



COM Command Line Interface

COM Serial Terminal Control

COM vs DANTE

Cellular terminal connections from DANTE Vis software connect to the DANTE controller's COM unit. Connect to the DANTE controller through the COM unit with the OPEN DANTE command.

Serial connections using DANTE's PC serial port connect directly to the DANTE controller. Connect to the COM unit through DANTE with the OPEN COM command.

Waking COM from Sleep Mode

When connecting to the COM unit through DANTE with the OPEN COM command, DANTE automatically wakes the COM from sleep and puts the com back to sleep when you use the EXIT COM command to end the pass through mode.

Some commands (like SLEEP and REPORT) will put the COM to sleep without exiting DANTE's pass through mode. If this occurs then press enter a few times to wake the COM unit from sleep mode. The COM will respond with :

PWRUP

Press enter again to get a prompt:

COM>

If the COM is communicating through a radio modem (cellular, iridium or ISM) then it will not respond. In this case the user must wait for the COM to finish what it is doing.

Entering Commands

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

OK; 0 Events

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:

Connecting to the COM unit

Use OPEN COM command from DANTE's PC serial port or Use DANTE Vis software to open a cellular terminal connection.



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.

COM Command List

Basic COM Unit Commands

SLEEP

Returns the COM unit to a low power sleep mode.

START

Starts the COM warning function (see WPERIOD)

STOP

Disables the COM warning function.

RESETEC

Resets the event counters

GETEC

Displays the event counters

TIME

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

```
COM>time
```

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

OK - 0 Events

TIME is also use to manually set the COM unit's time. Multiple time formats are allowed:

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

```
time=20131105T012447
```

SETGPSTIME

Sets the COM unit's time from GPS if the GPS is on and has at least one satellite in view.

OPEN DANTE

Opens a serial pass through mode to DANTE.

DATA ERASE

Erases all data in the sample data buffer (D file, as in READFILE D).

Accelerometer & Compass Module Commands

ACM START

Starts the Accelerometer and Compass Module (ACM). The ACM samples at 4 Hz and automatically stores data required to compute averages.



ACM STOP

Stops the ACM module and puts it to sleep to save power.

ACM RESET

Resets all ACM data, including averages

ACM Processed Data Commands

These commands share a common output format:

ACMD[N]:heading, inclination, magnetic magnitude, tilt theta, tile phi, compound tilt, temperature

All magnetic fields are in milligauss

All Accelerations are in milli-g

All angles are in degrees

ACM MON

Starts a monitor mode which displays the ACM data once per second. Press enter or escape to exit this mode.

ACMD4:102.9,-49.4,550,1.9,0.2,1.9,22.0

ACM LAST

Returns the most recent values.

ACMD4:102.8,-49.8,557,1.4,0.2,1.4,22.8

ACM AVERAGE

Returns the average values since the last ACM RESET or since the ACM START command.

ACMD0:102.4,-50.5,559,1.4,0.2,1.4,22.5

ACM MIN

Returns the minimum values since the last ACM RESET or since the ACM START command.

ACMD1:100.5,-49.1,550,1.0,-0.1,1.0,22.0

ACM MAX

Returns the maximum values since the last ACM RESET or since the ACM START command.

ACMD2:104.1,-51.7,570,2.0,0.7,2.0,22.8

ACM Raw Data Commands

These commands share a common data format:

Bx, By, Bz, Ax, Ay, Az, T, cBx, cBy, cBz, Bmag, cBmag, cBt, cBp, Amag, At, Ap, Iph, Ith, Ips

ACM RMON

Starts a monitor mode which displays the raw ACM data four times per second. Press enter or escape to exit this mode.

ACM RLAST

Returns the most recent values.

**ACM RAVERAGE**

Returns the average values since the last ACM RESET or since the ACM START command.

ACM RMIN

Returns the minimum values since the last ACM RESET or since the ACM START command.

ACM RMAX

Returns the maximum values since the last ACM RESET or since the ACM START command.

All magnetic fields are in milligauss

All Accelerations are in milli-g

All angles are in hundredths of degrees (180 degrees = 18000)

Bx =magnetic field in X direction

By=magnetic field in Y direction

Bz=magnetic field in Z direction

Ax= Acceleration in X direction

Ay= Acceleration in Y direction

Az= Acceleration in Z direction

T = temperature code

cBx = tilt & hard iron compensated magnetic field in X

cBy= tilt & hard iron compensated magnetic field in Y

cBz= tilt & hard iron compensated magnetic field in Z

Bmag = non-compensated magnetic magnitude

cBmag = tilt & hard iron compensated magnetic magnitude

cBt = tilt & hard iron compensated magnetic heading theta

cBp = tilt & hard iron compensated magnetic heading phi

Amag = Acceleration magnitude

At = Acceleration theta

Ap = Acceleration phi

Iph = corrected roll

Ith = corrected pitch

Ips = corrected yaw

GPS Receiver Commands

GPS ON / OFF

Enables or disables the GPS receiver. The GPS defaults to OFF to save power.

GPS QOS

Returns a GPS quality of service string

GPSQ NS=0, HD=0.00, SN1=21, SN2=31, SN3=204, SN4=0

NS=number of satellites in view

HD= Horizontal Dilution Of Precision



SN1 – SN4 =signal to noise of satellites 1-4

GPS TIME

Returns the GPS time code:

GPST hhmmss, ddmmyy

GPST 120100, 011013

Means 12:01pm October 1, 2013

GPS FIX

Reads the current GPS position and time.

GPSF 47 37.767 N, 122 14.788 W, T=033033, D=051113

GPS WFF

Waits for a valid GPS position fix, with an optional timeout setting in milliseconds. The default timeout is 90 seconds, minimum is 50 milliseconds, maximum is two minutes. If the GPS does not have a valid fix at the end of the timeout period the COM responds with

TIMEOUT: NO GPS FIX

OK; 0 Events

Note that this response is not flagged as an error.

GPS WFF 45000

Waits for a GPS position fix for up to 45 seconds.

DGPS

Sets the differential GPS mode. Options are:

RTCM

WAS

OFF

Battery Voltage Monitor

ADC

Reads the COM battery voltage. There are no diode drops in this voltage reading. A normal charged battery is about 4.0 Volts. If the Voltage is below 3.7 then the COM power is not enabled long enough to keep the battery charged.

COM Unit Configuration Commands

The preferred method of changing COM configuration settings is by sending a configuration file generated by DANTE Config software to DANTE through the PC serial port. DANTE automatically forwards this configuration file to the COM unit. The commands described in this section allow COM settings to be changed individually in case generating a new configuration file with DANTE Config is inconvenient, impossible or inadvisable.

When communicating with DANTE through the COM unit in a remote terminal connection DANTE does not forward the configuration file to the COM. The file may be sent to the COM directly



through the terminal connection, but if the wrong configuration is sent to the COM then it may lose access to the wireless network. This requires a wired connection to DANTE's PC serial port to correct.

NOTE: either an '=' or a space is required between a command and any parameters.

APN "your apn setting"

And

APN="your apn setting"

both work.

APN

Cellular service setting. Must match requirements of cellular service provider.

APN "your apn setting"

APNUSER

Cellular service setting. Must match requirements of cellular service provider.

APNUSER "your apn user"

APNPASS

Cellular service setting. Must match requirements of cellular service provider.

APNPASS "your apn pass"

IP1

IP address of primary DANTE Server

IP2

IP address of backup DANTE Server

SMSNUM1

Primary cell phone number for SMS warning messages

SMSNUM2

Backup cell phone number for SMS warning messages

LPORT1

Primary DANTE Server link port number.

RPORT1

Primary DANTE Server report port number.

LPORT2

Backup DANTE Server link port number.

RPORT2

Backup DANTE Server report port number.

SMSPWD1

Password for incoming SMS messages. The password must be in quotes.

SMSPWD1 "mypassword"



SMSPWD2

Backup password for incoming SMS messages. The password must be in quotes.

SMSPWD2 "mypassword"

WPERIOD

Warning period in minutes. If COM is started and no data is received from DANTE for this amount of time, or if there are no successful data transmissions for this amount of time, then a SMS warning message is sent.

BCX

Compass hard iron calibration coefficient. This is set at the factory and included in the factory configuration file.

BCY

Compass hard iron calibration coefficient. This is set at the factory and included in the factory configuration file.

BCZ

Compass hard iron calibration coefficient. This is set at the factory and included in the factory configuration file.

Advanced COM Unit Commands

These commands are not required for routine operations, but may be valuable when testing DANTE systems, performing compass calibrations or updating firmware.

CHARGE ON

Forces the COM battery charger on. Requires DANTE's COM power output to charge.

CHARGE OFF

Forces the COM battery charger off.

RESET

Resets the COM unit. After reset the COM will be asleep.

RCVSMS

Tells to COM to read all SMS messages in the cellular modem. SMS messages are logged in the data file, use READFILE D to retrieve them. If the cellular modem is not already powered this command will power it and wait for them modem to communicate with the cellular network.

GSM ON/OFF

Turns the GSM modem on or off.

REPORT

Tells the COM unit to enable its modem and send a data report to DANTE Server. The COM automatically returns to sleep when the report is completed.

**LINK**

Tells the COM unit to enable its modem and attempt a terminal connection to DANTE Server. If a terminal connection is requested in DANTE Vis software then the connection should be made within 30 seconds. The COM unit automatically returns to sleep mode when the connection ends.

RUN F

Runs the F file. A list of commands is expected in the F file. Some commands are not allowed in a file run, they will generate errors:

RUN
WRITEFILE
READFILE
DUMP FLASH
DATA SAVE
OPEN
GPS FIX

WRITEFILE F

Writes data to the F file.

WRITEFILE D

Writes data to the data file. This is for testing only.

READFILE

Reads the contents of either the F file or the D file (data file).

READFILE D or READFILE DNT

Reads the contents of the data file that have not yet been transmitted.

READFILE DNS

Reads the entire contents of the data file.

NOTE: there is no SD memory card in the COM unit. This command is named DNS only for consistency with DANTE's command.

READFILE F

Reads the contents of the F file.

DUMP FLASH

Reads the entire non-null contents of the flash memory. This is used for firmware verification and offers partial recovery from accidental use of the DATA ERASE command.

SEND F DANTE

Sends the contents of the F file to DANTE.

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 COM 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:

```
COM>firm  
HTYPE 13502-1-1  
CD 29440960, 0  
CODE TYPE S9COM  
FIRM S9COM V1.1I  
CDATE Nov 7 2013 12:15:58
```

```
OK; 0 Events
```