

BBQ GURU WIRELESS ProCom4 WIRELESS USER GUIDE

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1. BBQ GURU ProCom4 Wireless Features

- Super compact wireless control pendant with up to 600 feet line of sight range from your pit
- Allows complete remote control and monitoring of your pit
- Digital alphanumeric 8 character x 2 line LCD display with backlight
- Audible alarm sounds on over/under temp, meat done, timeout and many other conditions
- Real time fan status and percent output indication helps you to measure fuel use
- Super User menu for advanced users

- User settable low and slow ramp down feature
- User settable cook timer gives alarm or shuts down your pit
- Battery power indicator
- Adjustable Proportional band, cycle time, offset and deviation alarms
- Display in degrees F or C
- Alarms settable to on or off (good neighbor feature)
- Adjustable display contrast
- 32° to 400° F range with +/- 2° F accuracy.

2.KEYS

ON/OFF – Powers the unit up and down.

BACKLIGHT – Turns the backlight on for 10 seconds past the last key press.

SCROLL – Indexes through the menu system.

UP – Indexes the shown value up.

DOWN – Indexes the shown value down.

ALARM SILENCE – Silences the current alarm condition.

3.Adjusting LCD Contrast

Press and hold the “backlight” key and the “up” or “down” key to adjust the contrast.

4.Powering Up

Pressing the ON / OFF key will power the handheld up.

During power up the display shows:

B	B	Q	G	u	r	u
1	.	1		9	9	

1.1 is the Software version and 99 is the unit's serial number.

5.STANDARD USER MENU

The screens are shown in the order they appear as the “scroll” key is pressed. When the battery power screen is reached and the scroll key is pressed again, the menu system will loop around to the selected main screen.

If the unit is left showing any screen for more than 10 seconds, it will revert to the selected “Main Screen”.

5.1.Main Screen Selection

When the ProCom4 is turned “on”, the standard “main screen” appears. Pressing the “up” or “down” key scrolls through a selection of three main screens.

5.1.1.Standard Main Screen

The asterisk (*) shows when the fan is running. The numbers to the right are the actual Pit and Meat thermocouple temperatures.

P	I	T	*	2	7	3
M	E	A	T	1	8	0

From the standard main screen: if the “up” key is hit, the set point screen is shown.

5.1.2.Setpoint Main Screen

The actual “values” are to the left and the “set points” are to the right.

P	2	7	3	2	7	5
M	1	8	0	1	8	5

If the up key is hit again, “Shot Gun Fred’s Screen” is shown.

5.1.3.Shot Gun Fred’s Main Screen

This screen was designed for the advanced user and shows you the Pit Temp, Meat Temp, Cook Timer, Fan Status, and Fan %.

“R” is shown when the control is actively ramping.

“r” is shown when ramp is enabled but not active.

% Fan shows 0-9 and “F” for fan running full time.

P	2	7	3	M	1	8	0
0	0	:	0	0	R	*	5

If the up key is hit again, the standard main screen appears again.

5.1.4.Temperature Display Messages

When the controller is out of range or interference is present, the display will show the screen below and then flash “MEAT TEMP UNKNOWN!”

P	I	T	*	-	-	-
M	E	A	T	-	-	-

When the temperature is over 405° F, the display will show:

OVL = Over Value Limit

P	I	T	*	O	V	L
M	E	A	T	O	V	L

When the temperature is below 32° F, the display will show:

P	I	T	*	L	O	W
M	E	A	T	L	O	W

5.2.Aux Screen

Shows the “Aux 1” and “Aux 2” thermocouple temperatures

A	U	X	1	1	0	5
A	U	X	2	1	2	5

5.3.Pit Set point Screen

Using the “up” and “down” keys, the user can adjust the pit set point from 32° to 400° F. The default setting is 275° F.

P	I	T	S	E	T
2	7	5			

5.4.Meat Set point Screen

Using the “up” and “down” keys the user can adjust the meat set point from 32° to 210° F. The default setting is 185° F.

M	E	A	T	S	E	T
1	8	5				

5.5.Timer Screen

Using the “up” and “down” keys the user can adjust the cook timer duration, also displays the actual “current” time left in the cook. If the handheld unit is powered down, the setting will go to 00:00. **NOTE. From 00:00 press the “down” key to go to 99:59**

T	I	M	E	R
0	0	:	0	0

5.6.Timeout Action Screen

Selects the timeout action, no action, alarm, or shut down. The default setting is no action.

T	I	M	E	O	U	T
A	L	A	R	M		

5.7.Alarm Screen

Selects if the alarms are “on” or “off”, (AKA good neighbor feature). The default setting is “on”.

A	L	A	R	M	S
O	N				

5.8.Ramp On/Off Screen

Selects if ramp mode is set to “on” or “off”. The default setting is “off”.

R	A	M	P
O	N		

5.9. Battery power screen

Shows battery capacity in %.

B	A	T	T	P	W	R
9	5	%				

6. SUPER USER MENU

Press the “scroll” key and the “up” key to enter the Super User Menu.

Press the “scroll” key and the “down” key to exit the Super User Menu.

The screens are shown in the order they appear as the scroll key is pressed. When the “**Reset All**” screen is reached and the “scroll” key is pressed again, the menu system will jump to the selected main screen.

If the unit is left showing any screen for more than 10 seconds, it will revert to the Selected Main Screen.

6.1. Fan % Screen

Shows the current fan duty cycle in %.

F	A	N	P	C	T
5	1	%			

6.2. Proportional Band Screen

Using the “up” and “down” keys, the advanced user can adjust the Proportional band from 1- 99° F. The default value is 25° F. For clarification of this feature, see the “definition of terms” section at the end of this manual.

P	R	O	P	B	A	N	D
2	5		D	E	G		

6.3. Offset Screen

Using the “up” and “down” keys, the advanced user can adjust the Offset from 0-50° F. The default value is 10° F. This offset represents a value that is added to the set point to compensate for droop error. For clarification of this feature see the “definition of terms” section at the end of this manual.

O	F	F	S	E	T
1	0		D	E	G

6.4. Ramp Offset Screen

Using the “up” and “down” keys, the advanced user can adjust the Ramp Offset from 10-60° F. The default value is 30° F. This offset is used as follows: when the controller is in “ramp” mode, the internal pit “set point” will be ramped down from the pit “set point” to the meat “set point” + Ramp Offset. For clarification of this feature, see the “definition of terms” section at the end of this manual.

R	M	P	F	F	S	E	T
---	---	---	---	---	---	---	---

3	0		D	E	G
---	---	--	---	---	---

6.5.Deviation Alarm Screen

Using the “up” and “down” keys, the advanced user can adjust the deviation alarm from 20 to 80° F. The default value is 50° F (50° above or below set temperature). The “low deviation” alarm is suppressed on startup and will sound when the pit temperature is above or below the pit “set point” by this amount.

A	L	A	R	M	D	E	V
5	0		D	E	G		

6.6.Cycle Time Screen

Using the “up” and “down” keys, the advanced user can adjust the cycle time from four to 10 seconds. The default value is six seconds. For clarification of this feature, see the “definition of terms” section at the end of this manual.

C	Y	C		T	I	M	E
6			S	E	C		

6.7.Temperature Units Screen

Using the “up” and “down” keys, the advanced user can set the temperature units to “F” or “C”. Default setting is “F”. This affects all temperature displays and settings.

T	E	M	P	U	N	I	T
	F		D	E	G		

6.8.Reset All Screen

Using the “up” key the advanced user or technician can restore the factory defaults to all values programmed in the unit, including calibration.

R	E	S	E	T	A	L	L
---	---	---	---	---	---	---	---

When the “up” key is pressed, the display will show:

R	E	S	E	T	A	L	L
	D	O	N	E	!		

7.ALARMS

7.1.Meat Done Alarm

The “meat done” alarm screen flashes when meat temperature is greater than or equal to the meat set point. Also sounds a beeper if alarms are set to “on”.

M	E	A	T		
	D	O	N	E	!

7.2.Pit Temp High

The “pit temp high” alarm screen flashes when pit temperature is greater than or equal to the pit “set point” + the “deviation” alarm value **50° F default** (25° above set temperature) Also sounds “beeper” if alarms are set to “on”.

P	I	T	T	E	M	P
	H	I	G	H	!	

7.3.Pit Temp Low

The “pit temp low” alarm screen flashes when pit temperature is less than or equal to the pit “set point” - the “deviation” alarm value **50° F default** (25° below set temperature). Also sounds “beeper” if alarms are set to “on”.

P	I	T	T	E	M	P
	L	O	W	!		

7.4.Timeout No Action

“Time out” flashes when timer is expired and “time out” action is set to “no” action. Beeper is not sounded.

T	I	M	E	O	U	T	!
	N	O	A	C	T	'	N

7.5.Timeout Alarm

“Time out” alarm flashes when timer is expired and “time out” action is set to “alarm”. Beeper is sounded if alarms are set to “on”.

T	I	M	E	O	U	T	!
	A	L	A	R	M		

7.6.Timeout Shutdown

“Time out” shutdown flashes when timer is expired and “time out” action is set to “shutdown”. Beeper is sounded if alarms are set to “on”.

T	I	M	E	O	U	T	!
S	H	U	T	D	O	W	N

7.7.Meat Temp Error

“Meat temp” error shows when the temperature exceeds 400° F on the “meat” channel. This typically indicates a damaged (open) meat thermocouple.

M	E	A	T	T	E	M	P
	E	R	R	O	R	!	

7.8.Pit Temp Error

“Pit temp” error shows when the temperature exceeds 400 deg F on the pit channel. This typically indicates a damaged (open) pit thermocouple.

P	I	T	T	E	M	P
---	---	---	---	---	---	---

E R R O R !

7.9. Meat Temp Unknown

“Meat temp” unknown shows when the units are “**out of range**” or “**significant interference**” is present preventing the reading of the meat temperature for at least five seconds.

M E A T T E M P
U N K N O W N !

7.10. Handheld Pendant Battery Low

If the battery becomes weak in the handheld Pendant, the handheld will show:

H A N D H E L D
B A T T L O W

7.11. Controller Base Station Battery Low

If the battery becomes weak in the controller Base Station, the handheld will show:

C O N T R O L L E R
B A T T L O W

8. Zero and Span CALIBRATION

Press and hold the “up” and “down” keys when the BBQ Guru Screen is shown on “power up” to enter the calibration menu. **CAUTION:** This is a factory calibration, not for the user to adjust. **Zero and Span CALIBRATION are not affected by “Reset All”.**

8.1. Zero Adjust Screen

Using the “up” and “down” keys, a factory technician can adjust the zero calibration from -99 to +99. Zero calibration should be adjusted with an input of 32° to the meat thermocouple input. The M: 32 is the value the control thinks it is seeing on the meat input. The +1 is the amount we are adding or subtracting from the reading to make it read correctly.

Z E R O A D J
+ 1 M : 3 2

8.2. Span Adjust Screen

Using the “up” and “down” keys a factory technician can adjust the span calibration from -99 to +99. Span calibration should be adjusted with an input of approx 375° to the meat thermocouple input. The M: 375 is the value the control thinks it is seeing on the meat input. The -4 is the amount we are adding or subtracting from the reading to make it read correctly.

S P A N A D J
- 4 M : 3 7 5

9.CONTROLLER INDICATORS

(From top to bottom)

1. **Power** – energized when power is applied, is not energized in monitor mode (internal 9V battery power).
2. **Power Draft** – energized when the fan is on.
3. **Ramp** – Energized when the ramp is set to on.
4. **In Range** – Blinking when the control and handheld are within communicating range and no interference is present.
5. **Out of Range** – Blinking when the control and handheld are out of range or significant interference is present.
6. **Error** – Energized when an error is present such as the meat and pit temperature errors.

10.CONTROLLER BASE STATION IN MONITOR MODE

The ProCom4 is a stand-alone temperature monitor and will run on it's own internal 9-volt battery.

In order to use the ProCom4 as a controller, 12 VDC power must be plugged in to the Base Station. This supplies power to the Power Draft Fan.

When 12 VDC power is plugged in, it overrides the 9-volt battery.

Note: The 9-volt battery is for monitor mode only and will NOT run the Power Draft Fan.

All control parameters become inactive

11.CONTROLLER CONNECTIONS

From left to right:

Pit/Meat TC, Aux1, 2 TC, 12V Pwr Input, Fan Output.

12.DEFINITION OF TERMS

Offset – This value is added internally to the pit set point. Say your pit set point is 225 and you find that the actual pit temperature never gets over 220°; you should add 5° to the offset value (if it was 10 make it 15). This will make the actual pit temperature climb another 5° and agree with your set point. The default value of 10° will work well with most pits.

Proportional Band – This value is the band of temperature over which the power draft fan will pulse. Say your internal pit set point is 225 (215 + 10 deg offset). Below 200, the power draft blower will be full on, above 225 the power draft blower will be full off and at 212.5 the power draft blower will cycle 50% of the time. The default value of 25° will work well with most pits. If you notice that the pit temperature is oscillating up and down more than 5 to 10° and never settles out, the proportional band can be made larger. Making the proportional band smaller will make the pit reach set point faster, but will also increase the overshoot on startup. Each time you adjust the proportional band, expect that you will also need to adjust the offset to make the pit set point and actual temperature agree.

Note: The slide damper on your fan is also a (mechanical) Proportional Band adjustment. If you leave it wide open (more air) you will get quick response, but you may tend to over shoot.

If you use a small opening (less air) you will not over shoot, but it will take longer to reach temperature. The fan will run longer on each cycle. The great thing about the damper is that it allows you to tune your pit on the fly or shut off the airflow all together when you open the lid to check your meat. This will keep your fire from raging when the pit thermocouple senses the incoming cold air.

Cycle Time – This value is the time (in seconds) between power draft fan pulses. The default value of six seconds will work well with most pits. The cycle time should be lowered only if the pit temperature falls between power draft fan pulses.

Ramp Offset – When the ramp mode is turned on, the pit will be ramped down to the meat set point + the ramp offset when the meat temperature = the meat set point. The default value of 30° will work well for most cuts of meat. Say your pit set point was 275 and your meat set point is 180. The pit will be ramped down to 210 (180+30) as your meat temperature climbs to 180. We determined the 30° based on the amount of evaporative heat loss in an average piece of meat. If you make this lower, the meat set point may never be achieved at the end of the ramp cycle due to the amount of evaporative heat loss. If you make this higher, the meat set point may be slightly exceeded at the end of the ramp cycle.

Think of this feature as “cook and hold”. Ramp says to the control, “Cook the meat to a done temperature, but do not exceed that temperature, then hold the pit “X” degrees above the meat temperature to maintain that internal temperature.” Once your meat is done and you decide you want to hold the meat at a lower temperature, say 140-150° F. All you will need to do is to turn your meat temp down on your control and ramp will automatically lower the pit temp to ”X” degrees above 140-150°. Doing this allows you to hold meat for a long period of time until the next serving time, or allow the meat to “rest” before the initial serving.