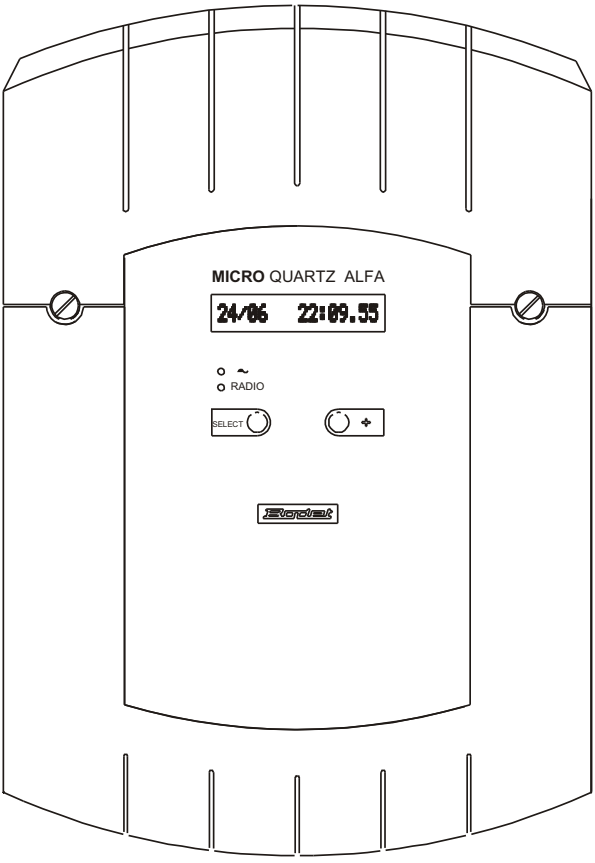
Microquartz ALFA
Radio F.I. Quartz DCF



B.P. 1
49340 TRÉMENTINES
FRANCE
TEL.: (33) 02 41 71 72 00
FAX : (33) 02 41 71 72 02
www.bodet.com

Réf. : 604974 M

When receiving please check nothing is broken otherwise make a claim near shipping company

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I - INITIAL VERIFICATION

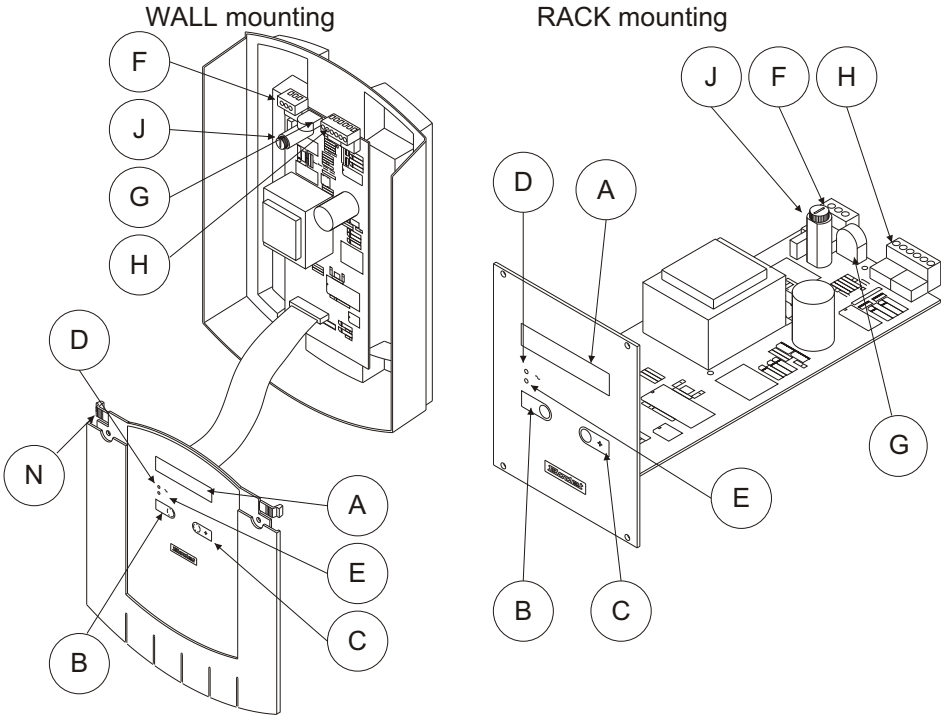
Thank you for choosing a BODET master clock. This product has been carefully designed for your satisfaction based on ISO9001 quality requirements. We advise you to read this manual thoroughly before attempting to manipulate the master clock.
These indicate important comments.
Keep this booklet during all the life of this product, so that you can refer to it each time it will be necessary.

Cleaning

Use an antistatic product of similar type to the one shipped in the original packaging. Never use alcohol, acetone or any other solvent liable to damage the casing and filter on your master clock.

CAUTION :
Only skilled person is authorised for the maintenance service of this master clock.
Bodet accepts no responsibility for accidents resulting from any use not conforming with the above provisions.
Any modification to the product will invalidate the guarantee.

II - DESCRIPTION



A) Liquid crystal display
B) “Select” key
C) “+” key
D) Mains green LED
E) Radio reception red LED
F) 115 or 230 Volt 50/60 Hz mains terminal strip
G) Serial current distrib. adjustment (50 - 150 mA)
H) Radio antenna input and slave clocks output line terminal strip
J) 250 Volt 0.10 A T-fuse
N) Front opening clip

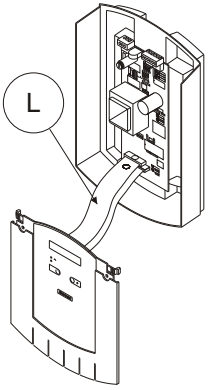
III - TECHNICAL FEATURES

Mains supply 115 or 230 V ± 15% 50/60 Hz
Maximum nominal current : 80 mA
Quartz time base, accuracy 0.1 sec per day between 20 and 25°C.
Automatic summer/winter time changeovers (perpetual calendar).
Radio synchronization through external antenna (Europe only).
Ongoing backup of all parameters in the event of a mains power cut.
Automatic slave time reset when the mains is switched back on.
1 slave clocks output, polarized minute or 1/2 minute impulses, 24 Volt parallel 250 mA or serial (adjustable current).
Operating temperature : 0 to 50°C.

	WALL mounting	**RACK mounting**
Width	220 mm	106.3 mm (1/4 19" rack)
Height	322 mm	128.6 mm (3 U)
Depth	83 mm	234 mm
Weight	1.5 kg	1.6 kg

IV - INSTALLATION

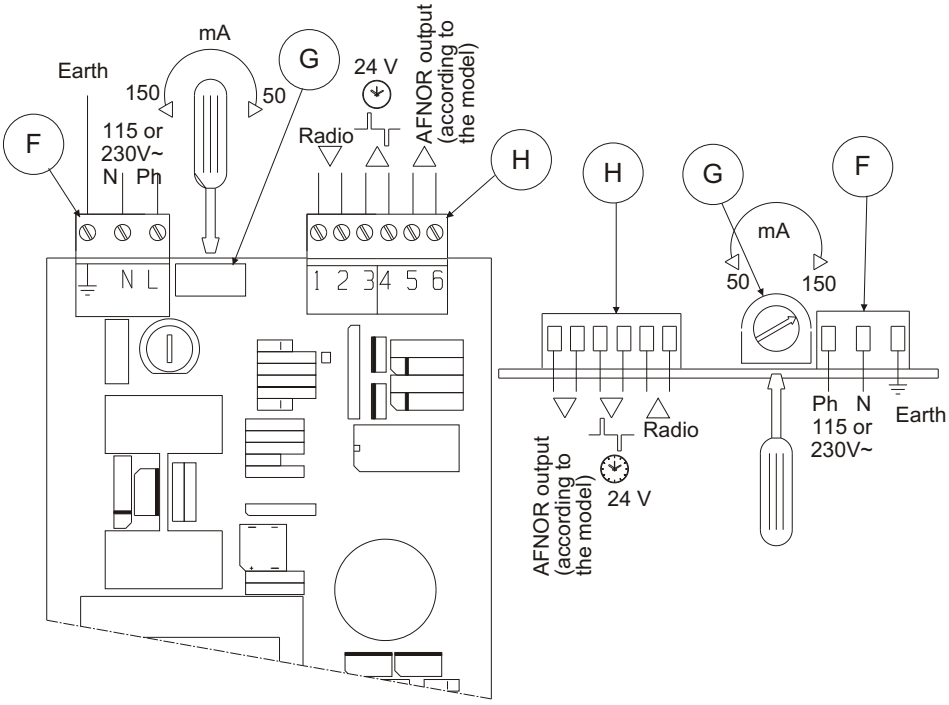
Choose a room with low temperature variations and well clear of any parasitic electrical sources (contactors, motors etc.)



WALL mounting : Unscrew the 2 front screws, remove the cover (for the lower cover, press the 2 clips (N) and slide it upwards). Disconnect the cable (L) (keep in mind the direction before fixing it later) and then fixe the Microquartz ALFA to the wall.
Connect the cables (mains power supply, radio aerial input, impulse line output and maybe an optional AFNOR output) to the corresponding terminal strips as shown in the diagram below.

RACK mounting : The mains power supply, radio aerial

input and impulse line output terminal strips are directly accessible at the rear of the Rack drawer. Make connections as shown in the diagram below.

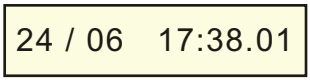


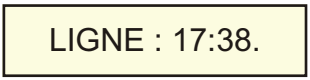
NB : The mains supply unit for this clock must included a 10 A interlocked circuit breaker.
This circuit breaker has to be switched off in case of maintenance operation.

Once the master clock is fixed, the keyboard protection film can be revomed.

When switched on, the Microquartz ALFA displays the setup menu (cf. chapter “SETUP”, page 7), which lets you select the impulse type (minute or 1/2 minute), the distribution mode (parallel or serial), set the time for the line of slave clocks and enable or disable the automatic summer/winter time changeover.

For normal operation, when it is not in the setup menu or set time menu, the Microquartz ALFA displays the date and the time.
During each impulse sent down the 24V output line, the Microquartz ALFA displays the time of the slave clocks ligne.





Serial distribution : Line current adjustment is performed through the variable resistor (G). On the Rack model, this variable resistor can be accessed directly at the back of the rack.

Radio antenna : To obtain absolute long term accuracy, we recommend that you radio synchronize the Microquartz ALFA with the help of an external antenna.

antenna	**Transmitter**
France-Inter	Allouis, near Bourges (Cher, France)
DCF	Mainflingen, near Frankfurt on the Main (Germany)

Set up the antenna as high as possible, away from any metal or reinforced concrete walls, away from any sources of parasites and protected against lightning.
Connect the (non polarized) aerial to the terminal strip (H).
The antenna is correctly oriented if the red LEDs located inside the antenna and on the front of the Microquartz ALFA flash on and off once a second.
The time message received may be displayed on the dynamic reception display (chapter “Dynamic reception”, page 11).

V - SETUP

To access the setup menu, press simultaneously the “Select” and “+” keys for 5 seconds. When switching the power on for the first time (on installation), the Microquartz ALFA goes automatically to this menu.

Note :It is possible to exit this menu at any time. Just press the “Select” key, then whilst holding down the “Select” key, press the “+” key. Then release both keys.

Impulse distribution is automatically interrupted during the setup operation. It returns to normal operation as soon as you leave this menu (with extra impulses to catch up as required).

a -Selecting the impulse type

Using the “+” key, choose the impulse type on the slave clock line, then confirm by pressing the “Select” key.

IMPULS. MINUTE	or	IMPULS. 1/2 MIN

b -Selecting the distribution mode

Press the “+” key to select the distribution mode, then confirm by pressing the “Select” key.

DISTRIB. // 24V	or	DISTRIB. SERIE

c -Setting the time on the slave clocks

Connect the slave clocks to the line. Make sure they are all set to the same time, e.g. 13:15.

The Microquartz ALFA displays the originally time, set to : 0:00, it must be set to the slave clocks time.
The minutes start flashing.

LIGNE : 0:00

Set the minutes using the “+” key, then confirm by pressing the “Select” key.

LIGNE : 0:15

The hours start flashing. Set the hours using the “+” key, then confirm by pressing the “Select” key.

LIGNE : 13:15

d -Selecting the synchronization and summer/winter changeover mode

The clock displays the synchronization mode previously selected. Select the desired mode using the “+” key, then confirm by pressing the “Select” key.

SYNCHRO RADIO or SYNCHRO MN RADIO

“SYNCHRO RADIO” Mode

Without antenna, automatic summer/winter time changeover to the legal dates in Europe : + 1 hour from the last Sunday in March to the last Sunday in October. All time changes are made at 01:00 G.M.T.
With antenna : Synchronization of the internal time base with the incoming time message.

“SYNCHRO MN RADIO” Mode

Without antenna, summer/winter time changeovers are neutralized.
With antenna : Synchronization of the internal time base with the minutes and seconds of the incoming time message. The time and the date are ignored.

VI - SETTING THE TIME

To access the set time menu, press the “Select” key.

Note : It is possible to exit this menu at any time. Just press the “Select” key, then whilst holding down the “Select” key, press the “+” key. Then release both keys.

a -Setting the minutes and seconds

The minutes start flashing. The “+” key lets you increment the minutes, with a prolonged press for fast scrolling. Each time the “+” key is pressed, the seconds are reset to zero.

1 / 01 / 93 00:00

To set the seconds precisely :
Call the speaking clock.
Using the “+” key, set the Microquartz ALFA to the current minute. For example, if the speaking clock announces “20 hundred hours 28 minutes and 20 seconds”, display “28" using the ”+” key.

1 / 01 / 93 00:28

When the speaking clock announces “20 hundred hours and 29 minutes”, press the “+” key on the fourth stroke.

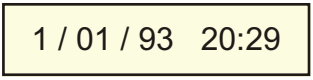
1 / 01 / 93 00:29

This enables you both to increment the minute figure (and hence to pass from “28" to ”29"), and reset the seconds to zero.

Press the “Select” key to confirm.

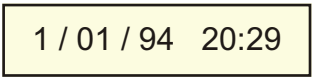
b -The minutes stop flashing, and the hours start flashing.

Set the hours using the “+” key, then confirm by pressing the “Select” key.



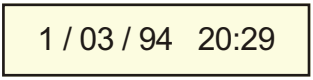
c -The year starts flashing.

Set the year using the “+” key, then confirm by pressing the “Select” key.



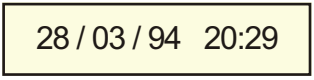
d -The month starts flashing.

Set the month using the “+” key, then confirm by pressing the “Select” key.



e -The day of the month (1 to 31) starts flashing.

Set the day of the month using the “+” key, then confirm by pressing the “Select” key.



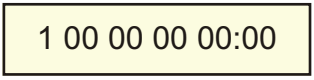
This last operation lets you exit the set time menu.

VII - DYNAMIC RECEPTION

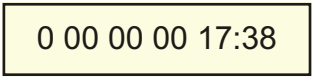
Designed to check that the antenna is working properly, the dynamic reception screen provides a real time display of the content of the radio-broadcast time message which is received every minute by your Microquartz ALFA. If no antenna is connected (cf. chapter “Installation”, page 4), the dynamic reception screen displays “0 00 00 00 00:00" and does not change.

To access this screen, press the ”+" key for 3 seconds. You can exit this screen at any time by pressing the “+” key a second time.

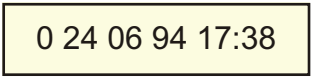
For the first 20 seconds of each minute, the Microquartz ALFA displays :
Each second, the leftmost figure displays the digital data received (0 or 1).



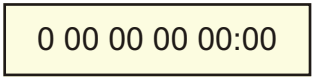
As from the 21st second, the time message is gradually built up as incoming data is received : the minutes, hours...



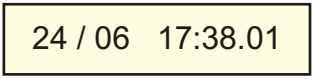
... the day of the month, the month and the year. The complete message is only visible for a few seconds. The minute figure corresponds to the next coming minute. In the example opposite (24 June 1994), it will be exactly 17 hundred hours and 38 minutes...



... on reception of the time signal indicating second “0".
At that moment the display returns to :



After 3 complete time message acquisition cycles, the Microquartz ALFA automatically exits the dynamic reception screen, and returns to the display corresponding to normal operating mode.

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