ANNOTATIONS:

Kronos
User's Manual

V1121

ESSENTIAL COFFEE

www.essentialcoffee.com.au
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V1121
Fw db196 V5.7 - dti V3.4

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ESSENTIAL COFFEE

ACEM

SPECIFICATIONS

Dimensions:	Height 67 cm + 15 cm coffee hopper
	Width 35 cm
	Depth 44 cm
Weight:	31 Kg
Voltage supply:	230 Vac - 50/60 Hz or 120 Vac. 60Hz on request
Absorbed power:	1700 W
Selections:	8 selections.

Optional:
- 6l water tank kit
- Cabinet
- Limescale Softner

TROUBLESHOOTING GUIDE

The machine has a self-diagnosis program, that allows you to visualize messages of out of order:

ERROR GROUP 1	the coffee-group has not reached the "supply position" given by the micro switch on its right side. Check fuses, group micro switch on the right side, group motor and electronic board.
ERROR GROUP 0	the coffee-group has not reached the "standard position" given by the micro switch on its left side. Check fuses, group micro switch on the left side, group motor and electronic board.
ERR. COFFEE FLOW	During espresso supplying, the board has not received signals from the flowmeter. Check fuses, coffee quality, coffee pump, coffee electro valve, flowmeter and electronic board.
ERR. SOLUB.FLOW	During soluble supplying, the board has not received signals from the flowmeter. Check fuses, soluble pump, soluble electro valve, flowmeter and electronic board.
ERROR GRINDER 1	During the coffee grinding, the board has not received the signal given by the doser-switch in 25 seconds. Check coffee quality, fuses, doser micro-switch, grinder motor, grinder block and electronic board.
LACK OF WATER	The board doesn't receive the signal from the float. Check lack of water, float, water container micro switch and electronic board.
ERROR BOILER 1	The board has not received the programmed value temperature from the boiler sensor in 15 minutes. Check safety thermostat, boiler heating element and electronic board.
EMPTY GROUNDS!	The coffee grounds decounter has reached the programmed value. Empty the grounds and execute the quick function no.5.

First you have to solve the trouble, then switch off the machine in order to delete the error.

COUNTERS READING

It's possible to read the level1 counters without entering the program-ming.
Keep pressed the button 8 at the switching on, initially the display will show:
"total: N" this is the total counter of the level 1.
Now, press the selection button you need to read and the machine will show its counter.
Keep pressed for 3 seconds the button 7 and the machine will go back to the standard working.

INTRODUCTION

This technical documentation is part and parcel of the vending machine and must always follow the machine in case it is moved or transfer of ownership, so as to allow consultation by different operators.

Before starting installation and using the machine, it is first necessary to carefully read and understand the instructions contained in this manual, as they offer important information on installation safety, operating instruc-tions and maintenance.

The manufacturer will not accept responsibility for any damage claiming if these precautions are not complied with.

The machine installation and the following maintenance opera-tions should be carried out by qualified personnel only, who are trained in the correct use of the machine according to the stan-dards in force.

POSITIONING

The machine is not suitable for outdoor installation.
It must be positioned in a dry room where the temperature remains be-tween 2°C and 32°C, and not where water jets are used for cleaning (e.g. in large kitchens, etc.).
The machine can be placed on the special support cabinet, which houses the water tank and the waste tank, or on a bench.
The machine should be placed close to a wall, so that the back panel is at a minimum distance of 4 cm from it and correct ventilation may be en-sured. The machine must never be covered with cloth or the like.

Important notice!!
Access to the machine interior for maintenance and/or repairs is via the back panel.

INSTALLATION

ELECTRIC CONNECTION

Before connecting the machine to an electric plug, please follow these precautions:

- o The main supply must be suitable for the machine power requirements (1700W).
- o Check that the power supply voltage is the same as the one shown in the rating label.
- o Check that the main socket is correctly earthed.
- o If the power supply cable is to be replaced, use only original cables.

The manufacturer will not accept responsibility for any damage claiming if these precautions are not complied with.

All the machine electrical devices work with a 24 VDC voltage, except for boiler heating element and the transformer that work with 230 or 115 VAC.

WATER CONNECTION

The machine is not provided with a water tank as standard, therefore a pipe with float is supplied. These parts will be inserted into the water container.

If the machine is provided with its suitable water tank kit, it's necessary to fill up the water tank with drinkable water.
In order to prevent water jets on the back of the machine, we recommend to remove first the plastic tank from the metal body, fill it up and insert it again.

QUICK FUNCTIONS

Keep pressed the button "1" at the switching-on to enter this menu.
On display you will see "QUICK MENU ".

Pushing the relative button, the machine will make these following functions:

Button   Function

1   **mixer washing cycle**: some water will be supplied to clean-up the mixing chamber. This function is useful to fill up the water circuit and the boiler also.

2   **boiler temperature**: you can see the current temperature of the boiler

3   **total counter**: the display will show the total counter of the machine for 3 seconds. It is not possible to reset this counter.

4   **exit**: exit from the "quick function" menu.

5   **grounds & filter counter reset**: the coffee grounds counter and the filter counter are reset to the value programmed on the "level 2 menu". The message "empty grounds !" or "*" will disappear and the machine will continue to work.

6   ***free mode working***: setting the "free mode" working. After 1 minute of inactivity the machine comes back in regular working.

7   **espresso group motor's test**: you can test the espresso group movement. Pushing the button 7, you will supply the motor, while keeping pressed it, the motor will move to the next position, "supply position" or "normal position".

8   **anti-freezing function**: the boiler is slightly emptied in order to prevent that the ice expansion causes the boiler buckling. The use of this function is suggested in the case the machine is stored in very cold places, even only one night.

Operations nr 14 and 15 (Decounter 1 and 2)

If inserted, the operations no.14 (decounter 1) and no.15 (decounter 2) decrease the relative decounter in a unit.
If you want to set the decounter value, change it in one selection containing it and it will be modified automatically in all the other selections.

If the parameter "type" is set=0, every time it is reset (see on page 6) the decounter restarts from the set value, while if the parameter "type" is set=1, at every reset, the decounter value will be the result of the set value and the value before the reset.

Example with value= 100 and type=0
If the decounter is reset when its value is 20, the new decounter value will be 100.
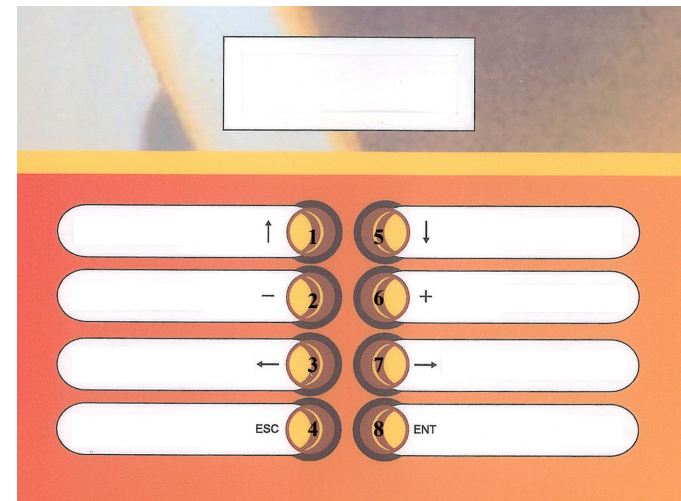
Example with value=100 and type=1
If the decounter is reset when its value is 20, the new decounter value will be 120 (100+20).

In both cases, when the decounter reaches 0, the machine will disable the selections which contain the relative decounter (operations 14 and 15).

HOW TO GET THE MACHINE READY

- open the door, remove the powder canisters and fill them up with the specific products (milk & chocolate)
- place the powder canister properly and close the door
- Fill the coffee hopper with coffee beans
- Insert the transparent pipe with float into a tank with water
- Connect the plug
- Keep pressed the button "1" (see the keyboard picture below) and switch on the machine with the light switch placed on the back side
- when the display will show "quick functions", release the button
- Press the button "1" again to refill the water circuit and repeat this procedure until the water comes out from the spouts
- Press button "4" to go out of "quick functions"
- Wait some minutes for the heating and when the display will show "MACHINE READY" the machine will be ready.
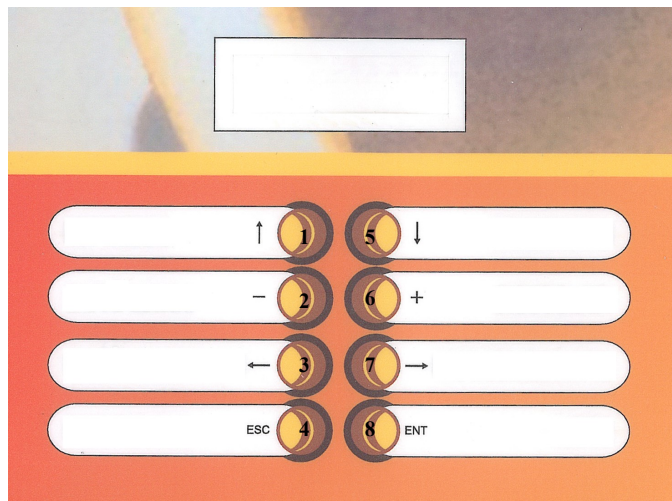
BUTTONS FUNCTION

During the programming, the buttons have the following functions:

1 = previous menu (up)
2 = decreasing (-)
3 = back
4 = exit

5 = next menu (down)
6 = increasing (+)
7 = forward
8 = Enter

Note: the picture could be different from the version you have.
Anyway the buttons' functions don't change.

You can delete, modify or insert operations or change their values where it's possible.

- Press "1" or "5" to move the selection cursor
- press "6" to insert a new operation in the selected position
- press "2" to delete the selected operation
- press "3" to modify the selected operation
- press "enter" to modify the values (ex: dosing)

If you need to change the drink name, press the following buttons:

"2" to go back to the previous letter
"6" to go on to the following letter
"3" or "7" to modify the character

The operations are as follows:

01	GRINDER	the grinder makes a coffee dose by volumetric control.
02	GRINDER	the grinder makes a coffee dose by time control.
03	ESPRESSO	the coffee dose is released into the infusion chamber and the espresso supplying is made.
04	SOLUBLE 1	The machine makes the soluble 1 (MILK) cycle with volumetric control (in cc).
05	TIME SOLUBLE 1	The machine makes the soluble 1 (MILK) cycle with time control (in secs).
06	SOLUBLE 2	The machine makes the soluble 2 (CHOCOLATE) cycle with volumetric control (in cc). (TO BE USED ONLY WITH MACHINE WITHOUT HOT WATER)
07	TIME SOLUBLE 2	The machine makes the soluble 2 (CHOCOLATE) cycle with time control (in cc). (TO BE USED ONLY WITH MACHINE WITHOUT HOT WATER)
08	HOT WATER	a hot water quantity is supplied with volumetric control.
09	HOT WATER	a hot water quantity is supplied with time control.
10	TIME PAUSE 1	a pause is made
11	TIME PAUSE 2	a pause is made
12	TIME PAUSE 3	a pause is made
13	TIME PAUSE 4	a pause is made
14	DECOUNTER 1	The decounter 1 is decreased in one unit (see also at page 20).
15	DECOUNTER 2	The decounter 2 is decreased in one unit (see also at page 20).

Important: some operations could not work because of the machine model.
Before changing or modifying the operations sequence, please contact the manufacturer.

SET DRINKS

Preliminary remarks: every drink selection is composed of a sequence of codes, which correspond to a machine single operation.
Each operation is only performed after the correct working of the previous one, in case of not-correct operation the machine will be on alarm.

THE CORRECT SEQUENCE IS ALREADY SET BY THE MANUFAC-TURER, THEREFORE WE SUGGEST THAT THE RIGHT SEQUENCE SHOULD NOT BE MODIFIED WITHOUT CONSULTING US.

After you have entered the menu, you will see the drinks codes sequence.

```
01-02-03-04-05-0
     Sel. 1
```

The flashing cursor points out the selected drink code. If you want to move it, use either the button "1" to go on or the button "2" to go back. While you move the cursor, the name of the selection and the drink code will be visualized.

Press "enter" to modify the drink code parameters.
A sequence of numbers that correspond to the selection doses, price line (P) and name (MS) will be visualized.

```
01-03-P1-MS
  GRINDER
```

Since the cursor points out the selected dosing code, press either the button "1" or "2" to move it; in the underlying line the description of the selected dose will appear.
Select the dose and press "enter" in order to change its value.

Therefore every selection is composed of "a codes sequence", a price line (P) and its name "MS".

PROGRAMMING

There are 2 programming levels: a basic menu and a main menu.

The basic menu is useful to the operator in order to regulate the drinks dosing, set the prices, read the counters and visualize the last machine operations.

The main menu is useful to the technical department in order to set the machine parameters.

BASIC MENU

You can enter this menu pressing the button "2" at the switching-on
The following menus will appear on the display:

- **SET DRINKS**
- **SET PRICES**
- **COUNTERS & AMOUNTS**
- **EVENTS**

SET DRINKS

Press the buttons "1" or "2" to scroll the menus, press the button "8" to enter the selected menu, while press the button "4" to go out of menu / programming.

After you have entered the menu, you will see the drinks codes sequence.

```
01-02-03-04-05-0
Sel.1
```

The flashing cursor points out the selected drink code. If you want to move it, use either the button "1" for going on or the button "2" for going back. While you move the cursor, the name of the selection and the drink code will be visualized.

Press the button "8" to modify the drink code parameters.

A sequence of numbers that correspond to the selection doses, price line (P) and name (MS) will be visualized.

```
03-P1-MS
ESPRESSO
```

Since the cursor points out the selected dosing code, press either the button "1" or "2" to move it; in the underlying line the description of the selected dose will appear.
Select the dose and press the button "8" in order to change its value.

```
ESPRESSO WATER
45
```

Use "-" or "+" to insert the desired value and press "8".
Press "ESC" to go out of the menu.

```
SAVE CHANGES ?
YES            NO
```

Press" -" to confirm the changes or" +" to cancel it.

RESET COUNTERS&AMOUNTS
Above counters zero resetting. Press "-" to confirm or "+" to cancel.

ENABLE TEMPERAT.ON DISPLAY
Visualization of the boiler temperature on the display.

SERIAL NUMBER:
Machine serial number.

SET FLOWMETER
Value related to the type of flowmeter installed (imp/10ml)

CAUTION ! OUTPUT TEST !
Board electrical output test.
Choose the output through + or -, press "ENT" to supply it:

0	espresso electrovalve
1	Not used
2	Hot water electrovalve
3	Espresso unit motor
4	Coffee releasing solenoid
5	Grinder motor
6	Pump
7-8-9	Not used

TYPE OF MACHINE
Machine model (please contact the manufacturer before changing it).

DISPLAY COUNTERS ENABLE
if enabled, at the power-on the display will show the total counter, which can't be reset.

BOILER WORKING
Boiler heating enabling.

ENABLE STARTUP WASHING
if set on, at the startup, the machine performs a washing cycle

SET-UP GSM-MODULE
set up of the gsm-module (not available).

OPTIONS: LEVEL 2

After you have inserted the correct password, which initially is "00070", the following menu will appear:

MODIFY PASSWORD LEVEL 1
Insert the new password and press "enter" to confirm.

MODIFY PASSWORD LEVEL 2
Insert the new password and press "enter" to confirm.

SET DRINKS
See "set drinks" chapter on page 18.

LOAD DEFAULT DATA
Original data loading. Press "-" to confirm or press "+" to cancel it.
Contact the manufacturer before performing this function.

SET LANGUAGE
Language of all the messages.

SET DELAY POWDER
Time between the water and the powder supply, in tenths of second.

SET WATER RESERVE
Water reserve (ml) without powder at the end of the selection.

SET PAUSE ESPRESSO GROUP
Time for coffee ground drying, in tenths of seconds.

SET FILTER COUNTER
Counter for the message of anti-scale filter replacing. Once reached, the machine will show "*" on display but it will keep on working (see also at page 21).

SET NUMBER OF COFFEE GROUNDS
Counter for the message of coffee grounds emptying. Once reached, the machine will show "EMPTY GROUNDS" and it will stop (see also on page 6).

REGULAR MODE COUNTERS&AMOUNTS
regular mode counter.

TEST MODE COUNTERS&AMOUNTS
test mode working counter.

FREE MODE COUNTERS&AMOUNTS
free mode working counter.

If you need to change the drink name, press the following buttons:

"-" to go back to the previous letter
"+" to go on to the following letter
"back" or "forward" to modify the character

Note:
In the change value of a "soluble" dose, the "water and powder" parameters will be shown as follows:

Powder: 40
Water: 100

In order to change the "powder" quantity, press buttons "+" or "-", whilst to change the "water" quantity press the buttons "back" or "forward".

SET PRICES

In this menu you can set the value of 10 prices lines, the various selections are linked to.

Press the buttons "up" or "down" in order to select the price line that is to be set; press "enter" to enter the value change and set the value with "+" or "-".
Finally press "enter" to confirm.
If all the price lines have the value 0, the machine will work in "free mode", showing it on the display.

If only the P9 is set as "0.01" the machine will show "free mode" but it will work in "standard" mode and its counters will be increased.

COUNTERS & AMOUNTS

In this menu you can read the counters of the various selections and if you like, you can reset them.

Press "enter" to enter the menu that has the following parameters:

TOTAL COUNTERS&AMOUNTS
    In standard mode the first number indicates the total counter while the second one the total amount from the last zero resetting.

TEST MODE: TOTAL COUNTERS&AMOUNTS
    In test mode the first number indicates the total counter while the second one the total amount from the last zero resetting.

FREE MODE: COUNTERS&AMOUNTS
    In free test mode the first number indicates the total counter while the second one the total amount from the last zero resetting.

RESET COUNTERS?
    Above counters zero resetting:
    Press "-" to reset or "+" to cancel.

It is also possible to display the single counters as explained at page 22.

The counters of every level are independent; therefore the zero resetting of the counters of a level doesn't influence the other counters.

Press "enter" to enter this menu and the display will show "PASSWORD LEVEL 1".
Now you can insert 2 different password, one for the first level and one for the second level.
Use the "back" or "forward" buttons to move the cursor, while press "+" or "-" to set the code.
After the correct code, press "enter".

OPTIONS: LEVEL 1

After you have inserted the correct password, which initially is "00050", the following menu will appear:

MODIFY PASSWORD LEVEL 1: Insert the new password and press "enter" to confirm it.

TEST MACHINE MODE: Set the machine in test mode working.

FREE MODE: Set the machine in free mode working.

SINGLE DRINK COUNTERS&AMOUNTS: Choose the id drink to analyze with + or - and press Enter to confirm.

    REGULAR COUNTERS: standard working counter.
    TEST MODE COUNTERS&AMOUNTS: Test mode working counter.
    FREE MODE COUNTERS&AMOUNTS: Free mode working counter.

RESET DECOUNTERS 1&2: reset of the decounters 1 and 2 at the value set in level 2 (see also at page 20).

SET TEMPERATURE

This menu has the following parameters:

SET BOILER TEMPERATURE
Setting the boiler temperature.

TIME OVERHEATING BOILER
Inactivity in minutes of the machine after which the boiler will over-heat. Example: if set = 10, after 10 minutes from the last drink, the temperature is increased.

SET OVERHEATING BOILER
Boiler overheating value (max. 5°C).

TIME FILLING UP BOILER
Frequency in minutes of the automatic refilling function of the boil-er. Example: if set = 60, every hour the pump refills the boiler.

SET FILLING UP BOILER
Boiler refilling time length, in tenths of seconds.

OPTIONS

This menu has 2 different levels that are protected by a password:

1st level. Operator - addressed to the machine operator
2nd level. Manager - addressed to the machine technician / manager

The machine has 3 working types that have their own selections and amounts counter:

standard: standard working with priced selections

test :   working with priced selections and with the money that doesn't go into the coin box (example: the technician has to test the machine and the payment system).

Free mode: working with free selections.

EVENTS

In this menu you can read the last 100 machine operations.
The following data will be visualized:

$$Id: XX \qquad RESULT \quad P:n$$

Both the time and the date are not available.
ID indicates the kind of operation that can be either a drink code or an-other operation (see chart).
RESULT indicates if or not the operation has had a good result.
POS indicates the operation memory position (from 1 to 100).
Use the buttons + and – to scroll all the operations.

Operation codes

94 espresso group positioning
96 reached filter counter
97 boiler refilling
99 washing

Errors codes

E103	espresso group positioning in "start position"
E104	espresso group positioning in "supply position"
E105	espresso supplying
E106	soluble supplying
E107	coffee grinding
E112	lack of water
E113	boiler temperature
E115	coffee pucks counter
E118	initial heating

MAIN MENU

You can enter this menu pressing the button "3" at the switching on.
When "PAYMENT SYSTEM" is displayed, release the button.

The menu has the following parameters:

PAYMENT SYSTEM
    Setting the payment system and its options.

SET TEMPERATURE
    Setting temperatures and other boilers functions

OPTIONS: INSERT PASSWORD
    You can enter the options menu with 2 programming levels: operator and manager..

PAYMENT SYSTEM

This menu has the following parameters:

SET COIN VALUE PARALLEL SYSTEM
    Set of the coin values.
    In order to set the coin values proceed in the following way:
1. Press "ENT" and the display will show
    Active Channel = 0
    0.00 Euro
1. set the coin value with "+" or "-"
2. insert the coin with that value in the coin mech
3. if the coin is accepted, the display will show the channel on which is programmed
4. press "enter" to confirm.
5. Repeat the procedure for the other coins.
6. Press "ESC" to go out of this menu

DECIMAL POINT
    Setting the decimal point for coins and prices values.

NAME OF CURRENCY
    Setting the currency name.

SINGLE SALE NO CHANGE GIVEN
    Setting the sale mode without keeping the residual credit.