ATTENTION !
READ CAREFULLY THIS MANUAL, WHICH IS INTEGRAL PART OF THE INSTRUMENT, BEFORE INSTALLING THE BALANCE

1. IMPORTANT WARNINGS

N.B. - These "WARNINGS" are integral part of the instrument
This instrument is to be used strictly for scientific purposes and/or for internal factory control only.
NOT FOR USE IN RETAIL TRADES. THIS INSTRUMENT IS NOT TO BE USED IN AREAS WITH DANGER OF EXPLOSION.
It is important to note the following points for correct operation of the instrument:

1. Read the technical instructions given in the operating manual carefully. This manual contains information about installation and use. If these instructions are not carried out precisely, the accuracy of results may be affected. If in doubt, please consult the supplier s engineers.
2. In common with any electrical equipment, installation should be carried out by a competent person. In particular:
   - ensure that the instrument is correctly earthed;
   - do not install the instrument in areas of high fire risk, for example, in the presence of inflammable gases and vapours;
   - do not touch the instrument with wet hands.
   - switch off and disconnect the power supply before removing any cover;
3. Install the instrument on a vibration free base and away from draughts or sources of heat and cold. Have the instrument checked by qualified staff with test weighing after installation or after repositioning.
4. Avoid connection to a power supply showing high voltage variations due to other loads. The instrument should not be connected to the same electrical circuit as other high power consuming equipment as large fluctuations may cause some inaccuracy.
5. The instrument should be checked every 6 months for correct functioning, calibration and accuracy of the internal calibration mass by a suitable qualified person.
6. A routine calibration check should be carried out each day before use, using a standard mass. This mass should be independently checked monthly.
7. Check the zero function before each weighing operation.
8. If in doubt about any function please call a qualified person. Avoid interference by non-qualified persons.
9. If the instrument is used for weighing food or drink, ensure that other substances are not weighed on the unit, which might cause contamination.
10. If the instrument is used for weighing chemicals and other similar substances ensure that it is cleaned and any spillage removed to avoid potentially dangerous reactions.
11. Always clean the instrument after use to avoid subsequent inaccuracies and/or damage to the equipment.
12. Gibertini Elettronica s.r.l. does not accept any legal liability for damages or other consequences due to mishandling of the instrument or its accessories.

ADDITIONAL PROCEDURES FOR WEIGHING SUBSTANCE WITH GREAT ACCURACY

Gibertini Instruments are manufactured to be reliable in use with high accuracy. However, reduced accuracy is always possible due to ambient conditions, incorrect installation or improper use. Where greater accuracy is required, the following procedures should be observed:

- use modern instruments (manufactured within three years) which are fully maintained;
- use certified calibration masses before each weighing operation;
- make at least two measurements;
- consider the use of two instruments installed together and make weighings on both units, otherwise use calibrated masses with a certificate of calibration from a recognised institute.

ALL ELECTRONIC BALANCES, WHICH ARE SENSITIVE TO CHANGES OF GRAVITY, MUST BE CHECKED AND CALIBRATED IN THE PLACE WHERE THEY ARE TO BE USED (EEC 90/384).
ALL OUR INSTRUMENTS MEET INTERNATIONAL EMC-EMI-RFI STANDARDS ACCORDING TO 2004/108 EEC DIRECTIVE ON ELECTROMAGNETIC COMPATIBILITY.

2. TECHNICAL CHARACTERISTICS AND GENERAL DESCRIPTION

MODEL		*2002*	*7500 PQ*	*7500 PT*	*7500 DR*	*15000*
Capacity	g	2000	7500	7500	950 / 7500	15000
Readability	g	0,01	0,1	0,1	0,01 / 0,1	0,5
Linearity	g	± 0,02	± 0,3	± 0,3	± 0,05 / ± 0,1	± 0,5
Repeatability	g	± 0,02	± 0,3	± 0,3	± 0,05 / ± 0,1	± 0,5
Response time		2,5 sec.	2 sec.	2 sec.	1 sec.	2 sec.
Pan dimensions	mm	150x150	190x190	Ø 190	Ø 190	260x260
Warm-up time		≥ 15 minutes				
Calibration (external)		With 1000 g F1 class mass (optional) or multiples				
Operating temperature		+10°C / +40°C				
Data output		RS232 I/O or USB 2.0 (on demand)				
Operating voltage		100÷240 V - 50Hz with external power supply				
Power consumption		< 60 mA				
Rechargeable batteries* *(only BP version)*		6 Vcc - Type Ni / MH Autonomy ~12 h - Recharge time: ~12 h				
Dimensions and weight		215x330x95 mm - 3 kg~ (Mod. 15000: 260x355x120 mm - 6 kg~)				
Standard equipment		Power supply - User manual - CD with driver (only USB version)				

** : All models with RS232 data output are available also in "BP" version, with rechargeable batteries.*

In the front of the balance (Fig. 1) there is the control panel, which is constituted by a LCD display and four command keys. The function of the keys is described in the correspondent section.

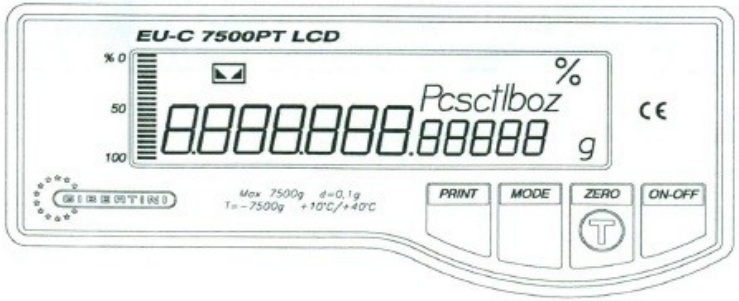


Fig. 1 – Control panel

In the rear (Fig. 2) the balance presents the connector for the power supply, the connector for the I/O RS232 serial interface (or USB 2.0) and the ON-OFF power switch (only for BP version).

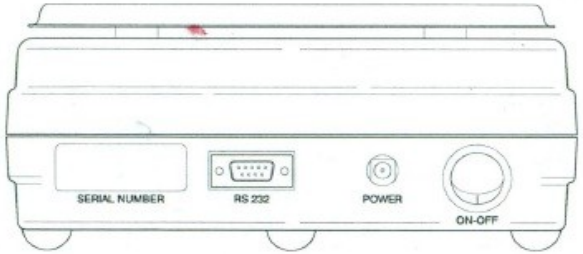


Fig. 2 – Rear view

3. INSTALLATION

For an optimum installation of the balance respect the following indications:

- **Place the balance on a rigid surface, away from vibrations, heat sources and air currents, especially for the EU-C2002 and EU-C7500DR models.**
- The operating voltage must comply with the declared Technical Characteristics.
- Avoid connecting the balance to an electric network subject to great tension swings.
- Connect the power supply, **supplied in equipment**, to the balance and then to a 100÷240V network socket.

After the initial test the display will show ***"0.0 g"***. Now the balance is in ***operating mode***.
At the first ignition after the installation, or if the balance was switched-off for a long time, wait for 15 minutes minimum (preheating) before using the instrument so that will be thermally stabilised.

- NOTE -
All electronic balances, which are sensitive to changes of gravity, must be checked and calibrated in the place where they are to be used.
To make a calibration a **class F1 certified mass of 1000g (or multiples)** is needed.
Please follow the instructions described at Section 6.3

4. DISPLAY AND COMMAND KEYS

4.1 DISPLAY

When the balance is in operating mode, the display can show characters, symbols and icons, like those of the left side figure.
Their meaning is described in the following.

Seven segments ***alphanumeric characters***, for reading data and visualising the messages

Symbols	Meaning
	Weight/Data stable
%	Percentage
	Bar-graph: percent used capacity

Units	Meaning
Pcs	Pieces
ct	Carats *(1 ct = 0,2 g)*
lb	Pounds *(1 lb = 453,59237 g)*
oz	Ounces *(1 oz = 28,34952 g)*
g	Grams *(Default)*

4.2 KEYS FUNCTION

Everyone of the 4 command keys (Fig. 3a and 3b) has one or more functions assigned that vary in base of the mode in use.

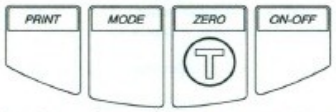


Fig. 3a – Standard command keys

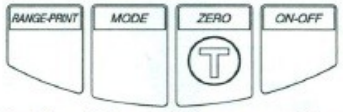


Fig. 3b – DR model command keys

When we are in **operating mode** the functions of the keys are the following:

Key	Function
PRINT	If pressed for more than one second, it activates the PRINT function but only if the PRINTER protocol is active (see Sec. 6.2). **Note:** in mod. 7500DR, BP version, it changes the balance division if pressed for less than one second.
RANGE-PRINT *(only mod. DR)*	In the first 950g of the capacity, if pressed for less than one second, it changes the balance division. If pressed for more than one second, it activates the PRINT function (if the printing protocol is active, see Sec. 6.2).
MODE	Pressed for less than one second, it selects the second unit, if enabled (see Sec. 6.1). If pressed for more than one second, the balance get into a **configuration mode** (see Sec. 6).
ZERO-T	It zeroes the value on the display
ON-OFF	If pressed for less than one second, it switches off the display illumination. If pressed longer, it puts the balance in stand-by mode (see Sec. 5.4).

When we are in **configuration mode** instead (see Sec. 6) the functions change as follows:

Key	*Function*
PRINT (RANGE-PRINT)	No function.
MODE	Pressed for less than one second it scrolls the possible selections.
ZERO-T	Press for less than one second to exit from the selection function.
ON-OFF	Pressed for less than one second it confirms the showed selection.

ATTENTION !

If the balance stops working because of incorrect operations on the keyboard, operate as follows:

- **a-** unplug the power supply unit from the mains socket and wait some seconds
- **b-** plug in again the power supply unit and simultaneously press the **ON-OFF** key. Release the key when the display shows ***"EU-C"***.

For the version **"BP"** (models with rechargeable battery) operate as follows:

- **a-** turn off the power switch put on the rear of the balance and wait some seconds;
- **b-** turn on the power switch and, simultaneously, press the **ON-OFF** key of the keyboard.
- **c-** Release the **ON-OFF** key when the message ***"EU-C"*** appears.

In both cases the message ***"SEt Factory"*** will confirm the reset of default parameters (factory settings).

5. OPERATING MODE

ATTENTION - When using the balance, avoid loading on the pan weights heavier than the balance capacity. At any rate, the objects to be weighed must be placed on the pan with care.

In operating modality the default measurement unit is grams (***g***) but, when requested, the balance can be programmed to perform weighings with units of measurement different from grams. The available options are: ounces (***oz***), pounds (***lb***), carats (***ct***), pieces (***Pcs***) and percentage (**%**).
To activate the second unit see the instructions at Sec. 6 - CONFIGURATION MODE.
In the following , the three main utilisation mode of the balance are described: *WEIGHING mode, PIECE COUNTING mode and PERCENTAGE CALCULATION mode.*

5.1 WEIGHING MODE - *"g / oz / lb / ct"*

After possible warm-up, the balance is ready to weigh with precision. After placing the object or the objects to be weighed on the pan, the display will show their weight. By pressing the **ZERO-T** key, the weight is set to zero, and the display will show ***"0.0"***. This operation is useful for dosing or when it is necessary to perform the tare of the containers necessary to weigh bulk objects, powders, liquids, little animals, etc.

If a second unit has been enabled, it is possible to shift instantaneously between the default unit (***g***) and the second unit selected by pressing the **MODE** key for less than one second: the weight showed on the display will be automatically converted in the unit selected. Press again the **MODE** key to return at the default unit (***g***).

- NOTE -

If there is an interruption in the mains supply or the power supply is accidentally disconnected during the weighing operations, the balance stores in memory the data displayed at the moment of the interruption.
For example: if the display was showing "3950 g" at the moment of the power interruption, the display will show "3950 g" when the power supply is restored. If the pan is unloaded before restoring the power supply, when the balance turns on again the display will show "0.0 g" or the negative value of the possible tares set.

5.2 PIECE COUNTING MODE - *"Pcs"*

Once activated the alternative unit ***"Pcs"***, it is necessary, at first, to define the sampling value to be used for the counting. Operate as follows:

- If the unit ***"Pcs"*** is not showed on the display, press for less than one second the **MODE** key.
- When ***"Pcs"*** is showed press for more than one second the **MODE** key. The display will blink and show ***"10 PCS"***. This is the first pre-set acquisition value proposed. If a different sample is going to be acquired, press again for less than one second the **MODE** key. It is possible to choose among other sampling values, ***"20 PCS"*** and ***"50 PCS"*** .
- Confirm the chosen sampling value pressing the **ON-OFF** key.
- Put on the pan the correspondent number of pieces (10, 20, 50 pieces).
- When the display shows the steady value symbol, confirm with the **ON-OFF** key. The balance calculates automatically the single weigh, and store the set sampling.

At this point we can begin "to count" the pieces that we have sampled: adding on the pan other pieces, the display will visualise automatically the number of pieces loaded. Obviously, the higher the number of pieces in the sampling (for ex. 50 Pcs), the more precise the counting.
To know the weight of the pieces loaded on the pan press for more than one second the **MODE** key: the display will show the total weight, in grams. Press one more time the **MODE** key to return at PIECE COUNTING mode.

ATTENTION !

- For a correct use of the PIECE COUNTING function and to avoid a great counting error, keep in mind that:
  - the weight of a single piece must be at least 10 times bigger than the balance division
  - the pieces must have a very similar weight.
- In case of sampling with too little values, the system signals an error, and the display shows ***"PCS error"***. To exit the error condition, press the **ZERO-T** key.

5.3 PERCENTAGE CALCULATION MODE - " % "

To work in *percentage calculation mode* , once the unit ***"%"*** is activated, is necessary to memorise the reference sample/value operating as follows:

- If the unit ***" % "*** is not showed on the display, press for less than one second the **MODE** key.
- When ***" % "*** is showed press for more than one second the **MODE** key. The display will blink and show ***"- 100 -"***.
- Put the reference sample on the pan: when the steady value symbol appears, confirm with the **ON-OFF** key. The balance acquires the reference value.
- All the weighings performed after the acquisition will have as a reference the sample acquired previously.

ATTENTION !

- The balance can measure percentage values up to 500% with respect to the sample, as long as the maximum capacity of the balance is not exceeded.
- If the charge exceed the 500 % of the reference sample or the maximum capacity of the balance, the display will show the message ***"OvEr PErc"***.
- In case of sampling with too little values, the system signals an error, and the display shows ***"Perc Error"***. To exit the error condition, press the **ZERO-T** key, and repeat the acquisition.

In the next paragraphs two examples of percentage calculation are described, supposing to have already memorised, with the **ON-OFF** key, a reference sample equal to 100 grams.

Percentage calculation – Example n° 1

- Add on the pan a weight of 27,5g without remove the reference sample from the pan: the display will show ***" 127,50 % "***
- add on an other weight of 122,5g the display will show ***" 250,00 % ".***
- At this point, pressing the **MODE** key for less than one second, the balance switches to the standard unit ***(g)*** and the display will show the current weight loaded on the pan; in this case ***" 250 g "***.

Percentage calculation – Example n° 2

- Remove the reference sample from the pan and add on a weight of 27,5g: the display will show ***" 27,50 % "***
- Add on an other weight of 122,5g on the pan: the display will show ***" 150,00 % ".***
- Adding an other weight of 378g on the pan the display will show the blinking message ***"OvEr PErc"***. This means that the maximum limit of 500% of the acquired reference sample has been reached and exceeded.
- If the **MODE** key is now pressed for less than one second, the balance switches again to the standard unit ***(g)*** and the display will show the current weight loaded on the pan; in this case " **528 g** " that it s the 528 % of the acquired reference sample.
- Switching back to the percentage weight function, the message **"*OvEr Perc*"** will be displayed again. To cancel it, remove some weight from the pan, and sample again with another value if needed.

5.4 ENERGY SAVING OPTIONS

The available options for energy saving are:

Option 1: Pressing the **ON-OFF** key for less than one second, the backlight of the display switches off. The balance remains fully operating.

Option 2: Pressing the **ON-OFF** key for more than one second, the balance switches to stand-by mode and the display will show ***"OFF"***. Press again the **ON-OFF** key to switch-on the balance.

Option 3: From the **SETUP** menu it is possible to enable the **IDLE SET** function (see Sec. 6.2). This function switches-off the display if the balance is unutilised for more than 10 minutes and the message ***"Idle State"*** will be shown. The balance switches-on automatically when receiving a command from the keyboard or from the serial and when the pan is moving for any reason.

When the balance is not used for a very long time power it off as described below.

- **Standard models:** unplug the power supply unit from the mains.
- **BP models:** power off using the switch placed on the rear.

At the next power up, wait at least 15 minutes (warm-up) before using the instrument.

ATTENTION !

In the BP models, if you disconnect the power supply without using the switch placed on the rear, the balance is still powered by batteries.

6. CONFIGURATION MODE

To enable the alternative units, to modify the default configuration and to start the calibration process, the configuration mode must be activated. To enter in configuration mode, press the **MODE** key for more than one second. From this moment the functions of the keys change as follows:

Key	*Function*
PRINT (RANGE-PRINT)	No function.
MODE	Pressed for less than one second it scrolls the possible selections.
ZERO-T	Press for less than one second to exit from the selection function.
ON-OFF	Pressed for less than one second it confirms the showed selection.

Once entered in configuration mode we have access, in sequence, to the three main menus:

UNIT 2 : to enable the alternative units (***oz, lb, ct, Pcs, %***)

SETUP : to modify the transmission parameters, to enable or disable functions, to store personalised configurations.

CALIBRATION : to start the calibration process.

- NOTE -

- If no key is pressed while in the configuration menu, the menu moves back to a previous level every 20 seconds until exiting from the configuration mode. The balance goes back automatically to operating mode, without modifying any parameters.
- At section 6.4 there is a short graphic form of the complete menu s tree, of the submenus and of the available parameters.

ATTENTION !

If the balance stops working because of incorrect operations on the keyboard, operate as follows:

c- unplug the power supply unit from the mains socket and wait some seconds
d- plug in again the power supply unit and simultaneously press the **ON-OFF** key. Release the key when the display shows ***"EU-C"***.

For the version **"BP"** (models with rechargeable battery) operate as follows:

d- turn off the power switch put on the rear of the balance and wait some seconds;
e- turn on the power switch and, simultaneously, press the **ON-OFF** key of the keyboard.
f- Release the **ON-OFF** key when the message ***"EU-C"*** appears.

In both cases the message ***"SEt Factory"*** will confirm the reset of default parameters (factory settings).

6.1 "UNIT 2" MENU

This is the first menu visualized once entered in configuration modality. Through this menu it s possible select and enable a second alternative unit, operating as follow:

- When the display shows **"UNIT 2"**, press for less than one second the **ON-OFF** key to enter the submenu.
- By pressing for less than one second the **MODE** key, all the available options are visualised (oz, lb, ct, Pcs, %). Once that the desired unit is selected, press the **ON-OFF** key to confirm
- The balance returns to operating mode and begins automatically to weigh with the newly selected unit.

When a second unit of measurement is selected, it is automatically stored in the balance memory, and the setting will be maintained also when the power supply cable is disconnected.
Moreover, once that the alternative unit is stored, it is possible to shift instantaneously between the default unit (grams) and the second unit selected by pressing the **MODE** key for less than one second.
This choice allows comparing instantaneously the same weight in two different units of measurement. This function works with all the second units of measurement in the balance.

6.2 "SETUP" MENU

It is the second menu visualised once entered in configuration mode. Through its sub-menu it is possible to modify and store the main parameters of the balance; always using the **MODE** key to scroll, the **ON-OFF** key to confirm and the **ZERO-T** key to exit from selection mode. The sub-menu and their options are:

SERIAL

BAUD → *Defines the transmission baud rate of the serial output from 1200 to 38400 baud (**default 9600**).*

BYTE FOR → *Defines the format of the byte transmitted that may be selected between the following (**default 7E1**):*

Data format	Data bit	Parity type	Bit stop
7 E 1	7	EVEN	1
7 0 1	7	ODD	1
7 N 2	7	NO PARITY	2
7 E 2	7	EVEN	2
7 O 2	7	ODD	2
8 N 1	8	NO PARITY	1
8 E 1	8	EVEN	1
8 O 1	8	ODD	1
8 N 2	8	NO PARITY	2

PROTOC → **EUROPE** → *With this protocol the answer to any type of command is formatted with a measure field.*
→ **CRYSTAL** → *(**Default**) With this protocol the answer to any type of command is formatted with: a data field, a unit field and a status field*
→ **PRINTER** → *Protocol used to drive external printers.*

N.B.- For more informations referring to Section 7 - SERIAL TRANSMISSION.

TRANS OPT → **CONTINUE** → *To transmit data to a peripheral that can not send specific commands to the balance.*
The continue transmission is activated at power up, so that the transmission of the measured data follows every measure carried out by the balance.
→ **REQUEST** → *(**Default**) The balance transmits a data just once when a valid command is issued from serial port.*

Continues....

Continues from

SERIAL	STABLE OPT →	STABLE ON →	*Data stable transmission:* ▪ *With the EUROPE protocol the balance transmits only once, as soon as a valid command is sent, but only if the data of the balance is stable.* ▪ *With the CRYSTAL protocol the balance transmits like the EUROPE protocol but, in presence of an unstable data, it will carry out however a transmission after 15 second. This is in order to not leave the system blocked.*
		→ STABLE OFF →	*(**Default**) The balance transmits in whichever condition.*

CALIBR	CAL OFF →		*Disables the CALIBRATION function.*
	CAL ON →		*(**Default**) Enables the CALIBRATION function.*

A-ZERO	ZERO ON →		*(**Default**) Enable the automatic zero tracking. Useful to cancel small drift of the zero reading.*
	ZERO OFF →		*Disable the automatic zero tracking.*

FILTER	SLO →		*(**Default**) Set the filter with slow response applicable to "disturbed" environments or for high accuracy weighing.*
	AVG →		*Set the filter at medium time response.*
	FAST →		*Set the filter with fast response. Applicable to quickly changing weights (ex. for dosing).*

IDLE SET	ON →		*Enables the automatic switch-off of the display when the balance is unutilised for more than 10 minutes.*
	OFF →		*(**Default**) Disables the automatic switch-off of the display*

SET DEF	STORE →		*Stores the modified parameters of the SETUP menu.*
	END →		*(**Default**) Does not store the modified parameters.*

ATTENTION !

All the parameters modified in the **SETUP** menu are immediately operating but, in case of power-off of the balance, they will go lost. To store permanently all modifications select the function **STORE** on submenu SET DEF.

6.3 "CALIBRATION" FUNCTION

The function CALIBRATION is the last option in the main menu of the configuration mode and is used to calibrate the balance.
To make a calibration a **class F1 certified mass of 1000g (or multiples)** is necessary. Operate as follow:

- When the display shows ***"CALIBRATION"***, press the **ON-OFF** key to confirm.
- The display will show **"LOAD"**: put on the pan the calibration mass.
- When the display shows **"UNLOAD"**, remove the mass from the pan.
- Once the calibration process is completed, the display will show for some seconds **"CALIBRATED"** and then **"0.0"**. The balance is calibrated.

If, for some reason, the calibration failed, the display will show ***"CAL ERROR"***. In this case, the previous calibration value will be maintained.

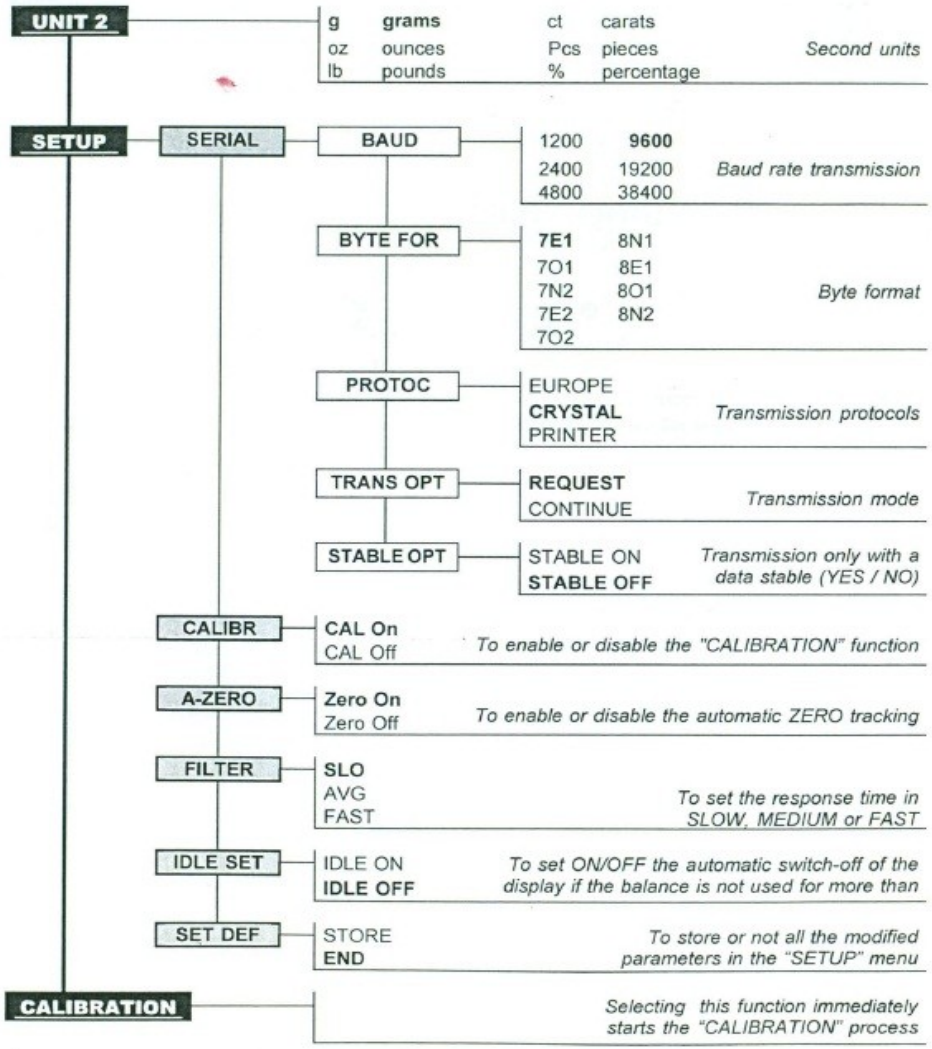
ATTENTION !

- Calibrate periodically the balance, especially when the balance is used intensively
- The balance must be calibrated whit the pan absolutely unloaded.
- To obtain a precise calibration, the balance must be powered-on minimum 15 minutes earlier, and must be thermally stabilised at any rate.
- Use only class F1 masses, best if certified.

- NOTE -

The function CALIBRATION is enabled as default but, if necessary, it is possible to disable it with the option CALIBR of the SETUP menu (see Section 6.2).

6.4 GRAPHIC OF MENU



N.B.- In bold fonts the default parameters (Factory configurations).

7. SERIAL TRANSMISSION

Serial transmission is a EIA RS232 standard compatible or may be, on request, a USB 2.0 connection. In this case the installation of the driver supplied with the instrument is required.
The answer from the balance is sent every 200 ms.

7.1 SERIAL OUTPUT CONNECTION (EIA RS232)

BALANCE		*DB9 CONNECTOR (9 poles)*	*DB25 CONNECTOR (25 poles)*
RS 232 Out	Pin 2	Pin 2	Pin 3
RS 232 In	Pin 3	Pin 3	Pin 2
GROUND	Pin 5	Pin 5	Pin 7

7.2 DATA TRANSMISSION FORMAT

The format of the data transmitted by the balance is different as a function of the protocol selected in the SETUP menu at Section 6.2.
"EURO" and **"CRYSTAL"** protocols are suitable for computer interfacing; **"PRINTER"** protocol may be used to drive external printers.

7.2.1 CRYSTAL Protocol

In this protocol the answer to any type of command is formatted with:

- a **measure** field
- a **unit** field
- a **status** field

D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	B	U	U	U	B	F1	F2	CR	LF
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19

The **measure** field (1 10) gives the weight on the pan.
It is right justified with decimal point and measure sign (a space character for positive measure or a - character for a negative measure).
Unit field (12, 13, 14) shows the current unit weight.
Status field (16 and 17) gives an indication on the operation performed at that time by the balance.
Fields 11 and 15 (B) are the blank characters.
Field 18 and 19 are: **CR** ASCII code for carriage return
LF ASCII code for line feed.

Status codes of F1 character

D	Transmitted data is valid
O	Balance in over range
U	Balance in under range
T	Tare
C	Calibration process in progress
Z	Zero aquisition
I	Initial test

Status codes of F2 character

S	Measure is stable (stable)
I	Measure is not stable (unstable)
E	Error
A	Zero aquisition
L	Load weight (only for manual calibration LOAD)
U	Unload weight (only for manual calibration UNLOAD)
D	Calibration done
B	Calibration busy
P	Percentage

7.2.2 EURO Protocol

In this protocol the answer to any type of command is formatted with a **measure** field:

D0	D1	D2	D3	D4	D5	D6	D7	CR	LF
1	2	3	4	5	6	7	8	9	10

The **measure** field (1 8) is the weight on the pan.
It is right justified with decimal point and measure sign (a space character for positive measure or a - character for a negative measure).
Field 9 and 10 are: **CR** ASCII code for carriage returns
LF ASCII code for line feed

7.2.3 PRINTER Potocol

It is selected by the option **"PRINTER"** in the SETUP menu.
The output string is the same of the **"CRYSTAL"** protocol but the status flags are not transmitted. The transmission is activated by the **PRINT** pushbutton if and only if the protocol selected is **"PRINTER"** and the data is stable.
The output string uses 10 characters for the measure including sign, decimal point and the value, right justified.
The string format is: a **measure** field
a **unit** field

The format of the output is:

D0	D1	D2	D3	D4	D5	D6	D7	D8	D9	B	U	U	U	CR	LF
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

The **measure** field (1 10) is the weight on the pan. It is right justified with decimal point and measure sign (a space character for positive measure or a **"-"** character for a negative measure).
Unit field (**12**, **13**, **14**) shows the current unit of measurement.
B field (11) is the blank character.
Field **15** and **16** are: **CR** ASCII code for carriage returns.
LF ASCII code for line feed.

NOTE - If a print is requested, but the weight on the pan is not stable, the balance saves the request, but does not print immediately. As soon as the data is stable, the receipt will be issued.

7.3 SERIAL COMMANDS

In the **"CRYSTAL"** and **"EURO"** protocols the balance responds to the following commands:

COMMAND	FUNCTION
B	Send data on display
C	Start the calibration process
I	Start continuous transmission of data
F	Stop continuous transmission of data
T	Tare command

Notes : Every remote control command must end with **"CR"**.
Line-feed characters are ignored.

8. MAINTENANCE

Always keep the pan clean. To clean the balance, do not use solvents or acid or corrosive substances. Use a soft cloth, made humid, if necessary, with water or non-aggressive cleansers.

Calibrate periodically the balance with certified masses, especially when the balance is used intensively, or after long inactive periods. Use only a class F1 certified mass of 1000g (or multiples).

9. DISPOSAL – INFORMATION FOR USERS

According to the 2002/95/CE, 2002/96/CE and 2003/108/CE Directives, concerning the reduction in the use of hazardous substances in electrical and electronic apparatus, as well as the disposal of waste materials

The symbol of a crossed box applied on the apparatus or on the packaging indicates that the product must be collected separately from other waste materials at the end of its useful life.
The separate waste collection of the apparatus which has reached the end of its useful life is organised and managed by the producer. The user who desires to get rid of present apparatus must therefore contact the seller and follow the given instructions.
Suitable separate waste collection for future sending of the disused apparatus for recycling, treatment and environmentally friendly disposal, contributes towards preventing any possible negative effects on the environment and on health and encourages the reuse and recycling of the materials the apparatus is made of.
Unauthorised disposal of the product by the user will lead to payment of the administrative sanctions in force in the country were it is put on the market.

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