User manual

Maxitrol Company

Confidential

User manual

- Handset Models -

- Standard
- Display
- Thermostatic

Operational Specification

- Handset Models -

Display and Thermostatic Model

Operational Specification

- Handset Models and Corresponding Icons Used -

LCD Icon	Corresponding LCD Segments	Corresponding Feature	Standard Model	Display Model	Thermostatic Model
	5A to 5L, 6A to 6L, ˚F, ˚C	Temperature	X	X	X
	M1	Child-safety Lock	X	X	X
	B1, B2, B3, B4	Battery Indicator		X	X
	1A to 1K, 1L, 2A to 2L, 3A to 3L, 4A to 4L, AM, PM	Clock		X	X
	S6	Enhanced Communication Indicator		X	X
	T3	Sleep Mode Indicator		X	X
	T1, T2	Timer1 and Timer2 Indicators			X
	S1, S2, S3, S4, S5	Setpoint Indicator (SP bars)			X
	M2, M3, M4, M5, 1J	Communication Indicator	X		

Operational Specification

- "Standard" -

Note: To increase flame while child-lock is on, user needs to make 2 consecutive UP button presses within half a second. Doing so will increase the flame but will not disable the child-lock. To decrease flame while child-lock is on, only one DOWN button press is required.

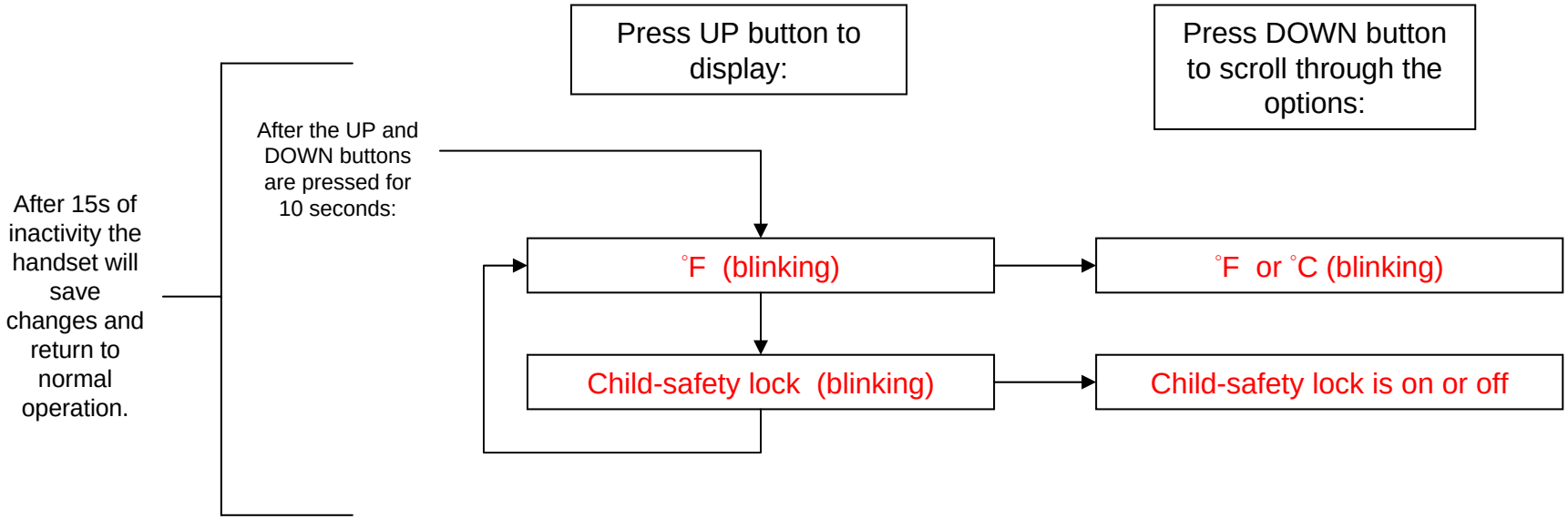
Action Taken		Tx Operation	Result seen on the Handset(Tx)	Result seen on the receiver(Rx)
	No buttons are being pressed	Idle	Room temperature is updated continuously; and Child-safety Lock is displayed if selected	None
	Down button is pressed	Active	Communication indicator light up in sequence(M2-5,1J); and Tx sends ONE decrease-flame-command	When Rx receives the decrease-flame-command, LED turns on; and flame height knob continuously turns clockwise
	Down button is released		Communication indicator turns off; and Tx sends ONE stop-command	When Rx receives the stop-command, flame height knob stops turning; and LED turns off
	Up button is pressed		Communication indicator light up in sequence(see above); and Tx sends ONE increase-flame-command	When Rx receives the increase-flame command, LED turns on; and flame height knob continuously turns counterclockwise
	Up button is released		Communication indicator turns off; and Tx sends ONE stop-command	When Rx receives the stop-command, flame height knob stops turning; and LED turns off
	Press and hold for 10 seconds both buttons	Programming	ALL icons turn off and it enters programming mode	None

Operational Specification
- “Standard” -

Action Taken		Tx Operation	Result seen on the Handset(Tx)	Result seen on the receiver(Rx)
	After 120 minutes of being in continuous Idle Mode	Sleep	Tx goes to sleep, and ONLY the sleep mode indicator is on	None
	After 8 hours of being in continuous Sleep Mode	Auto-pilot	Tx sends ONE decrease-flame-command to Rx	When Rx receives the decrease-flame-command, Rx continuously turns the flame height knob clockwise  until knob reaches limit and then it stops

Operational Specification

- “Standard” Menu Structure -



Operational Specification
- “Display” -

Note: To increase flame while child-lock is on, user needs to make 2 consecutive UP button presses within half a second. Doing so will increase the flame but will not disable the child-lock. To decrease flame while child-lock is on, only one DOWN button press is required.

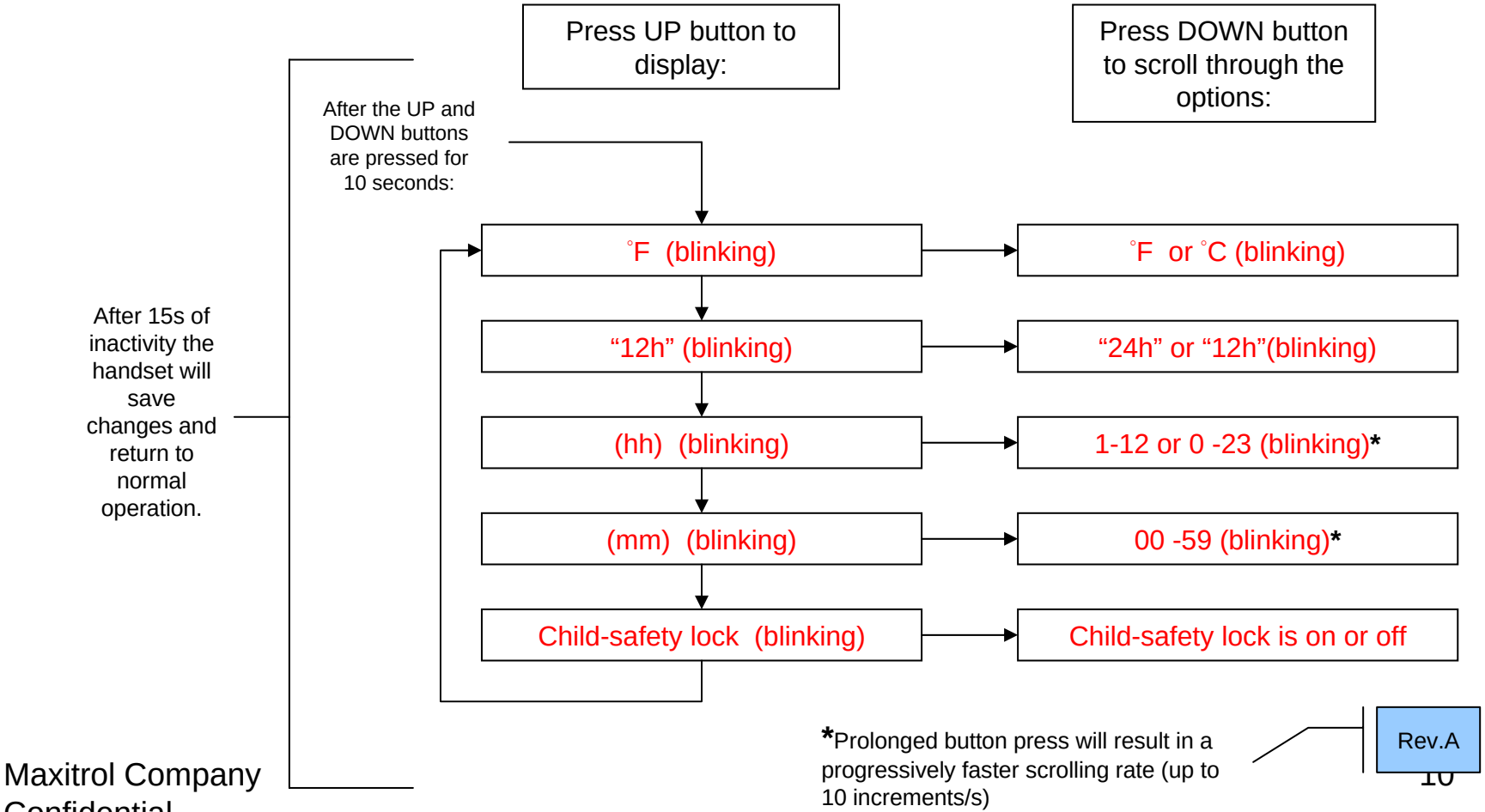
Action Taken		Tx Operation	Result seen on the Handset(Tx)	Result seen on the receiver(Rx)
	No buttons are being pressed	Idle	Room temperature is updated continuously; Child-safety Lock is displayed if selected; Clock and battery indicators are updated every second; and COL icon flashes every second	None
	Down button is pressed	Active	Enhanced communication indicator turns on; and Tx sends ONE decrease-flame-command	When Rx receives the decrease-flame-command, LED turns on; and flame height knob continuously turns clockwise
	Down button is released		Enhanced communication indicator turns off; and Tx sends ONE stop-command	When Rx receives the stop-command, flame height knob stops turning; and LED turns off
	Up button is pressed		Enhanced communication indicator turns on; and Tx sends ONE increase-flame-command	When Rx receives the increase-flame command, LED turns on; and flame height knob continuously turns counterclockwise
	Up button is released		Enhanced communication indicator turns off; and Tx sends ONE stop-command	When Rx receives the stop-command, flame height knob stops turning; and LED turns off
	Press and hold for 10 seconds both buttons	Programming	All icons turn off and it enters programming mode	None

Operational Specification
- “Display” -

Action Taken		Tx Operation	Result seen on the Handset(Tx)	Result seen on the receiver(Rx)
	After 120 minutes of being in continuous Idle Mode	Sleep	Tx goes to sleep, and ONLY the sleep mode indicator is on	None
	After 8 hours of being in continuous Sleep Mode	Auto-pilot	Tx sends ONE decrease-flame-command to Rx	When Rx receives the decrease-flame-command, Rx continuously turns the flame height knob clockwise until knob reaches limit and then it stops

Operational Specification

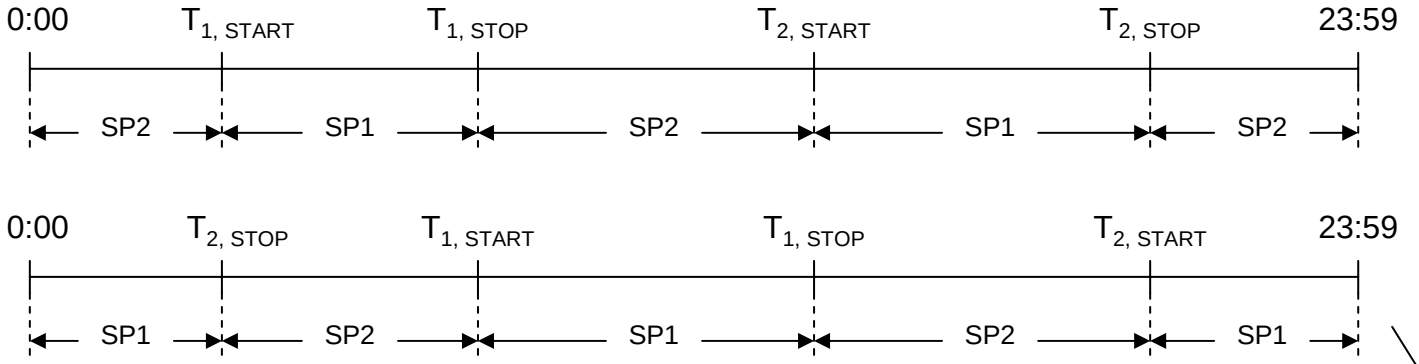
- “Display” Menu Structure -



Operational Specification
- “Thermostatic” -

The Thermostatic model can operate in one of three modes:

- Manual Mode:
  - Behaves as the “Display” Model. User has control of flame height via two buttons.
- Automatic Mode:
  - User has control of the setpoint via two buttons.
  - Automatic mode will send increase or decrease commands to the receiver at random intervals to achieve a temperature at the handset equal to the current setpoint.
- Timer Mode:
  - User has control of the current setpoint via two buttons. Timer mode behaves as the Automatic Mode. There are two programmable timers (T_1 and T_2) each with a start and stop time that together span one 24 hour period.
  - There are two setpoints (SP1 and SP2) that correspond to “timer on” and “timer off”. When either of the two timers are on, SP1 is current otherwise SP2 is current. (see diagram below)
  - SP2 cannot be set higher than SP1.



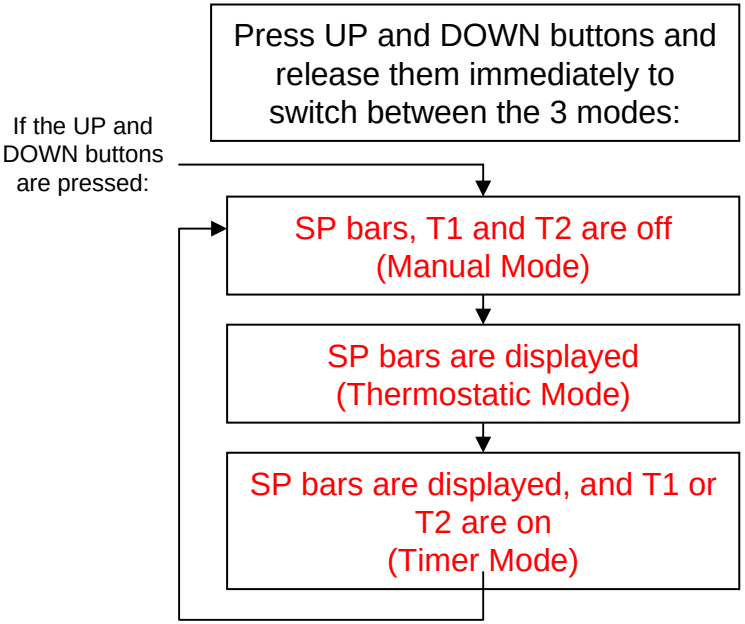
Rev.A

Operational Specification
- “Thermostatic” -

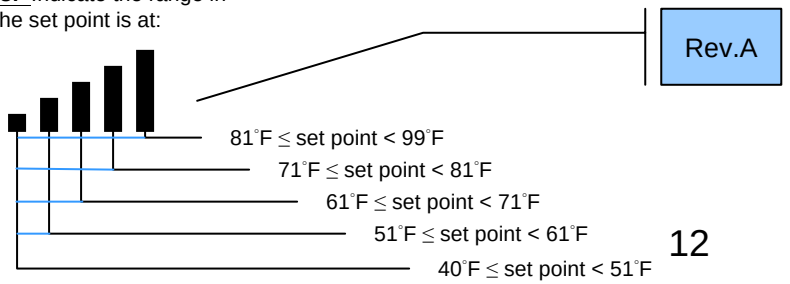
In summary the 3 modes are:

- **Manual**
  - **Idle**
  - **Active**
  - **Programming**
  - **Sleep**
  - **Auto-pilot**
- **Automatic**
  - **Active**
  - **Programming**
- **Timer**
  - **Active**
  - **Programming**

The 3 modes are entered by:



SP bars: Indicate the range in which the set point is at:



Operational Specification
- “Thermostatic” -

Mode	Action Taken		Tx Operation	Result seen on the Handset(Tx)	Result seen on the receiver(Rx)
Manual	See slides 8 and 9				
Automatic		No buttons are being pressed	Active	Room temperature is updated continuously; Child-safety Lock is displayed if selected; Clock and battery indicators are updated every second; COL icon flashes every second; Tx automatically adjusts the flame at a random interval so as the keep the room temperature at the set temperature; and SP bars are displayed.	Rx waits for command from Tx
		Down button is pressed		Set point is decreased by 1°; and SP bars are updated	Rx waits for command from Tx
		Up button is pressed		Set point is increased by 1°; and SP bars are updated	Rx waits for command from Tx
		Press and hold for 10 seconds both buttons	Programming	All icons turn off and it enters programming mode	None

Note: To increase flame or SP while child-lock is on, user needs to make 2 consecutive UP button presses within half a second. Doing so will increase the flame/SP but will not disable the child-lock. To decrease flame while child-lock is on, only one DOWN button press is required.

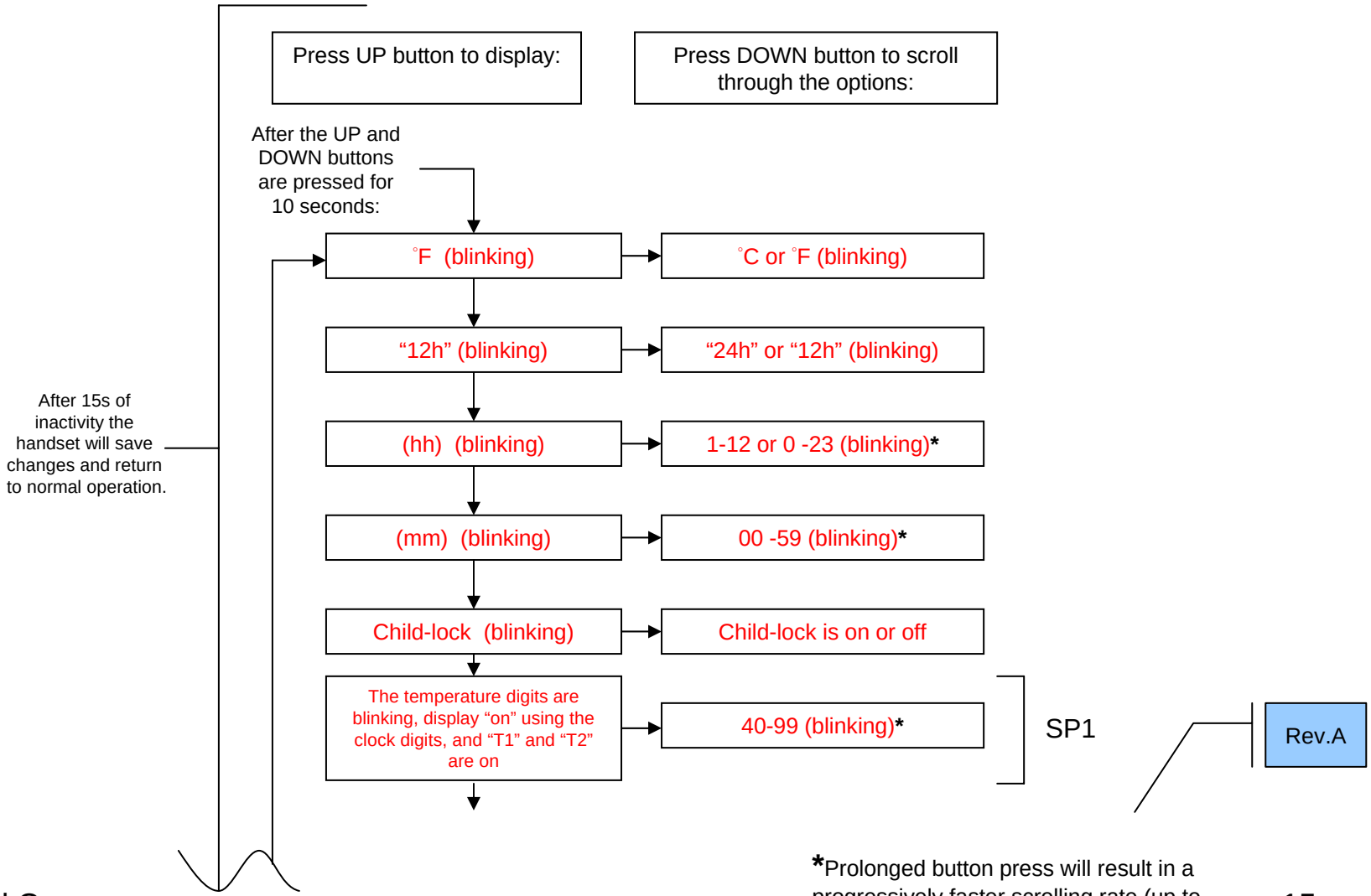
Operational Specification
- “Thermostatic” -

Note: To increase flame or SP while child-lock is on, user needs to make 2 consecutive UP button presses within half a second. Doing so will increase the flame/SP but will not disable the child-lock. To decrease flame while child-lock is on, only one DOWN button press is required.

Mode	Action Taken		Tx Operation	Result seen on the Handset(Tx)	Result seen on the receiver(Rx)
Timer		No buttons are being pressed	Active	Room temperature is updated continuously; Child-safety Lock is displayed if selected; Clock and battery indicators are updated every second; COL icon flashes every second; Tx automatically adjusts the flame at a random interval so as the keep the room temperature at the current set temperature; either SP1 or SP2 is active; T1, T2 or T3 is on and SP bars are displayed	Rx waits for command from Tx
		Down button is pressed while T1/T2 is on (SP1 is active)		SP1 is decreased by 1°; and SP bars are updated	Rx waits for command from Tx
		Up button is pressed while T1/T2 is on (SP1 is active)		SP1 is increased by 1°; and SP bars are updated	Rx waits for command from Tx
		Down button is pressed while T1/T2 is off (SP2 is active)		SP2 is decreased by 1°; and SP bars are updated	Rx waits for command from Tx
		Up button is pressed while T1/T2 is off (SP2 is active)		SP2 is increased by 1°; and SP bars are updated	Rx waits for command from Tx
		Press and hold for 10 seconds both buttons	Programming	All icons turn off and it enters programming mode	None

Operational Specification

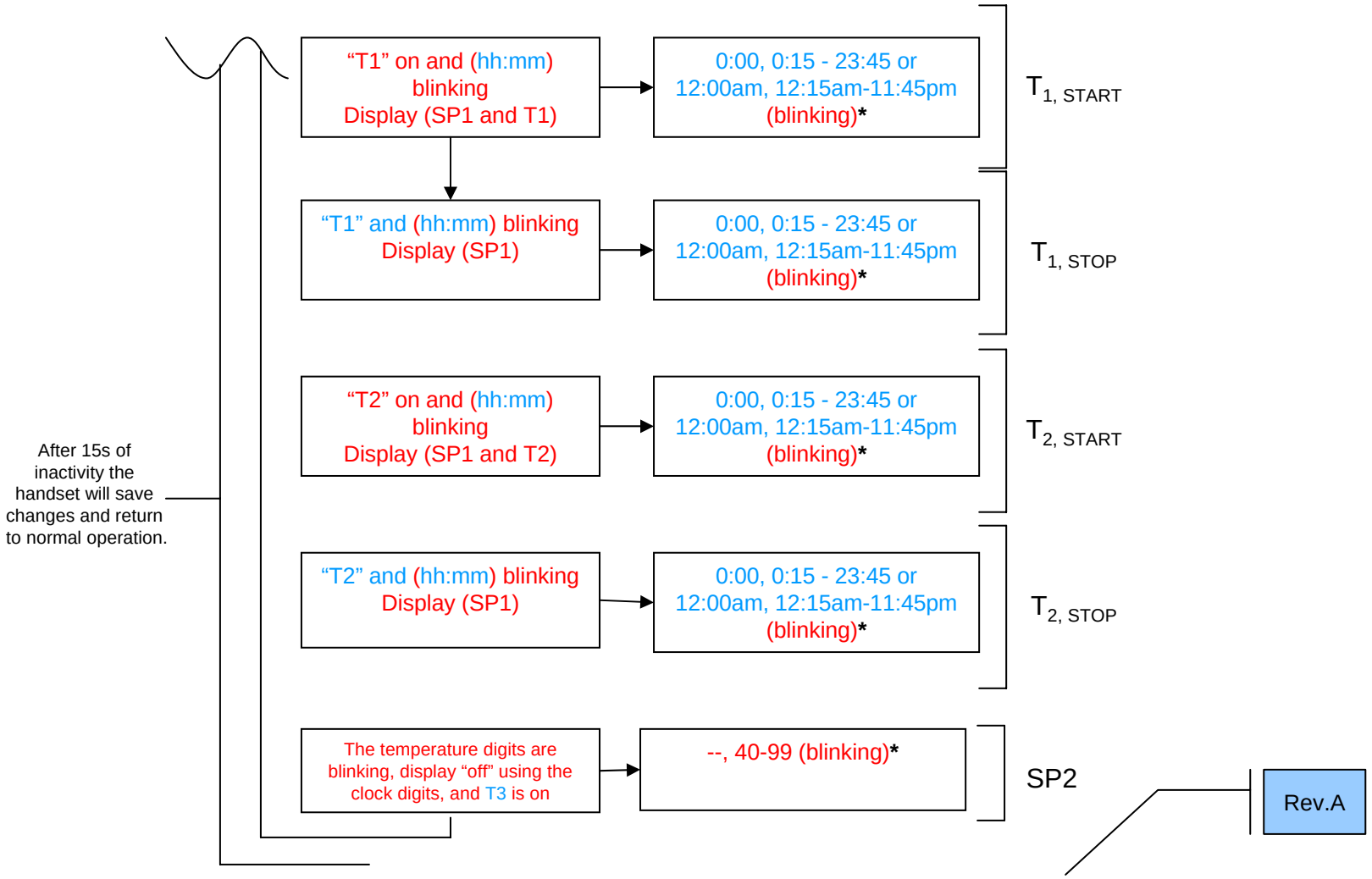
- “Thermostatic” Menu Structure -



*Prolonged button press will result in a progressively faster scrolling rate (up to 10 increments/s)

Operational Specification

- “Thermostatic” Menu Structure -



“--” denotes off, or turn the valve closed until the lower limit switch is reached.

*Prolonged button press will result in a progressively faster scrolling rate (up to 10 increments/s)

Note 1 :

- This device complies with EMC Directive 89/336/EEC, Low Voltage Directive 76/23/EEC and
- R&TTE Directive 1995/5/EEC.This product has been approved for upper directives and covers
- the following countries : Austria Belgium Cyprus Czech Republic Denmark Estonia Finland
- France Germany Grecce Hungary Ireland Italy Lativa Lithuania Luxembourg Malta Poland
- Portugal Slovakia Slovenia Spain Sweden The Netherlands UK Iceland Norway
- Switerland Turkey Romania

Note 2 :

- 15.21 “Changes or modifications are not expressly
- approved by the manufacturer could void the user's authority to operate the equipment.”
- "Operation is subject to the following two conditions: (1) this device may not cause interference,
- and (2) this device must accept any interference, including interference that may cause undesired operation of the device."