Rev F, 24 February, 2021

The MINV 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 MINV 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.

## **Command Summary**

| Command          | Description   |
|------------------|---|
| ?                | Display list of available terminal commands.                                  |
| ACTRIM x         | Adjust AC output voltage over a range of +/- 16000 mVrms or +/- 32000 mVrms.  |
| 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.                                   |
| ARESTART DISABLE | Disable auto-restart mode (factory default setting) (28V model only).         |
| ARESTART ENABLE  | Enable auto-restart mode (28V model only).                                    |
| ASTART DISABLE   | Disable auto-start mode (default factory setting).                            |
| ASTART ENABLE    | Enable auto-start mode.   |
| BAUDRATE x       | Adjust baudrate of serial port.   |
| BLACKOUT OFF     | Disable Blackout Mode (28V model only).                                       |
| BLACKOUT ON      | Enable Blackout Mode (28V model only).  |
| BS OFF           | Disable Battlemode.   |
| BS ON            | Enable Battlemode.  |
| CODE?            | Output code revision information for internal components.                     |
| DEBUG OFF        | Disable machine state debug output logging (default factory setting).         |
| DEBUG ON         | Enable machine state debug output logging.                                    |
| DIGITAL IN?      | Display state of internal digital inputs of MINV control board.               |
| EMAIL RESTORE    | Restore Email alert notifications to factory default settings.                |
| 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 5.   |
| FAN STATUS?      | Display inputs to fan controller.   |

# SynQor MINV Terminal Commands

| Command        | Description  |
|----------------|--|
| FAND DISABLE   | Disable execution of fan diagnostics every 24 hours.                               |
| FAND ENABLE    | Enable execution of fan diagnositcs 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.  |
| FOUT LOCK      | Lock AC Output frequency to current setting and prohibit future changes.           |
| INPUTS?        | Display status of inputs to MINV system.   |
| MODEL?         | Display MINV system model name.  |
| NET RESTORE    | Restore network configuration settings to factory defaults.                        |
| NETWORK?       | Display Ethernet IP address and MAC address.                                       |
| OUTPUT DISABLE | Shutdown output(s) of MINV system, reverting to standby state.                     |
| OUTPUT ENABLE  | Enable output(s) of MINV system.   |
| OUTPUTS?       | Display status of output(s) from MINV system.                                      |
| RESTART x      | Shutdown output immediately, re-enable output after x seconds.                     |
| RUNTEST x      | Run internal built-in test routine.  |
| SHUTDOWN x     | Shutdown output after x seconds.   |
| SLEEP DISABLE  | Disable low-power system sleep mode. (28V model only)                              |
| SLEEP ENABLE   | Enable low-power system sleep mode (default factory setting) (28V model only).     |
| SNMP RESTORE   | Restore SNMP configuration to factory defaults.                                    |
| STARTUP x      | Enable outputs after x seconds.  |
| SYNCCON OFF    | Disable synchronized start / stop / restart behavior.                              |
| SYNCCON ON     | Enables synchronized start / stop / restart behavior (default factory setting).    |
| 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.                                   |

# SynQor MINV Terminal Commands

### **Command Details**

Command: ? Description: Display list of available terminal commands. Sample Output: SynQor>? ACTRIM x mV ALARM DISABLE ALARM ENABLE :

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

Command: ACTRIM x Description: Adjust AC output voltage over a range of +/- 16000 mVrms or +/- 32000 mVrms. Sample Output: SynQor>ACTRIM 1000 Flash Updated.

SynQor>

Discussion: Command adjusts the AC output voltage +/- 16000 mVrms (for 115 Vac output) or +/- 32000 mVrms (for 230 Vac output). Numerical entry is in mV; ex. "ACTRIM 1000" raises the AC output voltage from its present value by 1000 mVrms.

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, or holding down the front panel switch during standby mode. The beeper generates a brief two-toned signal when the silence command is issued.

Command: ANALOG IN? Description: Display control board analog signal levels. Sample Output: SynQor>ANALOG IN? 5V Supply = 4.78 V Raw Bias Voltage = 27.4 V Fan1 Voltage = 12.0 V Main Bus Voltage = 27.5 V Fan0 Voltage = 12.1 V Motherboard Temperature = 25 C

SynQor> Discussion: Command displays translated values from ADC measurements on MINV control board. No user action based on these outputs should taken.

Command: ARESTART DISABLE Description: Disable auto-restart mode (factory default setting) (28V model only). Sample Output: SynQor>ARESTART DISABLE Flash Updated.

SynQor>

**Discussion:** Command disables auto-restart mode. This is the default factory configuration. With autorestart disabled, if the MINV output encounters a fault and shuts off, it will remain off until reenabled by the user, either through a terminal command, the front panel switch, or a rear panel I/O signal. Command: ARESTART ENABLE Description: Enable auto-restart mode (28V model only). Sample Output: SynQor>ARESTART ENABLE Flash Updated.

#### SynQor>

Discussion: Command enables auto-restart mode. With auto-restart enabled, if the MINV is enabled, but the output is off due to a fault, when the fault clears the output will re-enable automatically. This is not the default factory setting. Once the auto-restart mode is set, it will persist until disabled with the "ARESTART DISABLE" command.

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 MINV receives DC input power, it will enter standby mode. In standby mode, 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.

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 MINV first receives DC input power from an off state, it will automatically enable the output after a brief delay. This is not the default factory setting. Once the auto-start 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: BAUDRATE x Description: Adjust baudrate of serial port. Sample Output: SynQor>BAUDRATE 2400 Baud rate updated to <2400>, Power cycle required to apply change.

SynQor>

**Discussion:** Baudrate setting for the terminal interface can be modified; note that the setting does not take effect until input power is removed from the MINV and there is a complete power-on reset. Although the default baudrate of 115200 is recommended, the valid range is as follows: 1200, 2400, 4800, 9600, 14400, 19200, 28800, 38400, 57600, or 115200.

Command: BLACKOUT OFF Description: Disable Blackout Mode (28V model only). Sample Output: SynQor>BLACKOUT OFF Blackout Disengaged.

SynQor>

**Discussion:** Disengages the blackout mode, reversing the effect of "BLACKOUT ON" command. If blackout mode is enabled via the digital input pull-down on the rear panel, it cannot be disabled via this command.

Command: BLACKOUT ON Description: Enable Blackout Mode (28V model only). Sample Output: SynQor>BLACKOUT ON Blackout Engaged.

SynQor>

**Discussion:** Engages the blackout mode. Blackout mode disables all visual and audible indication of system status; front-panel LEDs and audible alarms will be turned off. Disengage blackout mode with the "BLACKOUT OFF" command. Blackout mode will be disabled after a power cycle as it is not a non-volatile setting.

Command: BS OFF Description: Disable Battlemode. Sample Output: SynQor>BS OFF Battlemode Disengaged.

SynQor>

**Discussion:** Disengages the software battle-mode, reversing the effect of "BS ON" command. If battlemode is enabled via the digital input pull-down on the rear panel, it cannot be disabled via this command. Command: BS ON Description: Enable Battlemode. Sample Output: SynQor>BS ON Battlemode Engaged.

SynQor>

**Discussion:** Engages the software battle-mode. Battle-mode disables over-temperature shutdown features of internal modules. Disengage battle-mode with the "BS OFF" command. Battle-mode will be disabled after a power cycle as it is not a non-volatile setting.

Command: CODE? Description: Output code revision information for internal components. Sample Output: SynQor>CODE? DC/AC Rev:A = &H0086 DC/AC Rev:B = &H0086 DC/AC Rev:C = &H0086 Control Rev = 9, 6 Comm Code Rev = 4, 6

SynQor> Discussion: Outputs reported code revision of internal modules.

Command: DEBUG OFF Description: Disable machine state debug output logging (default factory setting). Sample Output: SynQor>DEBUG OFF Flash Updated.

SynQor> Discussion: Command disables the state machine's debug output. This is the default factory setting. This command will reverse the action of the "DEBUG ON" command.

Command: DEBUG ON Description: Enable machine state debug output logging. Sample Output: SynQor>DEBUG ON Flash Updated.

SynQor>

**Discussion:** Command displays state machine's current state for debugging purposes: RUN, DISABLE, STANDBY, SLEEP. These states are displayed when enabling/disabling the AC output, and when entering the system standby or sleep states.

### Command: DIGITAL IN? Description: Display state of internal digital inputs of MINV control board. Sample Output: SynQor>DIGITAL IN? DC-In 1 Fault = Low DC-In 2 Fault = Low DC-In 3 Fault = Low Front Switch UP = Low Remote Start = Low Front Switch DOWN = Low SynQor> Discussion: Command displays translated values from digital inputs of MINV control board. No user action based on these outputs should be taken.

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:** 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 6.6 and later.]

# SynQor MINV Terminal Commands

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 if the output is disabled.

Command: FAN SET x Description: Manually set fan speed, x=0 to 5. 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 MINV Cooling System Indicator LED as indicated in the User Guide. Fans will not run with the output disabled. Note that "FAN SET 5" will cause the fans to run at the same speed as "FAN SET 4".

Command: FAN STATUS? Description: Display inputs to fan controller. Sample Output: SynQor>FAN STATUS? Current Speed: 1 Last Trigger Up: Manual Control Decel Timer: &H0000 &H1744 Var: value / thresh down / thresh up / type Manual Control: &H0001 / &H0001 / &H0001 / higher value -> speed up Diag Timer: &H0002 / &H4382 / &H4381 / higher value -> speed up &H00EF / &H0117 / &H0164 / higher value -> speed up InverterA: InverterB: &H00F0 / &H0117 / &H0164 / higher value -> speed up &H00F0 / &H0117 / &H0164 / higher value -> speed up InverterC: &H013D / &H0170 / &H01D6 / higher value -> speed up Control PCB:

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 outputs may be omitted from the list. For example, if the AC output is disabled, then the corresponding output may not display.

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 diagnositic sequence is disabled, a transient fan speed fault may not be cleared automatically. Command: FAND ENABLE Description: Enable execution of fan diagnositcs 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.

Command: FANS? Description: Display fan speeds and input voltage. Sample Output: SynQor>FANS? Fan0A RPM = 12500 Fan0B RPM = 7614 Fan1A RPM = 12135 Fan1B RPM = 7747 Fan0 Voltage = 11.9 V Fan1 Voltage = 11.7 V Fan1 Voltage = 11.7 V Fan Status / State = &H2400 Fan Diag Timer = 23:59

#### SynQor>

**Discussion:** Reports measure fan speed and applied voltage. Each MINV fan module contains two counterrotating fans (A and B), operating at different speeds.

The Fan Status / State variable provides additional information about the fan status. Fan Status bit decoding:

b15-13: Fan Speed Value from 0-5. In sample, speed b15-13=001, indicating speed 1

b11: Machine Status is Faulted

b10: Machine Status is Running (indicated in sample)

b9: Machine Status is Starting

b8: Machine Status is Standby

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 MINV AC Output frequency to 400 Hz. WARNING: This setting may damage connected AC loads if the loads are not rated for 400 Hz operation.

Command: FOUT 50 Description: Set AC Output frequency to 50 Hz. Sample Output: SynQor>FOUT 50 Flash Updated.

#### SynQor>

Discussion: Command sets MINV AC Output frequency to 50 Hz. WARNING: This setting may damage connected AC loads if the loads are not rated for 50 Hz operation.

Command: FOUT 60 Description: Set AC Output frequency to 60 Hz. Sample Output: SynQor>FOUT 60 Flash Updated.

SynQor>

Discussion: Command sets MINV AC Output frequency to 60 Hz. WARNING: This setting may damage connected AC loads if the loads are not rated for 60 Hz operation.

Command: FOUT LOCK Description: Lock AC Output frequency to current setting and prohibit future changes. Sample Output: SynQor>FOUT LOCK Output frequency locked from future changes.

SynQor>

**Discussion:** Command locks the AC Output frequency to the current value. This prevents any changes to the operating AC Output frequency of the system. WARNING: This setting is not reversible.

Command: INPUTS? Description: Display status of inputs to MINV system. Sample Output: SynQor>INPUTS? DC Input Voltage = 27659 mV Fault Register = &H0020 Non-Volatile Config = &H9F00 Non-Volatile Config1 = &H0003 Input Bad Count = &H0000 SynOor> Discussion: Reports status of inputs to MINV system. Fault Register decode for 28V models: b15: Repetitive Faults on Bus Switch b14: Remote Shutdown Requested from Back Panel b13: Remote Start Requested from Back Panel b12: Front panel Switch Pressed Down (Off) b11: Bus Switch 1 Fault b10: Software Disable Command b9: Software Enable Command b8: Bus switch 3 Fault b7: Bus switch 2 Fault b6: Internal Bus High b5: Internal Bus Low b4: Front Panel Switch Pressed Up (On) b3: Internal 5V Supply High b2: Internal 5V Supply Low b1: Over-Temperature Warning **b0: Over-Temperature Condition** 

The Non-volatile Config and Config1 registers give the FLASH memory options for 28V models is as follows. Note that bits 0-15 are shown in the Non-Volatile Config register, while bits 16 and up are displayed in the Non-Volatile Config1 register:

- b19: Sleep Mode Enabled
- b18: Auto Restart Enabled
- b17: Inverter C is Present
- b16: Inverter B is Present
- b15: MINV Motherboard Detected
- b12: AC Output Active
- b6: Ungrounded Output Option

The Fault Register decode for **270 models** is as follows:

b14: Remote Shutdown Requested from Back Panel

b13: Remote Start Requested from Back Panel

b12: Front panel Switch Pressed Down (Off)

b10: Software Disable Command

b9: Software Enable Command

b7: AC Output Fault

b6: Internal Bus High

b5: Internal Bus Low

b4: Front Panel Switch Pressed Up (On)

b3: Internal 5V Supply High

b2: Internal 5V Supply Low

b1: Over-Temperature Warning

b0: Over-Temperature Condition

The Non-volatile Config and Config1 registers give the FLASH memory options for 270V models is as follows. Note that bits 0-15 are shown in the Non-Volatile Config register, while bits 16 and up are displayed in the Non-Volatile Config1 register: b15: MINV Motherboard Detected b12: AC Output Active b6: Ungrounded Output Option b5: AC Output Autostart Enabled b3: Fan Diagnostics Disabled b0: Fan Calibration Done

Command: MODEL? Description: Display MINV system model name. Sample Output: SynQor>MODEL? MINV-4000-1U-28-1F6S-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. [This command is only available with the Ethernet Option installed.] Command: NETWORK? Description: Display Ethernet IP address and MAC address. Sample Output: SynQor>NETWORK? IP Address = 10.2.8.49 MAC Address = 00:04:A3:B5:63:DF CAN Box ID = 255 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.] The CAN Box ID is relevant for MINV modules current sharing via the CONFIG port.

Command: OUTPUT DISABLE Description: Shutdown output(s) of MINV system, reverting to standby state. Sample Output: SynQor>OUTPUT DISABLE Output Disabled.

SynQor> Discussion: Disables output(s) if currently active. This terminal command is equivalent to holding down the front panel switch.

Command: OUTPUT ENABLE Description: Enable output(s) of MINV system. Sample Output: SynQor>OUTPUT ENABLE Output Enabled.

SynQor> Discussion: Enables output(s). This terminal command is equivalent to pushing the front panel switch upwards. Command: OUTPUTS? Description: Display status of output(s) from MINV system. Sample Output: SynQor>OUTPUTS? Total Power Out = 70 W DC/AC Voltage RMS:A = 231900 mV AC1 Out Current RMS = 1234 mA DC/AC Frequency:A = 60.0 Hz Fan Status / State = &H0400 BIT Result = <n/a> Aux Status = &H0004 Last Fault Code = Initial boot

SynQor>

- Discussion: Reports telemetry data on output(s). 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. The Last Fault Code reports the previous mode of system shutdown. The Aux Status register decoding is as follows: b4: Battle-Mode Active b3: RS232 Interface Active b2: Ethernet Link Active
- **Command:** RESTART x **Description:** Shutdown output immediately, re-enable output after x seconds.

Sample Output: SynQor>RESTART 1

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.

Command: RUNTEST x Description: Run internal built-in test routine. Sample Output: SynQor>RUNTEST 1 Test already running.

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=6 : Run factory communications board test; requires CONFIG port connection to external hardware.

Command: SHUTDOWN x Description: Shutdown output after x seconds. Sample Output: SynQor>SHUTDOWN 1 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: SLEEP DISABLE Description: Disable low-power system sleep mode. (28V model only) Sample Output: SynQor>SLEEP DISABLE Flash Updated.

SynQor> Discussion: This command is only available for untis with 28V input. Command to disable low-power system sleep state.

Command: SLEEP ENABLE Description: Enable low-power system sleep mode (default factory setting) (28V model only). Sample Output: SynQor>SLEEP ENABLE Flash Updated.

#### SynQor>

**Discussion:** This command is only available for untis with 28V input. Command to enable low-power system sleep state. This is the factory default condition. This setting allows the system to enter an extremely low-power state (<500 uA current draw from DC input) after one minute of being in the standby state. Upon powerup, the system will enter the sleep state. To wake the system, hold the front panel switch in the UP position.

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: STARTUP x Description: Enable outputs after x seconds. Sample Output: SynQor>STARTUP 1 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.

Command: SYNCCON OFF Description: Disable synchronized start/stop/restart behavior. Sample Output: SynQor>SYNCCON OFF Module will not synchronize On/Off/Restart via CONFIG port.

SynQor>

**Discussion:** Disables synchronized start, stop, and restart behavior between multiple MINV devices interconnected via the CONFIG port.

Command: SYNCCON ON Description: Enables synchronized start / stop / restart behavior (default factory setting). Sample Output: SynQor>SYNCCON ON Module will synchronize On/Off/Restart via CONFIG port.

SynQor>

**Discussion:** Enables synchronized start, stop, and restart behavior between multiple MINV devices interconnected via the CONFIG port. This is the factory default condition. This setting can be overridden either by the "SYNCCON OFF" command, or an external jumper on a CONFIG port pin.

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 MINV devices interconnected via the CONFIG port, in a parallel or multi-phase configuration.

Command: TEMPS? Description: Display reported temperatures for internal subsystems. Sample Output: SynQor>TEMPS? DC/AC Temperature:A = 34 C DC/AC Temperature:B = 35 C DC/AC Temperature:C = 34 C Control Brd Temp = 27 C

SynQor> Discussion: Displays measured temperature for installed components, with a resolution of 1 °C.

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 MINV 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.

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