UWTC-REC2 Configuration and Command Reference

UWTC-REC2 Command Reference:

Note: All commands sent to the UWTC series (except for single character commands) must be terminated by a carriage return or carriage return and linefeed, and is shown in this document as "^C_R" and "^L_F". Any parameters shown in square brackets "[ ]" are optional. Parameters are separated from commands and from each other by a space " ". Spaces within commands are shown in this document as "^S_P". All commands are case insensitive, meaning any combination of upper/lower case characters are accepted.

The USB connection appears on the PC as a virtual serial COM Port. In order to communicate with the UWTC-REC2, the PC running a terminal program (such as HyperTerminal) must have the following serial communication settings:

Baud: 9600
Data Bits: 8
Parity: None
Stop Bits: 1
Flow Control: None

In addition, the checkboxes in HyperTerminal "ASCII Setup", "Send line ends with line feeds" and "Echo typed characters locally" should be checked for best appearance.

NOTE: Before sending configuration commands to the UWTC-REC2, the "***" command must be send first, to stop incoming serial data from received RF signals. Once the desired configuration commands have been issued, use the "- - -"(no spaces between dashes) command to save the configuration to EEPROM.

Single character commands except for "?", may be issued at any time.

CAUTION: As of firmware version 091213, all commands no longer automatically save values to emulated EEPROM. The "---"command must be issued as the final command in order to save changes made by previous commands. This change was made to speed up communication with TC Central, and reduce wear and tear on the Flash memory by minimizing the number of "writes".

Command Summary:

Public commands:

* * *	**Disable RF received data (disable radio TXD to PC)**
- - -	**Enable RF received data and save configuration data (enable radio TXD to PC)**
ENQ	**Display Unit ID code and firmware version**
ADDR	**Display/set address to monitor on analog output channel(s)**
CTO	**Display/set analog channel timeout**
AMOD	**Display/set alarm mode (activate on rising/falling)**
ASP	**Display/set alarm setpoint in process units**
ADB	**Display/set alarm deadband in process units**
AMRC	**Display/set alarm master remote activation via USB**
SL	**Display/set lower scale value for analog output**
SH	**Display/set upper scale value for analog output**
SS	**Display Scale Values**
TCOS	**Display/set TC-K analog output offset in °F**
UP	**Display/set process units**

Single character commands:

!	**Activate Master Remote Alarm**
#	**De-activate Master Remote Alarm**
>	**Disable RF received data (disable radio TXD to PC)**
<	**Enable RF received data (enable radio TXD to PC)**
?	**Display Unit ID code and firmware version**

*** Command:

Description: - Disable RF received data.

Syntax: $^C_R [^L_F]$ * * * $^C_R [^L_F]$

Parts: None. There are no parameters for this command.

Remarks: A carriage return should precede the three asterisks in order to insure the input buffer is clear. There is no space between the three asterisks. Once this command is issued, the radio receiver's output is disconnected from the serial port, to allow for configuration without interference from received data.

Example:

The following is shown on the PC (terminal) screen after typing "Enter", "***", and "Enter":
$^C_R {}^L_F>$

--- Command:

Description: - Enable RF received data and save configuration data.

Syntax: $^C_R [^L_F]$ - - - $^C_R [^L_F]$

Parts: None. There are no parameters for this command.

Remarks: There is no space between the three dashes. Once this command is issued, the radio receiver's output is connected from the serial port, to allow for normal operation of the receiver. Any data received by the receiver will be transmitted over the serial port.

Example:

The following is shown on the PC (terminal) screen after typing "---" and "Enter":
$^C_R {}^L_F>$

ENQ Command:

Description: - Display unit ID, and firmware version.

Syntax: **ENQ** $^C_R [^L_F]$

Parts: None. There are no parameters for this command.

Remarks: None.

Example:

The following is shown on the PC (terminal) screen after typing "ENQ" and "Enter":

UWREC2 $^C_R {}^L_F$
091016$^C_R {}^L_F$
0-10V$^C_R {}^L_F>$

ADDR Command:

Description: - Display/set address to monitor on analog output channel(s)

Syntax: ADDR [^S_P a]^C_R [^L_F]

Parts: [Optional] a = the address of the connector/transmitter/end device from which the analog output gets its data.

Remarks:

Entering "ADDR" with no address will report the currently set address. Entering "ADDR" with an address will set that address. Valid range for address is 1 to 65533:

Example:

The following is shown on the PC (terminal) screen after typing "ADDR" and "Enter" assuming that channel one is already set to address 7:

ADDRESS = 7$^C_R$$^L_F$>

The following is shown on the PC (terminal) screen after typing "ADDR 2012" and "Enter":

ADDRESS = 2012$^C_R$$^L_F$>

CTO Command:

Description: - Display/set analog channel timeout

Syntax: CTO [^S_P t]^C_R [^L_F]

Parts: [Optional] t = the time in seconds for the channel to time out.

Remarks:

Entering "CTO" with no time will report the currently set timeout. Entering "CTO" with a time will set that timeout. Valid range for time is 1 to 32767.

Channel timeout is used to set the analog output to its maximum value + 10% and activate the channel alarm, in the event that no packet has been received from the end device being monitored for more than the timeout period of time. This is in contrast to intentionally powering down the end device under normal operation. If an end device is manually turned off, it will transmit a "sign-off" code, and the receiver will set its output to minimum, and not activate the alarm.

Example:

The following is shown on the PC (terminal) screen after typing "CTO" and "Enter" assuming that channel timeout is already set to 120:

TIMEOUT = 120$^C_R$$^L_F$>

The following is shown on the PC (terminal) screen after typing "CTO 60" and "Enter":

TIMEOUT = 60$^C_R$$^L_F$>

AMOD Command:

Description: - Display/set alarm mode (activate on rising/falling)

Syntax: AMOD [^S_P m]^C_R [^L_F]

Parts: [Optional] m = the mode of operation for this channels alarm.

Remarks:

Entering "AMOD" with no mode will report the currently set alarm mode. Entering "AMOD" with a mode will set that alarm mode to that mode. Valid range for mode is 1 = rising, 0 = falling.

Example:

The following is shown on the PC (terminal) screen after typing "AMOD" and "Enter" assuming that alarm mode is already set to 1, activate on rising process value:

`MODE = RISING`$^C_R$$^L_F$>

The following is shown on the PC (terminal) screen after typing "AMOD 0" and "Enter":

`MODE = FALLING`$^C_R$$^L_F$>

ASP Command:

Description: - Display/set alarm setpoint in process units

Syntax: ASP [^S_P s]^C_R [^L_F]

Parts: [Optional] s = the setpoint for this channels alarm in process units.

Remarks:

Entering "ASP" with no setpoint will report the currently set alarm setpoint. Entering "ASP" with a setpoint will set that alarm setpoint to that value. Valid range for setpoint is scale low value to scale high value. See <u>SL</u>, <u>SH</u>, and <u>SS</u> commands.

Example:

The following is shown on the PC (terminal) screen after typing "ASP" and "Enter" assuming that the alarm setpoint is already set to 999:

`ALARM = 999 °F`$^C_R$$^L_F$>

The following is shown on the PC (terminal) screen after typing "ASP 100" and "Enter":

`MODE = 100 °F`$^C_R$$^L_F$>

ADB Command:

Description: - Display/set alarm setpoint in process units

Syntax: ADB [^S_P d]^C_R [^L_F]

Parts: [Optional] d = the deadband for this channels alarm in process units.

Remarks:

Entering "ADB" with no deadband will report the currently set alarm deadband. Entering "ADB" with a deadband will set that alarm deadband to that value. Valid range for deadband is 1 to 100 in process units.

Example:

The following is shown on the PC (terminal) screen after typing "ADB" and "Enter" assuming that the alarm deadband is already set to 10:

DEADBAND = 10 °F$^C_R$$^L_F$>

The following is shown on the PC (terminal) screen after typing "ADB 5" and "Enter":

DEADBAND = 5 °F$^C_R$$^L_F$>

AMRC Command:

Description: - Display Display/set alarm master remote activation via USB

Syntax: AMRC [^S_P m]^C_R [^L_F]

Parts: [Optional] m = the mode for this channels alarm remote activation.

Remarks:

Entering "AMRC" with no mode will report the currently set alarm remote activation mode. Entering "AMRC" with a mode will set that alarm remote activation mode to that mode. Valid range for mode is 1 = enable, 0 = disable.

TC Central's Activate Master Remote Alarm for REC2/4/6 allows the user to select which channel(s) will activate the alarm output on receivers with analog output. This feature only works when the receiver is plugged into a USB port, and TCC is running. If the USB cable is unplugged, only the channel assigned to the receiver's analog output will operate. To that extent, if the alarm output is activated because of a channel other than the assigned analog output, the alarm will clear upon removal of the USB cable.

Example:

The following is shown on the PC (terminal) screen after typing "AMRC" and "Enter" assuming that the alarm remote activation mode is already set to 1:

MRA ENABLE = TRUE^C_R ^L_F>

The following is shown on the PC (terminal) screen after typing "AMRC 0" and "Enter":

MRA ENABLE = FALSE ^C_R ^L_F>

SL Command:

Description: - Display/set lower scale value for analog output

Syntax: **SL [^S_P v]^C_R [^L_F]**

Parts: [Optional] v = the value in process units for the lower scale value.

Remarks:

Entering "SL" with no value will report the currently set lower and upper scale values. Entering "SL" with a value will set that lower scale value. Valid range for value is 0.0000001 to 2,147,483,520.0.

Example:

The following is shown on the PC (terminal) screen after typing "SL" and "Enter" assuming that the scale is set to 0 and 1000:

```
SCALE...ᶜʀ ᴸꜰ
0 V = 0.000 F ᶜʀ ᴸꜰ
10 V = 1000.000 Fᶜʀ ᴸꜰ>
```

The following is shown on the PC (terminal) screen after typing "SL -100" and "Enter", and the scale high value is already set to 1000:

```
SCALE...ᶜʀ ᴸꜰ
0 V = -100.000 F ᶜʀ ᴸꜰ
10 V = 1000.000 Fᶜʀ ᴸꜰ>
```

SH Command:

Description: - Display/set upper scale value for analog output

Syntax: **SH [^S_P v] ^C_R [^L_F]**

Parts: [Optional] v = the value in process units for the upper scale value.

Remarks:

Entering "SH" with no value will report the currently set lower and upper scale. Entering "SH" with a value will set that upper scale value. Valid range for value is 0.0000001 to 2,147,483,520.0.

SH Command continued.

Example:

The following is shown on the PC (terminal) screen after typing "SH" and "Enter" assuming that the scale is set to 0 and 1000:

```
SCALE...CR LF
0 V = 0.000 F CR LF
10 V = 1000.000 FCR LF>
```

The following is shown on the PC (terminal) screen after typing "SH 2000" and "Enter", and the scale low value is already set to 0:

```
SCALE...CR LF
0 V =0.000 FCR LF
10 V = 2000.000 FCR LF>
```

SS Command:
Description: - Display Scale Values

Syntax: SS ^C_R [^L_F]

Parts: None. There are no parameters for this command.

Remarks:

Entering "SS" will report the currently set lower and upper scale values.

Example:

The following is shown on the PC (terminal) screen after typing "SS" and "Enter" assuming that the scale is set to 0 and 1000:

```
SCALE...CR LF
0 V = 0.000 FCR LF
10 V = 1000.000 FCR LF>
```

TCOS Command:
Description: - Display/set TC-K analog output offset in °F

Syntax: TCOS [^S_P v] ^C_R [^L_F]

Parts: [Optional] v = the value in °F for the upper scale value.

Remarks:

Entering "TCOS" with no value will report the currently set thermocouple offset. Entering "TCOS" with a value will set thermocouple offset to that value. Valid range for value is -10.0 to 10.0. In order to set this parameter in °C, you must first convert the desired °C value to° F and enter the °F value.

TCOS Command continued.

Example:

The following is shown on the PC (terminal) screen after typing "TCOS" and "Enter" assuming that the thermocouple offset is set to 1.5:

TCOS = 1.5 $^{C}_{R}$$^{L}_{F}$**>**

The following is shown on the PC (terminal) screen after typing "TCOS -.9" and "Enter:

TCOS = -0.9 $^{C}_{R}$$^{L}_{F}$**>**

UP Command:

Description: - Display/set process units

Syntax: **UP [**$^{S}_{P}$ **u]** $^{C}_{R}$ **[**$^{L}_{F}$**]**

Parts: [Optional] u = the process units.

Remarks:

Entering "UP" with no units will report the currently set process units. . Entering "UP" with units will set the units to that value. Valid range for units is 0 to 8 text (alphanumeric) characters and/or symbols.

Example:

The following is shown on the PC (terminal) screen after typing "UP" and "Enter, assuming that the process units are already set to "F":

UNITS = F$^{C}_{R}$$^{L}_{F}$**>**

The following is shown on the PC (terminal) screen after typing "UP PSI" and "Enter:

UNITS = PSI$^{C}_{R}$$^{L}_{F}$**>**