

SynQor UPS Terminal Commands

Rev H, 30 May 2023

The UPS external serial port uses 115.2kbaud, 8 data bits, no parity, and one stop bit. Commands can be sent, and output viewed, with any standard terminal emulator. To view user text, set the terminal emulator for local echo. All transmitted commands must be terminated with a line feed character (ASCII 10). The interface is not case sensitive.

The UPS will transmit a prompt "SynQor>" to the terminal after each command. To execute a command, simply transmit the required ASCII text, terminated by a line feed character. Note that only the first 8 characters for any command are required to recognize and launch the command.

Command Summary

Command	Description
?	Display list of available terminal commands.
ALARM DISABLE	Disable audible alarm output. (Updates non-volatile memory.)
ALARM ENABLE	Enable audible alarm output. (Updates non-volatile memory.)
ALARM SILENCE	Silence currently active audible alarms.
ANALOG IN?	Display control board analog signal levels.
ASTART DISABLE	Disable auto-start mode (default factory setting).
ASTART ENABLE	Enable auto-start mode.
BATT INFO	Display manufacturer data and code revisions for installed battery pack.
BATTERY?	Display internal measurements and status for installed battery pack.
CODE?	Output code revision information for internal components.
COM LOCKOUT	Disable all external communications (Ethernet and serial)
DEBUG OFF	Disable automatic output of source data on startup (default factory setting).
DEBUG ON	Enable output of "SOURCE LOG" output on initial power application.
DIGITAL IN?	Display state of internal digital inputs of UPS control board.
DIS AC1	Set AC Output inactive.
DIS DC1	Set DC1 Output inactive.
DIS DC2	Set DC2 Output inactive.
DIS DC3	Set DC3 Output Inactive. UPS-1250-270 only
EMAIL RESTORE	Restore Email alert notifications to factory default settings.
ENA AC1	Set AC Output active.
ENA DC1	Set DC1 Output active.
ENA DC2	Set DC2 Output active.
ENA DC3	Set DC3 Output active. UPS-1250-270 only.

SynQor UPS Terminal Commands

Command	Description
FACTORY RESTORE	Restore communication board to factory default state.
FAN SERVICE	Execute fan service sequence immediately (cycles through fan speed settings).
FAN SET x	Manually set fan speed, x=0 to 4.
FAN STATUS?	Display inputs to fan controller.
FAND DISABLE	Disable execution of fan diagnostics every 24 hours.
FAND ENABLE	Enable execution of fan diagnostics every 24 hours (default factory setting).
FANS?	Display fan speeds and input voltage.
FOUT 400	Set AC Output frequency to 400 Hz.
FOUT 50	Set AC Output frequency to 50 Hz.
FOUT 60	Set AC Output frequency to 60 Hz.
HEAT TIMEOUT [sec]	Set battery self-heat mode timeout.
INPUTS?	Display status of inputs to UPS system.
LOG OFF	Terminate logging started via "SOURCE LOG" or "DEBUG ON".
MODEL?	Display UPS system model name.
NET RESTORE	Restore network configuration settings to factory defaults.
NETWORK?	Display Ethernet IP address and MAC address.
OUTPUT DISABLE	Shutdown AC and DC outputs of UPS system, reverting to standby or off state.
OUTPUT ENABLE	Enable AC and DC outputs of UPS system.
OUTPUTS?	Display status of outputs from UPS system.
RESTART x	Shutdown output immediately, re-enable output after x seconds.
RUNTEST x	Run internal built-in test routine.
SELFHEAT OFF	Manually terminate battery self-heat mode.
SELFHEAT ON	Manually engage battery self-heat mode.
SET DC3 VOUT x [V]	Set DC3 output voltage. UPS/MPC-1250-270 only.
SET DC3 IMAX x [mA]	Set DC3 current limit. UPS/MPC-1250-270 only.

SynQor UPS Terminal Commands

Command	Description
SET TTOP x [sec]	Set top-off time for UPS/MPC-1250 models with external battery charging option.
SET VNOM x [mV]	Set nominal output voltage for UPS/MPC-1250 models with external battery charging option.
SET VTOP x [mV]	Set top-off voltage for UPS/MPC-1250 models with external battery charging option.
SETDATE [yyyy-mm-dd]	Set internal datestamp for generation of a TLS Certificate.
SHUTDOWN x	Shutdown output after x seconds.
SNMP RESTORE	Restore SNMP configuration to factory defaults.
SOURCE LOG	Begin real-time output of power source status and switchover events.
SOURCES?	Display status of each defined source for the UPS system (AC, DC, and battery).
STARTUP x	Enable outputs after x seconds.
SYSTEM DISABLE	Disables the AC output of all systems while running in a multi-unit configuration.
TEMPS?	Display reported temperatures for internal subsystems.
TRAP LOG	Output log of communication board bootup events.
TRAP WIPE	Erase log of communication board bootup events.

SynQor UPS Terminal Commands

Command Details

Command: ?

Description: Display list of available terminal commands.

Sample Output: SynQor>?
?
ALARM DISABLE
ALARM ENABLE
ALARM SILENCE
:

SynQor>

Discussion: Output response format is a single row for each command available to the user.

Command: ALARM DISABLE

Description: Disable audible alarm output. (Updates non-volatile memory.)

Sample Output: SynQor>ALARM DISABLE
Flash Updated.

SynQor>

Discussion: This command will prevent the audible beeper from ever activating for any condition. Setting will be saved in non-volatile memory, and will persist until reversed with the "ALARM ENABLE" command.

Command: ALARM ENABLE

Description: Enable audible alarm output. (Updates non-volatile memory.)

Sample Output: SynQor>ALARM ENABLE
Flash Updated.

SynQor>

Discussion: This command will allow the audible beeper to sound during alarm conditions. This is the default factory state. See User Guide, "Fault Conditions" section for a description of audible alarms. The setting will be saved in non-volatile memory, and will persist until reversed with the "ALARM DISABLE" command.

Command: ALARM SILENCE

Description: Silence currently active audible alarms.

Sample Output: SynQor>ALARM SILENCE
Alarms Silenced.

SynQor>

Discussion: When there are current active alarms, issuing this command will silence the beeper. New alarm states that occur after the silence command will re-activate the audible beeper. This command is equivalent to holding up the front panel switch during operation. The beeper generates a brief two-toned signal when the silence command is issued.

SynQor UPS Terminal Commands

Command: ANALOG IN?

Description: Display control board analog signal levels.

Sample Output: SynQor>**ANALOG IN?**

```
5V Supply = 5.16 V
External DC Input = 0.5 V
Cold-start Voltage = 29.2 V
Main Bus Voltage = 29.4 V
Fan Current = &H0000
Fan Voltage = 0.0 V
Battery Voltage = 33.1 V
Motherboard Temperature = 24 C
Charger Current = &H01F7
DC Out Readback = 0.11 V
```

SynQor>

Discussion: Command displays translated values from ADC measurements on UPS control board. No user action based on these outputs should be taken. Note that Fan Current and Charger Current are not directly translatable to actual current readings. The DC Out Readback represents the output of a current amplifier; it does not represent the DC output voltage. An analog representation of the DC output voltage is not available.

Command: ASTART DISABLE

Description: Disable auto-start mode (default factory setting).

Sample Output: SynQor>**ASTART DISABLE**

```
Flash Updated.
```

SynQor>

Discussion: Command disables auto-start mode. This is the default factory configuration. With auto-start disabled, when the UPS receives AC or DC input power, it will enter standby mode. In standby mode, the battery will charge and the terminal interface is active, but the output will not enable until the user takes action to enable the output, either through a terminal command, the front panel switch, or a rear panel I/O signal.

SynQor UPS Terminal Commands

Command: ASTART ENABLE

Description: Enable auto-start mode.

Sample Output: SynQor>**ASTART ENABLE**
Flash Updated.

SynQor>

Discussion: Command enables auto-start mode. In auto-start mode, when the UPS first receives AC or DC input power from an off state, it will automatically enable the AC and DC outputs after a brief delay. This is *not* the default factory setting. Once the autostart mode is set, it will persist until disabled with the "ASTART DISABLE" command. Note that autostart will only enable the output from a powered down state; if the output disables due to a fault or user action, but input power is still present, the output will not automatically re-enable.

Command: BATT INFO

Description: Display manufacturer data and code revisions for installed battery pack.

Sample Output: SynQor>**BATT INFO**
Manufacturer: SynQor, Inc.
Device Type: 8SnP UPS Battery
Chemistry: LiPo
Serial Number: 1
Manufacture Date: 2009/9/1
Num ID Code Rev
0 &HFFFF 43, 32
1 &H6666 32, 17
2 &H3333 32, 17
3 &H1111 32, 17
4 &H7777 32, 17
5 &H4444 32, 17
6 &H5555 32, 17
7 &H2222 32, 17

SynQor>

Discussion: Command displays data and code revisions read from an installed battery pack. No user action based on these outputs should be taken. The code revision data gives one row (Row 0) for the front panel board, and then an additional row for each detected battery string.

SynQor UPS Terminal Commands

Command: BATTERY?

Description: Display internal measurements and status for installed battery pack.

Sample Output: SynQor>**BATTERY?**

```
Num Strings = 7
Voltage = 33342 mV
Current = 480 mA
SBS Status = &H4000
Battery Temperature = 24.8 C
Temp Severity = 2
Requested Chg V = 33200 mV
Requested Chg I = 250 mA
Charge vs. Full = 99 %
Charge vs. Designed = 99 %
Battery Flags = 0x0000
Comm Fault = &H0000
Min to Empty = >65535 min
Min to Full = 12 min
Min at Present Power = 366 min
Charge Cycles = 11
```

SynQor>

Discussion: Displays summary of telemetry data from installed battery pack. All measurements are as reported or estimated by the internal battery monitoring circuitry. Notes on data values:
Current values are positive for charging current, negative for discharge currents.
SBS Status is compliant with the SBS Standard.
Temp Severity: 0 = Too cold to discharge, 1 = Too cold to charge, 2 = Normal, 3 = Too hot to charge, 4 = unused, 5 = Too hot to discharge
"vs. Full" is measured relative to the current charge capacity of available strings in the battery pack; "vs. Designed" is relative to the designed capacity of the battery pack.
The "Min to Empty" and "Min to Full" parameters are based on the current charge or discharge current and estimated pack capacity. The "Min at Present Power" shows the predicted runtime based on the present delivered power and battery capacity if the AC and DC inputs failed.
[Note that for Communication Board code Revs prior to 2.0, there were minor differences in the BATTERY? query output.]

SynQor UPS Terminal Commands

Command: CODE?

Description: Output code revision information for internal components.

Sample Output: SynQor>**CODE?**

```
AC/DC Rev 1 = &H0072
AC/DC Rev 2 = &H006A
DC/AC Rev = &H0071
Control Rev = 78, 62
Comm Code Rev = 2, 0
```

SynQor>

Discussion: Outputs reported code revision of internal modules. Note that modules which are not active will not report a valid value. For example, with no AC power applied, the AC/DC revisions will not be valid. If the AC output is not active, the DC/AC revision will not be valid.

Command: COM LOCKOUT

Description: Disable all external communications (Ethernet and serial)

Sample Output: SynQor>**COM LOCKOUT**

```
COMM LOCKOUT permanently disables serial and Ethernet ports. There
is no undo!
Send the command again within 10 seconds to engage.
Synqor>
```

Discussion: Permanently disables serial and Ethernet communications. Unit must be returned to the factory to re-enable communications. Field reprogramming of firmware is not possible after engaging this mode. Command must be sent twice within 10 seconds to engage.

Command: DEBUG OFF

Description: Disable automatic output of source data on startup (default factory setting).

Sample Output: SynQor>**DEBUG OFF**

```
Flash Updated.
```

SynQor>

Discussion: Disables automatic output of "SOURCE LOG" command after initial power application. This is the default factory setting. This command will reverse the action of the "DEBUG ON" command.

Command: DEBUG ON

Description: Enable output of "SOURCE LOG" output on initial power application.

Sample Output: SynQor>**DEBUG ON**

```
Flash Updated.
```

SynQor>

Discussion: Enables automatic output of "SOURCE LOG" command after initial power application for debugging purposes. Issuing the "DEBUG OFF" command will revert to standard operation.

SynQor UPS Terminal Commands

Command: DIGITAL IN?

Description: Display state of internal digital inputs of UPS control board.

Sample Output: SynQor>**DIGITAL IN?**
DC Out 0 Fault = High
AC input Alarm = Low
External Input Alarm = High
Front Switch UP = Low
Remote Start = Low
Front Switch DOWN = Low

SynQor>

Discussion: Command displays translated values from digital inputs UPS control board. No user action based on these outputs should taken. Note that the presence of the DC Out 0 input does not imply that a DC output is or is not available on a given system.

Command: DIS AC1

Description: Set AC Output inactive.

Sample Output: SynQor>**DIS AC1**
Flash Updated.

SynQor>

Discussion: Command sets the AC Output to remain disabled and not follow the enable state of the UPS output. This is a non-volatile setting. Once set, the AC Output will remain disabled until the "ENA AC1" command is transmitted. *[Command available for Communication Board Code Rev 2.0 and later. and an AC Output is installed.]*

Command: DIS DC1

Description: Set DC1 Output inactive.

Sample Output: SynQor>**DIS DC1**
Flash Updated.

SynQor>

Discussion: Command sets the DC1 Output to remain disabled and not follow the enable state of the UPS output. This is a non-volatile setting. Once set, the DC1 Output will remain disabled until the "ENA DC1" command is transmitted. *[Command available for Communication Board Code Rev 2.0 and later. This command is only available if the DC1 Output Option is installed.]*

SynQor UPS Terminal Commands

Command: DIS DC2

Description: Set DC2 Output inactive.

Sample Output: SynQor>**DIS DC2**
Flash Updated.

SynQor>

Discussion: Command sets the DC2 Output to remain disabled and not follow the enable state of the UPS output. This is a non-volatile setting. Once set, the AC Output will remain disabled until the "ENA DC2" command is transmitted. *[Command available for Communication Board Code Rev 2.0 and later. This command is only available if the DC2 Output Option is installed.]*

Command: DIS DC3

Description: Set DC3 Output Inactive. UPS-1250-270 only

Sample Output: SynQor>**DIS DC3**
Flash Updated.

SynQor>

Discussion: Command sets the DC3 Output to remain disabled and not follow the enable state of the UPS output. This is a non-volatile setting. Once set, the DC3 Output will remain disabled until the "ENA DC3" command is transmitted. *[This command is only available if the DC3 Output Option is installed.]*

Command: EMAIL RESTORE

Description: Restore Email alert notifications to factory default settings.

Sample Output: SynQor>**EMAIL RESTORE**
Factory Email Defaults Restored.
SynQor>

Discussion: Command restores settings for Email alerts to factory defaults (no alerts transmitted). *[This command is only available with the Ethernet Option installed.]*

Command: ENA AC1

Description: Set AC Output active.

Sample Output: SynQor>**ENA AC1**
Flash Updated.

SynQor>

Discussion: Command sets the AC Output to activate with the enable state of the UPS output. This is a non-volatile setting. Sending this command will not immediately activate the AC Output unless the UPS Output is already enabled with the front panel switch or "OUTPUT ENABLE" command. *[This command is only available for Communication Board Code Rev 2.0 and later, and an AC Output is installed.]*

SynQor UPS Terminal Commands

Command: ENA DC1

Description: Set DC1 Output active.

Sample Output: SynQor>ENA DC1
Flash Updated.

SynQor>

Discussion: Command sets the DC1 Output to activate with the enable state of the UPS output. This is a non-volatile setting. Sending this command will not immediately activate the DC1 Output unless the UPS Output is already enabled with the front panel switch or "OUTPUT ENABLE" command. *[This command is only available for Communication Board Code Rev 2.0 and later. This command is only available if the DC1 Option is installed.]*

Command: ENA DC2

Description: Set DC2 Output active.

Sample Output: SynQor>ENA DC2
Flash Updated.

SynQor>

Discussion: Command sets the DC2 Output to activate with the enable state of the UPS output. This is a non-volatile setting. Sending this command will not immediately activate the DC2 Output unless the UPS Output is already enabled with the front panel switch or "OUTPUT ENABLE" command. *[This command is only available for Communication Board Code Rev 2.0 and later. This command is only available if the DC2 Option is installed.]*

Command: ENA DC3

Description: Set DC3 Output active. UPS-1250-270 only.

Sample Output: SynQor>ENA DC3
Flash Updated.

SynQor>

Discussion: Command sets the DC3 Output to activate with the enable state of the UPS output. This is a non-volatile setting. Sending this command will not immediately activate the DC3 Output unless the UPS Output is already enabled with the front panel switch or "OUTPUT ENABLE" command. *[This command is only available if the DC3 Option is installed.]*

SynQor UPS Terminal Commands

Command: FACTORY RESTORE

Description: Restore communication board to factory default state.

Sample Output: SynQor>**FACTORY RESTORE**

```
. Factory defaults loaded to user configuration.  
. Updated network settings applied.  
. Certificate memory erased.  
. Launched certificate rebuild task.  
. Bootloader image memory erased.  
. Bootloader configuration memory erased.  
. Trap log memory erased.  
Factory Restore Complete.
```

SynQor>

Discussion: The factory restore sets all user configuration settings in the communication board to their factory default states, and also erases non-volatile memory pages which can be updated during the operation of the board. This command does not reset system settings not related to the communication board, for example AC Output Frequency and Auto-Start behavior. [This command is only available in Communication Board Code Rev 5.10 and later.]

Command: FAN SERVICE

Description: Execute fan service sequence immediately (cycles through fan speed settings).

Sample Output: SynQor>**FAN SERVICE**
Fan service initiated

SynQor>

Discussion: The fan service sequence cycles the fans through their different speed ranges, and compares the measured fan RPM to the factory-new levels. Significant speed degradation will be indicated by a "fan service required" LED on the front panel. Note that the fan service sequence will not slow the fans down below the speed dictated by the internal temperatures. The fan service sequence normally runs automatically after every 24 hours of continuous operation, or more frequently if a fan speed degradation condition is detected. Fan service sequence will not run on battery power.

Command: FAN SET x

Description: Manually set fan speed, x=0 to 4.

Sample Output: SynQor>**FAN SET 1**
Fan speed set.

SynQor>

Discussion: Manually increase the fan speed. Fans will not slow to a speed below that dictated by internal temperatures. Manually setting a higher fan speed will modify the UPS Cooling System Indicator LED (F0) as indicated in the User Guide.

SynQor UPS Terminal Commands

Command: FAN STATUS?

Description: Display inputs to fan controller.

Sample Output: SynQor>**FAN STATUS?**

```
Current Speed: 0
Last Trigger Up: Manual Control
Decel Timer: &H0000 &H0000
Var:  value / thresh_down / thresh_up / type
Manual Control: &H0000 / &H0000 / &H0000 / higher value -> speed up
Diag Timer: &H0003 / &H4381 / &H4380 / higher value -> speed up
AcuQor Prim: &H00F5 / &H0000 / &H0136 / higher value -> speed up
AcuQor Sec: &H00F1 / &H0000 / &H0136 / higher value -> speed up
Control PCB: &H0134 / &H0000 / &H01AD / higher value -> speed up
Battery: &H0BA2 / &H0000 / &H0C08 / higher value -> speed up
```

SynQor>

Discussion: Displays inputs and status of the fan speed controller. The *Last Trigger Up* reflects which input to the controller last caused an increase in the fan speed. The list of fan controller inputs indicates which modules are online and providing triggers to control the fan speed. For each input, the present value is listed, as well as the thresholds applied to that value to cause a trigger to a higher or lower fan speed. *Manual Control* is the terminal interface and *Diag Timer* is the interval counter for the fan service sequence. Some inputs may be omitted from the list. For example, if there is no AC input power present then the *ACuQor* inputs will not be returned.

Command: FAND DISABLE

Description: Disable execution of fan diagnostics every 24 hours.

Sample Output: SynQor>**FAND DISABLE**

```
Flash Updated.
```

SynQor>

Discussion: Disables automatic execution of the fan diagnostic sequence after every 24 hours of operation. If the fan diagnostic sequence is disabled, a transient fan speed fault may not be cleared automatically.

Command: FAND ENABLE

Description: Enable execution of fan diagnostics every 24 hours (default factory setting).

Sample Output: SynQor>**FAND ENABLE**

```
Flash Updated.
```

SynQor>

Discussion: Allows execution of the fan diagnostics automatically based on internal timing intervals. The fan diagnostics cycle the fan through the various speeds and compares detected fan RPM to factory-new values.

SynQor UPS Terminal Commands

Command: FANS?

Description: Display fan speeds and input voltage.

Sample Output: SynQor>**FANS?**

```
Fan0 RPM = 10699
Fan1 RPM = 10344
Fan Voltage = 11.9 V
Fan Status / State = &H2100
Fan Diag Timer [h:mm] = 23:59
```

SynQor>

Discussion: Reports measure fan speed and applied voltage. The Fan Status / State variable provides additional information about the fan status. *Fan Status* bit decoding:

b15-13: Fan speed value from 0-4. In sample, speed b15-13=001, indicating speed 1
b11: Machine status is *Faulted*
b10: Machine status is *Starting*
b9: Machine status is *Running*
b8: Machine status is *Standby* (indicated in sample)
b7: Fan service is required
b6: Fan diagnostics mode active

The *Fan Diag Timer* variable displays the time until the next scheduled fan diagnostics routine.

Command: FOUT 400

Description: Set AC Output frequency to 400 Hz.

Sample Output: SynQor>**FOUT 400**

```
Flash Updated.
```

SynQor>

Discussion: Command sets UPS AC Output frequency to 400Hz. **WARNING: This setting may damage connected AC loads if the loads are not rated for 400Hz operation.** *[This command is only available for Communication Board Code Rev 2.0 and later, and if an AC Output is installed.]*

Command: FOUT 50

Description: Set AC Output frequency to 50 Hz.

Sample Output: SynQor>**FOUT 50**

```
Flash Updated.
```

SynQor>

Discussion: Command sets UPS AC Output frequency to 50Hz. **WARNING: This setting may damage connected AC loads if the loads are not rated for 50Hz operation.** *[This command is only available for Communication Board Code Rev 2.0 and later, and if an AC Output is installed.]*

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Command: FOUT 60

Description: Set AC Output frequency to 60 Hz.

Sample Output: SynQor>FOUT 60
Flash Updated.

SynQor>

Discussion: Command sets UPS AC Output frequency to 60Hz. **WARNING: This setting may damage connected AC loads if the loads are not rated for 60Hz operation.** *[This command is only available for Communication Board Code Rev 2.0 and later, and if an AC Output is installed.]*

Command: HEAT TIMEOUT [sec]

Description: Set battery self-heat mode timeout.

Sample Output: SynQor>HEAT TIMEOUT 60
Command transmitted to battery.

SynQor>

Discussion: For batteries which support self-heat mode, this command sets a timeout in seconds which terminates self-heat mode so that startup will be attempted before the batteries have warmed to full operational temperature. Self-heat mode uses battery energy to warm batteries from below -20C during a cold-start operation. This is not supported on all SynQor battery packs. The timeout parameter is stored in the battery pack itself, not the UPS. *[This command is only available for Communication Board Code Rev 5.10 and later, with a self-heat capable battery installed.]*

Command: INPUTS?

Description: Display status of inputs to UPS system.

Sample Output: SynQor>INPUTS?
AC In Voltage = 113 V
AC In Current = 1990 mA
AC In Frequency = 60.3 Hz
Ext DC In Voltage = 0.5 V
Fault Register = &H0000
Multi-unit Config = &H000F
Non-volatile Config = &H1D01
Non-volatile Config1 = &H0400

SynQor>

SynQor UPS Terminal Commands

Discussion: Reports status of inputs to UPS system. The *Fault Register* decoding is as follows:

- b15: Internal Bus Average Voltage Low
- b14: Remote Shutdown requested from back panel
- b13: Remote start requested from back panel
- b12: Front panel switch pressed down (off)
- b11: External DC Input Fault
- b10: Software Disable Command
- b9: Software Enable Command
- b8: DCOUT2 Fault
- b7: DCOUT1 Fault
- b6: Internal Bus High
- b5: Internal Bus Low
- b4: Front panel switch pressed up (on / cold-start)
- b3: Internal 5V supply High
- b2: Internal 5V supply Low
- b1: Over-temperature Warning
- b0: Over-temperature condition

[Revisions of Communication Board Code before Rev 2.0 report 'Switch Status' instead of 'Fault Register'.]

The *Multi-unit Config* register is determined by the connection of a paralleling cable on the rear panel male DB15 connector. The *Non-volatile Config* register gives the FLASH memory options as follows:

- b12: AC Output Active
- b11: DC2 Output Active
- b10: DC1 Output Active
- b9: External DC Input Option Installed
- b8: AC Output Option Installed
- b7: DC2 Output Option Installed
- b6: Ungrounded Output Option
- b5: AC Output Autostart Enabled
- b4: DC1 Output Option Installed
- b3: Fan Diagnostics Disabled
- b2: Audible Alarm Disabled
- b1: Debug Mode on Startup Enabled
- b0: Fan Calibration Done

The *Non-volatile Config1* register is only present for the Communication Board Code Rev 2.19 and later. It gives the FLASH memory options as follows:

- b11: 3-Phase AC Input Model UPS
- b10: DC Output Model UPS (No AC Output)

For models with a 3-Phase input (UPS-1500-x-xU-T), the AC input voltage is reported line to neutral, rather than line to line. The AC input current is reported as the current per phase. Additionally, the phase rotation is also reported (A->B->C or C->B->A).

SynQor UPS Terminal Commands

Command: LOG OFF

Description: Terminate logging started via "SOURCE LOG" or "DEBUG ON".

Sample Output: SynQor>**LOG OFF**
Logging Terminated.
SynQor>

Discussion: Command terminates logging started from SOURCE LOG command or DEBUG ON command.
[This command is only available for Communication Board Code Rev 2.19 and later.]

Command: MODEL?

Description: Display UPS system model name.

Sample Output: SynQor>**MODEL?**
UPS-1500-S-1U-L1G6D28-E00
SynQor>

Discussion: Command displays the complete model name of the system.

Command: NET RESTORE

Description: Restore network configuration settings to factory defaults.

Sample Output: SynQor>**NET RESTORE**
Factory Networking Defaults Restored.
SynQor>

Discussion: Command restores settings for network configuration to factory defaults.

Command: NETWORK?

Description: Display Ethernet IP address and MAC address.

Sample Output: SynQor>**NETWORK?**
IP Address = 10.2.6.8
MAC Address = 00:04:A3:B5:73:AC

SynQor>

Discussion: Command displays the device pre-set MAC address and currently active IP address. *[This command is only available with the Ethernet Option installed.]*

Command: OUTPUT DISABLE

Description: Shutdown AC and DC outputs of UPS system, reverting to standby or off state.

Sample Output: SynQor>**OUTPUT DISABLE**
Output Disabled.

SynQor>

Discussion: Disables output on AC and DC outputs if currently active. This terminal command is equivalent to holding down the front panel switch.

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Command: OUTPUT ENABLE

Description: Enable AC and DC outputs of UPS system.

Sample Output: SynQor>**OUTPUT ENABLE**
Output Enabled.

SynQor>

Discussion: Enables output on AC and DC outputs. This terminal command is equivalent to pushing the front panel switch upwards.

Command: OUTPUTS?

Description: Display status of outputs from UPS system.

Sample Output: SynQor>**OUTPUTS?**
Total Power Out = 9 W
AC Out Power = 2 W
DC Out Power = 7 W
AC Out Voltage RMS = 115650 mV
AC Out Current RMS = 633 mA
AC Out Frequency = 60.0 Hz
Alarm Status = &H0400
Fan Status / State = &H2400
BIT Result = &H1002

SynQor>

Discussion: Reports telemetry data on AC and DC outputs. DC output power will appear even if DC output option is not installed. *The Alarm Status* variable details the state of the audible alarms:
b7 : Audible alarm is muted (not disabled)
b3 : Four beep alarm active
b2 : Three beep alarm active
b1 : Two beep alarm active
b0 : One beep alarm active
The "FANS?" Command description details the *Fan Status / State* register. *The BIT Result* variable displays the last result from a built-in test routine, if applicable.

Command: RESTART x

Description: Shutdown output immediately, re-enable output after x seconds.

Sample Output: SynQor>**RESTART 5**
Timed reboot started.

SynQor>

Discussion: If outputs are enabled, they will be immediately disabled. After the requested delay, outputs will enable. Outputs will enable whether or not they were in an enabled state when the command was first issued. Maximum permissible value for restart time is 10,737,418 seconds, approximately 4 months.

SynQor UPS Terminal Commands

Command: RUNTEST x

Description: Run internal built-in test routine.

Sample Output: SynQor>RUNTEST 3
General System Test Started.

SynQor>Test Complete. Result=&H1002
Test Passed.

SynQor>

Discussion: Runs internal built-in test routine. Legal values for x:

x=0 or 2 : Abort test in progress.

x=3 : Run General Systems Test; verifies internal bias voltages, fans, voltage inputs and outputs.

x=4 : Quick Battery Test; verifies proper battery operation.

x=5 : Deep Battery Test; switches to battery power and runs battery down to 20% charge to test battery runtime. [Test time depends strongly on output load.]

[This command is only available for Communication Board Code Rev 2.0 and later.]

Command: SELFHEAT OFF

Description: Manually terminate battery self-heat mode.

Sample Output: SynQor>SELFHEAT OFF
Command Transmitted.

SynQor>

Discussion: For batteries which support self-heat mode, this command terminates self-heat mode. Self-heat mode uses battery energy to warm batteries from below -20C during a cold-start operation. This is not supported on all SynQor battery packs. Normally self-heat mode will terminate when the cells reach a temperature threshold or the battery heat timeout is reached.
[This command is only available for Communication Board Code Rev 5.10 and later, with a self-heat capable battery installed.]

SynQor UPS Terminal Commands

Command: SELFHEAT ON

Description: Manually engage battery self-heat mode.

Sample Output: SynQor>**SELFHEAT ON**
Command Transmitted.

SynQor>

Discussion: For batteries which support self-heat mode, this command engages self-heat mode for fast warm-up of the cells to full operational temperature. Self-heat mode uses battery energy to warm batteries from below -20C. This is not supported on all SynQor battery packs. Normally self-heat mode is only engaged if a cold-start operation is initiated with the cells below -20C. (A cold-start is a startup request with no external input power available.) If the device starts at a cold temperature with input power available, normal heating of the cells occurs without consuming battery charge. Manually engaging self-heat will heat the cells faster, while consuming some of the charge in the cells. Self-heat will terminate automatically when the cells exceed a temperature threshold or the heat timeout in the pack elapses. *[This command is only available for Communication Board Code Rev 5.10 and later, with a self-heat capable battery installed.]*

Command: SET DC3 VOUT x [V]

Description: Set DC3 output voltage. UPS/MPC-1250-270 only.

Sample Output: SynQor>**SET VNOM 250**
Flash Updated.

SynQor>

Discussion: Sets the DC3 output voltage from 25 to 325V. Entering a value above 325V or below 25V will cause the output to be set to 325V and 25V respectively. Upon receiving the command, if $VOUT * IMAX$ exceeds 1325W, IMAX will be recalculated so $VOUT * IMAX = 1325W$

Command: SET DC3 IMAX x [mA]

Description: Set DC3 current limit. UPS/MPC-1250-270 only.

Sample Output: SynQor>**SET ILIM 5000**
Flash Updated.

SynQor>

Discussion: Sets the DC3 current limit from 0.05A to 6.00A. Entering a value above 6.00A or below 0.05A will cause the current limit to be set to 6.00A or 0.05A respectively. Upon receiving the command, if $VOUT * IMAX$ exceeds 1325W, IMAX will be recalculated so $VOUT * IMAX = 1325W$

SynQor UPS Terminal Commands

Command: SET TTOP x [sec]

Description: Set top-off time for UPS/MPC-1250 models with external battery charging option.

Sample Output: SynQor>**SET TTOP 3600**
DC-Out Command transmitted.

SynQor>

Discussion: UPS/MPC-1250 models with the external battery charging option will set the DC Output to a "top-off" voltage level for a given time following the constant-current charging state, before relaxing to the nominal output voltage. This command sets the duration (in seconds) for the top-off state. The programmed level can be read back with the INPUTS? query.

Command: SET VNOM x [mV]

Description: Set nominal output voltage for UPS/MPC-1250 models with external battery charging option.

Sample Output: SynQor>**SET VNOM 29000**
DC-Out Command transmitted.

SynQor>

Discussion: UPS/MPC-1250 models with the external battery charging option will set the DC Output to a "top-off" voltage level for a given time following the constant-current charging state, before relaxing to the nominal output voltage. This command sets the nominal output voltage used after the top-off state. The programmed level can be read back with the INPUTS? query.

Command: SET VTOP x [mV]

Description: Set top-off voltage for UPS/MPC-1250 models with external battery charging option.

Sample Output: SynQor>**SET VTOP 28000**
DC-Out Command transmitted.

SynQor>

Discussion: UPS/MPC-1250 models with the external battery charging option will set the DC Output to a "top-off" voltage level for a given time following the constant-current charging state, before relaxing to the nominal output voltage. This command sets the voltage level during the top-off state. The programmed level can be read back with the INPUTS? query.

SynQor UPS Terminal Commands

Command: SETDATE [yyyy-mm-dd]

Description: Set internal datestamp for generation of a TLS Certificate.

Sample Output: SynQor>**SETDATE 2021-05-07**
Date set.

SynQor>

Discussion: Normally an Ethernet-connected device will receive a network timestamp from NTP services. A network timestamp is required for generation of a SSL/TLS certificate for the certificate generation & expiration date. If a device is not connected to an NTP service, the SETDATE command can be used to allow generation of the certificate. Certificates are non-volatile and only need to be generated if certain network configuration settings have changed. *[This command is only available in Communication Board Code Rev 5.10 and later.]*

Command: SHUTDOWN x

Description: Shutdown output after x seconds.

Sample Output: SynQor>**SHUTDOWN 5**
Timed shutdown started.

SynQor>

Discussion: Outputs will be disabled after the requested delay time. Maximum permissible value for shutdown delay is 10,737,418 seconds, approximately 4 months.

Command: SNMP RESTORE

Description: Restore SNMP configuration to factory defaults.

Sample Output: SynQor>**SNMP RESTORE**
Factory SNMP Defaults Restored.
SynQor>

Discussion: Command restores SNMP configuration to factory defaults (SNMP disabled). *[This command is only available with the Ethernet Option installed.]*

Command: SOURCE LOG

Description: Begin real-time output of power source status and switchover events.

Sample Output: SynQor>**SOURCE LOG**
SynQor>[...continuous debug output will follow]

Discussion: Source log output is useful to monitor input source switching and detected faults with supervision from SynQor factory personnel. To terminate source logging, send several newline characters through the terminal interface.

SynQor UPS Terminal Commands

Command: SOURCES?

Description: Display status of each defined source for the UPS system (AC, DC, and battery).

Sample Output: SynQor>**SOURCES?**
AC Input Module
- Faults: &H0000
- Ok for load: YES
- Ready for load: YES
- Loaded: YES
- Fault Count: 0
External DC Input
- Faults: &H0101
- Ok for load: NO
- Ready for load: NO
- Loaded: NO
- Fault Count: 0
Internal Battery
- Faults: &H0000
- Ok for load: YES
- Ready for load: YES
- Loaded: NO
- Fault Count: 0

SynQor>

Discussion: Displays summary of each available input source and whether they appear ready to accept load power. Note that External DC Input will be listed even if the DC input is not installed.

Command: STARTUP x

Description: Enable outputs after x seconds.

Sample Output: SynQor>**STARTUP 5**
Timed startup begun.

SynQor>

Discussion: Outputs will be enabled after the requested delay time. Maximum permissible value for enable delay is 10,737,418 seconds, approximately 4 months. *[This command is only available for Communication Board Code Rev 2.0 and later.]*

Command: SYSTEM DISABLE

Description: Disables the AC output of all systems while running in a multi-unit configuration.

Sample Output: SynQor>**SYSTEM DISABLE**
Coordinated system shutdown initiated.

SynQor>

Discussion: Disables the AC output of multiple UPS devices interconnected via the CONFIG port, in a parallel or multi-phase configuration. This command only applies to units with the "AC Output Electronic Breaker" option installed (Expanded Paralleling). All other units will ignore this command.

SynQor UPS Terminal Commands

Command: TEMPS?

Description: Display reported temperatures for internal subsystems.

Sample Output: SynQor>**TEMPS?**

```
AC/DC Temperature 1 = 30 C
AC/DC Temperature 2 = 29 C
Control Brd Temp = 25 C
DC/AC Temperature = -50 C
Battery Temperature = 24.8 C
```

SynQor>

Discussion: Displays measured temperature for installed components.

Command: TRAP LOG

Description: Output log of communication board bootup events.

Sample Output: SynQor>**TRAP LOG**

```
Bootup, RCON: &H0081 Addr: &H00000000 Time: Jan 01, 1970 00:00:10 UTC
Bootup, RCON: &H0083 Addr: &H90EC2DC6 Time: Jan 01, 1970 00:00:10 UTC
Bootup, RCON: &H0083 Addr: &H90EC21C6 Time: Jan 01, 1970 00:00:10 UTC
```

SynQor>

Discussion: Displays a list of bootup or reset events on the UPS Ethernet communication board. The displayed timestamp relies on an SNTP time being available within 10 seconds of the boot event; if it is not available, 1/1/1970 will be displayed, as above. The boot log is only provided for factory debugging of potential issues.

Command: TRAP WIPE

Description: Erase log of communication board bootup events.

Sample Output: SynQor>**TRAP WIPE**

```
Trap log erased.
Synqor>
```

Discussion: Clears the non-volatile memory page which stores the boot log.

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