-2641722.
We will be happy to provide you with help.