Instruction Manual

FitSignal Sport Watch

Model No. HL310

This Instruction Manual also applies to HL300 Chest Belt/ HL301 USB ANT STICK

Table of Contents

Overview

According to International Authority Journal Research (as below), publishing AIT and HIIT could achieve:
Improve Metabolism, Decrease cardiovascular aging, and cardiovascular diseases

References:

1. *Aerobic Interval Training Versus Continuous Moderate Exercise as a Treatment for the Metabolic Syndrome*

2. *The effects of free-living interval-walking training on glycemic control, body composition, and physical fitness in type 2 diabetic patients: a randomized, controlled trial.*

3. *Effects of high-intensity interval walking training on physical fitness and blood pressure in middle-aged and older people.*

4. *Moderate and heavy metabolic stress interval training improve arterial stiffness and heart rate dynamics in humans*

5. *Effects of continuous vs. interval exercise training on blood pressure and arterial stiffness in treated hypertension*

6. *Aerobic interval training reduces cardiovascular risk factors more than a multitreatment approach in overweight adolescents*

Product Description

■ Product Description

FitSignal Sport Watch is easy to operate and simple design, user can use the less time to make your sport become more efficiency.

FitSignal Sport Watch is based on AIT program, guiding user step by step to accomplish HIIT (High Intensity Interval Training), and bring you comfortable feelings to make it the target.

■ FitSignal Sport Watch Benefits:
✓ Figure guidance, a series of programs edits by medical experts, and not just sport data,
✓ Colorful animate operation and real time display your sport intensity and physical fitness,
✓ Simple, Efficiency, and Suitability to accomplish stair climbing workouts, and strengthening your muscle and physical condition.
✓ Guiding as coach, customizing your training and interactive as games.
✓ Cloud service: uploading your data regularly, monitoring your training and providing health suggestion to you.

Administrative Regulations on Low Power Radio Waves Radiated Devices

This FitSignal Sport Watch is in accordance with Administrative Regulations on Low Power Radio Waves Radiated Devices and qualified this regulation. User shall follow the telecommunication regulation to avoid penalty.
If user intends to carry this FitSignal Sport Watch to other country, please follow the local regulations and restrictions.

According to Administrative Regulations on Low Power Radio Waves Radiated Devices regulations:

Article 12

Without permission granted by the DGT, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to an approved low power radio-frequency devices.

Article 14

The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved.
The said legal communications means radio communications is operated in compliance with the Telecommunications Act.
The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices.

Safety & Precautions

■ Warning

☐ Please avoid the following dangerous conditions, or it may cause death or serious injury.

■ Health Warning

☐ Before you start or have changed your sport plan, please consult to your healthcare provider. If you wear the pacemaker or other electrical device implanted to body, please consult your healthcare provider before you using FitSignal Sport Watch.

☐ Both the transmitter strap and other FitSignal Sport Watch accessories are not for medical-featured. Also, it may disturb by external electrical devices, therefore, the heart rate reading is only for reference.

☐ Before exercising, please take warm-up exercise to avoid sport injury.

☐ Do not taking any exercise 1 hour before meal and 2 hours after meal.

☐ If user feels any unexpected pain or fatigue during training, please stop training or taking lower intensity training.

☐ The strong electromagnetic signal will cause unstable reading. The electromagnetic interference may occurs in high voltage power line, traffic light, aerial electric railway line, electric bus lines or trams, car engines, some motor-driven exercise equipment, mobile phones or other electronic security door nearby. To avoid interference, please away from possible interference source.

☐ If using external battery charger, please use FitSignal Sport Watch recommended accessories.

☐ FitSignal Sport Watch is not suitable for use in swimming, and do not press any button in the water as well.

☐ Please do not attempt to dismantle the FitSignal Sport Watch.

■ Battery Warning

☐ Do not place the device directly under sunlight, in high temperature, or in humid or dusty places.

☐ Please dispose of worn-out device and batteries per local regulations and consult the local waste disposal department.

☐ Do not use foreign objects to take out the battery.

☐ Keep FitSignal Sport Watch away from children. Do not let them use FitSignal Sport Watch by themselves either. They may choke on battery, or tiny component parts by accident.

☐ Do not dismantle, puncture or damage the battery compartment.

About FitSignal Sport Watch

1. Device Overview & Button Description

Button	Definition
Menu/ Back	1. Menu 2. Back
Confirm	Confirm
Up	▲
Down	▼
Confirm & Up	Press and hold about 1 second to reset (Personal Data and RHR value should be reset)

2. Turn on the FitSignal Sport Watch

Under Factory Mode, pressing "any button" to turn on HL310. Meanwhile, HL310 will display AIT LOGO, and turns to personal data setting.
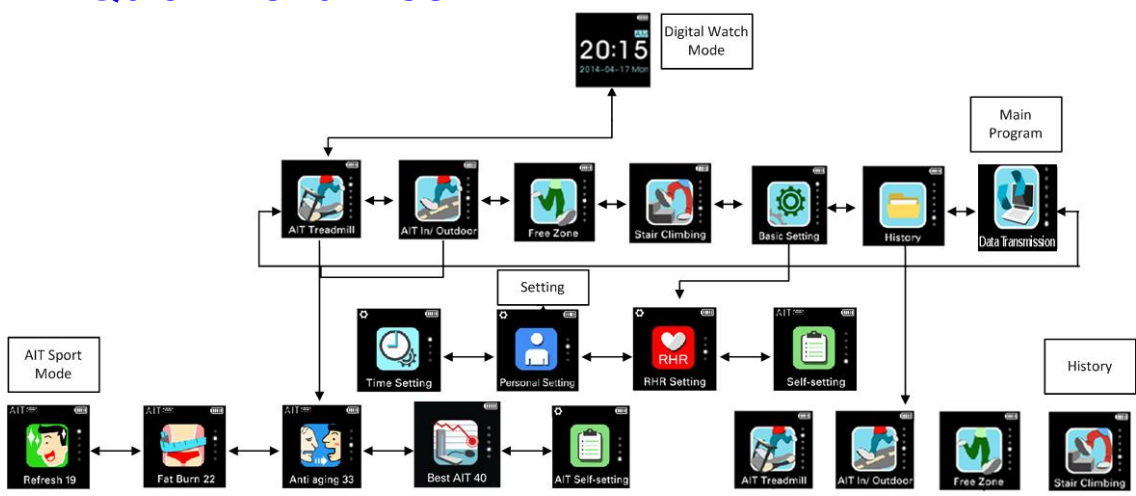
1) Press "Menu/Back" button to enter "Digital Watch" Mode; pressing "Menu/Back" button again and enter to main menu.
2) Press "▲/▼" to choose what you want to enter

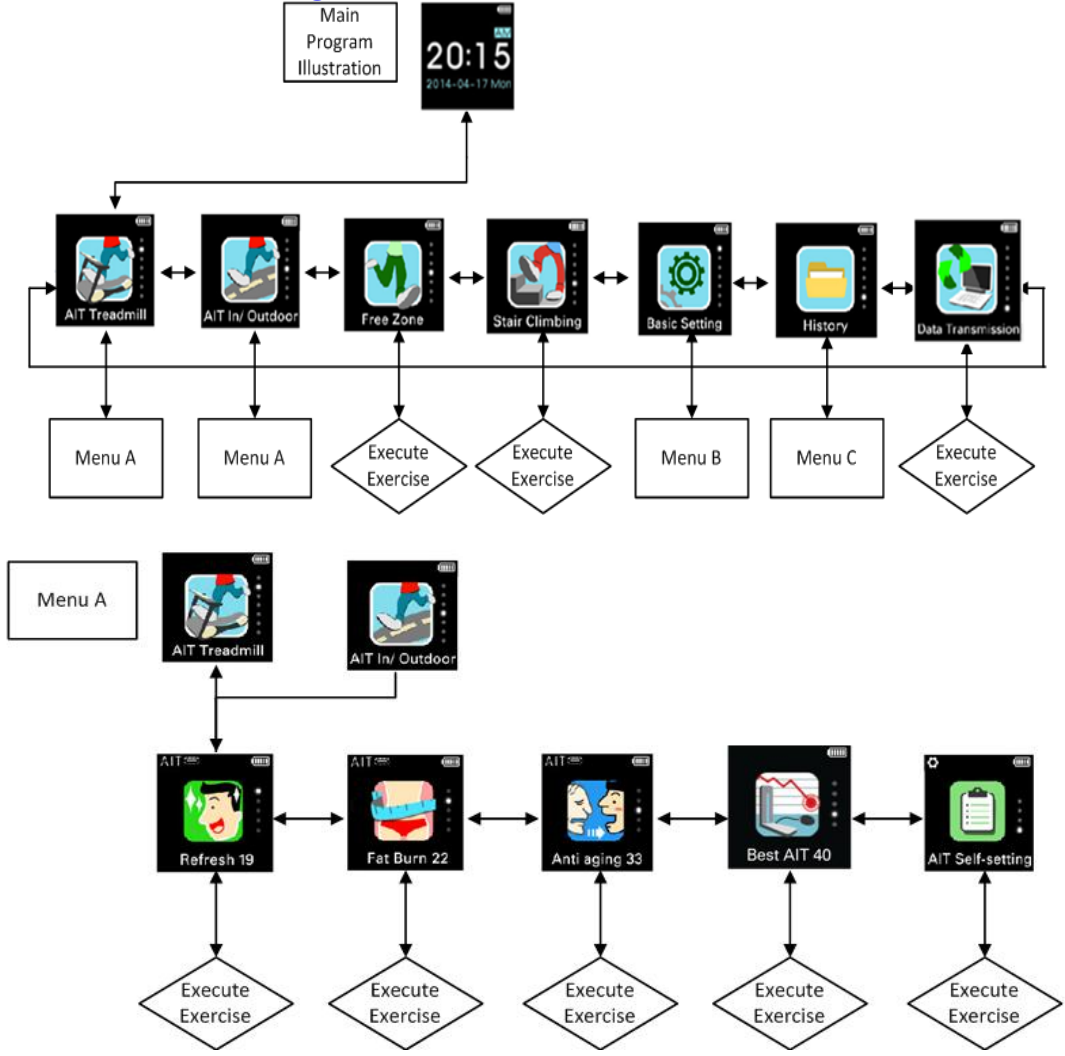## 3. FitSignal Sport Watch Charging

The FitSignal Sport Watch is in power saving status from factory in order to save the power. User can depend on battery status to charge the FitSignal Sport Watch. If in low battery status, please charge the battery at least 2 hours before using. The battery consumption will depend on using condition. Please refer to "Battery Charging" to see detail information.
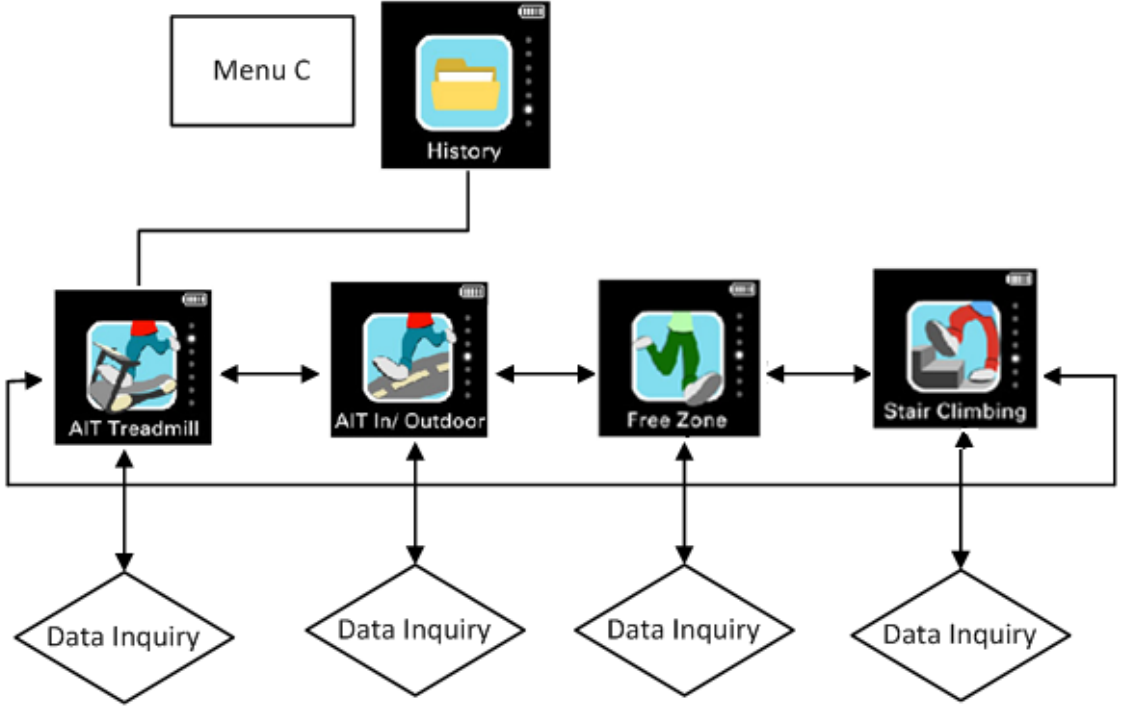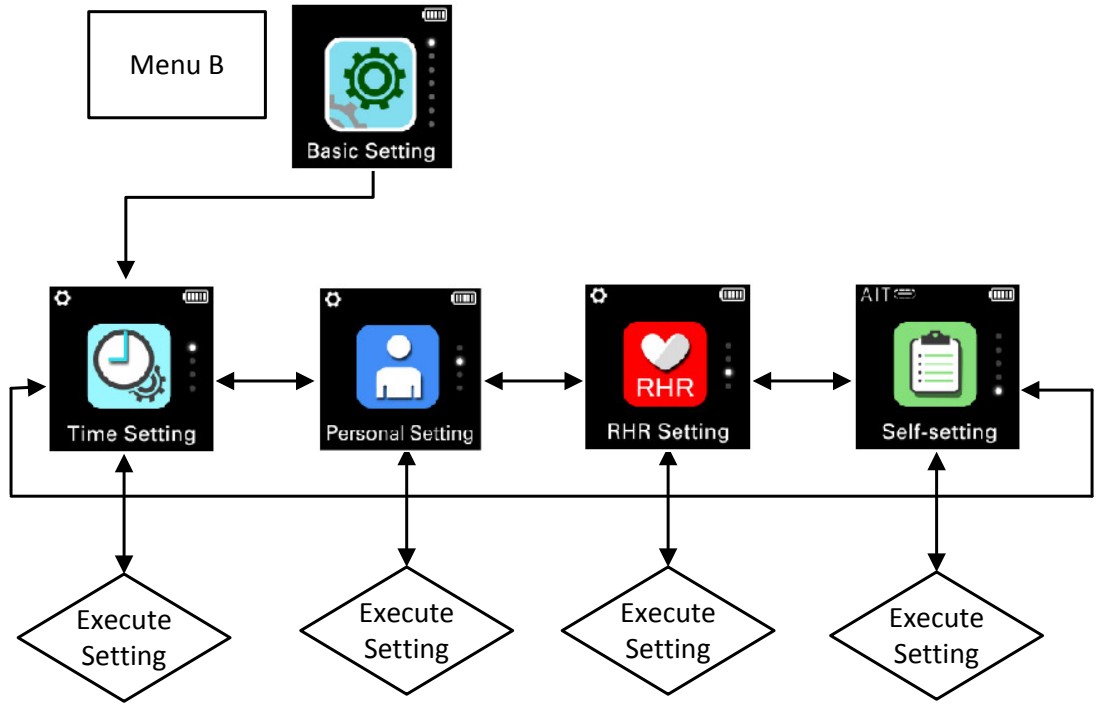
About FitSignal Sport Watch

4.   Quick Menu Tree

5.   Menu Diagram

About FitSignal Sport Watch

Menu B

Basic Setting

Time Setting ↔ **Personal Setting** ↔ **RHR Setting** ↔ **Self-setting**

Execute Setting | Execute Setting | Execute Setting | Execute Setting

Menu C

History

AIT Treadmill ↔ **AIT In/ Outdoor** ↔ **Free Zone** ↔ **Stair Climbing**

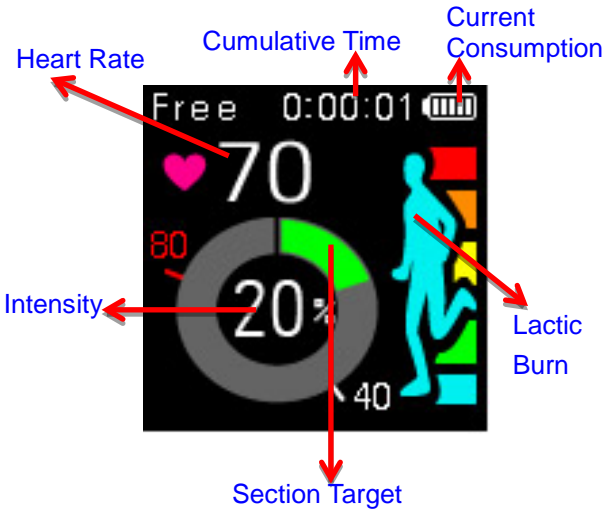Data Inquiry | Data Inquiry | Data Inquiry | Data Inquiry

About FitSignal Sport Watch

6. Summary of display layout
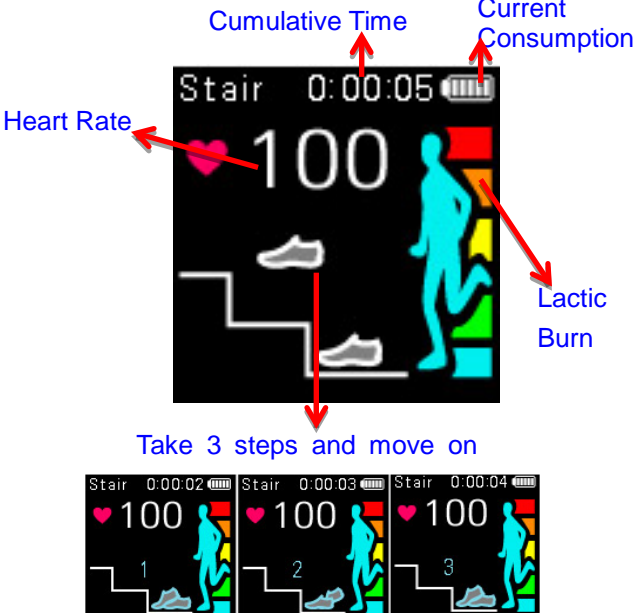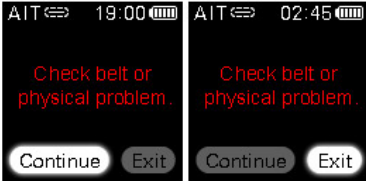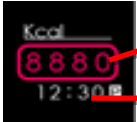
Training Modes	Description	Display Layout
AIT Treadmill & AIT In/Outdoor	AIT Sport Interface	Cumulative Time, Current Consumption, Heart Rate, Intensity, Lactic Burn, Current Status, Section Target, Time Left 1. Complete (White Block) 2. Unfinished (Gray Block)
	AIT Sport Intensity Display	Under Section Target Meet Section Target Over Section Target
	AIT Sport Section Variation	Intensity Variation Intensity Variation

About FitSignal Sport Watch
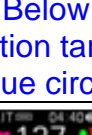
7. Navigation Quick index

Training Modes	Description	Display Layout
AIT Treadmill	AIT Treadmill Speed Guide	**0.5 kph** Speed Up **0.5 kph** Slow Down
AIT In/Outdoor	AIT In/Outdoor Intensity Guide	Increase Intensity or running speed Decrease Intensity or running speed
Free Zone	Free Zone Interface	Heart Rate · Cumulative Time · Current Consumption · Intensity · Lactic Burn · Section Target Free 0:00:01 70 80 20% 40
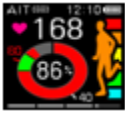
About FitSignal Sport Watch

Training Modes	Description	Display Layout
Stair Climbing	Stair Climbing Interface	Cumulative Time — Current Consumption — Heart Rate — Lactic Burn — Take 3 steps and move on Stair 0:00:05 ♥ 100 Stair 0:00:02 ♥100 1 — Stair 0:00:03 ♥100 2 — Stair 0:00:04 ♥100 3
All Modes	Warnings	AIT 19:00 — Check belt or physical problem. — Continue Exit — AIT 02:45 — Check belt or physical problem. — Continue Exit — Check chest belt
	Calories Display	Kcal 8880 12:30 — Kcal display — Real time display

About FitSignal Sport Watch

Training Modes	Display Layout	Beep	Vibration	Posture Movement
AIT Treadmill		1 Beep	2 Short Vibrations	Treadmill speed up 0.5km/hr
		1 Beep	1 Long Vibration	Treadmill Slow Down 0.5km/hr
AIT In/Outdoor		1 Beep	2 Short Vibrations	Speed up slightly
		1 Beep	1 Long Vibration	Slow down slightly
AIT Treadmill & AIT In/Outdoor			2 Short Vibrations	Prepare to enter high intensity section
			1 Long Vibration	Prepare to enter low intensity section
	Below section target (Blue circle)			Swing arms powerfully and increase pace
	Meet section target (Green Circle)			Keep current status
	Over section target (Red Circle)			Swing arms slightly and decrease pace

About FitSignal Sport Watch

Training Modes	Display Layout	Beep	Vibration	Posture Movement
AIT Treadmill & AIT In/Outdoor	Lactic level at orange or red			Adjust breathe and attention physical conditions
Free Zone	Lactic level at green (flashing)		1 Long Vibration	Swing arms powerfully and increase pace
	Lactic level at yellow (flashing)		1 Long Vibration	Keep current status
	Lactic level at orange (flashing)		1 Long Vibration	Adjust breathe and attention physical conditions
	Lactic level at red (flashing)		1 Long Vibration	Stop training
Stair Climbing			1 Long Vibration	Take 3 steps
All Modes		1 Beep	1 Long Vibration	Check chest belt

Before the First Training

FitSignal Sport Watch in Digital Watch mode in most of time. To save the power, without any operation in 15 seconds, the device automatically shut off. User can press "Menu/Back" to wake up.

Under any modes, pressing "Menu/Back" button to turn back to Digital Watch mode.

1.1 Basic Setting

Under Digital Watch mode, press "▲/▼" button to choose Basic Setting, and press "Confirm" button to enter menu Basic Setting.

  1.1.1 Time Setting

  Under Basic Setting, press "Confirm" button again and press "▲/▼" button to choose Time setting, press "Confirm" button to enter

  A. Press "▲/▼" button to adjust "12/24" time system, press "Confirm" button to confirm entries.
  B. If user choose 12 time system, FitSiginal Sport Watch turns to adjust "AM/PM", press Confirm" button to confirm entries.
  C. Press "Confirm' button to set "Year/Month/Date/ Hour/Minute", and press "▲/▼" button to adjust current time.

  D. When Time setting is done,

  press "Confirm" button again, then back to 12/24 time system and press "Menu/Back" button turn back to Time setting.
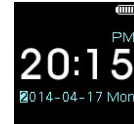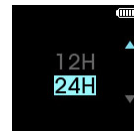
Before the First Training

1.1.2 Personal Setting

Under Basic Setting, press "Confirm" button to enter menu and press "▲/▼"

to choose Personal Setting.

A. Press "▲/▼" button to adjust Gender (Male/ Female),

B. Adjust Birth, Weight as described in above.
C. When Personal Setting is done, press "Confirm" button again,
   ➔ If user wants to adjust setting, click "Reset" and repeat Steps A~B.
D. HL310 will display "!NOTE", press "▲/▼" button to scroll the notice, press "Confirm" button after reading, and then turn back to Personal Setting.

Before the First Training

1.1.3　RHR Setting

Under Basic Setting, press 〝Confirm〞button to enter menu and press

〝▲/▼〞to choose RHR Setting.

A. Press "Confirm" button then HL310 will automatically connect to chest belt, once paired and connected, HL310 will start counting in 20 seconds, after counting, OLED will display "OK". (Please do not shake or move body)

➔ If fail connecting, please click "Retry" to re-connect, if you want to exit, clicking "Exit" then back to RHR Setting.

➔ If user takes too much time in connecting, please press "Menu/Back" button to disconnecting, user can click "Retry" or "Exit" depending using conditions.

B. After 20 seconds, HL310 will display heart rate value.

Attention!
How to measure RHR correctly?
➘ Please keep calm; user can lie down about 10 minutes if necessary.
➘ Do not watch TV; make phone call, or talking during measurement.
➘ Please do not take vigorous exercise, full-stuffed, smoking or drinking before taking RHR Setting 2-3 hours.

Attention!
■　Before taking sport training, please measure your heart rate to calculate your intensity becomes more accuracy. Once your personal data is modified, RHR setting will return to default setting (Default value: 72bpm).
■　If HL310 detects "Erratic RHR: **< 50bpm** or **> 110bpm**",
HL310 will display "Retry" / "Confirm"/ "Exit"
Press "Retry" to measure again,
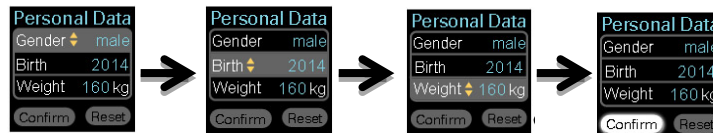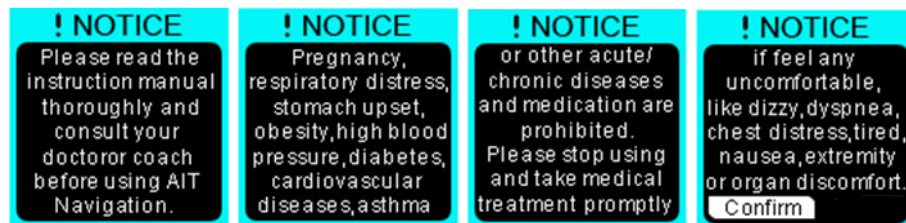Press "Confirm" as the current heart rate, or
Press "Exit" to jump out this mode.
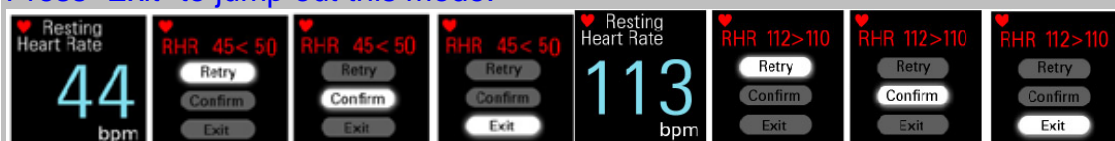
Before the First Training

1.1.4 AIT Self-Setting

Under Basic Setting, press "Confirm" button to enter menu and press

"▲/▼ to choose AIT Self-Setting.

A. Press "Confirm" button to adjust "Intensity", and press ▲/▼ button to adjust your desire intensity "%",

B. Press "Confirm" button to adjust "Time", and press ▲/▼ button to adjust your sport time "min"
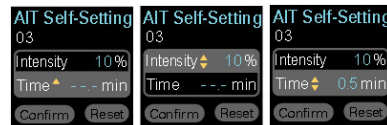
C. Press "Confirm" button to select "Confirm" or "Rest" then turn back to last setting.

D. Press "Menu/Back" button to turn back to AIT Self-Setting mode.

*Attention!
↘ Intensity setting:
   ▲(increase); ▼(decrease), Adjustment range: ±5%
↘ Time setting:
   ▲(increase); ▼(decrease), Adjustment range: 0.5 min
↘ AIT Self-Setting provides 24 sport zones; maximum time: 1 hour.
↘ One of setting (Intensity / Time) value is zero, HL310 will take as invalid setting.
↘ When AIT Self-Setting is done, user can set "Intensity" and "Time" one time, the FitSignal Sport Watch will automatically duplicate to AIT Treadmill and AIT In/Outdoor, if not, FitSignal Sport Watch will follow as default setting.

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Pairing to Chest Belt

1.2 Wearing Chest Belt
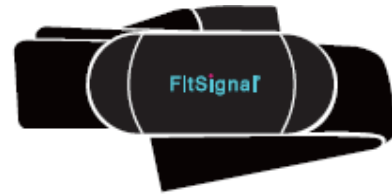
A. Before using FitSignal Sport Watch, please wear chest belt first.
B. Buckle the Transmitter into chest belt.

C. Wet the electrodes on the back of chest belt, and it can make your chest and chest belt contact firmly.

D. Adjust the chest belt till feel suitable, and buckle to your chest (below the pectoral).
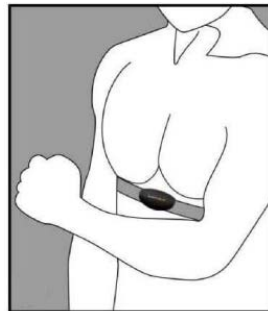
Pairing to Chest Belt

1.2.1   Abnormal Condition and Connection Error
Before taking exercising, please check chest belt is well-positioned.
A. Choose the sport mode, pressing "Confirm" button, the HL310 automatically connect to Chest Belt
B. Once paired and connected, HL310 will start countdown 10 seconds,
C. After 10 seconds, HL310 will display "OK"

If fail connection, please click "Retry" to re-connect, if you want to exit, please click "Exit" to jump out this mode.

If HL310 detects abnormal condition:
Press "Continue": HL310 will connect to chest belt again
Press "Exit": Jump out this mode

*Attention!
➘ When paring with chest belt, please keep 10 meters away from other ANT+ Sport accessories.
➘ FitSignal Sport Watch does not built-in Bluetooth Function, however, its chest belt support Bluetooth Function, and transfer heart rate value to compatible device.

Exercise Mode

Attention!

↘ Before training, to be more accurate, please go to "Basic Setting" to set your personal data.

↘ Please wear chest belt first before sport training.

↘ User can press "Confirm" button to check your Kcal and sport time.

↘ Always keep an eye on your physical conditions, if lactic burn is at orange or red level, please slow down or stop training.

↘ Warning conditions:
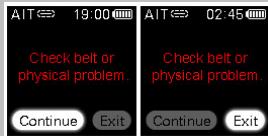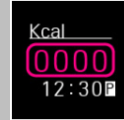
The chest belt may loosen, please check and click "Continue" to continue training; or clicking "Exit" to jump out current mode.

↘ Irregular heart rate during training, warning figure (right figure)

↘ If user feels tired or unexpected pain during training, please stop training.

↘ Please watch your step in case fall down when operating treadmill.

1.1 AIT Treadmill Mode

Under "Digital Watch" mode, press "Menu/Back" button to enter main menu

Press "▲/▼" button to select AIT Treadmill then press "Confirm" button to enter

A. Select Sport Mode

Under AIT Treadmill mode, pressing "▲/▼" button to select sub-menu:

Refresh19, Fat burn22, Anti-aging33, Anti-metabolic40, Self-setting,

and then, press "Confirm" button to start training.

B. Display AIT Sport Interface
1. Pairing to Chest Belt (Refer to "Pairing to Chest Belt")
2. Display AIT Sport Interface

Sport Guide

1. Speed Up：Beep indicator with 2 short vibrations

2. Slow Down：Beep indicator with 1 long vibration

C. Display Workout
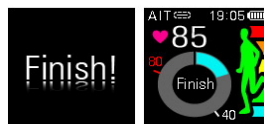
Exercise Mode

1.2 AIT In/Outdoor Mode

Under "Digital Watch" mode, press "Menu/Back" button to enter main menu
Press "▲/▼" button to select AIT In/Outdoor then press "Confirm" button
to enter

A. Select Sport Mode

Under AIT In/Outdoor mode, pressing "▲/▼" button to select sub-menu:

Refresh19, Fat burn22, Anti-aging33, Anti-metabolic40, Self-setting,
and then, press "Confirm" button to start training.

B. Display AIT Sport Interface
1. Pairing to Chest Belt (Refer to "Pairing to Chest Belt")
2. Display AIT Sport Interface
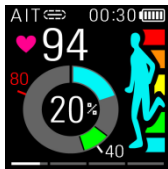
Sport Guide

1. Speed Up：Beep indicator with 2 short vibrations

2. Slow Down：Beep indicator with 1 long vibration

C. Display Workout
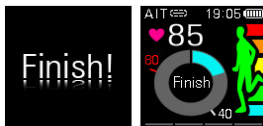
Exercise Mode

1.3 Free Zone Mode

Under "Digital Watch" mode, press "Menu/Back" button to enter main menu

Press "▲/▼" button to select Free Zone then press "Confirm" button to enter

A. Pairing to Chest Belt (Refer to "Pairing to Chest Belt")
B. Display Free Zone Interface
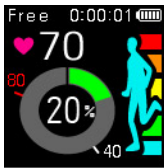
C. Sport Guide

Slow Down：Lactic level flashing and Beep indicator with 1 long vibration
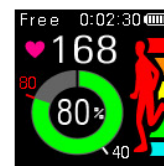
> *Attention!*
> Please keep the lactic level at Green/ Blue/ Yellow status;
> If appear "Orange", please slow down;
> If appear "Red", please prompt to stop training.

1.4 Stair Climbing Mode

Under "Digital Watch" mode, press "Menu/Back" button to enter main menu

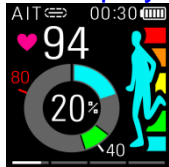Press "▲/▼" button to select Stair Climbing then press "Confirm" button to enter

A. Pairing to Chest Belt (Refer to "Pairing to Chest Belt")
B. Display Stair Climbing Interface
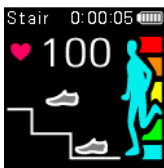
C. Sport Guide

Mark Time：Beep Indicator with 1 long vibration (Moving legs 3 times, not to stepping forward.)

History & Data Transmission

1.5 History Mode

The HL310 can store 64 memories in total for 4 modes:
AIT Treadmill, AIT In/Outdoor, Free zone, and Stair Climbing
The HL310 automatically replace the oldest data with new one when memory is full. We recommend you upload data to www.fitsignal.com.tw.

A. Under "Digital Watch" mode, press "Menu/Back" button to main menu, press 〝▲/▼〞 button to select History then press 〝Confirm〞 button to enter

B. Press "▲/▼" button to select modes you'd like to check and press "Confirm" button to enter.

C. Press "▲/▼" button to view your record by time sequence, and press "Confirm" button to view more details.

Attention!

↘ AIT Treadmill and AIT In/Outdoor data only display Kcal and sport time.

↘ Free zone and Stair Climbing data will display Kcal, Avg. BPM, Max. BPM, and sport time.

History & Data Transmission

1.6 Data Transmission Mode

A.   Before downloading the program, please make sure your PC's system requirements:
✓   Operating System:
    Windows capacity
✓   Recommended Internet Browser:
    IE 9 or above/ FIREFOX/ GOOGLE CHROME
B.   Please install USB ANT STICK driver in your PC first, every PC only install one time.

1.6.1   Install FitSignal Sport Watch Software and register

A.   Please go to **http://www.i889.com.tw/am-fitsignal-web-tw/login.do**, pressing "Register" and key in personal data then press "sent"

B.   Go back to the web page, pressing "Driver & Tools", downloading the program, and unzip the file then execute the "setup.exe"
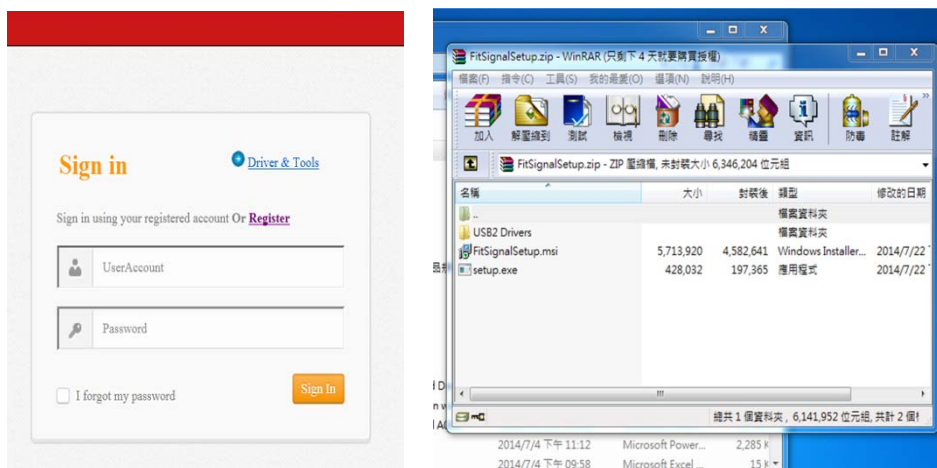
History & Data Transmission

C. Plug the dongle into your personal computer, clicking the "FitSignalBeacon" on your desktop and start the program,

FitSignalBea...

D. First enter the program, please key in "User account" (confirm the account is the same you're registered), and press "OK", the program will automatically link your "Product number".

E. FitSignal Sport Watch enters to "Data Transmission", pressing Confirm button, and click "CONNECT" on your desktop.

History & Data Transmission

F. If connects successfully, start downloading your data to your PC, and then, upload to cloud. You will see "Fit Service：Ait Data Upload Completed". Click "RECORD", linking to the web and key in "User account and password", and "sign in" to the web page.
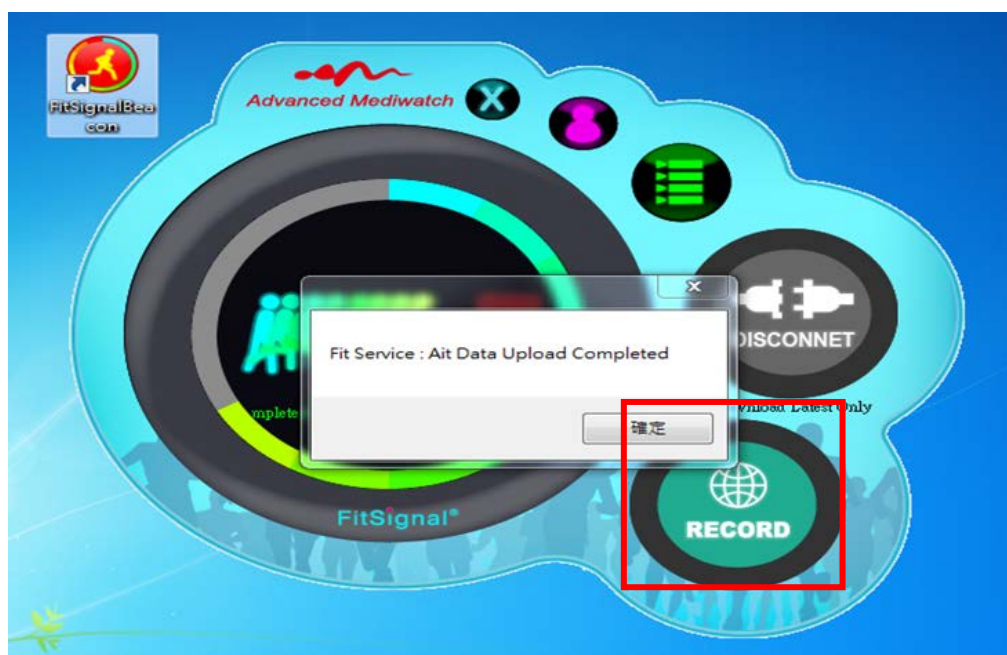
H. Please redo steps E~F when link error or transmission fail.

History & Data Transmission

1.6.2   Uploading your Data instructions
A. Turn on FitSignal connecting software on your PC
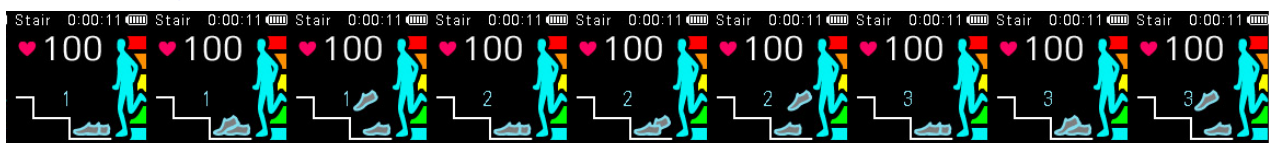B. Click "FitSignal Connecting" on your computer desktop
C. Under "Digital Watch" mode, press "Menu/Back" button to enter main menu, press 〝▲/▼〞 button to select Data Transmission then press 〝Confirm〞 button to enter
D. Press "Confirm" button again, HL310 will automatically connect to your PC, clicking "Yes" and start to pairing
E. Once paired and connected, OLED will display "OK".

F. Click "Loading" on www.fitsignal.com.tw, OLED will display as below

G. Once transmission is complete, HL310 will automatically turn back to PC Connecting interface.

E.   FitSignal Sport Watch Health Management
HL310 provides Health management, please go to www.fitsignal.com.tw, FitSignal Sport Watch Health Management will depend your data to provide recommendations.

> **Attention!**
> ↘ Plug dongle drivers into your PC.
> ↘ Please upload your workout data regularly to analyze your workouts
> ↘ Please keep 10 meters away from other ANT+ Sport accessories when HL310 pair with your PC first time.
> ↘ If you transmit large amounts of data, it may take you few minutes. You cannot taking any sport training during data transmission.

Charging FitSignal Sport Watch

Before charging the FitSignal Sport Watch, please confirm the FitSignal Sport Watch and charging dock is in dry condition to avoid getting an electric shock or metal rusty.

■ FitSignal Sport Watch Charging

Align the four-pointed charging dock post with electrodes to the back of the HL310,

1. Plug USB connector to your PC USB port then charging, or
2. Plug USB connector into AC adapter and plug the AC adapter to power inlet

A. Low Battery (Battery symbol is red)

When Low Battery symbol appears on the display, please charge the battery.

B. Charge status (Battery symbol is green)

Battery symbol will cross flashes during charging.
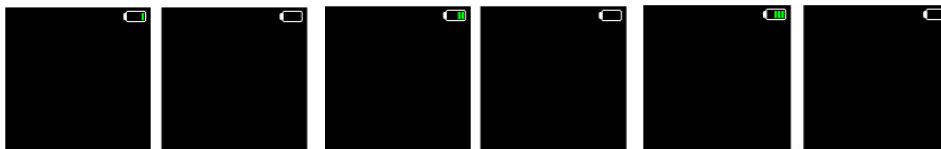
C. Full Electricity (Battery symbol is white):

Attention!

When low battery appears on the display, FitSignal Sport Watch automatically shuts off.

If you are training and FitSignal Sport Watch in low battery in the same time, FitSignal Sport Watch will jump out current sport mode, please prompt to charge FitSignal Sport Watch.

Once fully-charged, promptly unplug the outlet in case of overheat.

Maintenance & Cleaning

◆ Chest Belt Maintenance and Cleaning

❑ The battery on the chest belt can last 7200 hours in normal use.
❑ Please store FitSignal Sport Watch and chest belt in a cool and dry place, free from dust, and extreme weather.
❑ Do not drop the FitSignal Sport Watch to avoid electrical or mechanical damage.
❑ Before cleaning the chest belt, please take off the transmitter first.
❑ Do not in any way twist the chest belt.
❑ Do not clean your chest belt by the laundry or dyer.
❑ Do not iron the chest belt or it may cause deformed.
❑ Clean the chest belt by water, and dry with soft cloth or air dry.
❑ DO NOT USE any alcohol or any solvent to clean the chest belt.

◆ Other accessories Maintenance and Cleaning

❑ Please bind the AC adapter and its electric wire together with a ribbon band. Put them in a cool and dry place, free from dust, and extreme weather.
❑ Please cover up the USB protective cap after using to avoid dust.
❑ Please bind the USB cable with a ribbon band and put in a cool and dry place.

Troubleshooting

PROBLEMS	CONDITIONS/CAUSES	INDICATION/ CORRECTION
Press "Menu/Back" button, the Fitsignal Sport Watch will not work	Low battery power.	Please charge the power
Battery status cannot be recognized	Batteries have run out	Return the device to your local distributor or importer.
Chest Belt cannot pair with Fitsignal Sport Watch	User does not wear chest belt	Please wear the chest belt firmly.
	Low battery power.	Charge FitSignal Sport Watch or Chest belt.
	Chest belt and Fitsignal Sport Watch is out of transmitting range	Please make sure the acceptable distance (≦3 meters) with each other.
	Electrodes on Chest belt may deteriorate due to long period usage	Please change another Chest belt
Chest Belt fail connection	Transmitter battery have run out	Please check Transmitter's battery life.
	The Chest Belt may have dirt on it	Please make sure the Chest Belt is clean
Chest Belt is too long/ short	User cannot buckle firmly to your chest	Please buy another chest belt.
OLED blur	Unexpected loss of electrical/mechanical integrity.	Press and hold "Confirm & ▲" button 1 second, then power reset.
		Return the device to your local distributor or importer.
Back to the default setting	System error	Press and hold "Confirm & ▲" button 1 second, then power reset.
OLED freeze	System error	Press and hold "Confirm & ▲" button 1 second, then power reset.
FitSignal Sport Watch Memory disappeared	The memory capacity is full, and then, cover to the oldest data	Please upload your data to www.fitsignal.com.tw regularly
Abnormal reading appears	User may in electrical or electromagnetic fields (power disturbance, radio frequency interference etc.); or it may lead to temporary reading error or inaccuracy.	Please avoid strong electrical or electromagnetic fields.
Note: If your FitSignal Sport Watch still does not function properly after taking the solution mentioned above, please contact the your local distributor or importer.		

Warranty

◆ **Warranty For One Year from the manufacturing date**

Repair or service cost will be at user(s) account if any one of following conditions happens during period of warranty:

1. Does not follow the instruction manual and/or does not operate properly which may cause misuse or abuse circumstances,
2. Alteration and/or modification to the product,
3. Environmental conditions (e.g. fire, or other natural disasters),
4. Error result/ failure from human factors,
5. Software/Firmware upgrade and update
6. Hardware/Internal parts upgrade and update
7. The consumable parts or accessories are not covered by this warranty, such as battery, strap…etc.
8. The Warranty Card will not be re – issued if lost or missing,
9. Out of warranty date, users will be charged payment,
10. The device is not produced by HEALTH & LIFE CO,
11. The terms are not covered by this manual are subject to revise for improvement without notice.

Product Specifications

FitSignal Sport Watch

Model Number	HL310
Dimensions	FitSignal Sport Watch (L x W x H): 42 x 48.5 x 13.5 mm 1.65 x 19.10 x 5.31 inch
	OLED size (L x W x H)`: 33.8 x 34 x 1.6 mm 1.35 x 1.36 x 0.06 inch
	Wrist Band Size (L x W x H): 265 x 27 x 4 mm 10.43 x 1.06 x 0.15 inch
Unit Weight (Wrist Band & Batteries Excluded)	60 g ± 10 g (2.4 ± 0.35 oz)
Display	OLED 1.5"
Power Supply	Lithium-ion polymer batteries (3.7V) x 1 / 200mAh
Battery Life	Heavy Usage: 2 hrs. (OLED always ON) Low Usage: 2 week.
Memory	64 Memory in Total for 4 modes
IP Ratings	IPX7 (Do not use in swimming) (Do not press any button in the water)
Transmitting Range	3M
Radio Frequency	2.4GHz, Dynastream ANT+ Sport
PC Interface	USB ANT+ Stick
Operation Environment	Temperature: -10 °C ~ 50 °C (14 °F ~ 122 °F)
Power Charging	Temperature: -10 °C ~ 45 °C (14 °F ~ 113 °F)
Standard Accessory	FitSignal Sport Watch, USB ANT STICK, Transmitter, Chest Belt, Docking ,Stand and Instruction Manual

Product Specifications

Chest Belt

Model Number	HL300
Dimensions	88cm (Chest Range : 70~120cm/27.5″ ~ 47.2″)
Unit Weight	47g (Transmitter + Strap + Battery)
IP Ratings	IPX7 (Do not use in swimming) (Do not press any button in the water)
Transmitting Range	10M
Operation Environment	Temperature: 0 °C ~ 50 °C (32 °F ~ 122 °F)
Battery Life	Approx. 1000 Hours (1Hr/day, approx. 2.5 year)
Radio Frequency	2.4GHz, Dynastream ANT+ Sport

USB ANT STICK

Model Number	HL301
Dimensions	50 X 20.5 X 10.6 mm (L x W x H)
Unit Weight	7.5g
Transmitting Range	3M
Operation Environment	Temperature: -10 °C ~ 50 °C (14 °F ~ 122 °F)
Radio Frequency	2.4GHz, Dynastream ANT+ Sport
PC Interface	Windows XP/ Windows 7

*The contents of this manual and the specifications of the device covered by this manual are subject to change for improvement without notice.

Appendix

1. What is AIT Sport?

Both AIT (Aerobic interval training) and HIIT (High intensity interval training) are high intensity aerobic interval workouts, and its maximum target heart rate intensity can achieve 75% to 100%. It also includes warm-up zone and recovery zone. User may take different workout time depend on each target, if user keep moderate intensity workouts and its efficiency is better than jogging.

As a result, high intensity workouts make cardiovascular endothelial become more activation and flexible. Medical organization has proven AIT and HIIT can improve metabolism; delaying body aging.

2. AIT protocol

FitSignal Sport Watch built-in 5 AIT Exercise Protocols, providing various training requirements and intended use. User can create their training program (Self-setting).

Protocol	Sport Time	Intended User
Refresh 19	19 mins	Office Worker
Fat burn 22	22 mins	Housewife/Body Sculpting/ Lose Weight
Anti-aging 33	33 mins	Middle-aged/ Old-aged
Best-AIT 40	40 mins	Advanced Sport
Self-setting(*)	9 mins	Lay user/Basic Practice

*Default Setting- User can defined in Basic setting\Self-setting

Appendix

Program Content (Heart reserve rate to calculate intensity)

Refresh 19

Refresh 19	Int 1	Int 2	Int 3	Int 4	Int 5
Time	3	6	4	3	3
Intensity	40%	60%	80%	60%	40%

Fat Burn 22

Fat Burn 22	Int 1	Int 2	Int 3	Int 4	Int 5	Int 6
Time	3	6	4	3	3	3
Intensity	40%	65%	85%	65%	85%	65%

Anti-aging 33

Anti-aging 33	Int 1	Int 2	Int 3	Int 4	Int 5	Int 6	Int 7	Int 8	Int 9	Int 10	Int 11
Time	3	6	4	3	3	3	3	3	3	3	3
Intensity	43%	75%	43%	75%	43%	75%	43%	75%	43%	75%	43%

Best AIT 40

Best AIT40	Int 1	Int 2	Int 3	Int 4	Int 5	Int 6	Int 7	Int 8	Int 9
Time	10	4	3	4	3	4	3	4	5
Intensity	65%	83%	65%	83%	65%	83%	65%	83%	65%

Factory Setting: Self-setting 9 Minutes

Self-setting	Int 1	Int 2	Int 3
Time	2	6	1
Intensity	45%	65%	45%

Note: Self-setting mode is user- defined mode.

Appendix

3. How to use FitSignal Sport Watch to achieve healthy target?
Suggestion for Office Workers

Introduction for Office Workers	Feelings	Note
Taking Stair Climbing Mode for every single day: From 10 to 20 Floor gradually (> 30 Floor)	Muscular endurance: User may feel little muscular pains is normal, rest few days then recover.	1. Upstairs and marking 3 steps; going downstairs by elevator. 2. Orange level (High lactic burn) display, slowing down and marking 5 steps
Taking AIT- Refresh 19 Mode for continuing two days	Muscular endurance: User may feel little muscular pains, rest few days then recover. Drink 500-1000c.c water, and taking hot shower	1. Please wear knee support and sneakers 2. Sandbag Training: At first 1 lb and keep swing your arms 3. Treadmill: Start from 4 kph with 2-4% incline, Adjustment range: ±0.5 kph 4. Cool Down: If heart rate still keep in high level, adjusting incline to 0 %
After 2 weeks: Taking Stair Climbing Mode from 10-20 floors in daytimes; AIT Refresh 19 Mode in early morning or off-duty.	1-2 week(s): Reduce stress 12-16 weeks: Improve Metabolism	Free Zone Mode: Take jogging 30-60 minutes in weekend, and keep yellow level (Moderate lactic burn)
Anti-aging 33 Mode and Self-setting Mode apply to Brisk walk		Brisk walk with swing arms

Appendix

4. Lactic Burn Indication

AIT Protocol provides Basic-Mild-Moderate-High-Balance disorder which based on user physical status, because the lactic burn shall be progress step by step not to rectilinear pile up.

FitSignal Sport Watch will classify your sport intensity into five stages (Blue to Red) as shown in below chart:

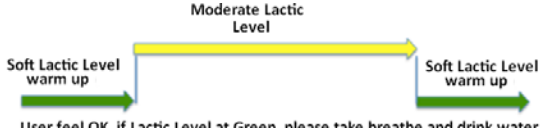| Lactic Burn		Status	Examples	Note
Blue		Basic status	Rest, working, watching TV, take a walk, or doing house work	Green level display: You may feel a little uncomfortable
Green		Mild status	Brisk walk, jogging, taking 2-4 stair climbing	Yellow level display: You may in Moderate status or physical deterioration (dehydration), environmental deterioration, or climbing
Yellow		Moderate status	Jogging, Climbing, stair climbing 10-20 floors	Orange level display: You may in high intensity or physical deterioration (dehydration), environmental deterioration, or climbing
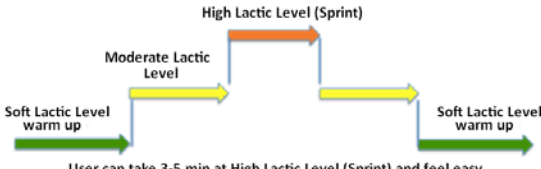
Appendix

Lactic Burn	Status	Examples	Note
Orange	High intensity	AIT or HIIT may achieve to this level, please trying to slow down if you're not athlete	Red level display: the lactic dramatically increasing, please slow down, drinking water or stop training
Red	Lactic balance disorder	Strongly feel uncomfortable and cannot endure training	If user keep training may cause lactic acidosis, please avoid this condition if you're not athlete

Note: "Lactic Burn" is not the lactate concentration from your arterial blood, it simulates from continuous heart rate variation.

Appendix

5. How to make Free zone more become more efficiency?

Suggestion	Method	Workouts
Training Monitor	Taking Free Zone Mode at least 30 minutes or above by walking or other activities in green level. For example, if you're in blue level, you can try to brisk walk to become efficiency.	Make sure your warm-up exercise is healthy
Cross-country Running	Taking Free Zone Mode at least 3-5 minutes in any weather or environment at below levels: Section 1: Moderate Lactic Level Soft Lactic Level warm up — Soft Lactic Level warm up User feel OK, if Lactic Level at Green, please take breathe and drink water. Section 2: Moderate Lactic Level Soft Lactic Level warm up — recovery — Soft Lactic Level warm up If user feel tired, user can take 3-5 min at Recovery Level then speed up to Moderate Lactic Level. Section 3: High Lactic Level (Sprint) Moderate Lactic Level Soft Lactic Level warm up — Soft Lactic Level warm up User can take 3-5 min at High Lactic Level (Sprint) and feel easy.	Follow the indication to make perfect aerobic interval workouts

Note

■ Declaration of Conformity

FitSignal Sport Watch declares that this product is in compliance with the Directive 1999/5/EC and other relevant requirements.

■ FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

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 the 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/TV technician for help.

CAUTION:

To assure continued FCC compliance:

➥ Any changes or modifications not expressly approved by the grantee of this device could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC ID:
CMIIT ID:

((((NCC Number Reserved

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