HARNESS ENERGY

Bangladesh Wind Resource Testing

Rajshahi Triton Installation Report
June 2, 2014

Prepared for: Mark Jacobson, National Renewable Energy Laboratory
Prepared by: Taj Capozzola, Harness Energy
September 23, 2014
Subcontract Number: AXL - 4 - 23368-01

Triton Installation Advisory - TIA

1. Triton Information

Triton Owner:	NREL			
Triton Site Name:	Rajshahi (Validation with 80 meter Met Tower)			
Triton Serial #:	616			
Install Date:	2 June 2014			
Model:	Standard	Heater	TPU	TritonOps
Options:	Int/Ext EPO	Extended Battery	Int/Ext Propane	Globalstar/GPRS
Service Technician(s):	Harness Energy – Ben Schloesser, Wade Grewe			

2. Site Information

Site Location:	According to Unit: N 24.17036° E 88.90875° According to Garmin GPS (WGS84): N 24.17034° E 88.90880°		
Site Contact Requirements:	Sarfaraz Ahmed – Country Director – Harness Energy Bangladesh Mobile: +8801711505265 Email: sarfaraz.ahmed@harnessre.com		
Site Road Access Description (i.e. 4WD required)	Must hike from main paved road which is North of the unit. This main paved road runs East / West and is just West of the village of Bilmaria.		
Site Gates/ Locks/ Keys / Other Security Details	Gate key is kept by guards on site. Array door combination lock code is 4-2-6-7. No front door key on site. Four (4) security lights have been installed at corners of SoDAR platform. 100W PV Panel charges 80 AH battery that powers the lights. Lights manually turned on/off by guards.		
Surrounding Site Description (i.e. Windfarm, Forest, Field etc.)	Agricultural land. Primarily sugar cane and jute, some mango trees.		
Triton Front Door Lock Details (Combo or Key Location)	Front door key in Dhaka with Sarfaraz Ahmed. No front door key on site.		
Prevailing Wind Direction (deg True)	90° (E) on 2Jun14		
Magnetic Declination	0.42° (W) changing by 0.01° W per year	Required Triton Orientation (deg True)	0°

3. Fixed Object Vista Table

Description of Object	Azimuth (Deg)	Distance (m)	Height of Object (m)	Relative Elevation to Triton (m)
Trees due North of Unit	0	171.8	7.2	-1.45
Nearest Point of Small Mango Grove	66	152.4	4.6	-1.45
Single Palm Tree	194	197.4	4.2	-1.45
Met Tower	270	140.0	82.0	-1.45
Guard House	311	151.4	4.05	-1.45

Single Tree	334	118.4	4.3	-1.45
Single Tree	337	124.2	4.0	-1.45
Single Tree	342	129.8	5.9	-1.45
Single Tree	348	123.6	6.1	-1.45
Single Tree	350	106.0	4.0	-1.45

4. Installation Checklist

Item	✓	Unit	Value
Mechanical Inspection	✓	List Damage/Defects	None
Triton Orientation (see Section 2 above for azimuth requirements)	✓	Record azimuth of Array Door (deg mag/true)	0° (deg. True)
Triton Secured	✓	Method (i.e. earth anchors, trailer, snow platform, etc.)	Platform w/ bolts
Batteries Charged (>12.7V)	✓	Record voltage level, V - DC	14.051 V
Solar Panels Installed, Connected	✓	# of Panels	2
Solar Panels Charging	✓	V - DC	17.619 V
Operator Panel: GPS	✓	Red/Green/Rapid/Off	Green
Operator Panel: SENSORS	✓	Red/Green/Rapid/Off	Green
Operator Panel: SUPPLIES	✓	Red/Green/Rapid/Off	Green
Operator Panel: SD CARD	✓	Red/Green/Rapid/Off	Green
Operator Panel: NOTA (self-test)	✓	Red/Green/Rapid/Off/NA	-
Operator Panel: ARRAY	✓	Red/Green/Rapid/Off	Green
Operator Panel: SODAR	✓	Red/Green/Rapid/Off	Green
Operator Panel: SNR	✓	Red/Green/Rapid/Off	Green
Operator Panel: INTERNET	✓	Red/Green/Rapid/Off	Green
Operator Panel: TSP	✓	Red/Green/Rapid/Off	Green
Operator Panel: SKYSERVE	✓	Red/Green/Rapid/Off	Green
Take Photos or Videos	✓	Pictures of 360deg site and Anchored Triton	See photos
Ambient Noise Description	✓	(i.e. Birds, Crickets, Highway)	Many crickets and other insects starting at dusk, some birds
Triton Information (1) Section Complete	✓	none	-
Site Information (2) Section Complete	✓	none	-
Fixed Obstacle Vista Table (3) Complete	✓	none	-
Heater Option Checklist			
Antifreeze Fluid Level		none	N/A
Propane Cylinders installed		Total cylinder capacity (lbs.)	N/A
Propane Leak Test		none	N/A

GPRS Option Checklist			
SIM Card Inserted	✓	none	Yes, see photos
GPRS Parameters Set in Triton ProLink	✓	none	Yes, see screenshot
Extended Power Option Checklist			
Methanol Cartridges Connected		Cartridge 1=	N/A
Total methanol capacity (liters)		Cartridge 2=	N/A

Installer Signature: 

Installer Name (printed): Ben Schloesser

Date: 2 June 2014

Guard House:

Description: Brick with concrete finish, window on East wall, steps, door and window on South wall, water pump in front (South side of structure), attached bathroom in back (North side of structure). Total height AGL = 4.05m

Dimensions: 4.99m x 3.46m x 4.05m

Azimuth (deg. True): 311°

Distance from SoDAR (m): 151.4m

GPS Coordinates (WGS84): N 24.17125° E 88.90763°

Notes: Guard House walls of interest to the SoDAR are the East and South walls. The East wall faces exactly 103° and is 4.99m long. The South wall faces exactly 194° and is 3.46m long.

Platform:

Description: Steel frame secured by concrete with wood deck.

Dimensions: 4.89m x 3.35m x 1.45m

Height Above Ground Level: 1.45m

Fence:

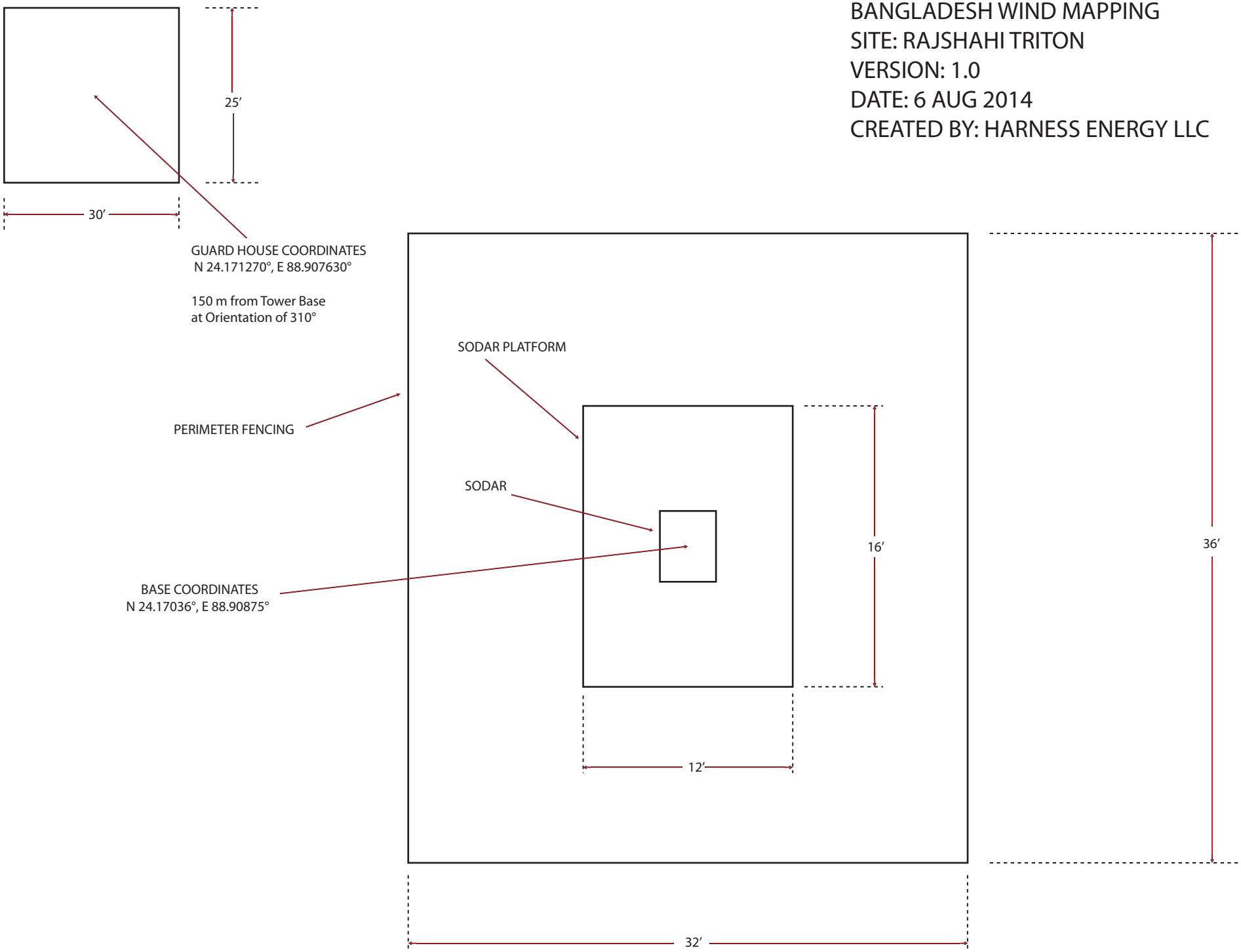
Description: Bamboo and Barbed Wire with Bamboo Gate.

Dimensions: Roughly 10m x 10m. At its nearest point the fence is 1.2m away from SW corner of the SoDAR platform, everywhere else the distance is greater than 1.2m.

HARNESS ENERGY

Site Information

BANGLADESH WIND MAPPING
SITE: RAJSHAHI TRITON
VERSION: 1.0
DATE: 6 AUG 2014
CREATED BY: HARNESS ENERGY LLC



HARNESS ENERGY

TRITON LOG

Site from Above

Relative to Tower

0 Degrees

45 Degrees

90 Degrees

135 Degrees

180 Degrees

225 Degrees

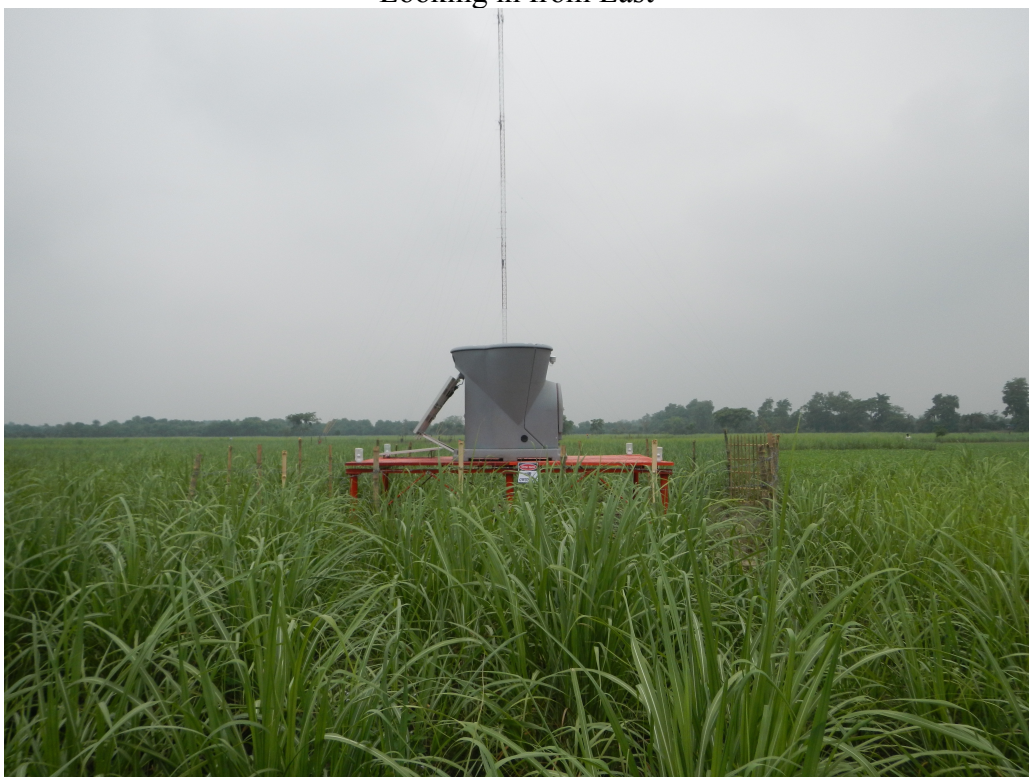
270 Degrees

315 Degrees

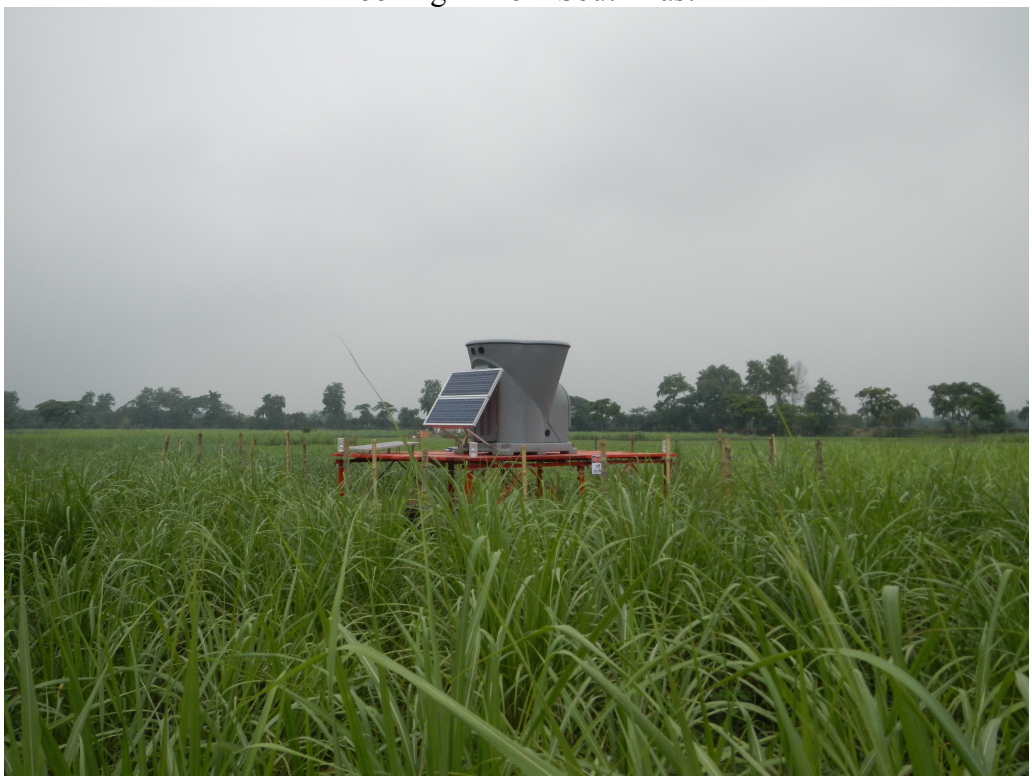
Looking in from North

Looking in from North East

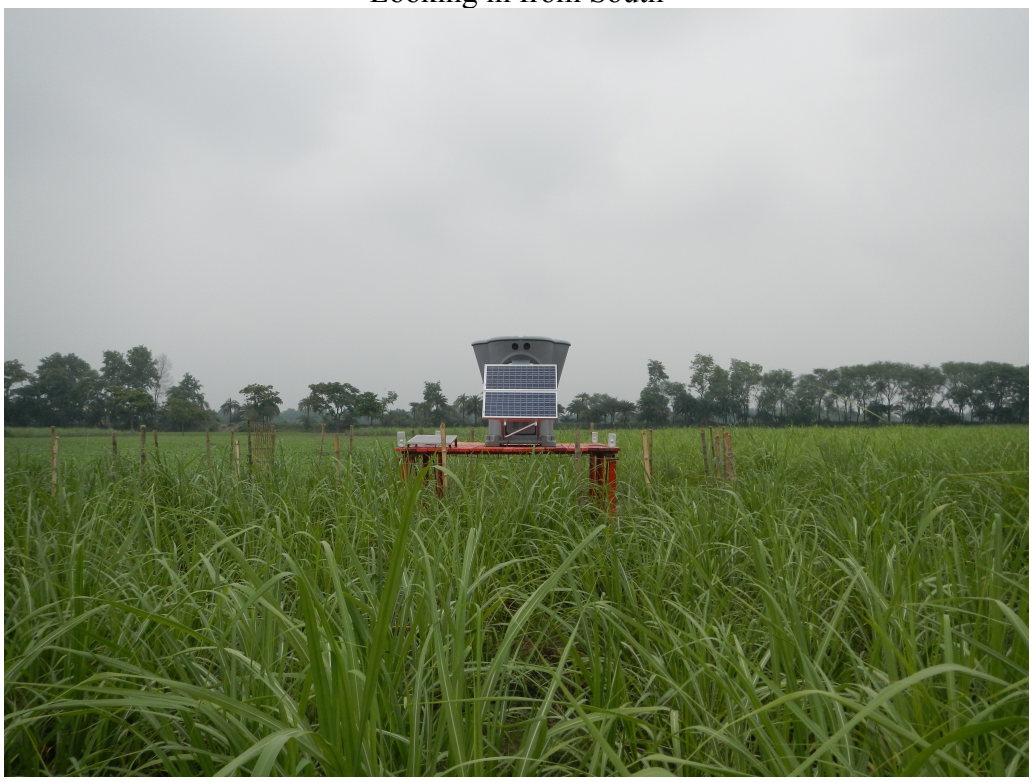
Looking in from East



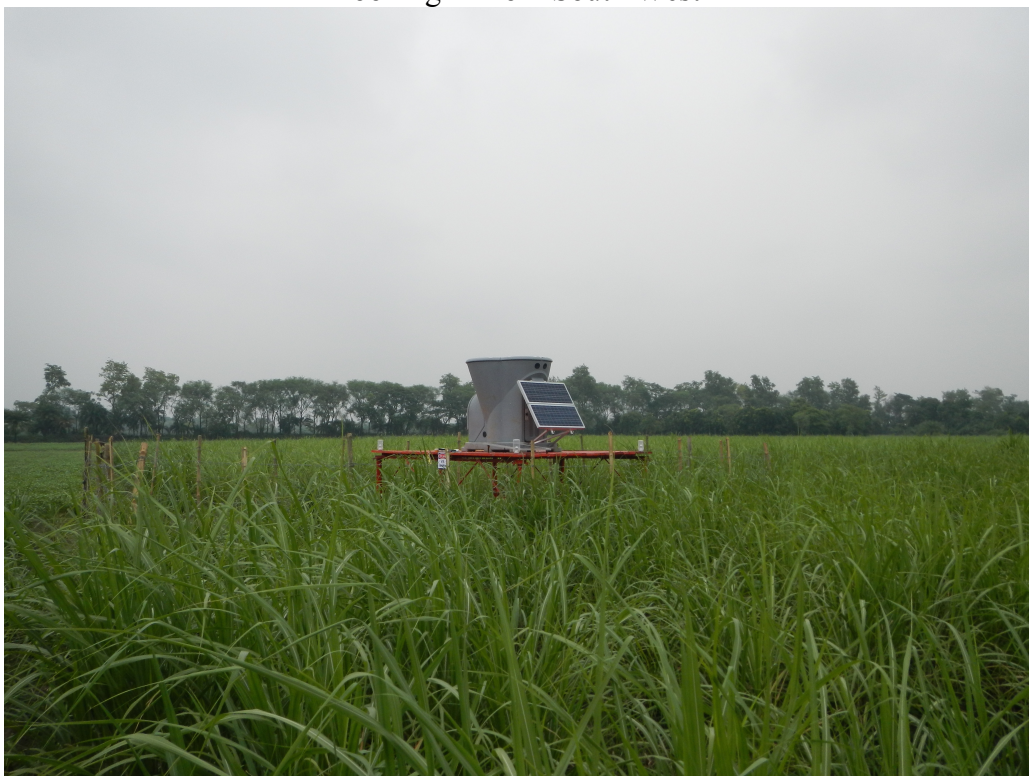
Looking in from South East



Looking in from South



Looking in from South West



Looking in from West

Looking in from North West

NGDC Declination

Date	2014-06-02
Latitude	24.17036° N
Longitude	88.90875° E
Elevation	0.0 km
Model Used	WMM 2010
Declination	0.42° W changing by 0.01° W per year

Compass shows the approximate bearing of the magnetic north (MN)

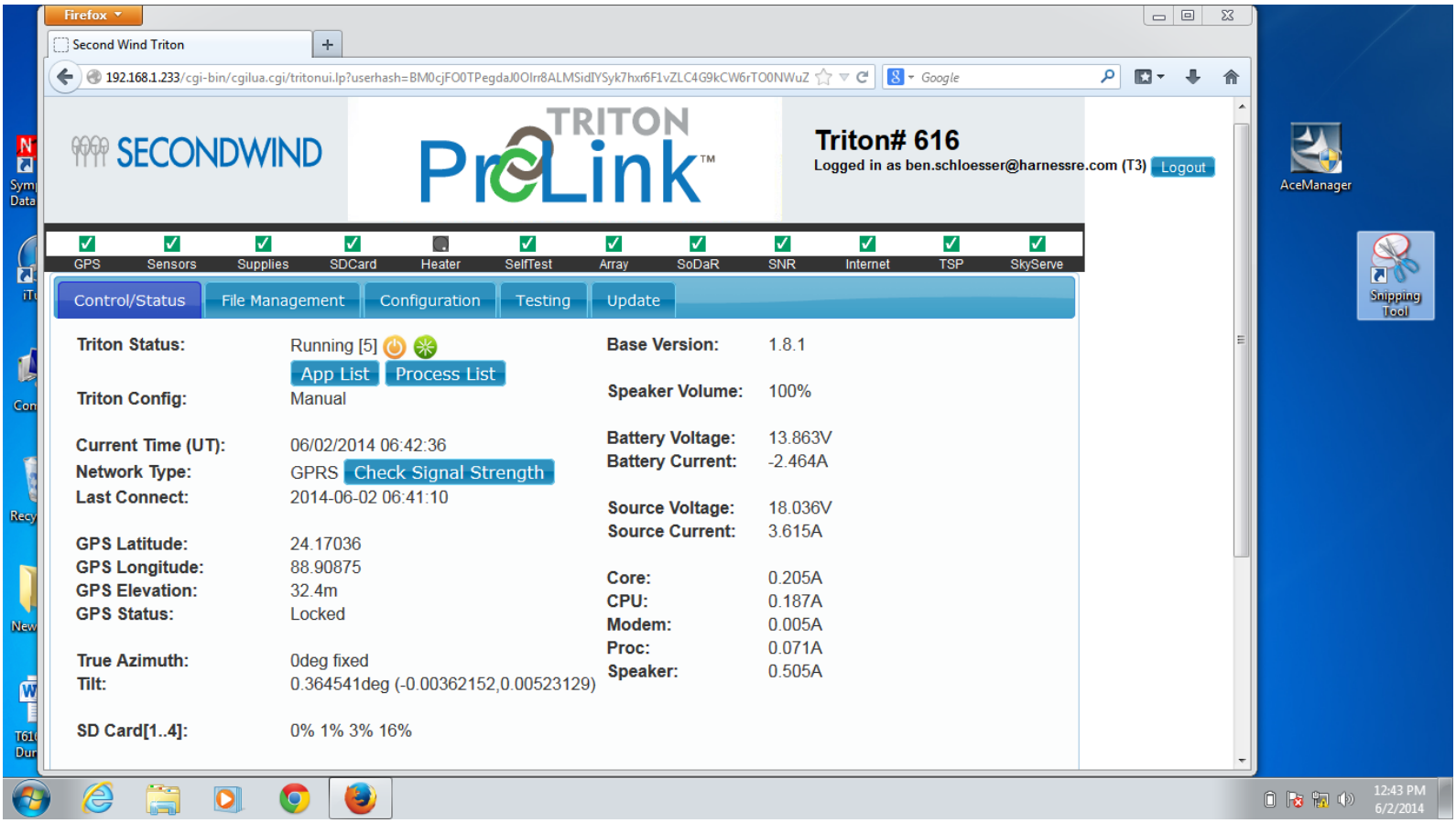
Magnetic declination is the angle between true north and the horizontal trace of the local magnetic field. In general, the present day field models such as the IGRF and World Magnetic Model (WMM) are accurate to within 30 minutes of arc for the declination. However, local anomalies exceeding 10 degrees, although rare, do exist.

Document created: 2014-09-24 04:57 UTC

Questions: geomag.models@noaa.gov

HARNESS ENERGY

Triton Details


Firefox
Second Wind Triton
192.168.1.233/cgi-bin/cgilua.cgi/tritonui.lp?userhash=BM0cjFO0TPegdaJ0OIrr8ALMSidIYSyk7hxr6F1vZLC4G9kCW6rTO0NWuZ
SECONDWIND
TRITON
PreLink™
Triton# 616
Logged in as ben.schloesser@harnessre.com (T3) Logout
GPS Sensors Supplies SDCard Heater SelfTest Array SoDaR SNR Internet TSP SkyServe
Control/Status
File Management
Configuration
Testing
Update
Triton Status: Running [5]
App List
Process List
Triton Config: Manual
Current Time (UT): 06/02/2014 06:42:36
Network Type: GPRS
Check Signal Strength
Last Connect: 2014-06-02 06:41:10
GPS Latitude: 24.17036
GPS Longitude: 88.90875
GPS Elevation: 32.4m
GPS Status: Locked
True Azimuth: 0deg fixed
Tilt: 0.364541deg (-0.00362152,0.00523129)
SD Card[1..4]: 0% 1% 3% 16%
Base Version: 1.8.1
Speaker Volume: 100%
Battery Voltage: 13.863V
Battery Current: -2.464A
Source Voltage: 18.036V
Source Current: 3.615A
Core: 0.205A
CPU: 0.187A
Modem: 0.005A
Proc: 0.071A
Speaker: 0.505A
AceManager
Snipping Tool
12:43 PM
6/2/2014

Data Dumps

28 May 2014 @ 08:10

60100

2014-05-28 08:05:30.807
Status Mask=16728063 Value=11151749
Status Mask Hex=0xFF3FFF Value Hex=0xAA2985
[10489]
  AppName=sysmon
  AppWatchdogs=Enabled
  HwWatchdogs=Enabled
  LogSeqOffset=0
  OPData=Rev0.2, SOL=16.215V@1.621A, BAT=13.486V@-1.308A
  StartTime=2014-05-28 08:04:53
  Version=1.6.1
  WdMethod=Device
  basePackage=1.8.1
  fieldguiPackage=1.0.4
  heaterPackage=0.1.1-board-reset-fix
  modemPackage=1.0.2
  platformPackage=2.2
  sodarPackage=2.2
  tcp60100=System Status Snapshot
  tcp60110=System Watchdog Status Snapshot
  tcp60120=TCP Command Server
[10501]
  /mnt/sdcard1=0%
  /mnt/sdcard2=1%
  /mnt/sdcard3=1%
  /mnt/sdcard4=1%
  AppName=sdcardmon.sh
  Version=0.2
  StatusBits(196608)=131072
  StatusBitsHex(0x30000)=0x20000
[10502]
  AppName=gpsmon
  AppWatchdogs=Enabled
  CtrlUsbPower=Yes
  DevicePort=/dev/usb/tts/0
  HomeLocation=Lat 24.170361 deg, Lon 88.908750 deg, Elev 32.4 m
  HomeLocationTime=2014-05-28 05:18:29
  HwWatchdogs=Enabled
  RTC=Yes
  StartTime=2014-05-28 08:05:04

State=Stable
Version=2.3.1
StatusBits(12582912)=8388608
StatusBitsHex(0xC00000)=0x800000
[10503]
AppName=archiver
AppWatchdogs=Enabled
HwWatchdogs=Enabled
StartTime=2014-05-28 08:04:56
Version=1.7.1
tcp60300=Archiver Server Port
[10504]
AppName=smat
AppWatchdogs=Enabled
HwWatchdogs=Enabled
StartTime=2014-05-28 08:04:56
Version=1.5
tcp60666=Causes extended call duration
StatusBits(48)=0
StatusBitsHex(0x30)=0x0
[10505]
AppName=TSP
ServerIP=205.237.100.213
ServerIP2=205.237.100.213
ServerIP3=tsp-triton.skyserve.net
ServerPort=49600
StartTime=2014-05-28 08:05:03
Version=2319
udp60668=Event Port
StatusBits(12)=4
StatusBitsHex(0xC)=0x4
[10511]
AccFile=/root/acc/T00616-acc-2014-05-28_08_00.csv
Acq=4364.13Hz, 115.00 to 1260.50mSec, phase 58.70deg
AppName=sodar
Beep=4364.13Hz, 73.7422mSec, 37.3603uSec
DspRev=16.12
FirmwareRev=2.1
LastShot=Shot [4-A] with 100% beep volume @ 2014-05-28 08:05:27
Location=Lat 24.170361 deg, Lon 88.908750 deg, Elev 32.4 m
PlatformRev=0.0
RunState=ExecShotBState
SerialNumber=00616
StartTime=2014-05-28 08:05:00
SystemAzimuth=0deg fixed
SystemTilt=0.412311deg (-0.0017453,0.00698146)
TiltSensor=ADIS16209(20,2), Vcc=3.28V

Version=2.1
tcp60180=Periph Snapshot CSV
tcp60200=Debug Terminal
tcp60220=Acq Buffer Statistics
tcp60230=Shot Stream with Echoes
tcp60240=Shot Stream with Doppler Shifts
tcp60280=Data Chunk Stream CSV
tcp60281=Data Chunk Stream Binary
StatusBits(3936195)=2623873
StatusBitsHex(0x3C0FC3)=0x280981
[10541]
AppName=selftest
StartTime=2014-05-28 08:04:57
TestState=Good
Version=1.2
StatusBits(12288)=8192
StatusBitsHex(0x3000)=0x2000

60180

PeripheralBoardData[0]
,junk[2],5,(m)
,azimuth[2],0,(deg)
,tiltX[2],-0.131813,(deg)
,tiltY[2],0.406815,(deg)
,External Temp[2],29.7473,(deg)
,Internal Temp[2],31.5036,(deg)
,Spare Temp[2],33.295,(deg)
,Barometer[2],1000.97,(mm)
,Humidity[2],80.309,(%)
,VBatt[2],13.4631,(V)
,Anc amps[2],0.225056,(amp)
,cpu amps[2],0.204947,(amp)
,modem amps[2],0.0109926,(amp)
,spkr amps[2],0.248982,(amp)
,proc amps[2],0.0824297,(amp)
Azimuth,
SampleBuf dump[0]
,Sample Count[2],0,(samples)
,Offset[1],0
,Scaler[1],1
,Data
values[60],0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],0
,Min[1],0
,Ave[1],0

tiltX,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],-102.4
,Scaler[1],0.05
,Data
values[180],2046,2042,2045,2046,2046,2042,2062,2045,2043,2045,2045,2042,2043,2046,2047,2046,2045,2046,2043,204
5,2043,2045,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,...
,,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],0.699997
,Min[1],-0.300003
,Ave[1],-0.131813
tiltY,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],-102.4
,Scaler[1],0.05
,Data
values[180],2056,2056,2056,2057,2056,2056,2055,2056,2054,2057,2055,2056,2055,2056,2055,2059,2057,2058,2055,205
8,2056,2056,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,...
,,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],0.550003
,Min[1],0.300003
,Ave[1],0.406815
Internal temps,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],-100
,Scaler[1],0.01
,Data
values[60],13163,13160,13158,13158,13158,13158,13156,13158,13151,13151,13146,13148,13146,13146,13146,13144,13
146,13148,13146,13141,13141,13139,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],31.63
,Min[1],31.39
,Ave[1],31.5036
External temps,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],-100
,Scaler[1],0.01
,Data
values[60],12973,12973,12973,12973,12973,12973,12973,12971,12973,12973,12976,12980,12976,12976,12973,12976,12
976,12978,12978,12978,12976,12973,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0

,Max[1],29.8
,Min[1],29.71
,Ave[1],29.7473
Spare temps,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],-100
,Scaler[1],0.01
,Data
values[60],13334,13334,13327,13332,13330,13330,13332,13332,13332,13330,13332,13330,13330,13330,13327,13330,13327,13327,13327,13327,13327,13322,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],33.34
,Min[1],33.22
,Ave[1],33.295
Barometric pressure,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],0
,Scaler[1],0.1
,Data
values[60],10008,10010,10010,10010,10009,10009,10009,10011,10009,10010,10011,10010,10010,10011,10009,10010,10010,10009,10010,10010,10010,10009,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],1001.1
,Min[1],1000.8
,Ave[1],1000.97
Humidity,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],-4.646
,Scaler[1],0.017666
,Data
values[60],4849,4841,4824,4823,4830,4830,4826,4814,4815,4812,4812,4812,4800,4797,4797,4791,4788,4791,4793,4791,4785,4776,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],81.0164
,Min[1],79.7268
,Ave[1],80.309
BatteryVolts,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],0
,Scaler[1],0.0043658
,Data
values[60],3091,3087,3082,3085,3087,3081,3082,3079,3082,3082,3080,3082,3082,3083,3079,3083,3083,3083,3086,3086,3087,3091,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],13.4947
,Min[1],13.4423
,Ave[1],13.4631

Ancillary Amps,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],0
,Scaler[1],0.0004029
,Data
values[60],394,539,536,542,527,525,463,541,541,698,739,526,513,515,520,523,712,682,683,521,524,525,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],0.297743
,Min[1],0.158743
,Ave[1],0.225056
CPU Amps,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],0
,Scaler[1],0.0001209
,Data
values[60],1968,1965,1934,1770,1602,1563,1731,1804,1799,1583,1597,1776,1598,1575,1612,1619,1591,1594,1600,1597,
1607,1809,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],0.237931
,Min[1],0.188967
,Ave[1],0.204947
Modem Amps,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],0
,Scaler[1],0.0001773
,Data
values[60],146,144,143,150,153,261,185,182,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0
,Max[1],0.0462753
,Min[1],0
,Ave[1],0.0109926
Speaker Drvr Amps,
SampleBuf dump[0]
,Sample Count[2],22,(samples)
,Offset[1],0
,Scaler[1],0.0081391
,Data
values[60],2,0,338,303,3,2,0,0,3,2,2,0,2,3,1,1,1,1,3,2,2,2,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,
0,0
,Max[1],2.75102
,Min[1],0
,Ave[1],0.248982
Speaker Proc Amps,
SampleBuf dump[0]
,Sample Count[2],22,(samples)

,Offset[1],0
,Scaler[1],0.0004029
,Data
values[60],189,181,187,185,184,155,184,190,183,159,184,181,658,184,198,183,188,186,185,184,186,187,0,0,0,0,0,0,0,0,0
,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],0.265108
,Min[1],0.0624495
,Ave[1],0.0824297

2 June 2014

60100

2014-06-02 06:46:26.501
Status Mask=16728063 Value=11152042
Status Mask Hex=0xFF3FFF Value Hex=0xAA2AAA
[10489]
 AppName=sysmon
 AppWatchdogs=Enabled
 HwWatchdogs=Enabled
 LogSeqOffset=0
 OPData=Rev0.2, SOL=17.566V@4.62A, BAT=14.044V@-2.5A
 StartTime=2014-05-28 08:04:53
 Version=1.6.1
 WdMethod=Device
 basePackage=1.8.1
 fieldguiPackage=1.0.4
 heaterPackage=0.1.1-board-reset-fix
 modemPackage=1.0.2
 platformPackage=2.2
 sodarPackage=2.2
 tcp60100=System Status Snapshot
 tcp60110=System Watchdog Status Snapshot
 tcp60120=TCP Command Server
[10501]
 /mnt/sdcard1=0%
 /mnt/sdcard2=1%
 /mnt/sdcard3=3%
 /mnt/sdcard4=16%
 AppName=sdcardmon.sh
 Version=0.2
 StatusBits(196608)=131072
 StatusBitsHex(0x30000)=0x20000
[10502]

AppName=gpsmon
AppWatchdogs=Enabled
CtrlUsbPower=Yes
DevicePort=/dev/usb/tts/0
HomeLocation=Lat 24.170361 deg, Lon 88.908750 deg, Elev 32.4 m
HomeLocationTime=2014-05-28 05:18:29
HwWatchdogs=Enabled
LastLocation=Lat 24.170359 deg, Lon 88.908792 deg, Elev 9.7 m
LastLocationTime=2014-06-02 06:00:58
NextWakeup=2014-06-02 12:00:00
RTC=Yes
StartTime=2014-05-28 08:05:04
State=Stable
Version=2.3.1
StatusBits(12582912)=8388608
StatusBitsHex(0xC00000)=0x800000
[10503]
AppName=archiver
AppWatchdogs=Enabled
HwWatchdogs=Enabled
LastGet=SN00616 @ 2014-05-28 14:00:00
LastPut=SN00616 @ 2014-06-02 06:40:00
StartTime=2014-05-28 08:04:56
Version=1.7.1
tcp60300=Archiver Server Port
[10504]
AppName=smat
AppWatchdogs=Enabled
HwWatchdogs=Enabled
StartTime=2014-05-28 08:04:56
Version=1.5
tcp60666=Causes extended call duration
StatusBits(48)=32
StatusBitsHex(0x30)=0x20
[10505]
AppName=TSP
Connections=704
Failures=1
LastConnect=2014-06-02 06:41:10
ServerIP=205.237.100.213
ServerIP2=205.237.100.213
ServerIP3=tsp-triton.skyserve.net
ServerPort=49600
StartTime=2014-05-28 08:05:03
Version=2319
udp60668=Event Port
StatusBits(12)=8

StatusBitsHex(0xC)=0x8
[10541]
AppName=selftest
StartTime=2014-05-28 08:04:57
TestState=Good
Version=1.2
StatusBits(12288)=8192
StatusBitsHex(0x3000)=0x2000
[29885]
AccFile=/root/acc/T00616-acc-2014-06-02_06_00.csv
Acq=4362.42Hz, 115.00 to 1261.00mSec, phase 58.70deg
AppName=sodar
Beep=4362.42Hz, 73.7692mSec, 37.375uSec
BkNsA=143.678 dB (4.58639e+11 3.63167e+11 3.70307e+11 3.99815e+11 4.05311e+11 3.81684e+11 3.64404e+11 4.28662e+11 6.82053e+11 1.30103e+12) NumOutlieres=5 NumGoodSpectra=17
BkNsB=150.665 dB (6.47034e+11 1.23438e+12 1.02705e+12 9.13078e+11 1.38706e+12 2.54953e+12 3.96085e+12 4.90173e+12 4.10157e+12 -2.03632e+11) NumOutlieres=5 NumGoodSpectra=17
BkNsC=144.817 dB (2.14103e+11 2.54325e+11 3.64376e+11 5.01503e+11 6.22445e+11 7.16185e+11 7.72556e+11 8.07475e+11 8.44935e+11 9.31049e+11) NumOutlieres=5 NumGoodSpectra=17
BkNsDetection=BkNsDetection
BkNsFreqRange=-250 -195.312 -140.625 -83.9844 -29.2969 27.3438 82.0312 138.672 193.359 250
DspRev=16.12
FirmwareRev=2.1
LastAccFile=/root/acc/T00616-acc-2014-06-02_05_00.csv (1186K)
LastChunk=#407 - 2014-06-02 06:40:00.000 - Archived - Sent
LastShot=Shot [119852-A] with 0% beep volume @ 2014-06-02 06:46:23
LastShotFile=shots/T00616-shot-2014-06-02_06_00_58.csv (38K, 2903msec)
Location=Lat 24.170361 deg, Lon 88.908750 deg, Elev 32.4 m
PlatformRev=0.0
RunState=ExecShotBState
SerialNumber=00616
StartTime=2014-05-30 10:51:10
SystemAzimuth=0deg fixed
SystemTilt=0.364541deg (-0.00362152,0.00523129)
TiltSensor=ADIS16209(20,2), Vcc=3.28V
Version=2.1
tcp60180=Periph Snapshot CSV
tcp60200=Debug Terminal
tcp60220=Acq Buffer Statistics
tcp60230=Shot Stream with Echoes
tcp60240=Shot Stream with Doppler Shifts
tcp60280=Data Chunk Stream CSV
tcp60281=Data Chunk Stream Binary
StatusBits(3936195)=2624130
StatusBitsHex(0x3C0FC3)=0x280A82

60180

PeripheralBoardData[0]
,junk[2],5,(m)
,azimuth[2],0,(deg)
,tiltX[2],-0.196106,(deg)
,tiltY[2],0.286942,(deg)
,External Temp[2],29.5705,(deg)
,Internal Temp[2],33.0017,(deg)
,Spare Temp[2],37.6908,(deg)
,Barometer[2],1004.36,(mm)
,Humidity[2],77.8739,(%)
,VBatt[2],13.9753,(V)
,Anc amps[2],0.198294,(amp)
,cpu amps[2],0.198862,(amp)
,modem amps[2],0.00505305,(amp)
,spkr amps[2],0.352152,(amp)
,proc amps[2],0.072193,(amp)
Azimuth,
SampleBuf dump[0]
,Sample Count[2],0,(samples)
,Offset[1],0
,Scaler[1],1
,Data
values[60],0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0
,Max[1],0
,Min[1],0
,Ave[1],0
tiltX,
SampleBuf dump[0]
,Sample Count[2],180,(samples)
,Offset[1],-102.4
,Scaler[1],0.05
,Data
values[180],2047,2067,2047,2043,2040,2046,2043,2041,2042,2043,2045,2041,2043,2046,2043,2042,2043,2045,2043,204
8,2041,2046,2041,2039,2046,2043,2043,2046,2042,2046,2043,2043,2043,2042,2045,2039,2042,2045,2041,2042,2042,204
2,2040,2046,2039,2043,2043,2043,2045,2042,2042,2043,2045,2042,2050,2042,2046,2043,2040,2043,2042,2045,2065,204
5,2045,2043,2045,2046,2043,2040,2042,2046,2041,2045,2043,2042,2046,2045,2042,2042,2043,2045,2042,2041,2043,204
5,2042,2043,2043,2043,2045,2065,2045,2043,2043,2043,2043,2045,2043,2043,...
,,2043,2042,2039,2042,2043,2063,2043,2043,2042,2043,2063,2043,2043,2041,2043,2045,2042,2042,2042,2042,2046,204
1,2061,2043,2041,2045,2043,2033,2045,2045,2045,2045,2045,2045,2045,2045,2045,2043,2042,2043,2042,2042,2041,204
2,2041,2043,2042,2045,2042,2045,2045,2042,2041,2061,2043,2045,2043,2045,2045,2043,2043,2063,2048,2043,2038,204
2,2042,2045,2043,2045,2045,2043,2046,2043,2042,2041,2042,2042,2042,2045
,Max[1],0.949997
,Min[1],-0.75
,Ave[1],-0.196106
tiltY,

SampleBuf dump[0]
,Sample Count[2],180,(samples)
,Offset[1],-102.4
,Scaler[1],0.05
,Data
values[180],2055,2056,2058,2055,2052,2055,2054,2054,2056,2055,2056,2055,2055,2055,2056,2064,2057,2056,2053,205
3,2056,2053,2051,2057,2054,2052,2053,2055,2056,2053,2051,2054,2051,2053,2055,2055,2055,2054,2051,2054,2051,205
3,2053,2053,2053,2052,2052,2053,2055,2055,2052,2055,2053,2053,2051,2057,2053,2051,2052,2055,2055,2052,2053,205
5,2055,2055,2053,2052,2057,2054,2053,2052,2055,2050,2053,2051,2055,2053,2053,2050,2050,2053,2055,2055,2053,205
7,2044,2052,2051,2056,2053,2053,2053,2053,2053,2053,2053,2052,2055,2055,...
,,2052,2052,2052,2052,2053,2055,2056,2055,2055,2056,2052,2051,2052,2053,2057,2050,2053,2055,2055,2055,2052,205
3,2052,2051,2055,2053,2052,2040,2056,2051,2053,2052,2052,2055,2058,2053,2053,2053,2053,2055,2053,2056,2055,205
1,2053,2055,2053,2055,2052,2056,2055,2055,2043,2055,2055,2057,2055,2056,2055,2056,2053,2055,2052,2051,2055,205
5,2056,2056,2056,2056,2054,2058,2055,2055,2056,2054,2057,2053,2057,2055
,Max[1],0.800003
,Min[1],-0.400002
,Ave[1],0.286942
Internal temps,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],-100
,Scaler[1],0.01
,Data
values[60],13289,13291,13289,13294,13296,13291,13296,13296,13296,13296,13298,13298,13298,13303,13301,13301,13
301,13303,13298,13303,13306,13308,13306,13306,13308,13315,13308,13308,13310,13310,13315,13315,13318,13315,13
318,13318,13320,13320,13322,13322,13325,13327,13327,13327,13277,13274,13277,13277,13277,13279,13279,13277,13
282,13282,13284,13284,13286,13286,13286,13291
,Max[1],33.27
,Min[1],32.74
,Ave[1],33.0017
External temps,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],-100
,Scaler[1],0.01
,Data
values[60],12957,12955,12950,12953,12955,12950,12950,12953,12953,12955,12955,12955,12960,12957,12948,12950,12
955,12953,12948,12953,12943,12946,12950,12950,12953,12955,12957,12953,12955,12955,12955,12957,12960,12960,12
962,12966,12966,12971,12973,12985,12980,12980,12994,12985,12943,12943,12946,12948,12948,12950,12948,12953,12
955,12964,12955,12960,12955,12957,12960,12962
,Max[1],29.94
,Min[1],29.43
,Ave[1],29.5705
Spare temps,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],-100

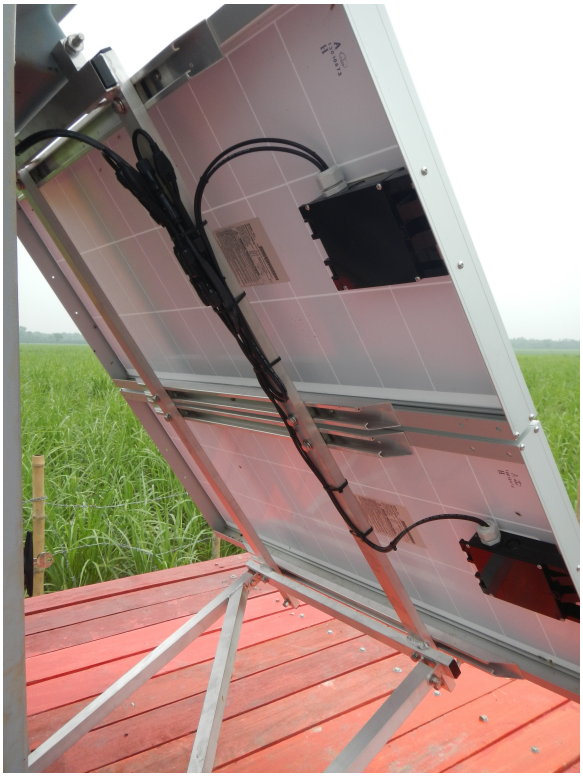
,Scaler[1],0.01
,Data
values[60],13736,13736,13739,13739,13744,13744,13749,13752,13749,13754,13757,13757,13765,13772,13767,13767,13770,13772,13775,13775,13775,13778,13778,13780,13788,13790,13790,13790,13806,13806,13806,13811,13829,13819,13821,13827,13829,13837,13837,13845,13853,13855,13858,13863,13703,13703,13703,13706,13708,13706,13713,13713,13716,13719,13724,13726,13726,13724,13731,13734
,Max[1],38.63
,Min[1],37.03
,Ave[1],37.6908
Barometric pressure,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],0
,Scaler[1],0.1
,Data
values[60],10044,10043,10045,10044,10044,10043,10044,10043,10043,10042,10043,10043,10044,10043,10044,10044,10044,10044,10044,10043,10043,10043,10042,10044,10043,10044,10043,10043,10043,10042,10045,10044,10043,10043,10043,10044,10044,10043,10044,10042,10042,10043,10044,10043,10045,10044,10044,10043,10045,10045,10043,10044,10044,10045,10044,10045,10044,10045,10044,10044
,Max[1],1004.5
,Min[1],1004.2
,Ave[1],1004.36
Humidity,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],-4.646
,Scaler[1],0.017666
,Data
values[60],4741,4696,4583,4537,4587,4591,4683,4565,4536,4539,4552,4581,4601,4642,4688,4641,4622,4718,4691,4687,4645,4713,4673,4670,4647,4664,4645,4648,4636,4714,4710,4644,4711,4718,4696,4681,4681,4693,4681,4721,4723,4714,4689,4736,4686,4749,4694,4694,4782,4688,4696,4711,4658,4699,4732,4711,4683,4747,4718,4685
,Max[1],79.8328
,Min[1],75.487
,Ave[1],77.8739
BatteryVolts,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],0
,Scaler[1],0.0043658
,Data
values[60],3183,3185,3186,3190,3189,3188,3188,3188,3189,3187,3192,3193,3194,2963,3197,3197,3199,3199,3202,3205,3208,3209,3214,3219,3224,3228,3228,3227,3224,3231,3230,3235,3220,3241,3244,3246,3242,3241,3236,3238,3239,3243,3246,3238,3179,3180,3179,3172,3176,3181,3181,3183,3183,3181,3183,3184,3184,3183,3185,3186
,Max[1],14.1714
,Min[1],12.9359
,Ave[1],13.9753
Ancillary Amps,

SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],0
,Scaler[1],0.0004029
,Data
values[60],501,451,445,448,444,513,522,507,498,497,508,511,508,502,644,531,659,647,503,496,508,496,499,500,500,505,436,437,489,496,504,493,433,443,434,438,517,519,494,501,433,437,443,445,453,441,449,444,523,517,445,445,510,531,513,505,502,506,506,505
,Max[1],0.265511
,Min[1],0.174456
,Ave[1],0.198294
CPU Amps,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],0
,Scaler[1],0.0001209
,Data
values[60],1464,1325,1586,1425,1756,1791,1758,1761,1795,1560,1781,1588,1582,1826,1808,1812,1788,1848,1576,1780,1591,1593,1798,1595,1605,1791,1759,1623,1786,1807,1716,1698,1569,1745,1739,1765,1795,1808,1707,1568,1766,1592,1587,1827,1372,1533,1582,1485,1453,1637,1455,1580,1609,1619,1605,1611,1401,1405,1441,1463
,Max[1],0.223423
,Min[1],0.160192
,Ave[1],0.198862
Modem Amps,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],0
,Scaler[1],0.0001773
,Data
values[60],441,172,167,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,0,167,136,128,124,125,124,126
,Max[1],0.0781893
,Min[1],0
,Ave[1],0.00505305
Speaker Drvr Amps,
SampleBuf dump[0]
,Sample Count[2],60,(samples)
,Offset[1],0
,Scaler[1],0.0081391
,Data
values[60],2,0,0,3,3,3,297,665,3,0,2,2,3,3,308,666,2,3,1,3,3,2,2,2,3,3,2,3,306,0,0,2,3,0,2,1,257,3,3,1,3,0,3,0,2,0,2,2,2,2,3,0,0,1,1,2,1,0,2,3
,Max[1],5.42064
,Min[1],0
,Ave[1],0.352152
Speaker Proc Amps,
SampleBuf dump[0]

,Sample Count[2],60,(samples)
,Offset[1],0
,Scaler[1],0.0004029
,Data
values[60],174,175,171,168,173,169,181,178,173,172,172,185,175,171,183,179,179,175,566,172,174,170,171,171,165,172,166,168,170,173,169,167,168,170,174,162,177,175,179,164,169,168,173,174,179,169,172,174,170,169,173,173,178,175
,175,182,172,170,169,171
,Max[1],0.228041
,Min[1],0.0652698
,Ave[1],0.072193

HARNESS ENERGY

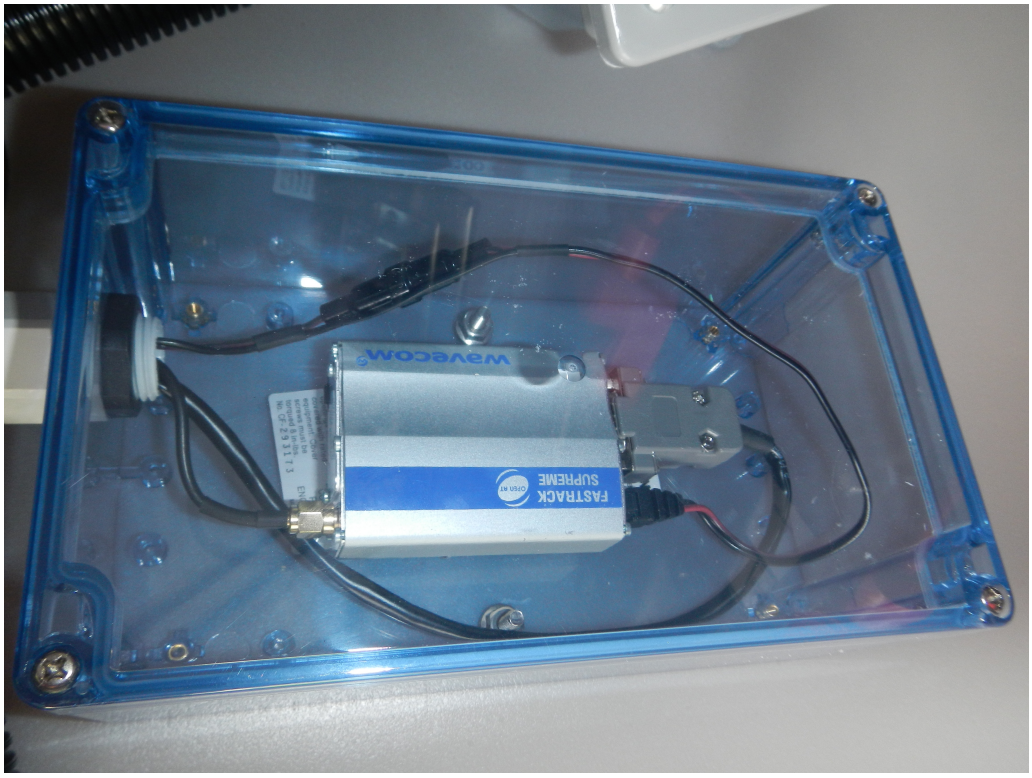
TRITON LOG

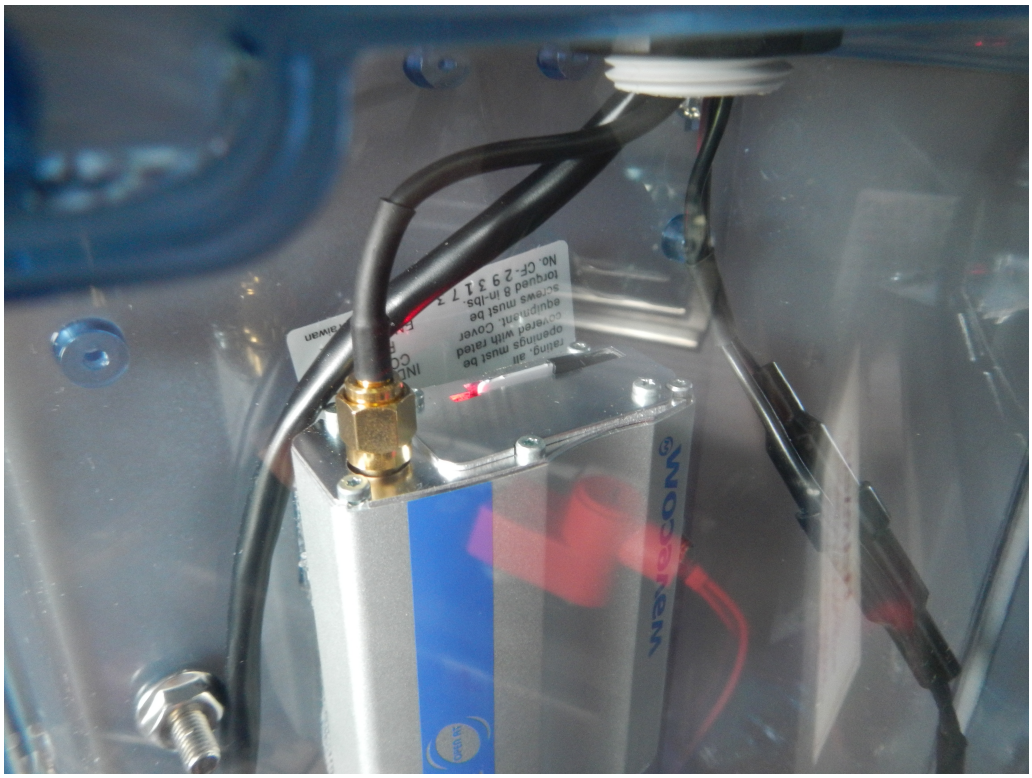


HARNESS ENERGY

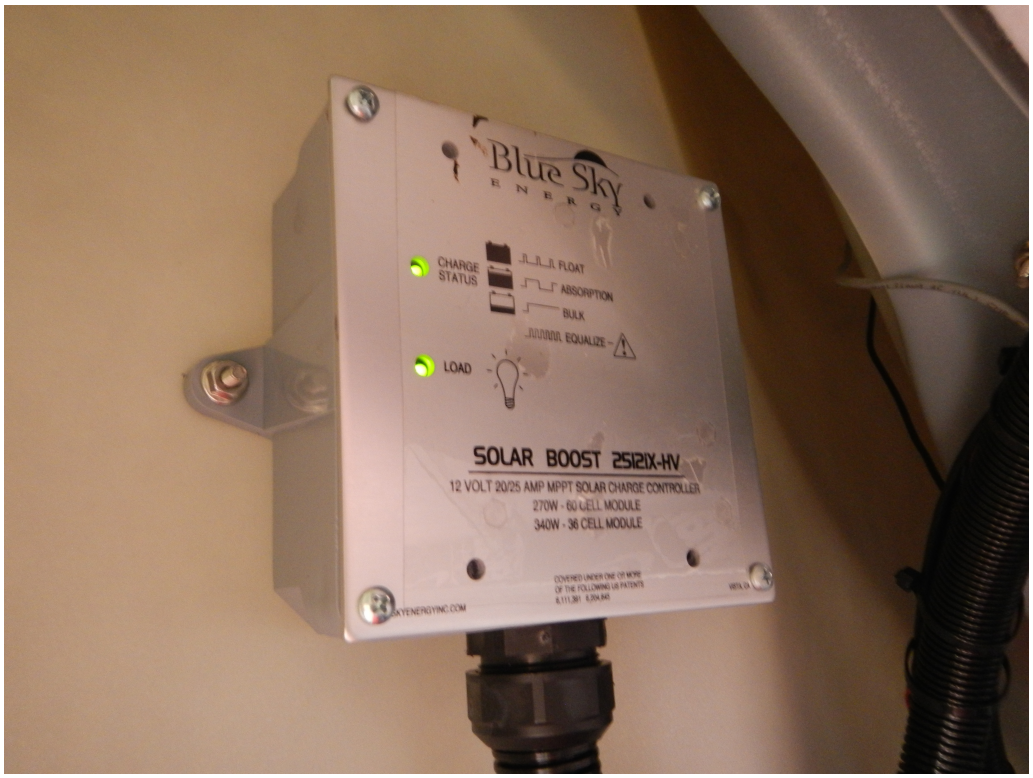
TRITON LOG

6820 N Broadway, Unit B, Denver, CO 80221 USA
www.harnessre.com


wavecom
FASTRACK
SUPREME

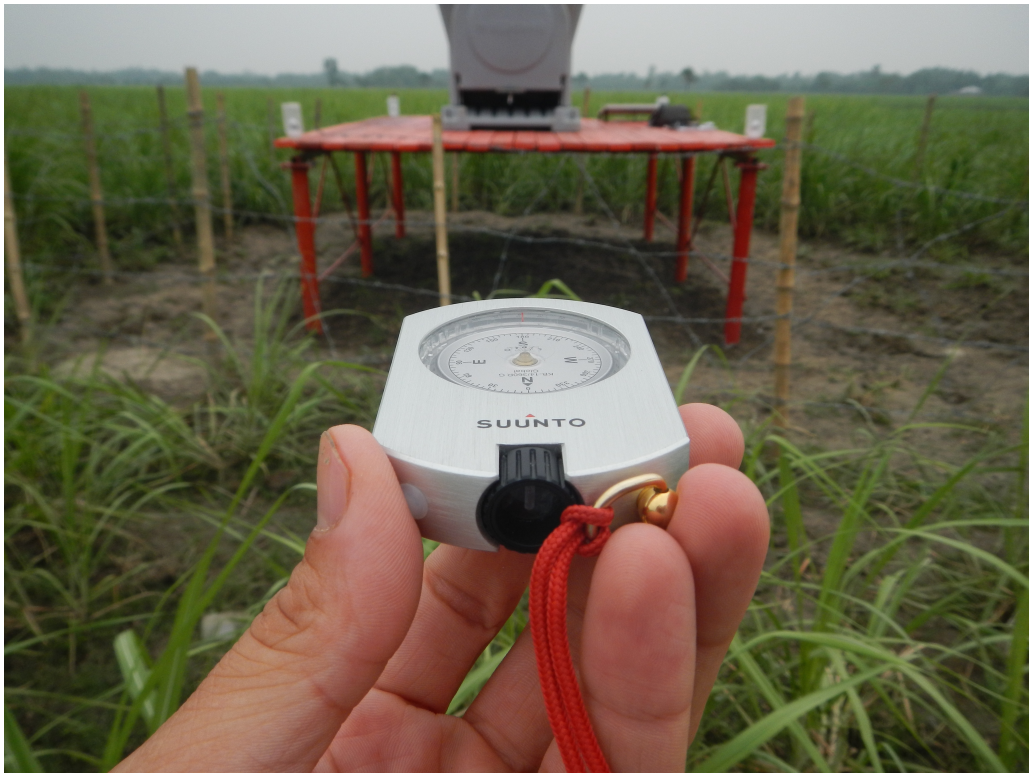

Wavecom


PIN (1&2) 1234
PUK (1&2) 03846231
Please preserve this CARD for your PIN & PUK information and for future references.
The PIN & PUK codes are your personal information and no one else keeps this information. Even Grameenphone does not preserve this information.
আপনার PIN ও PUK সংক্রান্ত তথ্য এবং ভবিষ্যৎ রেফারেন্সের জন্য অনুগ্রহ করে এই কার্ডটি সংরক্ষণ করুন।
এই কোডগুলো একান্তই আপনার ব্যক্তিগত, যেগুলো অন্য কারো কাছে নেই, এমন কি গ্রামীণফোনের কাছেও এই তথ্যের কোন অনুলিপি নেই।
89880 10408 43013 1814L
grameenphone
8988010408430131814L
Internet SIM -
01787603181
grameenphone
1150000089880104084301318 14F
Internet SIM
grameenphone

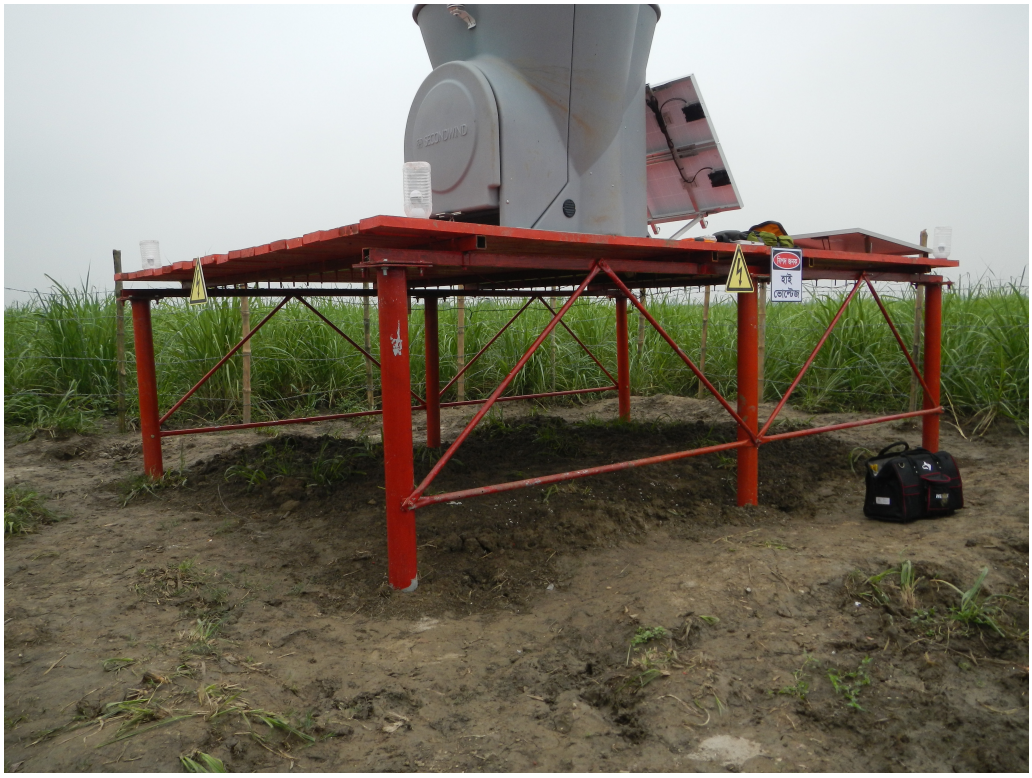

Blue Sky ENERGY
CHARGE STATUS
FLOAT
ABSORPTION
BULK
EQUALIZE
LOAD
SOLAR BOOST 2512iX-HV
12 VOLT 20/25 AMP MPPT SOLAR CHARGE CONTROLLER
270W - 60 CELL MODULE
340W - 36 CELL MODULE

HARNESS ENERGY

Mounting Information

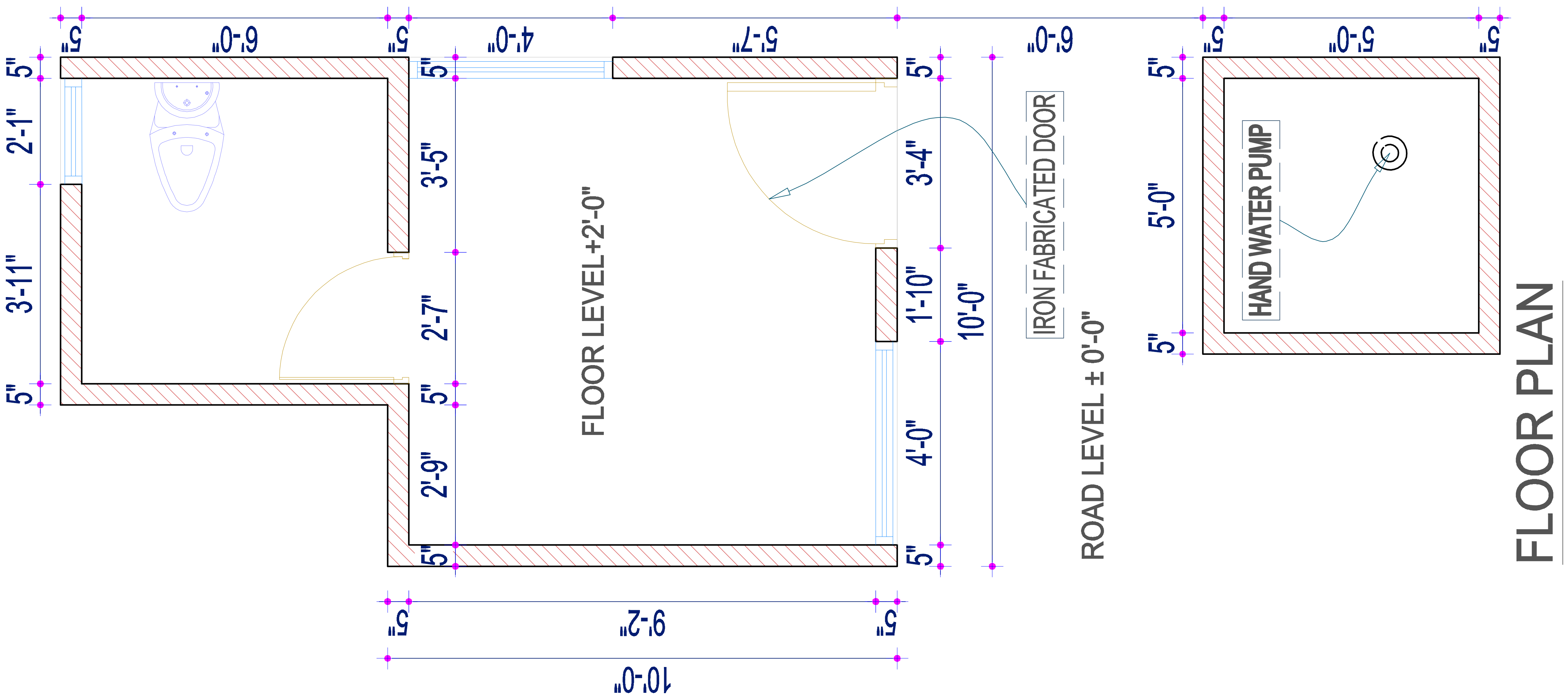

SUUNTO


GPSmap 62s
GARMIN




SECONDWIND


বিপদ জনক
হাই
ভোল্টেজ



PROJECT NAME

"82M TOWER GUARD ROOM "

PROJECT TYPE

GUYED METEOROLOGICAL LATTICE TOWER

PROJECT LOCATION

BANGLADESH.

CLIENT'S NAME

HARNESS ENERGY BANGLADESH LTD

SHAH ALI TOWER (16th FLOOR),
33,KAWRAN BAZAR,DHAKA C/A,
BANGLADESH.

ARCHITECTURAL DESIGN

MONOLITH S. Design WORKSHOP

15/7,6th FLOOR, DARUS SALAM ARCADE,
PURANA PALTAN,
DHAKA.

ARCHITECT	SIGNATURE
SHAKIL MAHMUD SHAMS	

ENGINEER/CONSULTANTS

STRUCTURAL CONSULTANT

MECHANICAL CONSULTANT

PLUMBING CONSULTANT

ELECTRICAL CONSULTANT

SUBMISSION

ISSUED TO	FOR	DATE
OWNER'S NAME		19.07.2014
CONSULTANT		
BID/ TENDER		

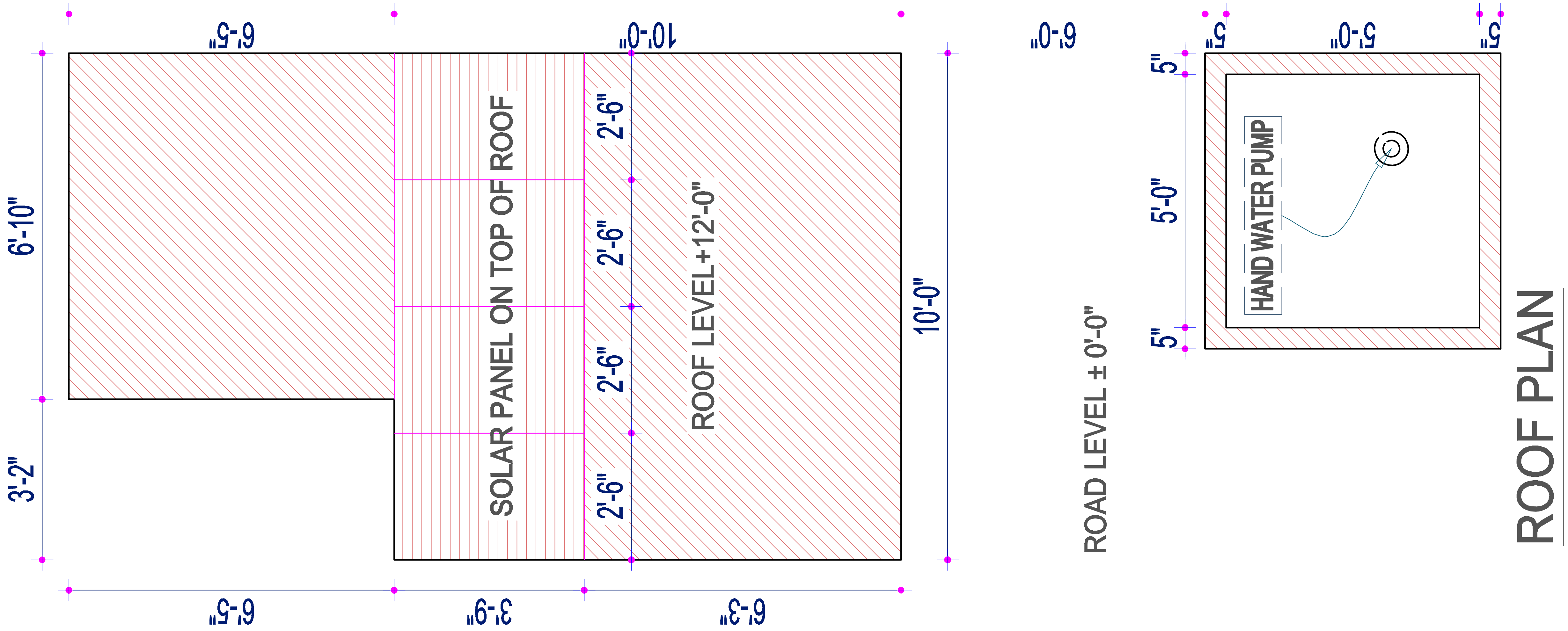
REVISIONS

SL.	DESCRIPTION	DATE
01.		28.07.2014
02.		

DRAWING TITLE

FLOOR PLAN

SCALE	AS SHOWN
SHEET SIZE	A3
SHEET NO	A-08a
FILE LOCATION:	



PROJECT NAME
"82M TOWER GUARD ROOM "

PROJECT TYPE
GUYED METEOROLOGICAL LATTICE TOWER

PROJECT LOCATION
BANGLADESH.

CLIENT'S NAME
HARNESS ENERGY BANGLADESH LTD
SHAH ALI TOWER (16th FLOOR),
33,KAWRAN BAZAR,DHAKA C/A,
BANGLADESH.

ARCHITECTURAL DESIGN
MONOLITH S. Design WORKSHOP
15/7,6th FLOOR, DARUS SALAM ARCADE,
PURANA PALTAN,
DHAKA.

ARCHITECT | SIGNATURE
SHAKIL MAHMUD SHAMS

ENGINEERING CONSULTANTS
STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT
PLUMBING CONSULTANT
ELECTRICAL CONSULTANT

COPYRIGHT

SUBMISSION

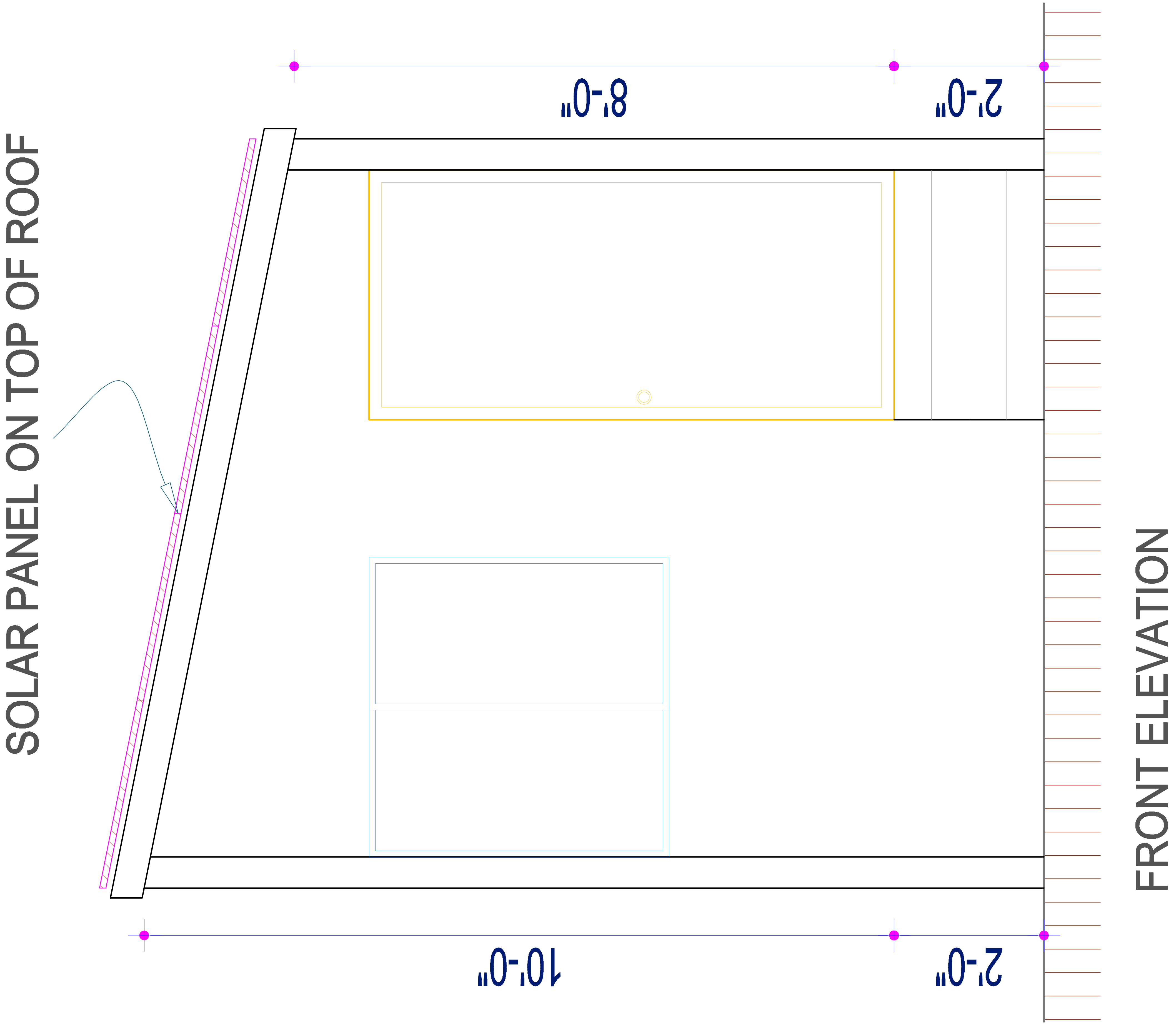
ISSUED TO	FOR	DATE
OWNER'S NAME		10.07.2014
CONSULTANT		
BID/ TENDER		

REVISIONS

SL.	DESCRIPTION	DATE
01.		28.07.2014
02.		

DRAWING TITLE
ROOF PLAN

SCALE	AS SHOWN
SHEET SIZE	A3
SHEET NO	A-08b
FILE LOCATION:	



PROJECT NAME
"82M TOWER GUARD ROOM "

PROJECT TYPE
GUYED METEOROLOGICAL LATTICE TOWER

PROJECT LOCATION
BANGLADESH.

CLIENT'S NAME
HARNESS ENERGY BANGLADESH LTD
SHAH ALI TOWER (10th FLOOR),
33,KAWRAN BAZAR,DHAKA C/A,
BANGLADESH.

ARCHITECTURAL DESIGN
MONOLITH S. Design WORKSHOP
15/7,8th FLOOR, DARUS SALAM ARCADE,
PURANA PALTAN,
DHAKA.

ARCHITECT	SIGNATURE
SHAKIL MAHMUD SHAMS	

ENGINEERING CONSULTANTS
STRUCTURAL CONSULTANT
MECHANICAL CONSULTANT
PLUMBING CONSULTANT
ELECTRICAL CONSULTANT

COPYRIGHT

SUBMISSION

ISSUED TO	FOR	DATE
OWNER'S NAME		18.07.2014
CONSULTANT		
BID/ TENDER		

REVISIONS

SL.	DESCRIPTION	DATE
01.		28.07.2014
02.		

DRAWING TITLE
FRONT ELEVATION

SCALE	AS SHOWN
SHEET SIZE	A3
SHEET NO	A-08c
FILE LOCATION:	

MET MAST LOG

HARNESS ENERGY

MET MAST LOG