



DANTE Command Line Interface

Serial Terminal Control

Connecting to DANTE

The DANTE command line interface is available using the serial interface connector on the DANTE housing or through cellular terminal connections from DANTE Vis software. The serial interface operates at 115200 baud, no parity, 1 stop bit, no flow control.

Waking DANTE from Sleep Mode

Press enter a few times to wake DANTE from sleep mode¹. DANTE will respond with :

```
PWRUP
```

Press enter again to get a prompt:

```
DANTE>
```

If DANTE is running a scheduled sample program it will respond with:

```
Sampling - press escape to abort sample
```

Pressing escape a few times will cause the in-process sample to abort and DANTE will return to sleep mode. Delays of up to 15 seconds are possible when aborting a sample in process.

Entering Commands

Type the command, then press the enter key. Most commands will respond immediately with

```
OK; 0 Events
```

Serial Port Settings

115200 Baud

8 bits

No parity

1 stop bit

No flow control

Terminal Program Settings

CR ('\r') for new line
LF ('\n') not required by DANTE, but may be required by connected serial instruments.

Power

Serial interface requires a main power connection (10V to 20V)

¹ Some pre-DANTE systems sold before June 2013 require disconnection & reconnection of the PC serial cable to wake from sleep.



This response means the command was accepted and there are no new events in the event counter (see GETEC).

A misspelled command generates this response:

```
ERROR: invalid command; 0 Events
```

Some commands open pass through modes, start file writes have other special behavior. Please familiarize yourself with the commands described below to avoid confusion.

DANTE Basic Commands

These are the commands most users should be familiar with. They are required for normal operation and inspection of the DANTE controller.

SLEEP

Switches DANTE to low-power sleep mode. If DANTE is started (see START command) then DANTE will wake automatically to run sample programs according to the schedule (see SCHEDULE command).

START

Tells DANTE to run sample programs according to the schedule setting. DANTE must be started prior to deployment!

NOTE: DANTE will not run sample programs at scheduled times unless it is in sleep mode!

STOP

Tells DANTE not to run sample programs. If DANTE is stopped it will not collect data automatically.

GETSD

Retrieves DANTE's status message.

GETCD

Retrieves DANTE's configuration settings.

GETEC

Retrieves DANTE's event counter. The event counter records both important events that occur in normal operation and firmware exceptions that may indicate either a hardware or software failure.

RESETEC

Reset's DANTE's event counter.

TIME

By itself the TIME command retrieves DANTE's current time:

```
DANTE>time  
time=2013-11-05T01:24:47
```

```
OK - 0 Events
```



TIME is also **use** to manually set DANTE's time. Multiple time formats are allowed:

```
time=2013-11-05T01:24:47
```

```
time=20131105T012447
```

NOTE: use the COMTIME command to quickly set DANTE's time to match the COM unit's time. The COM unit time may be set automatically from GPS time.

COMTIME

Sets DANTE's time to match the COM unit time. DANTE's clock requires external power. If the external power is disconnected then DANTE's clock will revert to 2007. Prior to running a sample program DANTE checks its clock. If the time is not valid DANTE automatically updates its clock from COM unit (which is powered by the communications backup battery).

ADC Commands

These commands display values from DANTE's integral Analog to Digital Converter (ADC). The ADC starts sampling automatically when DANTE wakes from sleep mode. There are two data formats, one for raw data commands and an easy to read format used for all other commands:

```
DANTE>ADC LAST
    Solar Voltage=0.23 V
    Battery Voltage=19.45 V
    Module Current=16.65 mA
    COM Current=0.03 mA
    Solar Current=0 mA
    DANTE Current=1.72 mA
    Internal relative humidity Sensor not powered
    Internal Temperature=21.59 C
OK; 0 Events
```

ADC LAST

Displays the most recent data.

ADC MIN

Displays the minimum values read since DANTE woke from sleep or since the last ADC RESET command.

ADC MAX

Displays the maximum values read since DANTE woke from sleep or since the last ADC RESET command.

ADC AVERAGE

Displays the average values since DANTE woke from sleep or since the last ADC RESET command.

ADC RESET

Resets all ADC data, including averages.



ADC Raw Data Commands

ADC RLAST, ADC RMIN, ARC RMAX, ADC RAVERAGE

These commands display raw ADC data, like the commands above, but in a different output format:

```
<ADC_RAW_type>c0, c1, c2, c3, c4, c5, c6, c6, c8, c9, c10</ADC_RAW_type>
```

Where 'type' is replaced with MIN, MAX, LAST or AVG and c0 through c10 are the integer raw data values for channels 0-10 as in:

```
<ADC_RAW_AVG>138, 11562, 6, 2, 1, 87, 13, 11, 1, -1, 2676</ADC_RAW_AVG>
```

Serial Pass Through Command

Please refer to these documents for additional details about pass through modes:

[RS232 Module Pass Through Mode R0104](#) - for talking to instruments (OPEN 001 9600)

[DANTE Module Interface R0103](#) - for the module serial bus pass through (OPEN MOD)

[COM Command Line Interface R0102](#) - for the COM unit pass through (OPEN COM)

OPEN

Opens a terminal pass-through mode to the specified target. The target can be COM, for the COM unit, MOD for the modules shared serial bus or a Module ID (MID) or Local ID(LID) of a specific serial module. When the target is a MID or LID a baud rate should be specified.

OPEN COM

Opens a pass through to the COM unit. Use the EXIT COM command to end this pass through mode.

OPEN 001 9600

Opens a pass through to the serial port of module 001.

File and Sample Data Commands

DATA SAVE

Stores all data in the D file (sample data flash memory, as in READFILE D) to the SDHC memory card. Always use this command before removing the memory card when recovering DANTE after a deployment.

DATA ERASE

Erases the contents of the D file (sample data flash memory, as in READFILE D). It is not possible to recover all data erased with this command. Use this command carefully to erase all old data prior to redeployment.

READFILE A/B/F/D/DNS/DNT

Reads the specified file.

A -Reads sample program A

B -Reads sample program B

F -Reads the F file (a general use file intended for simple scripting and firmware updates)

D or DNT -Reads any contents of the D file (sample data) that have not yet been transmitted

DNS - Reads any contents of the D file that have not been saved to the SDHC memory card.



RUN A/B/F

Runs either sample program A or B or the contents of the F file. If the target is the F file then a list of commands is expected in the F file. Some commands are not allowed in a F file run, they will generate errors:

```
RUN
WRITEFILE
READFILE
DUMP FLASH
DATA SAVE
OPEN
```

RUN A

Runs sample program A. DANTE will continue to accept many commands while the sample program is running, but some commands are not available while running a sample program. Use GETSD to check if the sample program is still running, the first line shows either

```
DANTE>GETSD
<Status type='s9c' mid='01s' v='0'>
SAMPLE PROGRAM RUNNING
```

...

or

```
DANTE>GETSD
<Status type='s9c' mid='01s' v='0'>
NO PROGRAM RUNNING
```

...

DANTE Configuration Commands

The preferred method of changing DANTE configuration settings is by sending a configuration file generated by DANTE Config software. The commands described in this section allow DANTE settings to be changed individually in case generating a new configuration file with DANTE Config is inconvenient or impossible.

MODPOWER OFF

Disables power to the modules immediately if no sample program is running, otherwise leaves module power as-is and reports an error:

```
ERROR: NOT ALLOWED DURING SAMPLE; 0 Events
```

COMTYPE

Selects the method DANTE uses to send data to the COM unit and how it instructs the COM to transmit the data.

NOTE: This setting can be changed by sample programs!

```
COMTYPE 0
```

Sends data to the COM unit but does not tell the COM to send reports to DANTE Server. This value is used to test systems prior to deployment without accumulating telemetry charges from Iridium or cellular service providers.

```
COMTYPE 1
```



Outdated type for use with NAL9522B Iridium modem instead of a COM unit. Do not use this value unless instructed to do so by Soundnine technical support staff.

COMTYPE 2

Sends data to the COM unit and tells the COM to send reports to DANTE Server. This is the normal operating setting

PARSERTYPE

Selects the mode for data parsing in DANTE prior to transmission to the COM.

NOTE: This setting can be changed in sample programs!

PARSERTYPE 0

No data parsing – transmit all data. This setting should be used for all cellular connections where bandwidth is available and data costs are low.

PARSERTYPE 1

Custom data parsing for an early DANTE customer. Do not use this value unless instructed to do so by Soundnine technical staff.

PARSERTYPE 2

Automatic parsing of recognized data types. Data types are defined with the PARSER command in instrument driver scripts.

SAMPLESPERTRANSMIT

Sets the number of samples (runs of either program A or program B) to accumulate before transmitting to the COM unit.

NOTE: This setting can be changed in sample programs!

SCHEDULE A/B**SCHEDULE A OFFSET PERIOD**

Tells DANTE to start running either program A at OFFSET minutes after midnight and run the program again every PERIOD minutes until the end of the day.

```
SCHEDULE A 0 60
```

```
SCHEDULE B 30 60
```

Program A will run every hour on the hour, program B will run every hour on the half-hour.

See [DANTE Sample A & B Programming R0101](#) for more details and examples of the SCHEDULE command.

WRITEFILE A/B

Starts a simple file write mode to set program A or B.

```
DANTE>writefile b
```

```
USE 'END', 'END B' OR ESCAPE TO END
```

```
com enable
```

```
start 001
```

```
start 002
```

```
sleep 003
```

```
sleep 004
```

```
waitfor 001
```

```
getdata 001
```

```
waitfor 002
```



```
getdata 002
sleep 001
sleep 002
com send "gps wff 10000" 11000
com log GPS_FIX "gps fix"
com disable
end
DANTE>
OK; 0 Events
```

DANTE Advanced Commands

These commands are not required for routine operations, but may be valuable when testing DANTE systems, diagnosing issues with connected instruments or updating firmware.

MODPOWER ON

Enables power to the modules immediately

RESET

Resets DANTE. After reset DANTE will be in sleep mode.

WRITEFILE F/D

Writes data to the F or D files.

READFILE DAL

Special command for examining contents of the flash memory which holds both the F and D files.

```
READFILE DAL 2500000 100000
```

Reads up to 100000 bytes from the flash memory starting at address 2500000.

VER

SEND:

```
F MOD
```

```
F COM
```

COM MON

COMPOWER ON/OFF

DUMP FLASH

Firmware Update Commands

All components in the DANTE system allow field firmware updates, including updates through a cellular modem connection. Firmware files are text files with a few script commands and 50kB to 200kB of ASCII hex data. They are intended to be written to the F file in either DANTE or the COM unit, then either run with the RUN F command or sent to the modules with the SEND F MOD command. Please refer to the DANTE Field Firmware Updates document for more information.

FIRM

Starts a firmware update process. Use the END command or press escape to exit the firmware update mode. This command is usually used only in the F file (see RUN F).



CONFIRM

Verifies the integrity of the firmware loaded with the FIRM command prior to programming.

If the test fails DANTE responds with:

ERROR: FAILED - repeat firm command; 0 Events

PROGRAM

Programs the firmware previously loaded with the FIRM command. The device resets after this command and enters sleep mode after reset.

VER

Displays details of the hardware and firmware, including compilation date:

```
DANTE>ver
HTYPE 11120B-1-1
CD 29440960, 0
CODE TYPE S9C
FIRM S9C V1.3K
CDATE Nov 7 2013 12:16:15
OK; 0 Events
```