Commands for the QNET DAQ series 6000

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H1

Quarknet Scintillator Card, Qnet2.5 Vers 1.02 Compiled Jul 6 2007 HE=Help
Serial#=6119 uC_Volts=3.35 GPS_TempC=18.9 mBar=1017.9

CE - TMC Counter Enable, 'cmd V1' for quick view of setup.
CD - TMC Counter Disable.
DC - Display Control Registers, (C0-C3).
WC a d - Write Control Registers, addr(0-6) data byte(H).
DT - Display TMC Reg, 0-3, (1=RdPtr, 2=WrPtr pipeline delay).
WT a d - Write TMC Reg, addr(1,2) data byte(H), if a=4 write delay word.
DG - Display GPS Date, Time, Position and Status.
DS - Display Scalar, channel(S0-S3), trigger(S4), time(S5).
RE - Reset complete board to power up defaults.
RB - Reset only the TMC and Counters.
SB p d - Set Baud,password, 1=19K, 2=38K, 3=57K ,4=115K, 5=230K, 6=460K, 7=920K
SA n - Save setup, baud, n=0(TMC disable), n=1(TMC enable), n=2(defaults).
TH - Thermometer data display (@ GPS), -40 to 99 degrees C.
TL c d - Threshold Level, signal ch(0-3)(4=setAll), data(0-4095mV), TL=read.
View - View all setup registers(cmd=V1), View board voltages(cmd=V2).
HELP - HE,H1=Page1, H2=Page2, HB=Barometer, HS=Status, HT=Trigger.

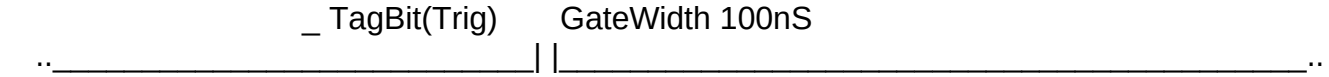
H2

Barometer Qnet Help Page 2
BA - Display Barometer trim setting in mVlts and pressure as mBar.
BA d - Calibrate Barometer by adj. trim DAC ch in mVlts (0-4095mV).
Flash
FL p - Load Flash with Altera binary file(*.rbf), p=password.
FR - Read FPGA setup flash, display sumcheck.
FMR p - Read page 0-3FF(h), (264 bytes/page)
Page 100h= start fpga *.rbf file, page 0=saved setup.
GPS
NA 0 - Append NMEA GPS data Off,(include 1pps data).
NA 1 - Append NMEA GPS data On, (Adds GPS to output).
NA 2 - Append NMEA GPS data Off,(no 1pps data).
NM 0 - NMEA GPS display, Off, (default), GPS port speed 38400, locked.
NM 1 - NMEA GPS display (RMC + GGA + GSV) data.
NM 2 - NMEA GPS display (ALL) data, use with GPS display applications.

Test Pulser
 TE m   - Enable run mode, 0=Off, 1=One cycle, 2=Continuous.
 TD m   - Load sample trigger data list, 0=Reset, 1=Singles, 2=Majority.
 TV m   - Voltage level at pulse DAC, 0-4095mV, TV=read.
Serial #
 SN p n - Store serial # to flash, p=password, n=(0-65535 BCD).
 SN   - Display serial number (BCD).
Status
 ST 1 m - Send qnet status line every (m) minutes.(m=1-30, def=5).
 ST 2 m - Include scalar data channels S0-S4 after each qnet status line.
 ST m   - Send Status Line now if m!=0, (m=0 to stop timer).
TI n   - Timer (day hr:min:sec.msec), TI=display time, (TI n=0 clear).
U1   - Display Uart1 (uC GPS receive port) error counter.
VM 1   - View mode, 0x80=Event_Demarcation_Bit outputs a blank line.
         - View mode returns to normal after 'CD','CE','ST' or 'RE'.

V1

 Run Mode   : Off   CE or CD, Misc Cmds DC,DT Write Cmds WC,WT
 Ch(s) Enabled : 3,2,1,0   Cmd DC C0=1F ...   (bits 3-0)
 Veto Enable   : Off
 Veto Select   : Ch0   Cmd DC C0=1F ...   (bits 7,6)
 Coincidence 1-4: 2-Fold   Cmd DC C0=1F ...   (bits 5,4)
 PipeDly,PreTrig: 40 nS   Cmd DT ... T1=00(RdDly) T2=04(WrDly) 10nS/bit
 Gate Width   :   100 nS   Cmd DC ... C2=0A(LByte) C3=00(HByte) 10nS/bit
 Ch0 Threshold : 0.300 vlt
 Ch1 Threshold : 0.300 vlt
 Ch2 Threshold : 0.300 vlt
 Ch3 Threshold : 0.300 vlt
 Test Pulser Vlt: 3.000 vlt
 Test Pulse Ena : Off



 Pipeline Dly setup sequence, CD, WT 1 0, WT 2 nn(10nS/bit)
 Gate Width setup sequence,   CD, WC 2 nn(10nS/bit), WC 3 nn(2560nS/bit)

V2

 PresAdj   = 1.495   Pressure Sensor Calibrate (4mV res)
 Pres_mBar = 1017.9 (pSensor(1570.5)-1500) / 15 + 1013.25
 Pres_inch = 30.46   mBar / 33.42
 TempC   = 19.0   421- (751 * (PulseHi 83526/156043 PulseLow))
 TempF   = 66.2   (TempC * 1.8) + 32

Vcc 1.8V = 1.81   ADCval 617 * 2.93mV/bit
Vcc 1.2V = 1.20   ADCval 410 * 2.93mV/bit
Pos 2.5V = 2.46   ADCval 838 * 2.93mV/bit
Neg 5.0V = 5.06   ADCval 685 * 7.38mV/bit
Vcc 3.3V = 3.35   ADCval 1006 * 3.33mV/bit
Pressure = 1.57   ADCval 536 * 2.93mV/bit
Pos 5.0V = 4.96   ADCval 672 * 7.38mV/bit
5V Test   Max=5.02v   Min=4.95v   Noise=0.066v

DS

DS S0=0000013F S1=00000107 S2=00000000 S3=00000000 S4=000001A0 S5=00000000

DF

DF F0=0000 F1=6C01 F2=0101

DT

DT T0=00 T1=1A T2=1C T3=00

DS

DS S0=0000016E S1=0000012C S2=00000000 S3=00000000 S4=000001E2 S5=00000000

DC

DC C0=0F C1=70 C2=A0 C3=01

HS

Trigger IRQ Status Byte, Bit Assignments (see 'HF' for location on data line)
 0x1 = 1PPS interrupt pending
 0x2 = Trigger FIFO full
 0x4 = GPS data could be corrupted (write in progress while readout)
 0x8 = Current or last 1PPS tick not within 41666666 +/-50 clock ticks

Status Line Format for BCD1-BCD19, see 'ST' command.
BAR_kPa   -> BCD1 / 10
GPS_DegC   -> BCD2 / 10
CPU_DegC   -> BCD3 * 0.172
CPU_Vcc   -> BCD4 * 0.00122 (3.3 Volt Supply)
GPS_UTC   -> BCD5
GPS_DATE   -> BCD6

GPS_VALID -> BCD7
GPS_SAT # -> BCD8
1PPS -> BCD9
Code Version -> BCD10
Serial # -> BCD11
TMCregs 3-0 -> BCD12-15 (4 registers displayed as a 32 Bit#)
CPLDregs 3-0 -> BCD16-19 (4 registers displayed as a 32 Bit#)

HB

BA - Display Barometer data as raw counts(BCD) and kPa.
BA bbb.b ggg.g - Calibrate for kPa using Baseline and Gain par

DG

Date+Time: 10/07/07 21:59:32.020
Status: A (valid)
PosFix#: 1
Latitude: 41:51.433835 N
Longitude: 088:14.345799 W
Altitude: 233.082m
Sats used: 10
PPS delay: +0000 msec (CE=1 updates PPS,FPGA data)
FPGA time: 00000000
FPGA freq: 0 Hz
ChkSumErr: 0

DC

DC C0=1F C1=70 C2=0A C3=00

DS

DS S0=00002B70 S1=000036A1 S2=0000327A S3=00002928 S4=0000170F S5=00000000

DT

DT T0=00 T1=00 T2=04 T3=00

BA

BA 1495
BaroTrim= 1495mV
Pressure mBar= 1017.9

TH

TH TH=18.9

TI

TI= 00 00:36:31.491

TL

TL L0=300 L1=300 L2=300 L3=300

CE

002E3FF6 A7 00 27 00 25 00 27 00 00000000 220023.028 100707 A 08 8 +0094
002E3FF6 00 00 00 3C 00 3E 00 3B 00000000 220023.028 100707 A 08 8 +0094
002E3FF7 00 20 00 00 00 00 00 00 00000000 220023.028 100707 A 08 8 +0094
003578AB B4 00 33 00 34 00 30 00 00000000 220023.028 100707 A 08 8 +0094
003578AB 00 00 00 00 00 00 00 3D 00000000 220023.028 100707 A 08 8 +0094
003578AC 00 00 00 00 00 00 21 00 00000000 220023.028 100707 A 08 8 +0094
003578AC 00 2D 00 29 00 00 00 00 00000000 220023.028 100707 A 08 8 +0094
003578AC 00 00 00 00 00 30 00 31 00000000 220023.028 100707 A 08 8 +0094
00547DF7 BE 00 3B 00 3A 00 3C 00 00437682 220023.028 100707 A 08 8 +0094
00547DF8 00 00 00 00 00 00 00 2F 00437682 220023.028 100707 A 08 8 +0094
00547DF8 00 32 00 30 00 00 00 00 00437682 220023.028 100707 A 08 8 +0094
00547DF8 00 00 00 00 00 39 00 00 00437682 220023.028 100707 A 08 8 +0094