

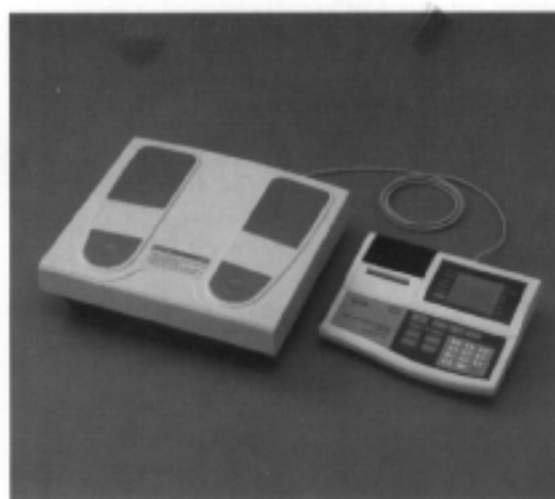
TANITA

BODY COMPOSITION ANALYZER GOAL SETTER

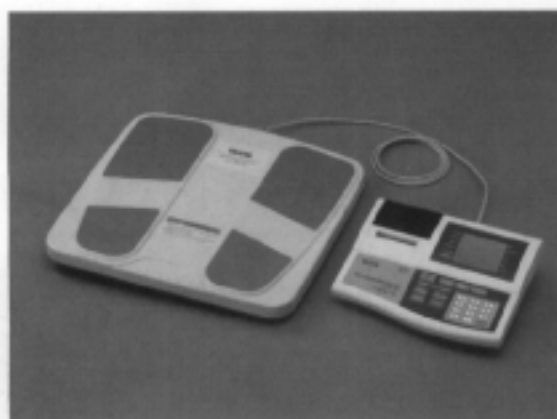
TBF-300A



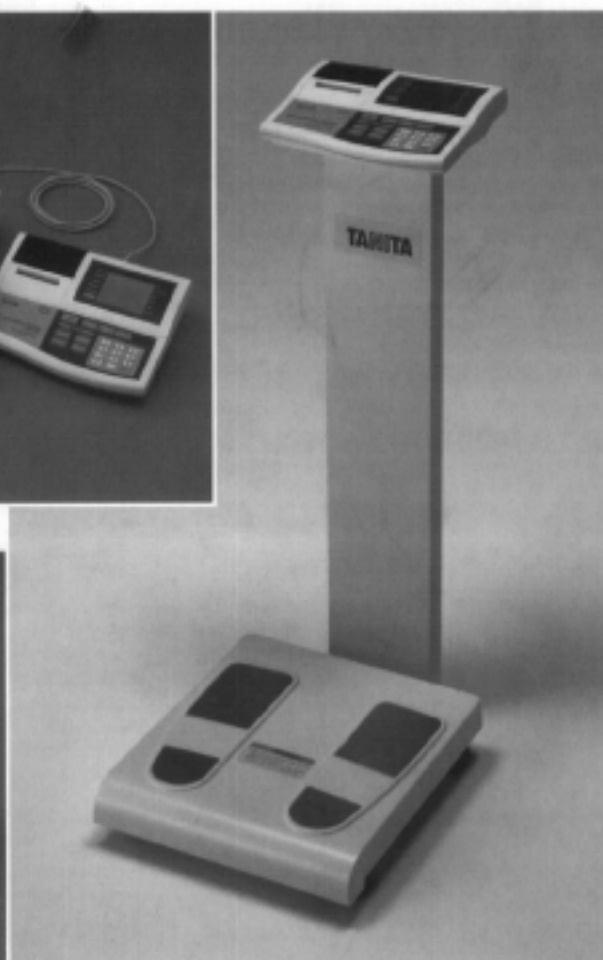
TBF-300 / 310 / 410 INSTRUCTION MANUAL



<TBF-300/TBF-300A>



<TBF-310>



<TBF-410>



Please read this Instruction Manual carefully and keep it handy for future reference.

1. Table of Contents

1. Table of Contents	3
2. Specifications	4
3. Important Notes for Users	6
■ Caution Symbols	6
■ Maintenance	7
■ General Instructions for Accurate Measurement	7
4. Components	8
■ Overview (TBF-300/TBF-300A)	8
■ Rear View of Control Panel (TBF-300/TBF-300A)	8
■ Overview (TBF-310)	9
■ Rear View of Control Panel (TBF-310)	9
■ Overview (TBF-410)	10
■ Rear View of Control Panel (TBF-410)	10
■ Control Panel Functions	11
5. Assembly Instructions	12
■ TBF-410	12
6. Set Up	13
■ TBF-300/TBF-300A	13
■ TBF-310	14
■ TBF-410	15
7. Loading Printer Paper	16
8. Mode Selection	18
■ TBF-300A	19
A. Setting the Number of Print Outs and Printing Language	19
B. Setting the Mode	21
<input type="checkbox"/> Wrestler Mode:	
Setting the Minimum Body Fat Percent (TBF-300A ONLY)	22
<input type="checkbox"/> Wrestler Mode:	
Setting the Minimum Weight Guideline	23
C. Setting the Original Mode	24
■ TBF-300/TBF-310 / TBF-410	25
A. Setting the Number of Print Outs and Printing Language	25
B. Setting the Original Mode	27
9. Operating Instructions	28
■ Body Composition Analysis	28
■ Weight Only Function	31
10. Explanation of the Print Out	32
11. Dealing with Paper Jams	34
12. General Trouble Shooting	36
13. RS - 232 C Interface Instructions	38

2. Specifications

MODEL		TBF-300A	TBF-300	TBF-310		
Impedance Measurement	Measurement System	Tetrapolar Bioelectrical Impedance Analysis				
	Measurement Frequency	50kHz				
	Measurement Current	500 μ A				
	Electrode Material	Pressure Contact Stainless Steel Foot Pads				
	Measurement Style	Between Both Feet				
	Measurement Range	150 ~ 900 Ω				
Weight Measurement	Measurement System	Strain Gauge Load Cell				
	Maximum / Minimum Capacity / Graduation	200kg / 0.1kg 440lb / 0.2lb		270kg / 0.2kg 600lb / 0.5lb		
Input Items	Clothes Weight	0~200kg / 0.1kg increments 0~440lb / 0.2lb increments		0 ~ 270kg / 0.2kg increments 0 ~ 600lb / 0.5lb increments		
	Gender	Male / Female				
	Body Type	Standard / Athletic				
	Age	7 ~ 99 years old / 1year increments				
	Height	90 ~ 249cm / 1cm increments 3ft ~ 7ft 11.5in / 0.5in increments				
	Target Body Fat %	4 ~ 55%				
Output Items	Display	Target Body Fat %	4 ~ 55%			
		Weight	0 ~ 200kg / 0.1kg increments 0 ~ 440lb / 0.2lb increments	0 ~ 270kg / 0.2kg increments 0 ~ 600lb / 0.5lb increments		
		Gender	Male / Female			
		Age	7~99 years old / 1year increments			
		Height	90 ~ 249cm / 1cm increments 3ft ~ 7ft 11.5in / 0.5in increments			
		Body Type	Standard / Athletic			
		Height	90 ~ 249cm / 1cm increments			
	Print out	FAT%	1 ~ 75% / 0.1% increments			
		Body Type	Standard / Athletic			
		Gender	Male / Female			
		Age	7 ~ 99 years old / 1year increments			
		Height	90 ~ 249cm / 1cm increments 3ft ~ 7ft 11.5in / 0.5in increments			
		Weight	2 ~ 200kg / 0.1kg increments 4.4 ~ 440lb / 0.2lb increments	4 ~ 270kg / 0.2kg increments 10 ~ 600lb / 0.5lb increments		
		BMI	0.1 increments			
		BMR	1kJ increments / 1kcal increments			
		Impedance	150 ~ 900 Ω / 1 Ω increments			
		FAT%	1 ~ 75% / 0.1% increments			
		Fat Mass FFM TBW	0.1kg / 0.2lb increments	0.2kg / 0.5lb increments		
		Others	Wrestler section information Desirable Range for FAT% and FM (Standard and 20~79 years old ONLY)	Desirable Range for FAT% and FM (Standard and 20~79 years old ONLY)		
		Display		3 Rows, 5Digits LCD		
		Cable Length Between Weighing Platform and Control Box		2m / 6ft6.5in (Remote Type)		
		Output Data Interface		RS-232C (D-sub 9 pins Male Connector)		
		Power Source		AC Adapter (included) Center Minus		
Rated Power		DC5V 3.5A				
Power Consumption		17.5W				
Temperature Range of usage		0 ~ 35°C / 32 ~ 95°F				
Weight of Equipment	Weighing Platform	7.0kg / 15.4lb		5.4kg / 11.9lb		
	Control Box	1.0kg / 2.2lb				





MODEL		TBF-410	
Impedance Measurement	Measurement System	Tetrapolar Bioelectrical Impedance Analysis	
	Measurement Frequency	50kHz	
	Measurement Current	500 μ A	
	Electrode Material	Pressure Contact Stainless Steel Foot Pads	
	Measurement Style	Between Both Feet	
	Measurement Range	150 ~ 900 Ω	
Weight Measurement	Measurement System	Strain Gauge Load Cell	
	Maximum / Minimum Capacity / Graduation	200kg / 0.1kg 440lb / 0.2lb	
Input Items	Clothes Weight	0 ~ 200kg / 0.1kg increments 0 ~ 440lb / 0.2lb increments	
	Gender	Male / Female	
	Body Type	Standard / Athletic	
	Age	7 ~ 99 years old / 1year increments	
	Height	90 ~ 249cm / 1cm increments 3ft ~ 7ft 11.5in / 0.5in increments	
	Target Body Fat %	4 ~ 55%	
Output Items	Display	Target Body Fat %	4 ~ 55%
		Weight	0 ~ 200kg / 0.1kg increments 0 ~ 440lb / 0.2lb increments
		Gender	Male / Female
		Age	7~99 years old / 1year increments
		Height	90 ~ 249cm / 1cm increments 3ft ~ 7ft 11.5in / 0.5in increments
		Body Type	Standard / Athletic
		Height	90 ~ 249cm / 1cm increments
	Print out with Printer Model ONLY	FAT%	1 ~ 75% / 0.1% increments
		Body Type	Standard / Athletic
		Gender	Male / Female
		Age	7~99 years old / 1year increments
		Height	90 ~ 249cm / 1cm increments 3ft ~ 7ft 11.5in / 0.5in increments
		Weight	2 ~ 200kg / 0.1kg increments 4.4 ~ 440lb / 0.2lb increments
		BMI	0.1 increments
		BMR	1kJ increments / 1kcal increments
		Impedance	150 ~ 900 Ω / 1 Ω increments
		FAT%	1 ~ 75% / 0.1% increments
		Fat Mass FFM TBW	0.1kg / 0.2lb increments
		Others	Desirable Range for FAT% and FM (Standard and 20 ~ 79 years old ONLY)
		Display	3 Rows, 5Digits LCD
Output Data Interface	RS-232C (D-sub 9 pins Male Connector)		
Power Source	AC Adapter (included) Center Minus		
Rated Power	DC5V 3.5A		
Power Consumption	17.5W		
Temperature Range of usage	0 ~ 35°C / 32 ~ 95°F		
Weight of Equipment	11.0kg / 24.2lb		


3. Important Notes for Users


■ Caution Symbols


Thank you for purchasing this precision crafted Tanita product. This product is intended for use with the assistance of a health care or fitness professional. For optimum performance and safety, please familiarize yourself with the **Caution Symbols** below. These symbols are designed to alert the user to potential hazards when using this equipment. Ignoring these **Caution Symbols** may result in serious injury, or damage to the product.

Please be sure to review before proceeding with the INSTRUCTION MANUAL.

- | | | |
|---|----------------|---|
|  | WARNING | This symbol indicates the possibility of serious injury if the product is mishandled or instructions are ignored. |
|  | WARNING | This symbol indicates the possibility of ELECTRICAL SHOCK. Please pay special attention to sections which bear this mark. |
|  | CAUTION | This symbol indicates the possibility of physical injury or equipment damage if instructions are ignored. |
|  | | This symbol indicates general precautions that should be taken when using this product. |

-  **WARNING**
 - **Individuals with a Pacemaker or Other Internal Medical Devices**
Because Tanita's Body Composition Analyzers send a weak electrical current through the body, **Individuals Who Have a Pacemaker or Other Internal Electrical Medical Devices Should Not Use This Product.** The weak electrical signal may cause such internal devices to malfunction.
 - **Cross Contamination**
The Body Composition Analyzer should be used with bare feet. Please be sure to clean the weighing platform with appropriate disinfectant after each use. **Never pour any liquid directly on the weighing platform**, as it may leak and cause internal damage that could cause the product to malfunction. Use a soft cloth and appropriate disinfectant or mild cleaners to wipe off weighing platform. Do not wipe the weighing platform with strong chemicals.
 - Please consult your Physician before beginning any weight management program and for help in establishing your target body fat percent. Tanita Corporation is not responsible for establishing individualized target body fat percent values.
 - The minimum percent body fat values used to calculate the Minimum Wrestling Weight (in wrestler mode) are derived from the 1996 American College of Sports Medicine (ACSM) Position Stand "Weight Loss in Wrestlers", that has been adopted by the National Collegiate Athletic Association (NCAA) in their 1998 Weight Management Guidelines. TANITA Corporation is not responsible for establishing these minimum requirements, nor for any future changes to the current standards. Tanita is providing information only, and does not recommend the application of the guidelines for any given individual. State wrestling associations may have standards and guidelines that differ from the NCAA. (TBF-300A)
 - To reduce the risk of fire hazards or equipment damage, use only the original AC adapter provided by TANITA.

-  **WARNING**
 - **Inserting and Removing the Power Cord**
To reduce the risk of electric shock or product damage, never insert or remove the power cord with wet hands.
 - To avoid a fire hazard, make sure the wall outlet is functioning properly; avoid using multiple outlet extension cords.

-  **CAUTION**
 - To reduce the chance of inaccurate measurement, be sure to place the weighing platform on a flat and stable surface.
 - To reduce risk of injury or equipment malfunction, always step on the weighing platform slowly.
 - When handling printer unit, avoid any sharp edges.



Maintenance

In order to insure optimum performance of this Body Composition Scale, please observe the following instructions:

- Unplug the unit from the wall outlet when it will not be in use for long periods of time.
- Always turn the equipment off before unplugging from a wall outlet.
- Never disassemble the equipment. Always call the nearest Tanita dealer or branch office for instruction.
- In order to reduce the risk of a short circuit, please keep any liquid or metal objects (paper clips, etc.) away from the printer.
- Do not drop the unit, and avoid locations with constant vibration.
- Avoid placing the weighing platform or display in direct sunlight, or too close to a heating unit.
- Avoid rapid temperature fluctuations.
- Excessive humidity may damage the equipment.
- When transferred to any location where there is a difference of more than 20°C (40°F), wait 2 hours before using.



General Instructions for Accurate Measurement

The body composition analyzer is designed for standard and athletic individuals. However, certain individuals may not receive accurate results, as they fall outside the population for which Tanita equations were developed.

- Because this body composition analyzer uses a minor electric current to measure impedance (electrical resistance), best results will be observed when measurement is taken in bare feet.
- Poor contact between the feet and electrodes may produce an error message. Heels should be placed directly on top of the posterior electrodes, while the front part of the foot needs to be in contact with the anterior electrodes. Also, make sure the soles of the feet are free of excess dirt, as this may act as a barrier to the mild current.
- If there are calluses on the soles of the feet, or an individual is wearing thin nylons, accurate measurement may still be possible. Place 0.5cc of saline or water in the center of each electrode. This will act as a conductive material, and may allow the current to pass freely through a thin barrier.
- Keep the electrodes clean by wiping them with disinfectant.
- Fluctuations in hydration status may affect body composition results.
- Wrestlers should confirm proper hydration (i.e. urine specific gravity (USG) testing) before assessing body fat percent and weight. Severe dehydration will skew the Body Fat Percent reading.

• Interpretation of Results

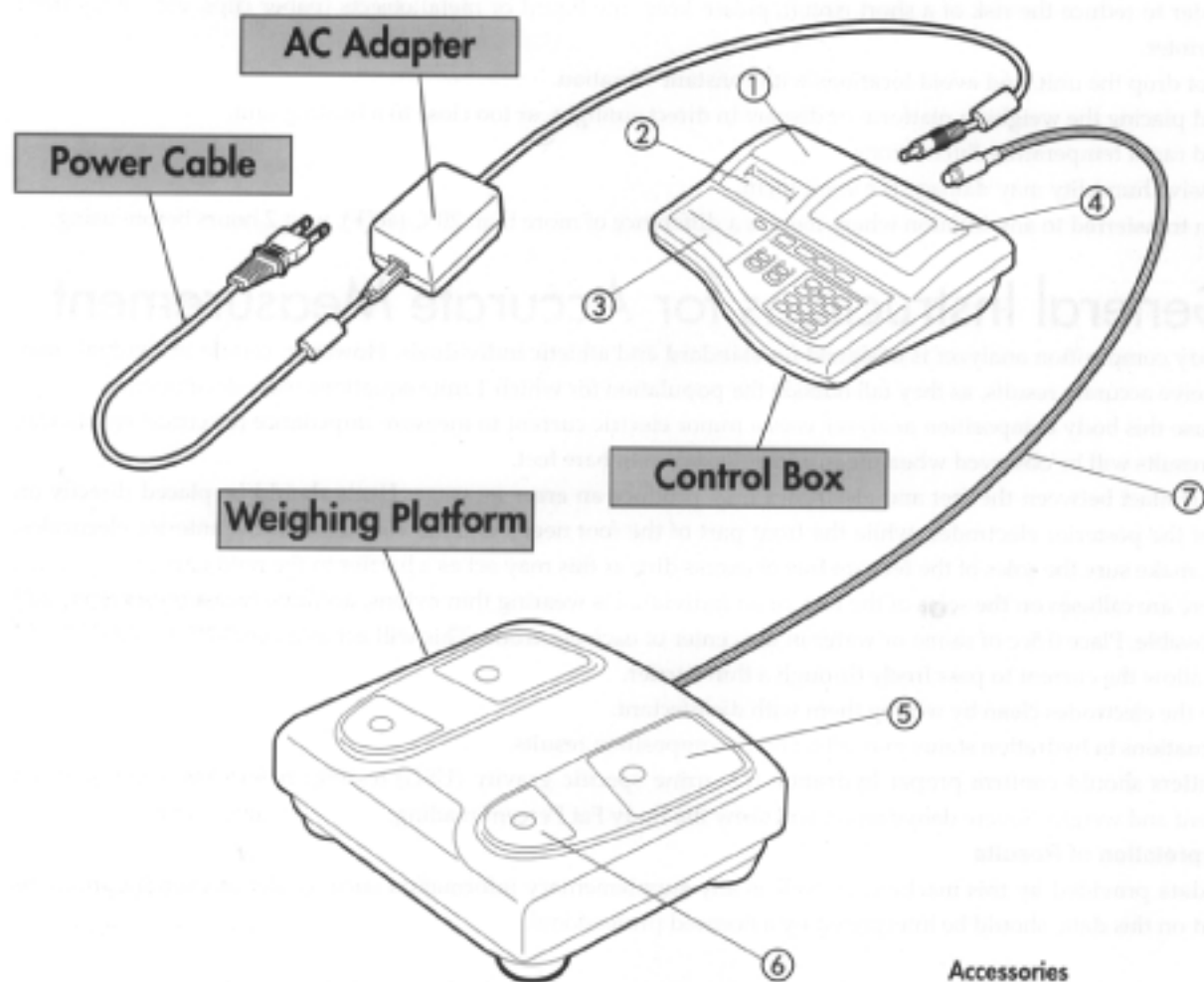
The data provided by this machine, as well as any supplementary information such as diet or exercise programs based on this data, should be interpreted by a licensed professional.

For more information regarding Accurate Measurement, please refer to the **Technical Notes** booklet.

4. Components

GB

Overview (TBF-300/TBF-300A)



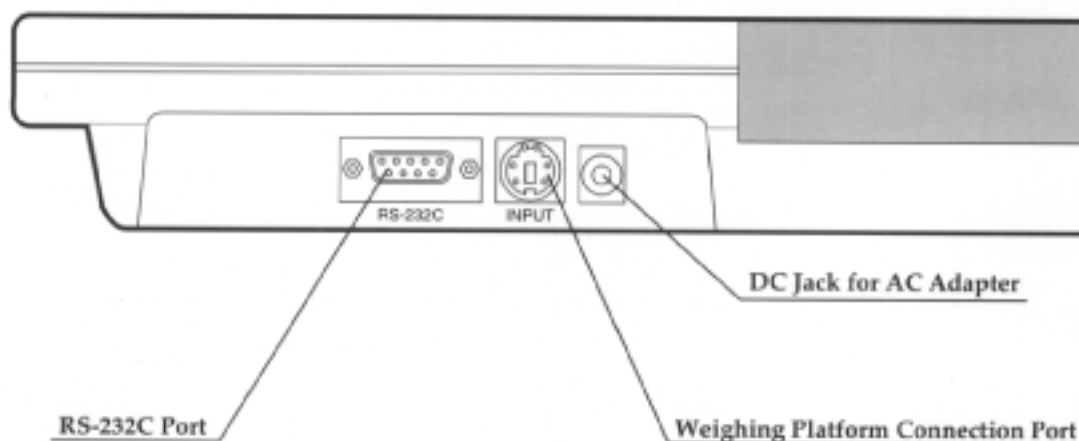
- ① Paper Dispenser Cover
- ② Printer Cover
- ③ Control Panel
- ④ Digital Display

- ⑤ Anterior Weighing Platform Electrodes
- ⑥ Posterior Weighing Platform Electrodes
- ⑦ Connection Cable

Accessories

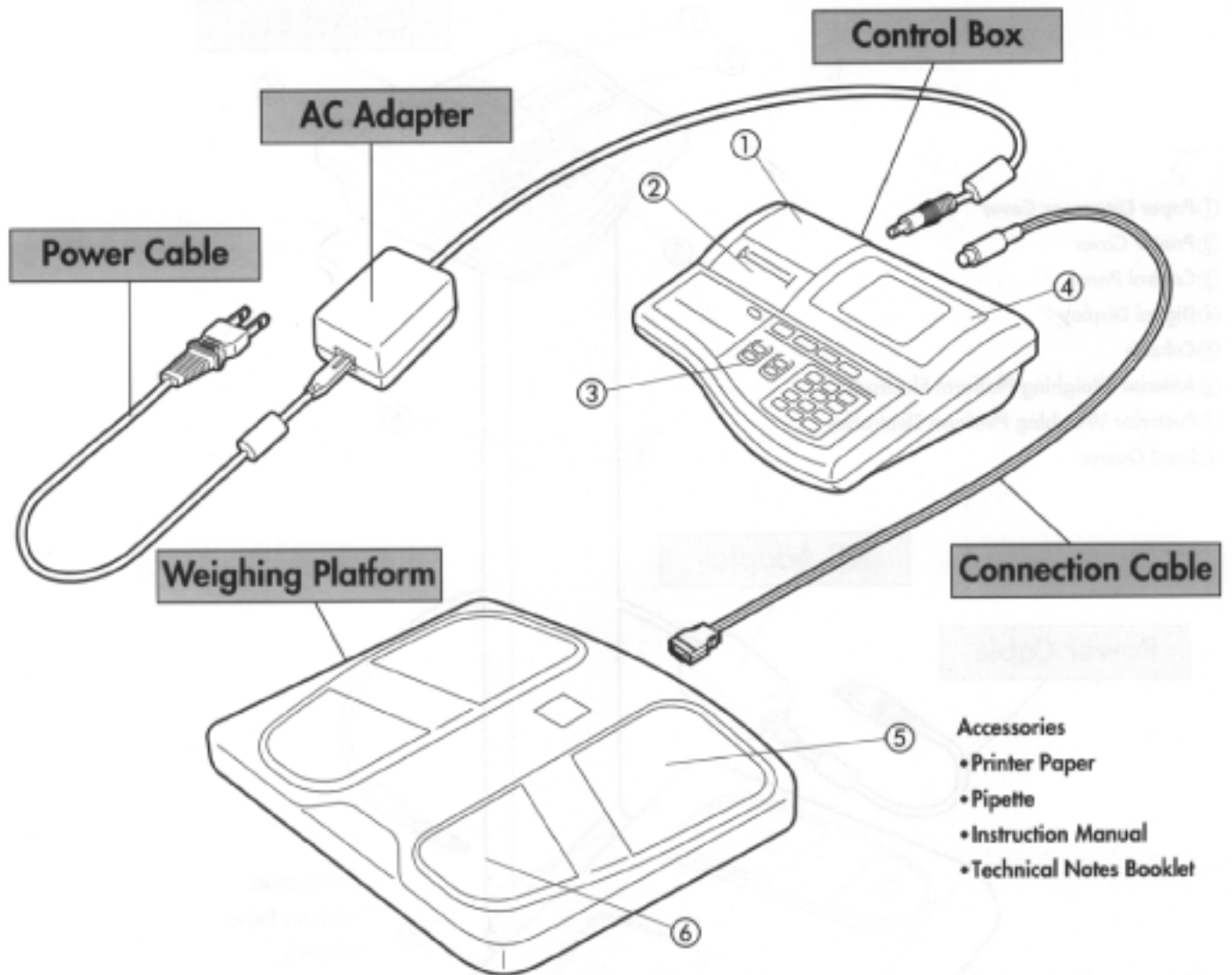
- Printer Paper
- Pipette
- Instruction Manual
- Technical Notes Booklet

Rear View of Control Panel (TBF-300/TBF-300A)



Overview (TBF-310)

GB



① Paper Dispenser Cover

② Printer Cover

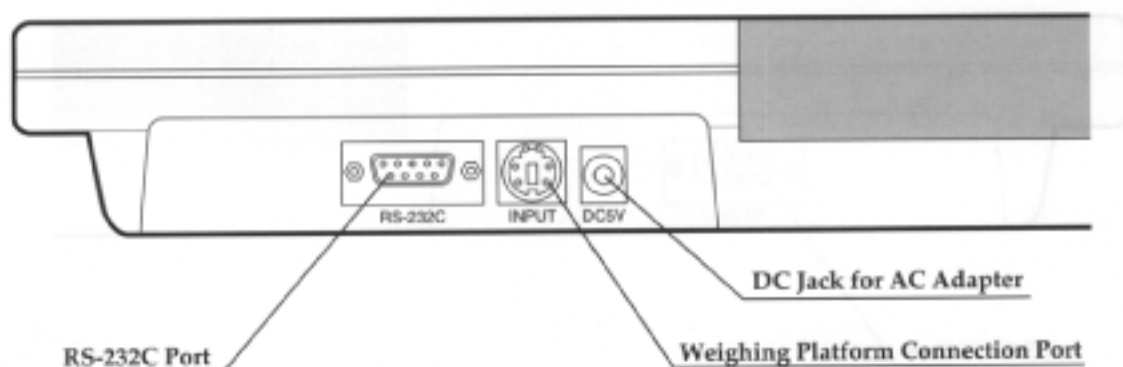
③ Control Panel

④ Digital Display

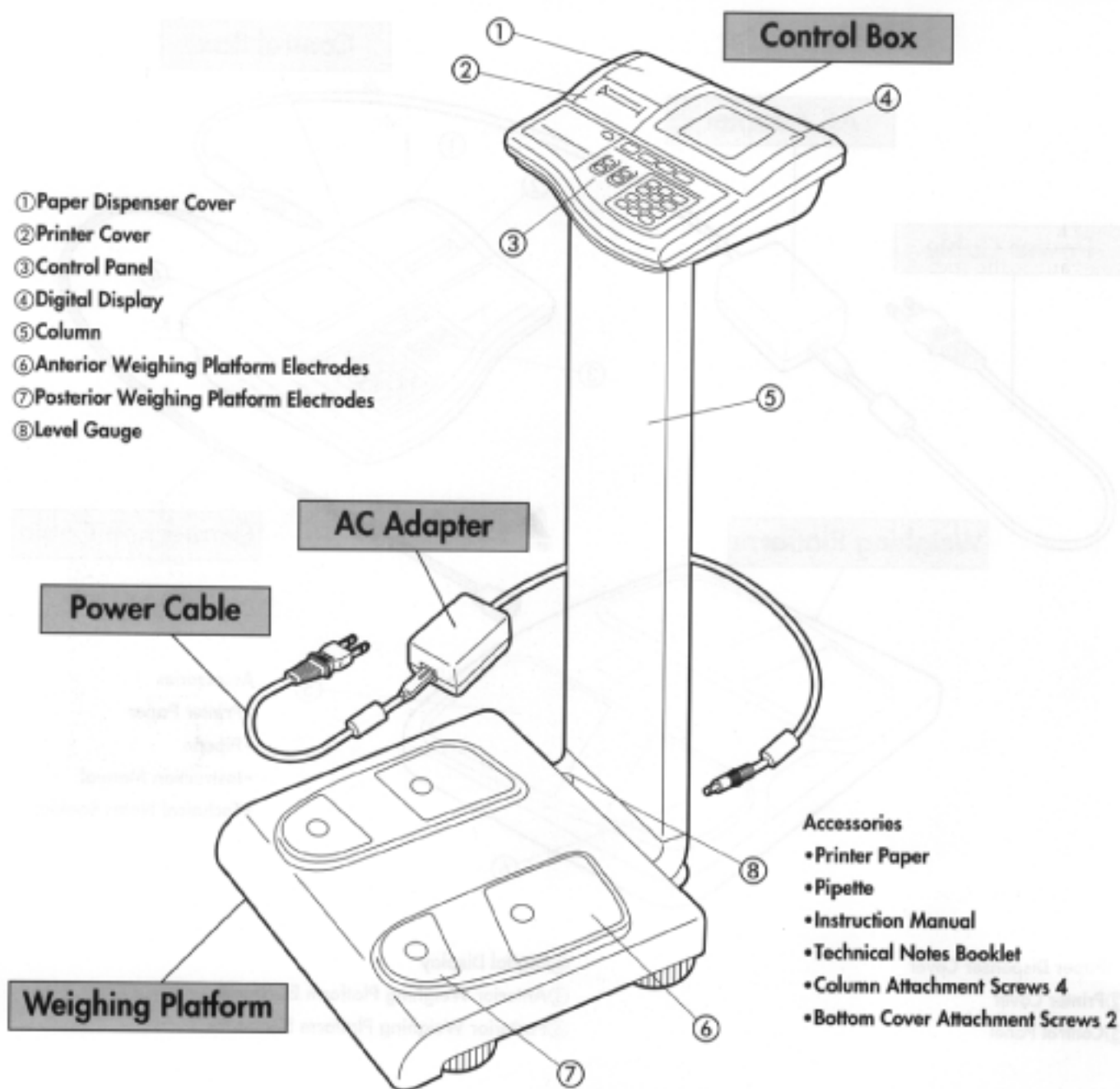
⑤ Anterior Weighing Platform Electrodes

⑥ Posterior Weighing Platform Electrodes

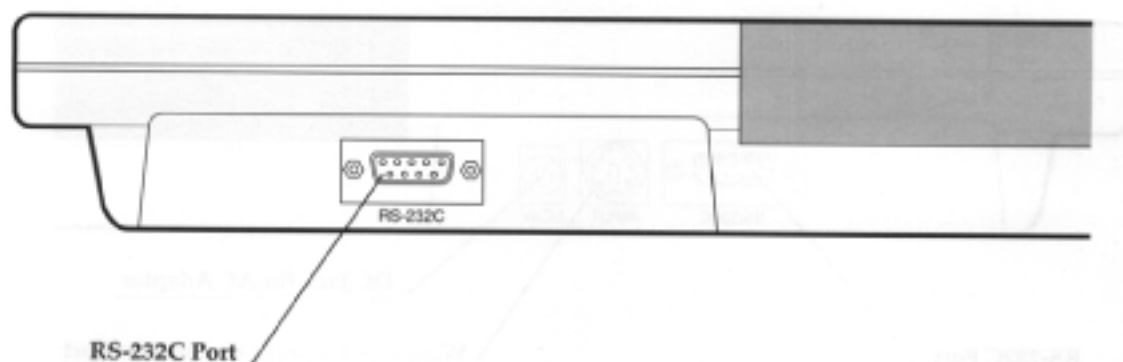
Rear View of Control Panel (TBF-310)

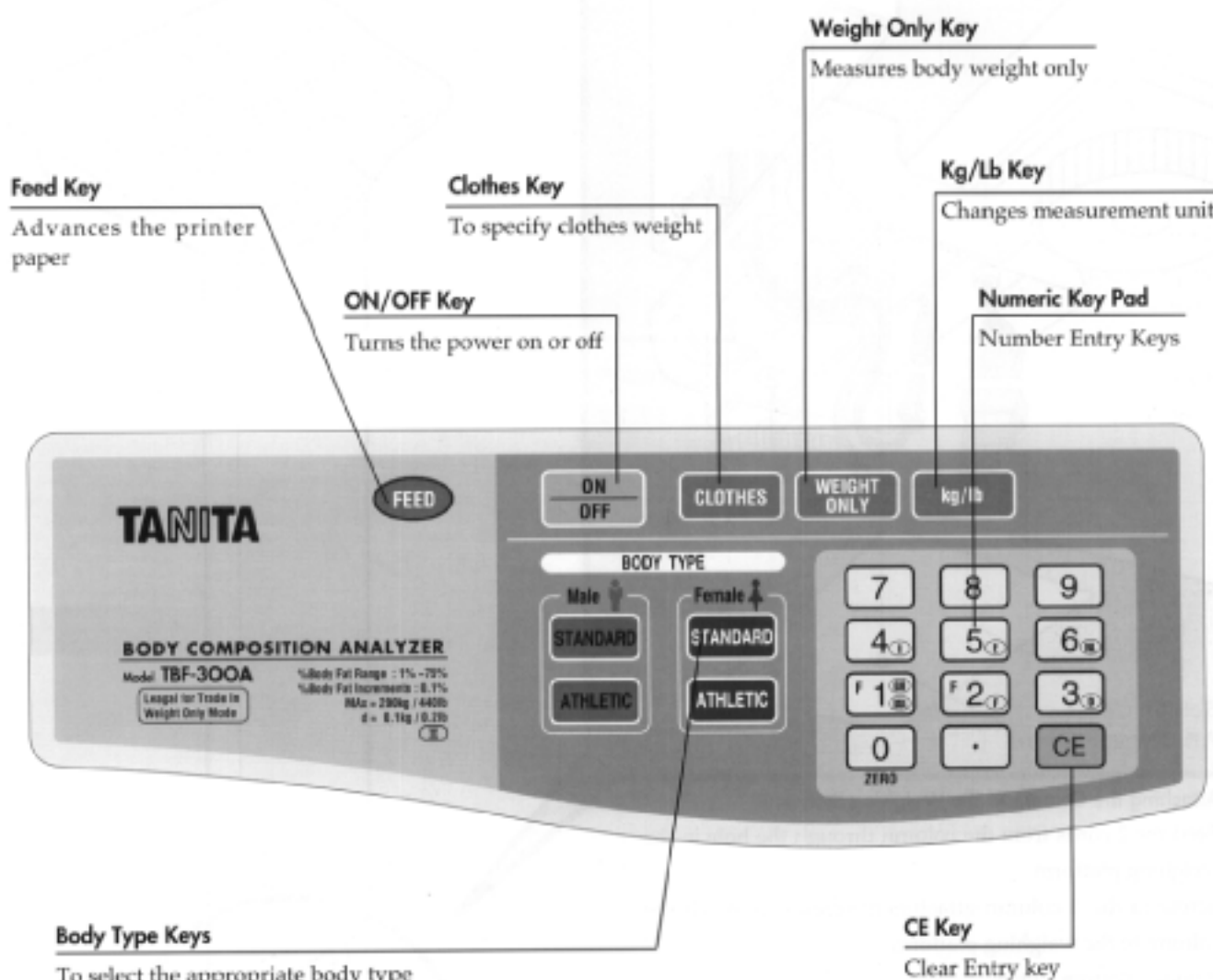


Overview (TBF-410)



Rear View of Control Panel (TBF-410)





Body Type Keys

To select the appropriate body type

Tanita defines "athlete" as a person involved in intense physical activity of at least 10 hours per week and who has a resting heart rate of approximately 60 beats per minute or less. Tanita's athlete definition includes "lifetime of fitness" individuals who have been fit for years but currently exercise less than 10 hours per week.

Tanita's athlete definition does not include "enthusiastic beginners" who are making a real commitment to exercising at least 10 hours per week but whose bodies have not yet changed to require the Athlete mode.

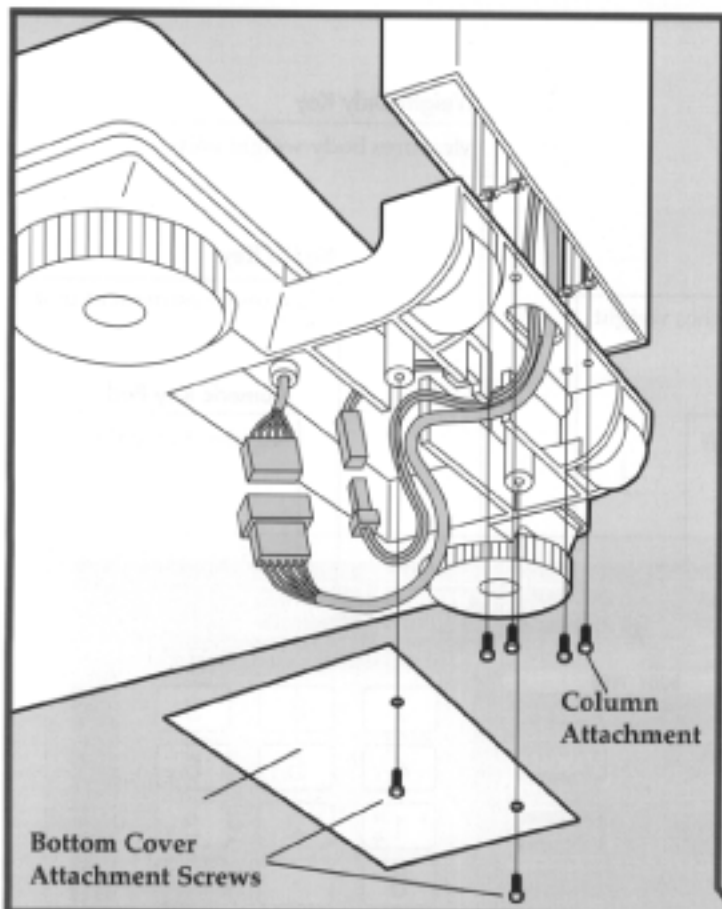
Please see **Technical Notes** booklet for further explanation.

*** NOTE FOR TBF-300A USERS:** The TBF-300A is specially designed so that individuals age 16 or more may select the "Athletic Mode" when the Wrestler function is activated (See P.19).

5. Assembly Instructions

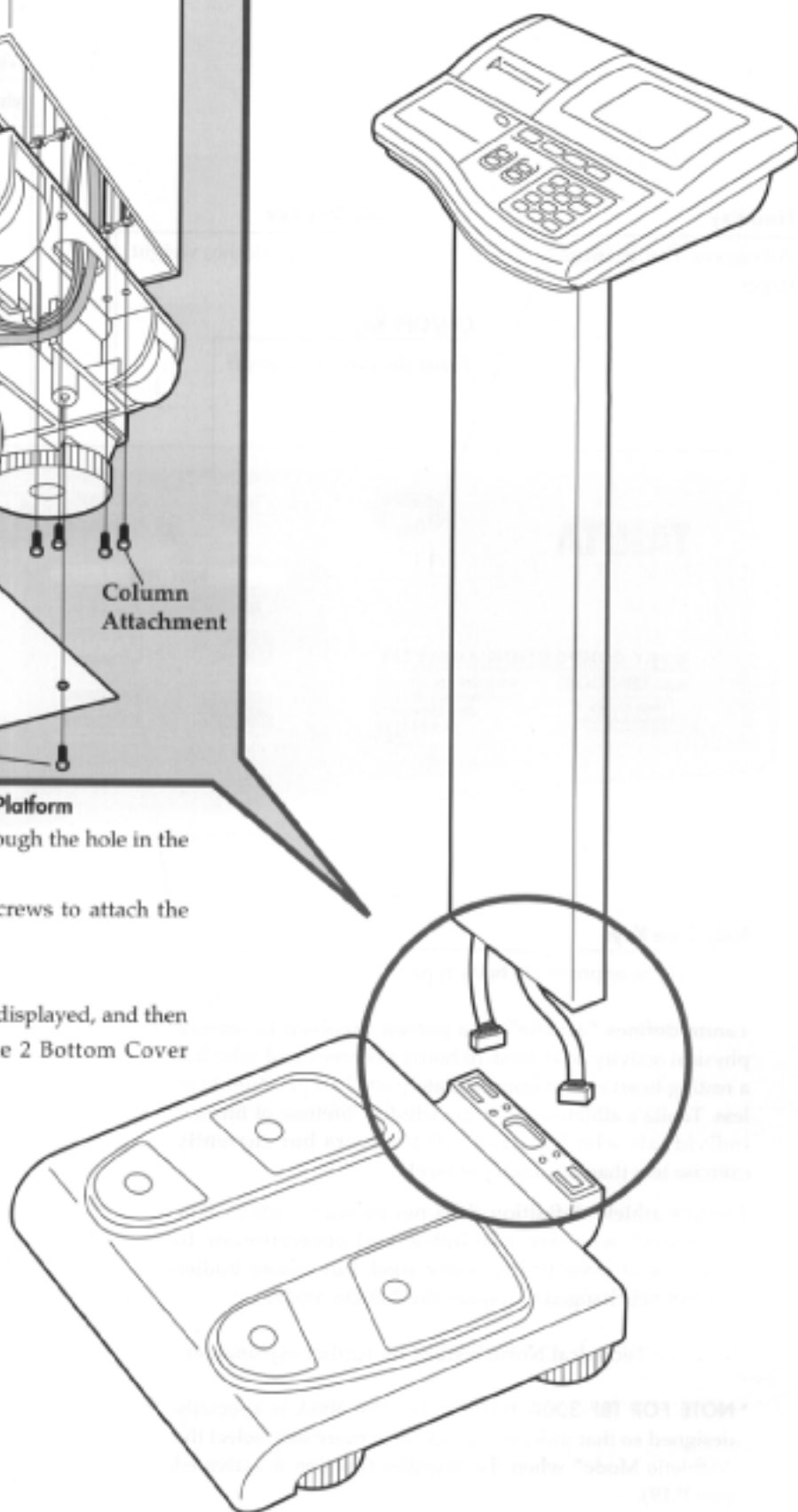
GB

■ TBF-410



■ Attaching the Column to the Weighing Platform

- ① Feed the 2 cords from the column through the hole in the weighing platform.
- ② Screw in the 4 column attachment screws to attach the column to the weighing platform.
- ③ Remove Bottom Cover.
- ④ Insert the 2 cords from the column as displayed, and then replace the Bottom Cover using the 2 Bottom Cover Attachment Screws. When replacing the bottom cover, please put the cords in the appropriate location so they will not be squeezed between the cover and the weighing platform. This may damage the cords.

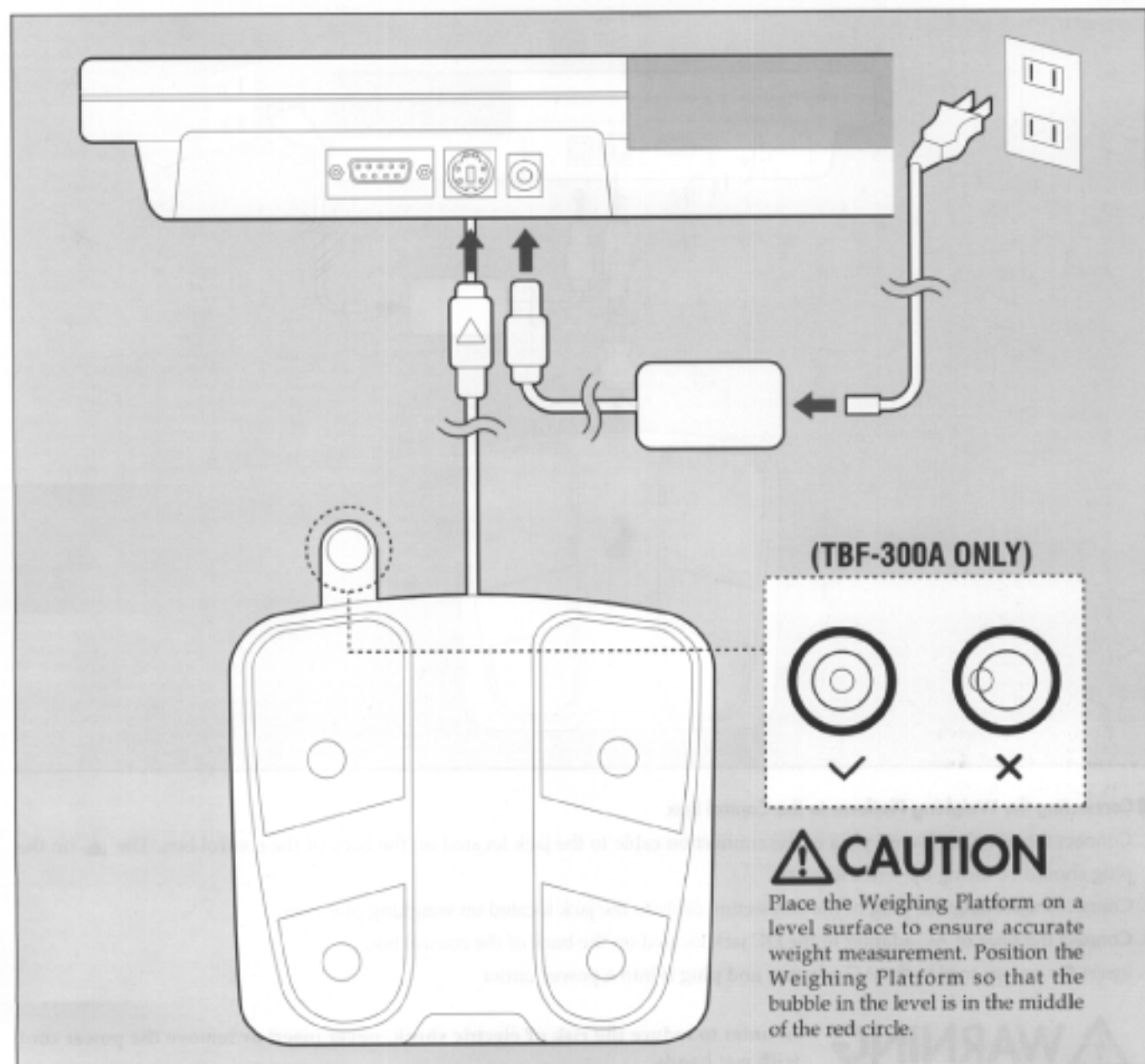


6. Set Up

■ TBF-300/TBF-300A

016-787

GB



■ Connecting the Weighing Platform to the Control Box

1. Connect the cable from the weighing platform to the jack located on the back of the control box. The ▲ on the plug should be facing up when inserted.
2. Connect the plug of AC adapter to the DC jack located on the back of the control box.
3. Insert the power cord to the AC adapter, and plug it into a power outlet.



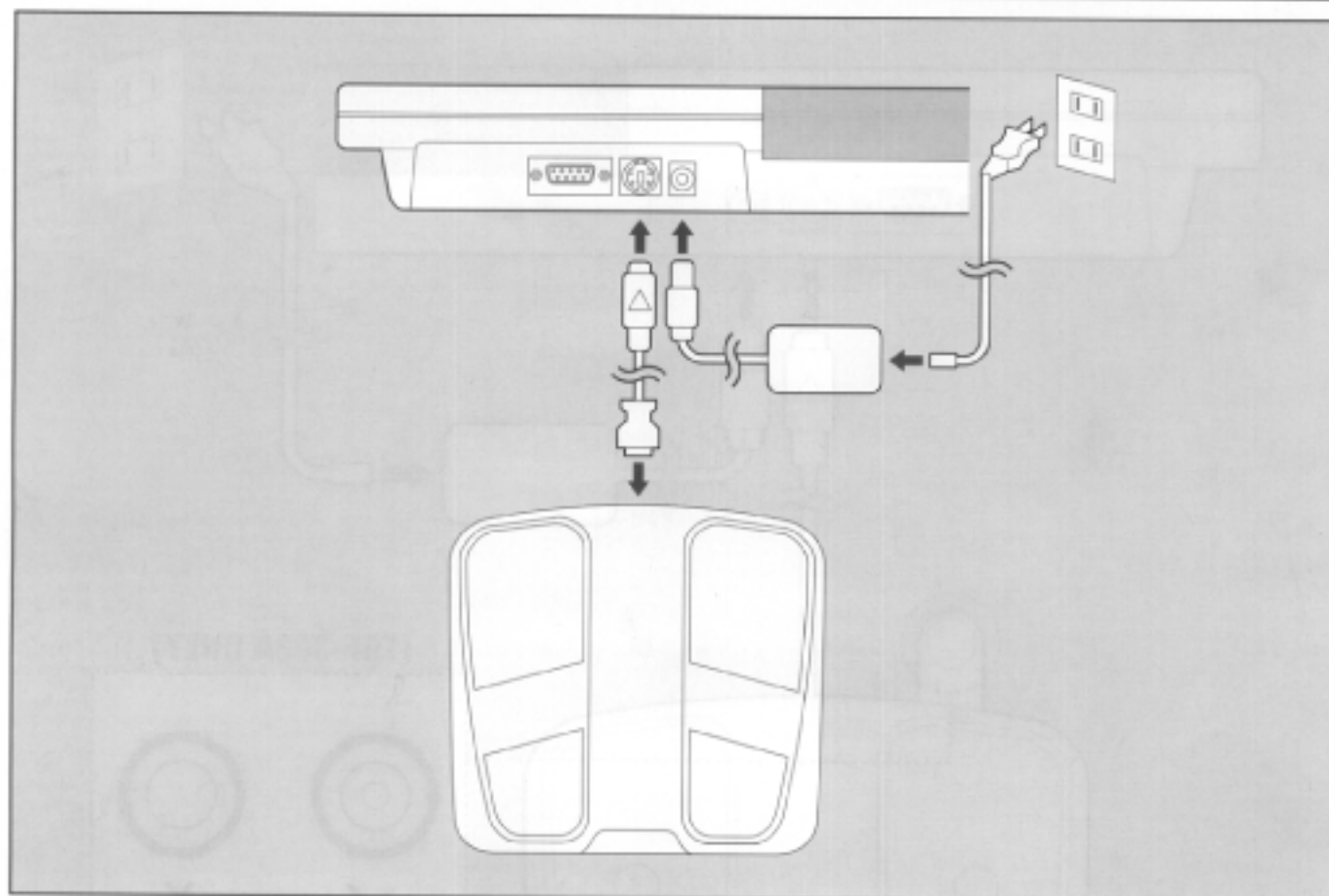
WARNING

- In order to reduce the risk of electric shock, never insert or remove the power cord with wet hands.



CAUTION

- Use only the Tanita AC adapter provided with the unit.
- Put the weighing platform on a flat, level surface.



■ Connecting the Weighing Platform to the Control Box

1. Connect the circular shaped plug of the connection cable to the jack located on the back of the control box. The ▲ on the plug should be facing up when inserted.
2. Connect the rectangular plug of the connection cable to the jack located on weighing platform.
3. Connect the plug of AC adapter to the DC jack located on the back of the control box.
4. Insert the power cord to the AC adapter, and plug it into a power outlet.



WARNING

- In order to reduce the risk of electric shock, never insert or remove the power cord with wet hands.

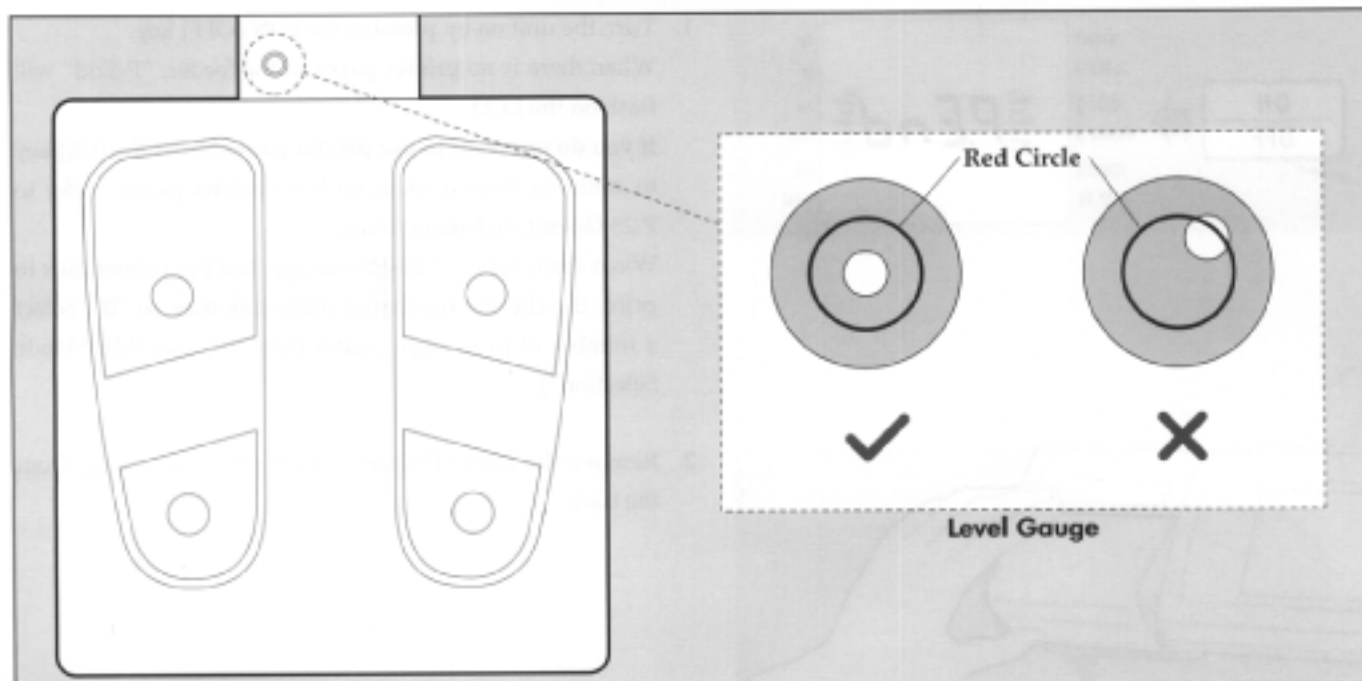


CAUTION

- Use only the Tanita AC adapter provided with the unit.
- Put the weighing platform on a flat, level surface.

■ TBF-410

GB



■ Leveling the Weighing Platform

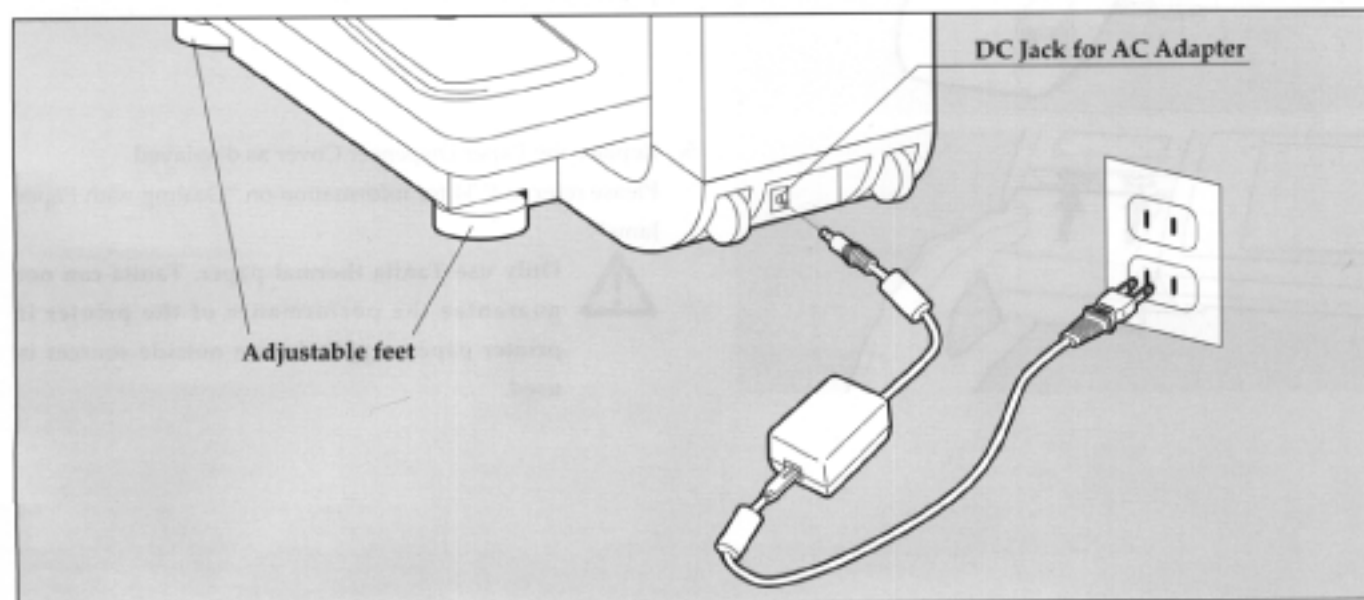
- For optimum accuracy, place the unit on a flat and level surface.
- Check the level gauge to make sure the air bubble is in the center of the red circle.
- The weighing platform has adjustable feet to ensure a level and stable weighing surface. If the air bubble is not in the center of the red circle, it can be centered by turning the feet.

■ Plugging in the Unit

1. Connect the plug of AC adapter to the DC jack located on the back of the weighing platform.
2. Insert the power cord to the AC adapter, and plug it into a power outlet.

⚠ WARNING • In order to reduce the risk of electric shock, never insert or remove the power cord with wet hands.

⚠ CAUTION • Use only the Tanita AC adapter provided with the unit.
• Put the weighing platform on a flat, level surface.

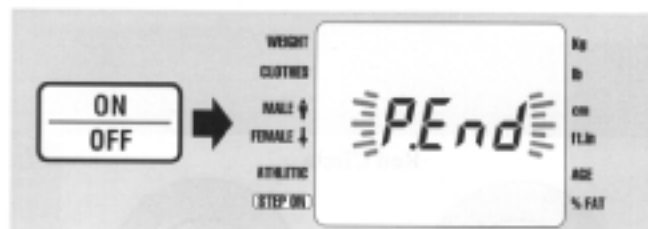


7. Loading Printer Paper

GB



Please change printer paper when red lines appear along the sides.

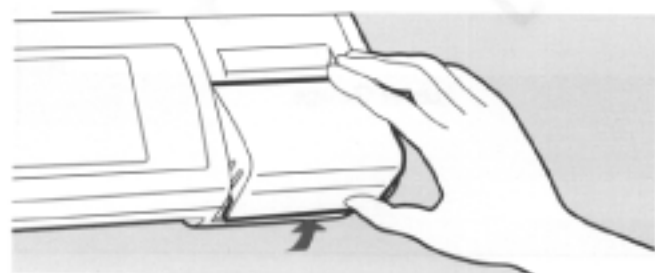


1. Turn the unit on by pressing the [ON/OFF] key.

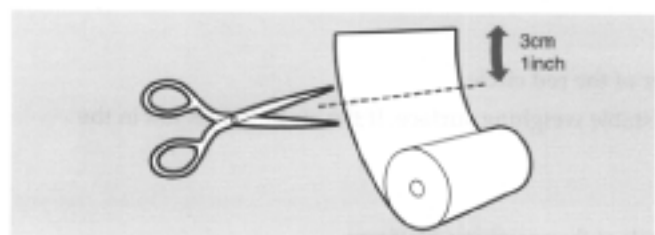
When there is no printer paper in the feeder, "P-End" will flash on the LCD.

If you do not want to use printer paper, press the [CE] key to continue measurement with no printer paper. (refer to P.28 **Operating Instructions**).

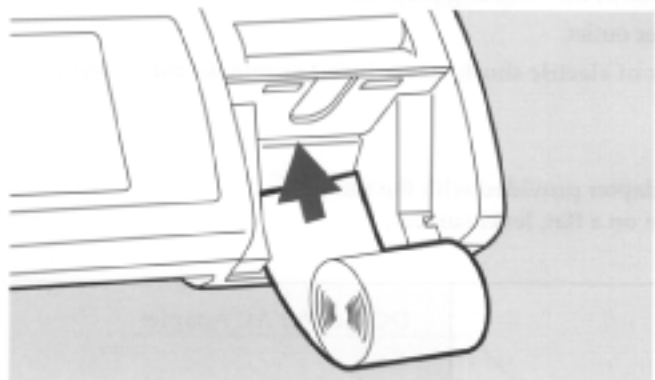
When there is no "P-End" message, but the printer fails to print, the chosen number of print outs may be "0". Select a number of print outs greater than "0". (see P.18 "Mode Selection")



2. Remove the Paper Dispenser Cover by lifting it up from the back.



3. In a straight line, cut approximately 1 inch (3cm) off of the paper roll, this will ensure smooth feeding.



4. Insert the printer paper in the holder as displayed. Be sure to feed the printer paper straight into the automatic feeder. As the front edge of the printer paper enters the appropriate slot, it will automatically feed. Once the printer paper feeds, it will exit the printer paper feed slot located on the printer cover, and be cut. Remove printer paper from the Printer Cover.



5. Replace the Paper Dispenser Cover as displayed. Please refer to P.34 for information on "Dealing with Paper Jams".



Only use Tanita thermal paper. Tanita can not guarantee the performance of the printer if printer paper supplied from outside sources is used.

8. Mode Selection

GB

Please determine which functions (modes) you would like to activate on your new TBF unit. Your selection will be recorded automatically. If there is no need to make a change, the machine may be started by simply pressing the [ON/OFF] key.



Please read the page that corresponds to the model which you have purchased.

■ TBF-300A : P.19

■ TBF-300/ TBF-310/ TBF-410 : P.25

■ TBF-300A

GB

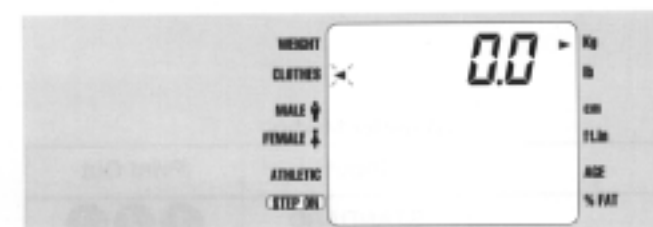
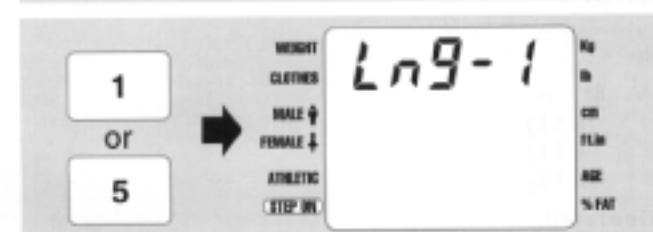
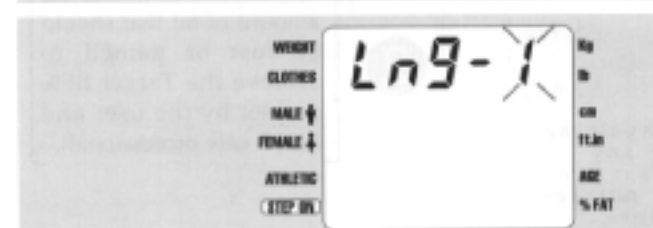
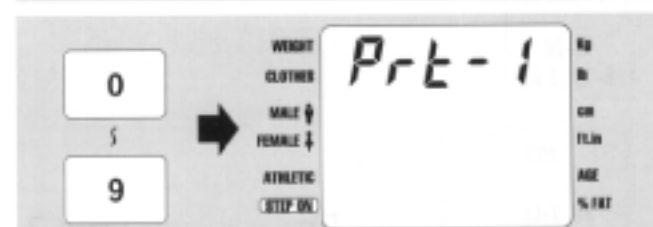
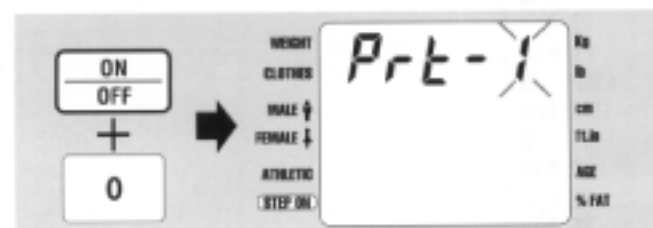
For the TBF-300A: A. Setting the Number of Print Outs and Printing Language

B. Setting the Mode

C. Setting the Original Mode

A. Setting the Number of Print Outs and Printing Language

Select the number of print outs (0 ~ 9) and the printing language (English or Spanish).



The unit will start up with this setting the next time it is used.

1. Press and hold the [0] key, and press the [ON/OFF] key once. Release the [0] key after "Prt-1" is displayed on the screen.

2. Select the desired number of print outs.
Using the number keys, enter the quantity of print outs desired. As many as nine are possible.

[1] ~ [9] : Quantity of print outs

[0] : No print out

3. Language Selection



If "0" has been selected for the number of print outs in Step 2 above, it will not be possible to preset this item.

The LCD will automatically advance to the Language Selection Screen. The current language selection will be displayed as a numerical value.

Example: (LNG-1) denotes English as the selected language.

Select a preferred language by pressing the corresponding number on the keypad.

[1] : English

[5] : Spanish

4. When input has been completed, the unit will automatically switch to the measurement screen.

If further change to the functions is desired, please turn off the unit, and refer to steps 1 to 4 above.

Sample

This section prints the both the body type and body composition data of the current user.

In Wrestler Mode, "Athletic" can be selected only for individuals aged 16 or more. If you enter 15 years of age or less, calculation will automatically be performed for a "standard" body type.

TANITA
BODY COMPOSITION
ANALYZER
TBF-300A

BODY TYPE	STANDARD
GENDER	MALE
AGE	25
HEIGHT	166 cm
WEIGHT	61.3 kg
BMI	22.2
FAT%	13.9 %
BMR	6583 kJ
	1573 kcal
IMPEDANCE	517 Ω
FAT MASS	8.5 kg
FFM	52.8 kg
TBW	38.7 kg
DESIRABLE RANGE	
FAT%	8-20 %
FAT MASS	4.6-13.2 kg

TARGET BF% is : 10%

Predicted weight : 58.7 kg

Predicted fat mass : 5.9 kg

FAT TO LOSE: 2.6 kg

Consult your physician before beginning any weight management program. Tanita is not responsible for determining your target BF%.

Wrestler Mode

Min WEIGHT at 7% BF is	56.8 kg
FAT MASS	4.0 kg
FFM	52.8 kg

Min Weight is calculated as per state association guidelines.

This section calculates the amount of fat that should be lost or gained to achieve the Target BF% (preset by the user and health care professional).

This section automatically calculates the Minimum Wrestling Weight (MWW) using the methodology adopted in the 1998 NCAA Weight Management Guidelines. (See P.23, 29) (TBF-300A ONLY!)

<Goal Setter Mode>

	Input	Print Out
ON	STANDARD	1 2
	ATHLETIC	1 2
	TARGET BF 00%	1
OFF	STANDARD	1
	ATHLETIC	1

<Wrestler Mode>

	Input	Print Out
ON	STANDARD	1 2 3
	ATHLETIC	1 2 3
	TARGET BF 00%	1 3
OFF	STANDARD	1 2
	ATHLETIC	1 2
	TARGET BF 00%	1

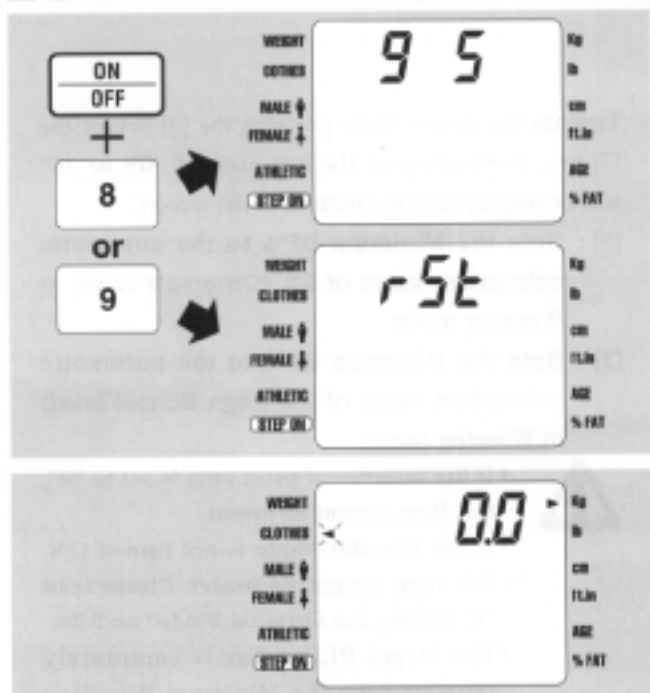
B. Setting the Mode

Select the mode according to the items you wish to output.

< HINT! >

If you want to output ①②③ in the print out sample on P.20 : Select the Wrestler Mode.

If you want to output ①② : Select the Goal Setter Mode.



1. Turn on the power while pressing the [8] key or the [9] key.

[ON/OFF]+[8] : Start up in Goal Setter Mode

[ON/OFF]+[9] : Start up in Wrestler Mode



If "0" has been selected for the number of print outs in P.19 "A. Setting the Number of Print Outs and Printing Language", it will not be possible to preset this item.

2. When input has been completed, the unit will automatically switch to the measurement screen.



- The unit will start up with this setting the next time it is used.

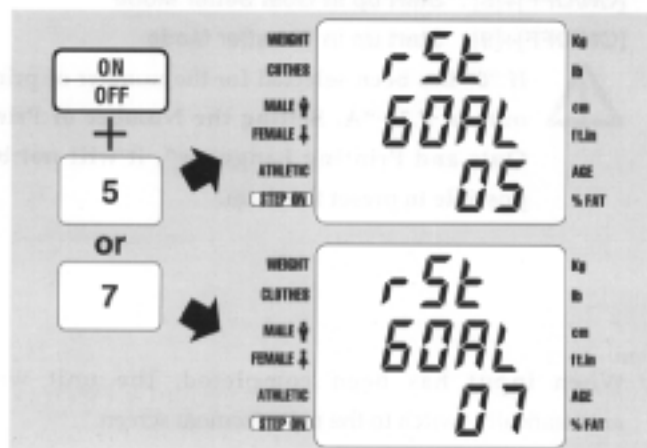
Wrestler Mode: Setting the Minimum Body Fat Percent (TBF-300A ONLY)

When the "Wrestler Mode" is activated, the TBF-300A automatically calculates the Minimum Wrestling Weight at a predetermined minimum body fat percent. The 1996 ACSM Position Stand "Weight Loss in Wrestlers" as adopted by the NCAA recommends the following MINIMUM body fat percents as follows:

5% for Collegiate Athletes

7% for High School Athletes

<To set the Minimum Body Fat Percent>



1. Turn on the power while pressing the [5] key or the [7] key. Depending on the key pressed, '05' or '07' will be displayed at the bottom of the screen.

[5] : Sets the Minimum BF% to the automatic calculation value of 5% (Collegiate level) in Wrestler mode

[7] : Sets the Minimum BF% to the automatic calculation value of 7% (High School level) in Wrestler mode



- If the number of print outs is set to "0", this item cannot be preset.
- If the Wrestler Mode is not turned ON, this item cannot be preset. Please read "C. Setting the Original Mode" on P.24.
- The target BF% value is completely separate from the Minimum Wrestling Weight (Min WEIGHT) calculations.
For example: The target BF% value may be entered as 15%, even though the Min WEIGHT is calculated at a predetermined minimum body fat of 5 or 7%.



2. When input has been completed, the unit will automatically continue to the measurement screen.

Wrestler Mode: Setting the Minimum Weight Guideline

Minimum Wrestling Weight is calculated according to the methodology adopted by the NCAA (1998 Guidelines). The calculations are as follows:

$$\text{Body Fat Percent (BF\%)} = (4.57 / \text{Body Density} - 4.142) \times 100 \text{ (Brozek equation)}$$

$$\text{Fat weight (FW)} = \text{Body Weight (BW)} \times \text{BF\%} / 100$$

$$\text{Fat free Weight (FFW)} = \text{BW} - \text{FW}$$

$$\text{Minimum Wrestling Weight (MWW)**} = \text{FFW} / \text{Predetermined Minimum BF\%*}$$

* If the predetermined minimum BF% is 7% : $\text{MWW} = \text{FFW} / 0.93$

* If the predetermined minimum BF% is 5% : $\text{MWW} = \text{FFW} / 0.95$

** MWW appears as "Min WEIGHT" on the printout.



CAUTION

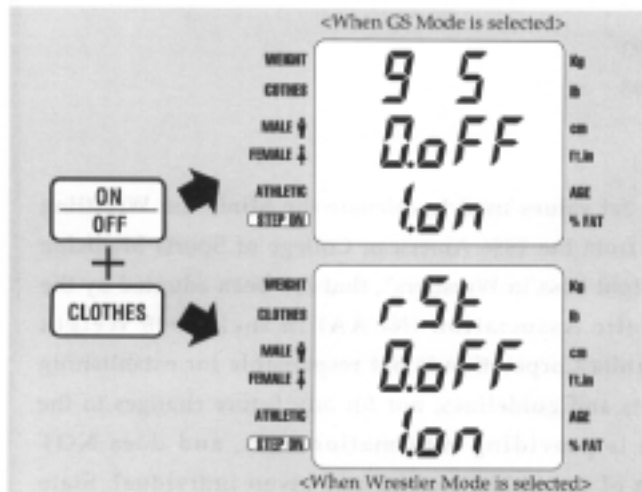
- The minimum percent body fat values used to calculate the Minimum Wrestling Weight (MWW) are derived from the 1996 American College of Sports Medicine (ACSM) Position Stand "Weight Loss in Wrestlers", that has been adopted by the National Collegiate Athletic Association (NCAA) in their 1998 Weight Management Guidelines. Tanita Corporation is not responsible for establishing these minimum requirements and guidelines, nor for any future changes to the current standards. Tanita is providing information only, and does NOT recommend the application of the guidelines for any given individual. State wrestling associations may have standards that differ from the NCAA.
- The Minimum Wrestling Weight as calculated with the minimum body fat percent is the *MINIMUM* weight at which an athlete may be allowed to compete. The *MINIMUM* body fat percent and resulting *MINIMUM* wrestling weight may NOT be the optimal body fat or weight for a given individual athlete. Attempting to achieve these *MINIMUM* standards does NOT necessarily impact the athlete's performance, and may be unhealthy for given individuals.
- If it is necessary to set the Minimum BF% to a value other than 5% or 7%, please contact our customer service department.

C. Setting the Original Mode

This process is used to inactivate the Goal Setter function (Target BF% section of printout) and the Wrestler Mode (Section ③: Minimum Wrestling Weight of the printout). (See P.20. for sample printout.)

< HINT! >

If Goal Setter Mode or Wrestler Mode is on when using "B. Setting the Mode", there is no need to change this setting. (It will automatically come on.)



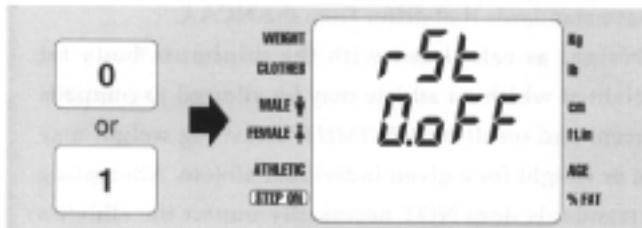
1. Turn on the power while pressing the [CLOTHES] key.

[0] : Mode is deactivated

[1] : Mode is activated



If "0" has been selected for the number of printouts in P.19 "A. Setting the Number of Print Outs and Printing Language", it will not be possible to preset this item.



2. When input has been completed, the unit will automatically switch to the measurement screen.



- The unit will start up with this setting the next time it is used.
- In standard use, if the Target BF% is not input, please select [gs 0.off].

This is the end of the section pertaining to the TBF-300A settings.

Please proceed to P.28 "9. Operating Instructions".

■ TBF-300 / TBF-310 / TBF-410

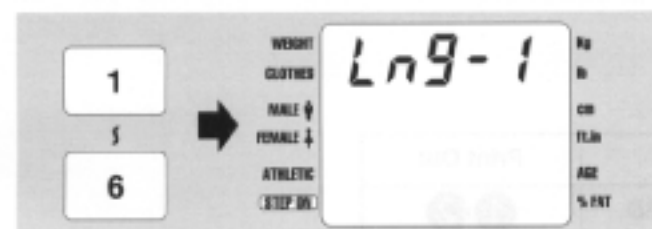
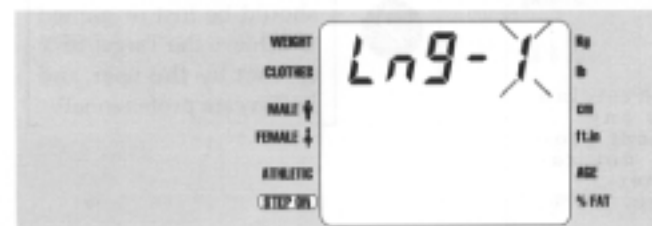
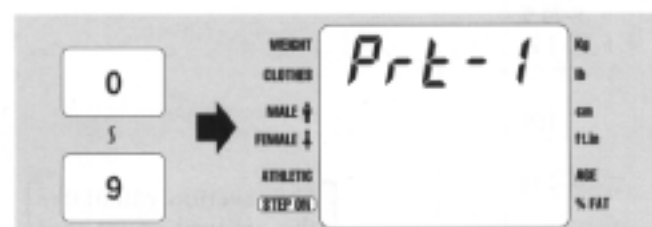
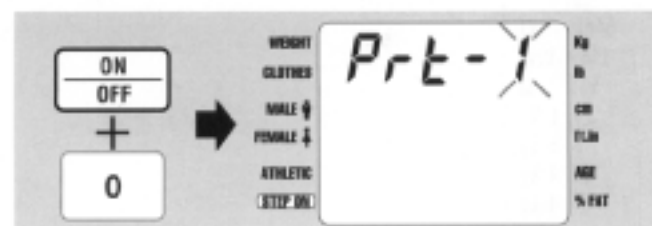
GB

For the TBF-310 / TBF-410

- A. Setting the Number of Print Outs and Printing Language; and
- B. Setting the Original Mode

A. Setting the Number of Print Outs and Printing Language

Select the number of print outs (0 ~ 9) and the printing language (English, French, German, Italian, Spanish, and Dutch).



1. Press and **hold** the [0] key, and press the [ON/OFF] key once. Release the [0] key after "Prt-1" is displayed on the screen.

2. Select the desired number of print outs.
Using the number keys, enter the quantity of print outs desired. As many as nine are possible.

[1] ~ [9] : **Quantity of print outs**
[0] : **No print out**

3. Language Selection



If "0" has been selected for the number of print outs in Step 2 above, it will not be possible to preset this item.

The LCD will automatically advance to the Language Selection Screen. The current language selection will be displayed as a numerical value.

Example: (LNG-1) denotes English as the selected language.

Select a preferred language by pressing the corresponding number on the key pad.

[1] : English	[2] : French
[3] : German	[4] : Italian
[5] : Spanish	[6] : Dutch

4. When input has been completed, the unit will automatically switch to the measurement screen.

If further change to the functions is desired, please turn off the unit, and refer to steps 1 to 4 above.



The unit will start up with this setting the next time it is used.

Sample

TANITA
BODY COMPOSITION
ANALYZER
TBF-300

BODY TYPE	STANDARD
GENDER	MALE
AGE	25
HEIGHT	166 cm
WEIGHT	61.0 kg
BMI	22.1
BMR	6566 kJ
	1569 kcal
IMPEDANCE	527 Ω
FAT%	14.1 %
FAT MASS	8.6 kg
FFM	52.4 kg
TBW	38.4 kg
DESIRABLE RANGE	
FAT%	8-20 %
FAT MASS	4.6-13.1 kg

TARGET BF% is : 10%

Predicted weight : 58.2 kg

Predicted fat mass : 5.8 kg

FAT TO LOSE: 2.8 kg

Consult your physician before beginning any weight management program. Tanita is not responsible for determining your target BF%.

1

This section prints the both the body type and body composition data of the current user.

2

This section calculates the amount of fat that should be lost or gained to achieve the Target BF% (preset by the user and health care professional).

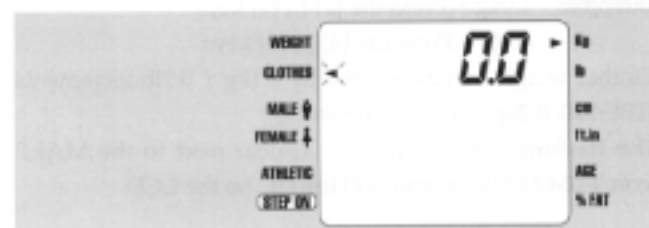
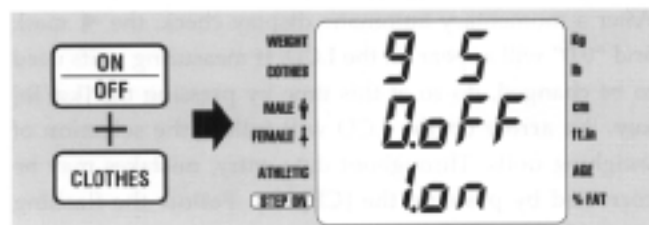
Goal Setter Mode	Input	Print Out
ON	STANDARD	1 2
	ATHLETIC	1 2
	TARGET BF 00%	1
OFF	STANDARD	1
	ATHLETIC	1

B. Setting the Original Mode

This process is used to select activation or deactivation of the Target BF% function (See the sample printout on P.26).

<HINT! >

When the unit is shipped from the factory, it set to [0.off].



1. Turn on the power while pressing the [CLOTHES] key.

[0] : Mode is deactivated

[1] : Mode is activated



If "0" has been selected for the number of print outs in P.25 "A. Setting the Number of Print Outs and Printing Language", it will not be possible to preset this item.

2. When input has been completed, the unit will automatically switch to the measurement screen.



The unit will start up with this setting the next time it is used.

This is the end of the section pertaining to settings.

Please proceed to P.28 "9. Operating Instructions".

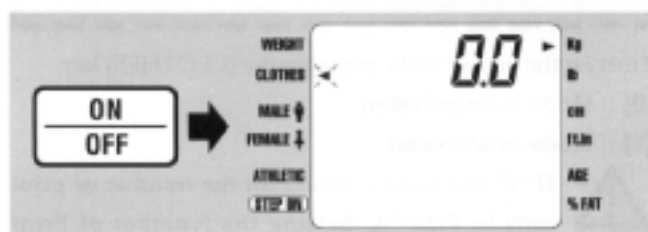
9. Operating Instructions

CB

Body Composition Analysis



Do Not Step On The Weighing Platform Until All Data Has Been Entered, And The Flashing Arrow Appears Next To [STEP ON].



1. Press the [ON/OFF] key to turn on the Power

After a momentary automatic display check, the ◀ mark and "0.0" will appear on the LCD. If measuring units need to be changed, do so at this time by pressing the [kg/lb] key. An arrow on the LCD will follow the selection of weighing units. Throughout data entry, mistakes may be corrected by pressing the [CE] key. Follow the flashing arrow on the LCD for proper sequence.



2. Enter Clothes Weight

This function will automatically subtract the chosen amount of clothes weight.

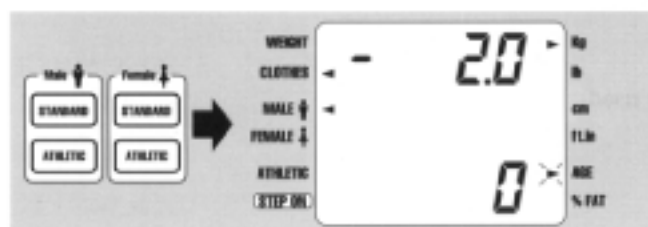
Enter Clothes Weight to the first decimal place, or the flashing arrow will not advance.

Example: 2.0kg = Press the [2] [.] [0] keys

4.0lb = Press the [4] [.] [0] keys

Clothes weight can be entered by 0.1kg / 0.2lb increments (TBF-310: 0.2kg / 0.5lb increments).

The flashing arrow will now appear next to the MALE Icon, FEMALE Icon, and ATHLETIC on the LCD.



3. Enter Gender and Body Type

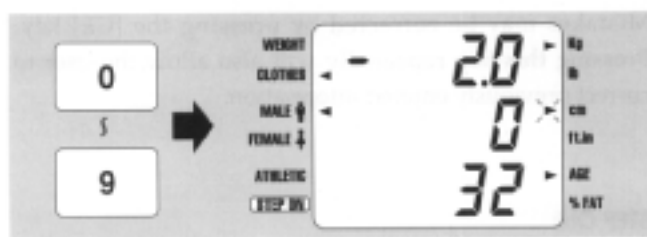
Select from one of four body types: Standard Male, Standard Female, Athletic Male, Athletic Female. The Athletic Key should be selected for individuals aged 17 or more and under the following conditions:

Tanita defines "athlete" as a person involved in intense physical activity of at least 10 hours per week and who has a resting heart rate of approximately 60 beats per minute or less. Tanita's athlete definition includes "lifetime of fitness" individuals who have been fit for years but currently exercise less than 10 hours per week.

Tanita's athlete definition does not include "enthusiastic beginners" who are making a real commitment to exercising at least 10 hours per week but whose bodies have not yet changed to require the Athlete mode.

Please see **Technical Notes** booklet for further explanation

* When selecting Wrestler Mode on the TBF-300A, "Athlete" can be selected for individuals aged 16 or more. If you enter 15 years of age or less, calculation will automatically be performed for a "Standard" body type.



4. Enter Age

Enter age of the subject using two digits. For children under ten years old, first enter [0].

- Example:** 32 years old = Press the [3] [2] keys
- 9 years old = Press the [0] [9] keys
- Age range is from 7 to 99 years old.

After age is entered, the arrow will automatically advance to [HEIGHT] on the LCD.



5. Enter Height

Using **Centimeters**, measurement is made to the **First Whole Number**.

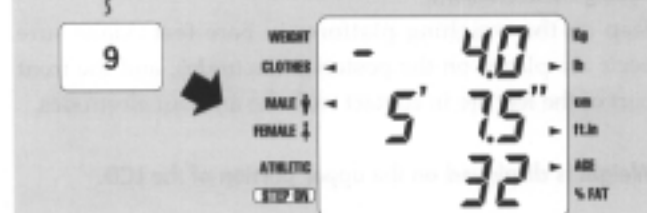
- Example:** 172 cm = Press the [1] [7] [2] keys.

Using **Feet and Inches**, measurement is made to the **First Decimal Place** by 0.5 inch increments.

- Example:** 5 ft 7.5 in = Press the [5] [7] [.] [5] keys.
- 6 ft 0 in = Press the [6] [0] [.] [0] keys.

The range for height is from 90cm (3'0") to 249cm (7'11.5").

When using the lb. mode, height will automatically round up or down to the nearest 0.5 in or whole number.



6. Setting Target Body Fat Percent

After entering the height, [GOAL] will automatically flash on the screen. Using the numeric key pad, enter the desired target Body Fat %.

- Example:** 16% = Press the [1] [6] keys.
- 9% = Press the [0] [9] keys.

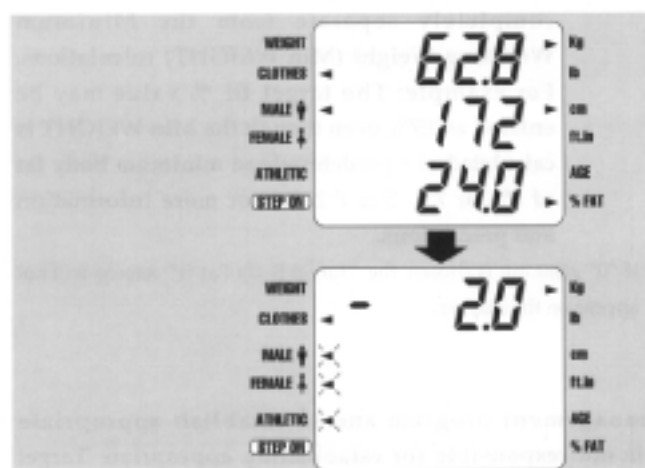
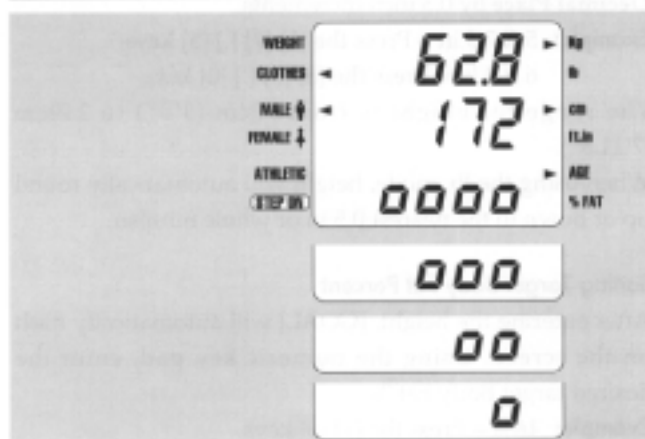
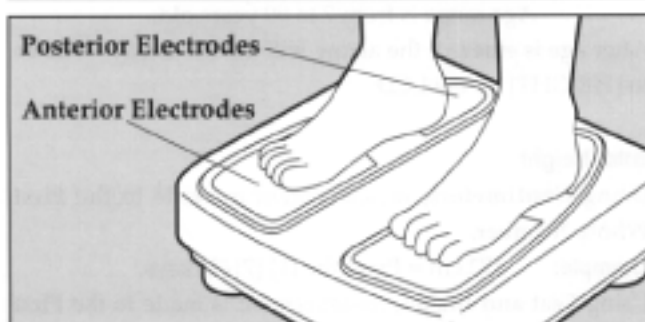
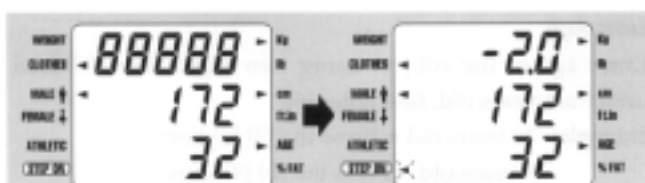


Note for wrestlers (if Wrestler Mode is selected and Wrestler Mode is ON in the case of the TBF-300A): The target body fat percent value is completely separate from the Minimum Wrestling Weight (Min WEIGHT) calculations. For example: The target BF % value may be entered as 15%, even though the Min WEIGHT is calculated at a predetermined minimum body fat of 5% or 7%. See P.22/23 for more information and precautions.

* If "0" print out is chosen, the "Target Body Fat %" screens will not appear on the display.

⚠ WARNING

- Consult your physician before beginning any weight management program and to establish appropriate individualized body fat percent targets. Tanita Corporation is not responsible for establishing appropriate Target Body Fat Percent values for any given individual.
- Please see technical notes for more information regarding Desirable Body Fat Percent Ranges. Note that while certain types of athletes may attempt to achieve and maintain single digit body fat percents to potentially affect their athletic performance, this is not advisable for the average individual attempting reasonable weight / fat loss. There are specific health risks associated with low body fat percents, especially for women and children. **Consult your Physician regarding reasonable fat / weight loss goals.**



Mistakes may be corrected by pressing the [CE] key. Pressing this key repeatedly will also allow the user to correct previously entered information.

7. STEP ON:

The flashing arrow will appear next to STEP ON after the LCD display "888888".

8. Taking Measurement:

Step on the weighing platform in bare feet. Make sure heels are placed on the posterior electrodes, and the front part of the feet are in contact with the anterior electrodes.

9. Weight is displayed on the upper portion of the LCD.

10. Impedance Measurement:

After weight stabilizes, impedance measurement is taken. This is denoted by four "bubbles" 0000 which appear on the bottom half of the LCD. As the measurement is being taken, the bubbles will begin to disappear one by one.



Do not step off from the weighing platform until the final bubble has disappeared, and the display emits a short beep.

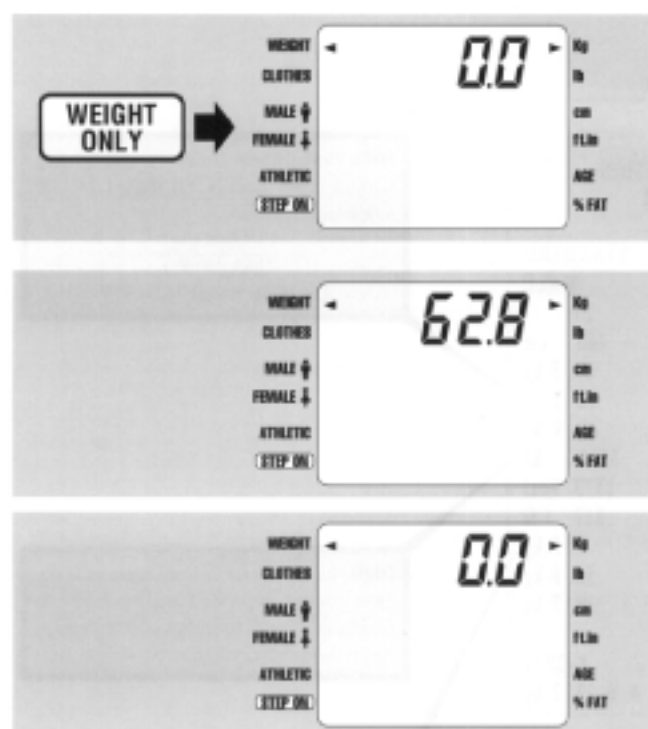
11. Measurement is Now Complete

Weight and percent body fat will be displayed on the LCD, and detailed results will automatically print out. The LCD will return to the Gender and Body Type screen (Step 3) in about 10 seconds, which allows for convenient screening.

Please refer to P.32 for an explanation of the printout, or **Technical Notes** booklet for more details.

12. If all measuring is complete, press the [ON/OFF] key to turn off the power.

WEIGHT ONLY FUNCTION



1. After turning on the unit, press the [WEIGHT ONLY] key.

After a momentary display check, "0.0" will appear on the LCD. If measuring units need to be changed, do so at this time by pressing the [kg/lb] key.

An arrow on the LCD will follow the selection of weighing units.

2. Weight Measurement

Step on the weighing platform. Weight will be displayed on the LCD.

3. When measuring is complete, press the [ON/OFF] key to turn off the power.



- No printer is available when measuring weight only.

- If body composition analysis is desired, turn the unit off and then on, using the [ON/OFF] key.

Important Note: There is no automatic weight lock function.

10. Explanation of The Print Out

Sample

FAT%: The percentage of total body weight that is fat.

IMPEDANCE: Impedance reflects the body's inherent resistance to an electrical current. Muscle acts as a conductor of the electrical current, adipose tissue acts as a resistor.

FFM: Fat Free Mass is comprised of muscle, bone, tissue, water, and all other fat free mass in the body.

TBW: Total Body Water is the amount of water (expressed as lb, kg, or st.lb) retained in the body. TBW is said to comprise between 50% - 70% of total body weight. Generally, men tend to have higher water weight than women due to a greater amount of muscle.

Predicted weight: Calculated weight for the given Target BF%.

FAT TO LOSE / GAIN : Calculated fat mass to lose or gain to achieve the Predicted Weight.

TANITA
BODY COMPOSITION
ANALYZER
TBF-300A

BODY TYPE	STANDARD
GENDER	MALE
AGE	25
HEIGHT	166 cm
WEIGHT	61.3 kg
BMI	22.2
FAT%	13.9 %
BMR	6583 kJ
	1573 kcal
IMPEDANCE	517 Ω
FAT MASS	8.5 kg
FFM	52.8 kg
TBW	38.7 kg
DESIRABLE RANGE	
FAT%	8-20 %
FAT MASS	4.6-13.2 kg

TARGET BF% is :	10%
Predicted weight :	58.7 kg
Predicted fat mass :	5.9 kg
FAT TO LOSE:	2.6 kg
Consult your physician before beginning any weight management program. Tanita is not responsible for determining your target BF%.	

Wrestler Mode	
Min WEIGHT at 7% BF is	56.8 kg
FAT MASS	4.0 kg
FFM	52.8 kg
Min Weight is calculated as per state association guidelines.	

BMI: Body Mass Index is a height to weight ratio, and is calculated by the following formula:

$$\frac{\text{Weight (kg)}}{\text{Height (m)}^2}$$
 Desirable Range 18.5 - 24.9

BMR: Basal Metabolic Rate represents the total energy expended by the body to maintain normal functions at rest such as respiration and circulation.

FAT MASS: Total weight of fat mass (in kg, lb) in the body.

Predicted fat mass: Calculated fat mass for the given Target BF%.

Wrestler Mode: This section automatically calculates the Minimum Wrestling Weight (MWW) using the methodology adopted in the 1998 NCAA Weight Management Guidelines. (see P.23, 29) (TBF-300A ONLY)

NOTE : Please refer to Technical Notes booklet for further explanation.

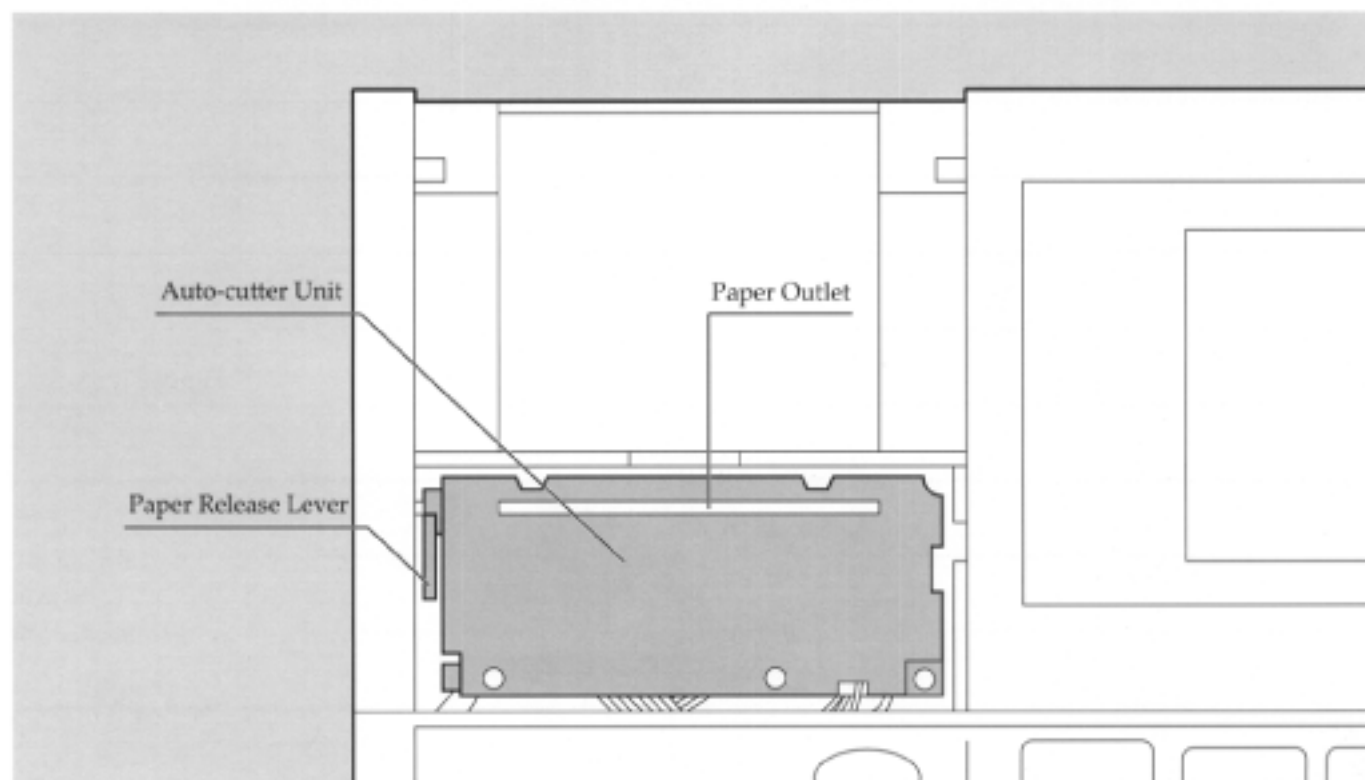


Please consult your physician before beginning any weight management program. Tanita is not responsible for determining Target BF%.

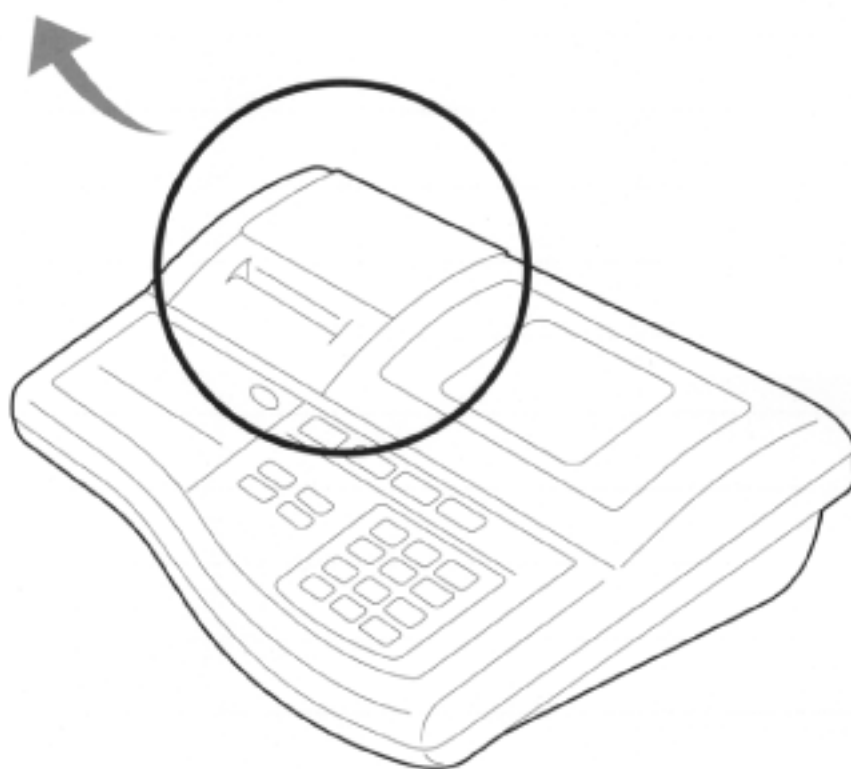
11. Dealing with Paper Jams

GB

Names of Printer Unit Parts



* The above diagram shows the Control Box without the Printer Dispenser Cover and the Printer Cover, overhead view.

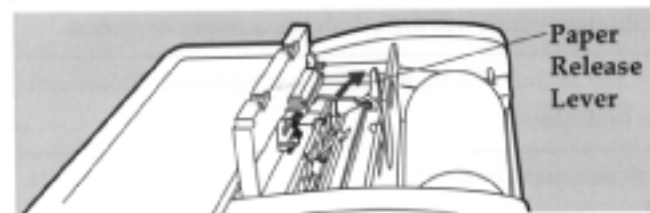


CAUTION

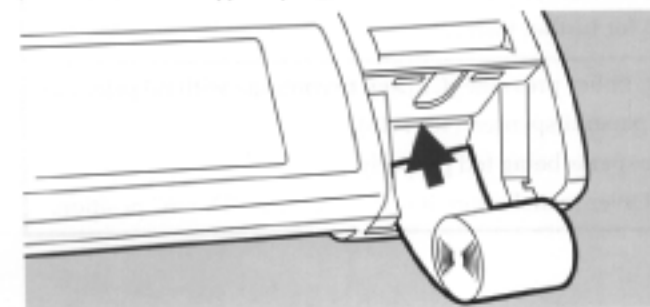
When handling the printer unit, please avoid any sharp edges.



Please follow these instructions to clear any paper jams from the printer assembly:



Paper Release Lever



1. Remove the Paper Dispenser Cover by lifting up from the back side.

2. Remove the Printer Cover as displayed. Apply light pressure with one finger to the printer cover and lift up as displayed.

3. Raise the Auto-cutter Unit as displayed. Using the pointer finger, gently lift one end of the Auto-cutter Unit, it will remain upright until returned to the normal horizontal position.



• Do not attempt to remove the Auto-cutter Unit.

4. Lift the small black lever located on the left side of the Auto-cutter Unit. This will facilitate the clearing of any paper jams that may have occurred. The roll of printer paper must be removed at this time.

Carefully search for and clear any scraps of paper from the printer assembly, as this may cause jamming in the future.

5. Be sure to return the Paper Release Lever to its proper position. Next, carefully move the Auto-cutter Unit to its proper position.

IMPORTANT NOTE: Failure to return the Paper Release Lever to its proper position will result in continuous feeding of the printer paper. If this occurs, turn off the unit by pressing the [ON/OFF] key, and follow steps 1 to 5 above.

6. Replace the Printer Cover by gently pressing in on the side tabs of the cover as it slides into position.

7. After completing steps 1 to 5, printer paper can be reloaded. See **Loading Printer Paper** on P.16 for details. Replace the Paper Dispenser Cover.

12. General Trouble Shooting

Listed below are common problems and simple solutions.

Please refer to the Technical Notes Booklet for answers to questions regarding accuracy.

Problem	Solution
The Unit Does Not Turn On when the [ON/OFF] key is pressed	<ul style="list-style-type: none"> • Confirm that the AC adapter is properly connected to the unit. • Make sure the AC adapter is plugged into a functioning wall outlet • Make sure only the original Tanita AC adapter is being used.
"E-01" is displayed	<ul style="list-style-type: none"> • E - 01 is displayed when impedance shows abnormal value as compared to height and weight. • Do not step off the weighing platform until all of the bubbles disappear, and the control box emits a short beep. • Please make sure the subject measures in bare feet, and that the feet are in contact with the electrodes. • If the individual is wearing thin nylons or has thick calluses, place 0.5cc of conductant (saline, water) in the center of each electrode. Thick nylons or socks will produce an E-01 reading. They must be removed.
"E-11" is displayed	<ul style="list-style-type: none"> • E - 11 is displayed when there is a loose connection between the control box and the weighing platform. • Confirm that none of connections between the scale and control box are loose or unplugged. • There may be excessive vibration which will disturb the measurement process.
"E-12/13/14" are displayed	<ul style="list-style-type: none"> • E-12/13/14 are shown when an internal malfunction has occurred. Please call your nearest Tanita office or dealer.
"E-16" is displayed	<ul style="list-style-type: none"> • Make sure the subject was measured with bare feet, and the feet were in contact with the electrodes. If the subject is wearing thin nylons or has thick calluses, place 0.5cc of conductant (saline, water) in the center of each electrode. • Do not step off the weighing platform until all of the "bubbles" disappear, and the control box emits a small beep.
No Print Out	<ul style="list-style-type: none"> • Confirm the number of print outs chosen is more than "0". (see P.19 or P.25) • Confirm that the correct brand of printer paper is being used. • Confirm that the printer paper is being fed in the proper direction. Printer paper will only make an impression on one specially treated side. • Confirm that the printer is not jammed. (See P.34)
Section 2 of the print out is missing	<ul style="list-style-type: none"> • The Target Section (Section 2) will not print out if the selected Target Body Fat % is [0]. Select a Target Body Fat % value between 4% ~ 55% to activate the print out.
Section 3 of the print out is missing (TBF-300A)	<ul style="list-style-type: none"> • The "Wrestler Section" (Section 3) will not print out if the "Wrestler Mode" is deactivated. See P.21 ~ 23 for further instructions on activating "Wrestler Mode".
"P-End" is displayed	<ul style="list-style-type: none"> • Printer paper has run out. Either press the [CE] key to continue with no print out, or put another roll in the paper dispenser. (see P.16). • Confirm that the printer paper is being fed properly. • Check the Paper Release Lever to make sure it is in the correct "Down" position.

Problem	Solution
---- is Displayed	<ul style="list-style-type: none"> The maximum weight capacity has been exceeded.
uuuu is Displayed	<ul style="list-style-type: none"> Do not stand on the weighing platform while entering personal data. Stand on the weighing platform only after the flashing arrow appears next to "Step On".
[FEED] key is Not Functioning	<ul style="list-style-type: none"> Confirm the number of print outs chosen is more than "0". Confirm that there is no paper jam in the printer. <p>[FEED] key is inoperative in the "Weight Only" function. Use "Body Composition Measurement" if a printout is desired.</p>



Note

13.RS-232C Interface Instruction

This Instruction is for RS-232 interface connecting the TBF to a Personal Computer (PC) or Printer.



RS-232C interface is data **OUTPUT ONLY!**

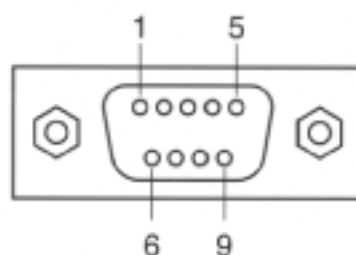
The Body Composition Scale is not capable of receiving instructions from a PC.

■ Specifications

Communication Standard	EIA RS-232C Compatible
Communication Method	Asynchronous
Baud Rate	2400bps
Data Length	7bits
Parity	EVEN
Stop Bit	1bit

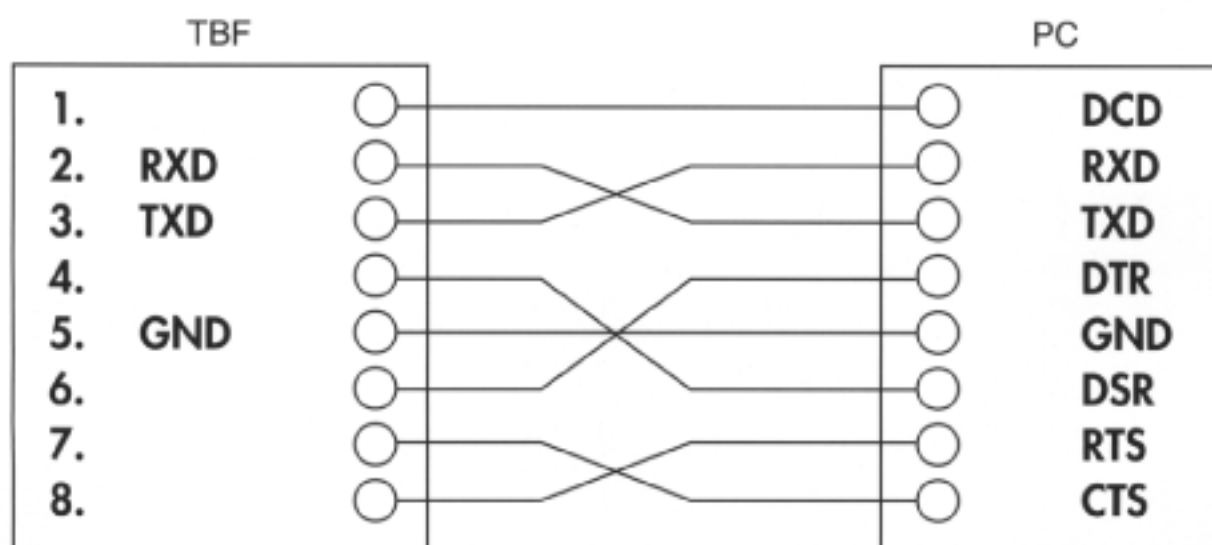
■ Signal Names and Connections

Terminal Number	Signal Name
1	*1
2	RXD
3	TXD
4	*1
5	GND
6	*1
7	*2
8	*2
9	No Connection



*1: Pin No.1,4 and 6 are internal connection.

*2: Pin No.7 and 8 are internal connection.



Note

- A Reverse Cable must be used to connect to a PC.
- A Modem Cable can not be used.

Transmission data



Note

The receiving PC or Printer must be ready to accept output data immediately after measurement is complete.

Output Data

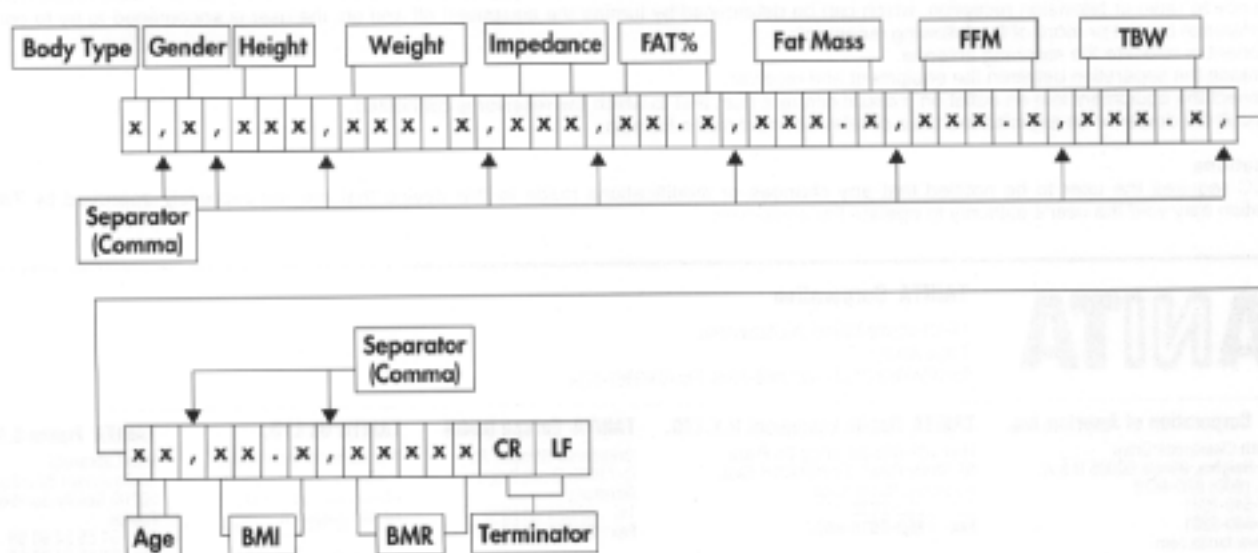
	kg mode	lb mode	Byte Length
Body Type	0:Standard or 2:Athletic	0:Standard or 2:Athletic	1
Gender	1:Male or 2:Female	1:Male or 2:Female	1
Height	xxx (cm)	xxx.x (inch)	2 ~ 5
Weight	xxx.x (kg)	xxx.x (lb)	3 ~ 5
Impedance	xxx (Ω)	xxx (Ω)	3
Fat %	xx.x (%)	xx.x (%)	3 ~ 4
Fat Mass	xxx.x (kg)	xxx.x (lb)	3 ~ 5
FFM	xxx.x (kg)	xxx.x (lb)	3 ~ 5
TBW	xxx.x (kg)	xxx.x (lb)	3 ~ 5
Age	xx	xx	1 ~ 2
BMI	xx.x	xx.x	3 ~ 4
BMR	xxxxx (kJ)	xxxxx (kJ)	3 ~ 5



- When measurement is taken in kg, the data will automatically be transmitted in cm and kg.
When measurement is taken in lb, the data will automatically be transmitted in inch and lb.
- When using [Weight Only] mode, data can not be transferred via the RS-232C port.
- BMR Conversion Formula : 1kcal = 4.184kJ

Output Data format

- Data is comma delimited.
- Terminal data are CR (ASCII format : 0DH) , LF (ASCII format : 0AH)
- Target Body Fat % data, and "Wrestler Mode" data can not be sent via the RS-232 port.
- Measurement data will be sent in the following format:



Model	Weight	Dimensions	Body Type
WT-100	1.2kg	110 x 110 x 110	Standard
WT-200	1.5kg	110 x 110 x 110	Standard
WT-300	1.8kg	110 x 110 x 110	Standard
WT-400	2.1kg	110 x 110 x 110	Standard
WT-500	2.4kg	110 x 110 x 110	Standard
WT-600	2.7kg	110 x 110 x 110	Standard
WT-700	3.0kg	110 x 110 x 110	Standard
WT-800	3.3kg	110 x 110 x 110	Standard
WT-900	3.6kg	110 x 110 x 110	Standard
WT-1000	3.9kg	110 x 110 x 110	Standard



This device features radio interference suppression in compliance with valid EC Regulation 89/336/EEC.

FEDERAL COMMUNICATIONS COMMISSION NOTICE

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Tanita Corporation may void the user's authority to operate the equipment.

TANITA

TANITA Corporation

14-2,1-chome, Maeno-cho, Itabashi-ku
Tokyo, Japan
Tel: (03)3968-2123 / (03)3968-7048 Fax: (03)3967-3766

TANITA Corporation of America, Inc.

2625 South Clearbrook Drive
Arlington Heights, Illinois 60005 U.S.A.
Toll Free: (800) 826-4828
Tel: 847-640-9241
Fax: 847-640-9261
http://www.tanita.com

TANITA Health Equipment H.K.LTD.

Unit 301-303 3/F Wing On Plaza,
62 Mody Road, Tsimshatsui East,
Kowloon, Hong Kong
Tel: +852-2838-7111
Fax: +852-2838-8667

TANITA Europe GmbH

Dresdener Strasse 25
D-71065 Sindelfingen,
Germany
Tel: 07031-6189-6
Fax: 07031-6189-71

TANITA UK LTD.

The Barn, Philipots Close,
Yiewsley, West Drayton,
Middlesex, UB7 7RY,
United Kingdom
Tel: +44-1895-438577
Fax: +44-1895-438511

TANITA France S.A.

Villa Labrouste
68 Boulevard Bourdon,
92200 Neuilly-Sur-Seine,
France
Tel: 01 55 24 99 99
Fax: 01 55 24 98 68