

DEPLOYMENT RECORD

Project Name: Effingham Inlet Start Date: Sept 20/08 End Date: May 2009
 Mooring Name: EF04-D Station Name: EF04

Geog. Desc.: Effingham Inlet Tide: Uclulet +3m
 Latitude: 49°03' 868" Longitude: 125° 09.106'
 Water Depth: 105m datum Ice Thickness:
 Magnetic decl: Time Zone: PDT Anchor Type: 2 wheels 1305 lbs
 Date: Sep 20, 2008 Time Anchor Dropped: 0825 PDT Date:
 Remarks:

RECOVERY RECORD

Date: May 18, 2009 Time Anchor Released: 1558 PDT
 Remarks:

INSTRUMENTS (Start at TOP)

PDT

Type	Serial #	Depth	Time in	Time Out	Notes
300 KHz	8942	97.7m	0820		Alum housings / external Pack
uCat	5303	30m	0810		Pump
uCat	5305	70m	0815		Pump
uCat	1614	101m	0820		no pump

Rng. FR2 12kHz

Release	Serial	R Code	Arm Code	Freq	On	B0	B1	Aux Codes
AR 861	730	1655	16B0	16B0	16B0			16B0+1649 = Diag.
Pinger 1	Type	Serial	Pinger 2	Type	Serial	Battery Volt		
OML	1/4x27	657	Helle	1/4x27	7816	15.0	16.1	

FLOTATION

Type	Serial #	Size	Colour
SS30	3014	30"	yellow
SVing	ADCP frame		Orange

Type	Serial #	Size	Colour

Data Entry by:

Mooring: EFF01-D

UCats X 3

Serial

1614 - No Pump

5303 - With Pump

5305 with pump

Battery Calculations:

Sampling Time:

$3.33s + (2.27 * (NAV G - 1))$

$3.33s + (2.27 * (4 - 1)) = 10.14s$

Example 1: A standard MicroCAT (no external power option) with pressure sensor is set up to sample autonomously every 10 minutes (6 samples/hour), taking 4 measurement per sample (**NAV G=4**). How long can it be deployed?

Sampling time = 3.33 seconds + 2.27 seconds * (**NAV G** - 1) = 10.14 seconds

Sampling current consumption = 0.020 amps * 10.14 seconds = 0.2 amp-seconds/sample

In 1 hour, sampling current consumption = 6 * 0.2 amp-seconds/sample = 1.2 amp-seconds/hour

Pump current consumption = 0.13 amp-seconds/pulse

In 1 hour, pump current consumption = 6 * 0.13 amp-seconds/pulse = 0.78 amp-seconds/hour

Quiescent current 10 microamps = 0.01 mA

In 1 hour, quiescent current consumption = 0.01 mA * 3600 seconds/hour = 0.036 amp-seconds/hour

Total current consumption / hour = 1.2 + 0.78 + 0.036 = 2.02 amp-seconds/hour

Capacity = (5 amp-hours * 3600 seconds/hr) / (2.02 amp-seconds/hour) = 8910 hours = 371 days = 1.02 years

Number of samples = 8910 hours * 6 samples/hour = 53460 samples

Command Summary:

DDMMYY=190908

HHMMSS=0100 //(UTC)

OUTPUTSAL=Y

OUTPUTSV=Y

FORMAT=1

NAV G=4

PUMPINSTALLED=N

SAMPLENUM=0

INTERVAL=600

STORETIME=Y
TXREALTIME=N
STARTDDMMYY=200908
STARTHHMMSS=160000
STARTLATER

ds

SBE37-SM V 2.6b SERIAL NO. 1614 01 Jan 1980 18:07:15

logging not started

sample interval = 600 seconds

sample number = 20476, free = 212085

do not transmit real-time data

output salinity with each sample

output sound velocity with each sample

store time with each sample

number of samples to average = 4

reference pressure = 2164.0 db

serial sync mode disabled

wait time after serial sync sampling = 30 seconds

internal pump not installed

temperature = 16.05 deg C

S>ddmmyy=190908

S>hhmmss=192340

S>ds

SBE37-SM V 2.6b SERIAL NO. 1614 19 Sep 2008 19:23:41

logging not started

sample interval = 600 seconds

sample number = 20476, free = 212085

do not transmit real-time data

output salinity with each sample

output sound velocity with each sample

store time with each sample

number of samples to average = 4

reference pressure = 2164.0 db

serial sync mode disabled

wait time after serial sync sampling = 30 seconds

internal pump not installed

temperature = 16.06 deg C

S>outputsal=y

S>outputsv=y

S>format=1

S>navg=4

S>pumpinstalled=n

S>samplenum=0

S>interval=600

S>storetime=y

S>txrealtime=n

S>startddmmyy=200908

S>starthhmmss=160000

start time = 20 Sep 2008 16:00:00

S>ds

SBE37-SM V 2.6b SERIAL NO. 1614 19 Sep 2008 19:25:00
logging not started
sample interval = 600 seconds
samplenum = 0, free = 232561
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
reference pressure = 2164.0 db
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump not installed
temperature = 16.09 deg C
S>startlater
start time = 20 Sep 2008 16:00:00
□

ds
SBE37-SM V 2.6b SERIAL NO. 5303 01 Jan 1980 00:18:12
logging not started
sample interval = 600 seconds
samplenum = 20481, free = 170169
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 20.66 deg C
S>ddmmyy=200908
S>hhmmss=305500000030600
S>ds
SBE37-SM V 2.6b SERIAL NO. 5303 20 Sep 2008 03:06:01
logging not started
sample interval = 600 seconds
samplenum = 20481, free = 170169
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 20.67 deg C
S>outputsal=y
S>outputfor□□sv=y
S>format=1
S>navg=4
S>pumpinstalled=y
S>samplen□num=0
S>interval=600
S>storetime=y

S>txrealtime=n
S>startddmmyy=200908
S>starthhmmss=160000
start time = 20 Sep 2008 16:00:00
S>ds
SBE37-SM V 2.6b SERIAL NO. 5303 20 Sep 2008 03:06:57
logging not started
sample interval = 600 seconds
samplenummer = 0, free = 190650
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 20.66 deg C
S>startlater
start time = 20 Sep 2008 16:00:00
□

ds
SBE37-SM V 2.6b SERIAL NO. 5305 01 Jan 1980 00:05:45
logging not started
sample interval = 600 seconds
samplenummer = 20486, free = 170164
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 21.58 deg C
S>ddmmyy=200908
S>hhmmss=020040725
S>ds
SBE37-SM V 2.6b SERIAL NO. 5305 20 Sep 2008 04:07:26
logging not started
sample interval = 600 seconds
samplenummer = 20486, free = 170164
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 21.46 deg C
S>outputsal=y
S>outputsv=y
S>format=1
S>navg=4

S>pumpinstalled=y
S>samplenum=0
S>interval=600
S>storetime=y
S>txrealtime=n
S>startddmmyy=200908
S>starthhmmss=160000
start time = 20 Sep 2008 16:00:00
S>ds
SBE37-SM V 2.6b SERIAL NO. 5305 20 Sep 2008 04:08:17
logging not started
sample interval = 600 seconds
samplenum = 0, free = 190650
do not transmit real-time data
output salinity with each sample
output sound velocity with each sample
store time with each sample
number of samples to average = 4
serial sync mode disabled
wait time after serial sync sampling = 30 seconds
internal pump is installed
temperature = 21.54 deg C
S>startlater
start time = 20 Sep 2008 16:00:00
□

PlanADCP (Advanced) : [Dpl1]

BackToSC Settings View Help

Basic Advanced Expert

Environmental Setup: Transducer Depth: 100 m Salinity: 32 ppt Magnetic Variation: 0 Temperature: 7 °C	Profiling Setup: Pings Per Ensemble: 56 Number of Depth Cells: 25 Depth Cell Size: 4 m Mode: 1	Deployment Consequences First Cell Range: 6.17 m Last Cell Range: 102.17 m Max Range: 105.17 m Standard Deviation: 0.47 cm/s Ensemble Size: 654 bytes Storage Required: 21.56 MB Power Usage: 897.85 Wh Battery Pack Usage: 2.0
--	---	--

Deployment Timing Setup:

Duration: 240 days

Ensemble Interval: 00:10:00.00

Ping Int (☒ Auto): 00:00:10.71

☐ Ping Immediately After Deployment

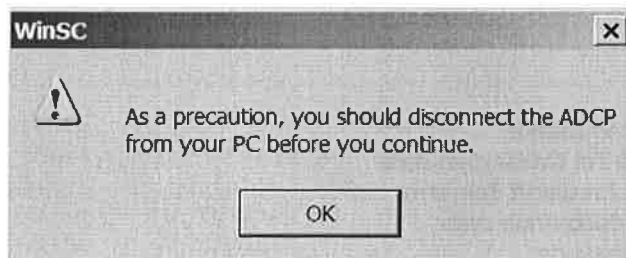
First Ping Date and Time: 20-Sep-2008 16:00:00

Notes

8924 - EF01-D
 Start Setp 20, 2008 @ 1600UTC
 End: Mid May
 Alum housing, and alum external Battery case

Workhorse Sentinel: 300 kHz/ High Res./ 2 Battery Packs/ Memory: 64 MB

NOTE: Serial is 8942 not what is listed above!



>>>>>> Function starting 04/27/08 21:23:39 >>>>>>

[BREAK Wakeup A]
 WorkHorse Broadband ADCP Version 16.28
 RD Instruments (c) 1996-2005
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 >TS080427212341
 >CZ

Powering Down

>>>>> Function starting 04/27/08 21:23:47 >>>>>

[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 16.28

RD Instruments (c) 1996-2005

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>DEPLOY?

Deployment Commands:

RE ----- Recorder ErAsE

RN ----- Set Deployment Name

WD = 111 100 000 ----- Data Out (Vel,Cor,Amp; PG,St,P0; P1,P2,P3)

WF = 0176 ----- Blank After Transmit (cm)

WN = 030 ----- Number of depth cells (1-128)

WP = 00036 ----- Pings per Ensemble (0-16384)

WS = 0400 ----- Depth Cell Size (cm)

WV = 175 ----- Mode 1 Ambiguity Vel (cm/s radial)

TE = 00:15:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)

TF = **/**/**, **: **: ** --- Time of First Ping (yr/mon/day,hour:min:sec)

TP = 00:25.00 ----- Time per Ping (min:sec.sec/100)

TS = 08/04/27,21:23:49 --- Time Set (yr/mon/day,hour:min:sec)

EA = +00000 ----- Heading Alignment (1/100 deg)

EB = +00000 ----- Heading Bias (1/100 deg)

ED = 01110 ----- Transducer Depth (0 - 65535 dm)

ES = 34 ----- Salinity (0-40 pp thousand)

EX = 11111 ----- Coord Transform (Xform: Type,Tilts,3 Bm,Map)

EZ = 1111111 ----- Sensor Source (C,D,H,P,R,S,T)

Press any key to continue

CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)

CK ----- Keep Parameters as USER Defaults

CR # ----- Retrieve Parameters (0 = USER, 1 = FACTORY)

CS ----- Start Deployment

>SYSTEM?

System Control, Data Recovery and Testing Commands:

AC ----- Output Active Fluxgate & Tilt Calibration data

AF ----- Field calibrate to remove hard/soft iron error

AR ----- Restore factory fluxgate calibration data

AX ----- Examine compass performance

AZ ----- Zero pressure reading

CB = 411 ----- Serial Port Control (Baud; Par; Stop)

CP # ----- Polled Mode (0 = NORMAL, 1 = POLLED)

CZ ----- Power Down Instrument

FC ----- Clear Fault Log

FD ----- Display Fault Log

OL ----- Display Features List

PA ----- Pre-Deployment Tests
PC1 ----- Beam Continuity
PC2 ----- Sensor Data
PS0 ----- System Configuration
PS3 ----- Transformation Matrices

RR ----- Recorder Directory
Press any key to continue

RF ----- Recorder Space used/free (bytes)
RY ----- Upload Recorder Files to Host

>TS?

TS = 08/04/27,21:23:54 --- Time Set (yr/mon/day,hour:min:sec)

>PS0

Instrument S/N: 8942

Frequency: 307200 HZ

Configuration: 4 BEAM, JANUS

Match Layer: 10

Beam Angle: 20 DEGREES

Beam Pattern: CONVEX

Orientation: UP

Sensor(s): HEADING TILT 1 TILT 2 DEPTH TEMPERATURE PRESSURE

Pressure Sens Coefficients:

c3 = -2.459703E-15

c2 = -9.793993E-09

c1 = +1.242588E-01

Offset = +5.787939E+01

Temp Sens Offset: -0.22 degrees C

CPU Firmware: 16.28 [0]

Boot Code Ver: Required: 1.13 Actual: 1.13

DEMOM #1 Ver: ad48, Type: 1f

DEMOM #2 Ver: ad48, Type: 1f

PWRTIMG Ver: 85d3, Type: 6

Board Serial Number Data:

FC 00 00 00 93 B5 D0 09 REC727-1000-04E

DB 00 00 00 93 AE 23 09 CPU727-2000-00J

36 00 00 00 93 AE 13 09 PIO727-3000-00C

2A 00 00 00 93 B9 27 09 DSP727-2001-04G

>PA

PRE-DEPLOYMENT TESTS

CPU TESTS:

RTC.....PASS

RAM.....PASS

ROM.....PASS

RECORDER TESTS:

PC Card #0.....DETECTED

Card Detect.....PASS

Communication.....PASS

DOS Structure.....PASS

Sector Test (short).....PASS

DSP TESTS:

```
Timing RAM.....PASS
Demod  RAM.....PASS
Demod  REG.....PASS
FIFOs.....PASS
```

SYSTEM TESTS:

```
XILINX Interrupts... IRQ3 IRQ3 IRQ3 ...PASS
Wide Bandwidth.....PASS
Narrow Bandwidth.....PASS
RSSI Filter.....PASS
Transmit.....PASS
```

SENSOR TESTS:

```
HW Operation.....***FAIL***
```

>PC2

Press any key to quit sensor display ...

All Sensors are Internal Only.

Heading	Pitch	Roll	Up/Down	Attitude Temp	Ambient Temp	PRESSURE
12.220	-26.470	-26.400	Up	18.940C	18.250C	1.0 kPa
18.540	-27.910	-26.400	Up	18.950C	18.260C	-1.0 kPa
17.430	-23.540	-26.410	Up	18.940C	18.270C	0.4 kPa>RS
RS = 016,960 ----- REC SPACE USED (MB), FREE (MB)						

>PC1

BEAM CONTINUITY TEST

When prompted to do so, vigorously rub the selected beam's face.

If a beam does not PASS the test, send any character to the ADCP to automatically select the next beam.

Collecting Statistical Data...

[illegible]

Powering Down

>>>>> Function starting 04/27/08 21:24:59 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
RD Instruments (c) 1996-2005
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>AZ

Pressure Offset Updated in NVRAM.

>CZ

Powering Down

>>>>> Function starting 04/27/08 21:25:06 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
RD Instruments (c) 1996-2005
All Rights Reserved.

>RE ErAsE erasing...

Recorder erased.

>CZ

Powering Down

>>>>> Function starting 04/27/08 21:25:14 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
RD Instruments (c) 1996-2005
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>RR
Recorder Directory:
Volume serial number for device #0 is a4ae-2016

No files found.

Bytes used on device #0 = 0
Total capacity = 1022590976 bytes
Total bytes used = 0 bytes in 0 files
Total bytes free = 1022590976 bytes

>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.28
RD Instruments (c) 1996-2005
All Rights Reserved.

>CR1

[Parameters set to FACTORY defaults]

>CF11101

>EA0

>EB0

>ED850

>ES33

>EX11111

>EZ1111111
>WA50
>WB0
>WD111100000
>WF176
>WN23
>WP69
>WS400
>WV175
>TE00:10:00.00
>TP00:08.69
>TF08/04/28 19:00:00
>CK
[Parameters saved as USER defaults]
>The command CS is not allowed in this command file. It has been ignored.
>The following commands are generated by this program:
>CF?
CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
>CF11101
>RN E1_TT
>cs

>>>>> Function starting 09/17/08 19:48:20 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.20
RD Instruments (c) 1996-2001
All Rights Reserved.
>TS080917194822
>CZ

Powering Down

>>>>> Function starting 09/17/08 19:48:27 >>>>>

[BREAK Wakeup A]
WorkHorse Broadband ADCP Version 16.20
RD Instruments (c) 1996-2001
All Rights Reserved.
>DEPLOY?
Deployment Commands:
RE ----- Recorder ErAsE
RN ----- Set Deployment Name

WD = 111 100 000 ----- Data Out (Vel,Cor,Amp; PG,St,P0; P1,P2,P3)
WF = 0176 ----- Blank After Transmit (cm)
WN = 115 ----- Number of depth cells (1-128)
WP = 00100 ----- Pings per Ensemble (0-16384)
WS = 0050 ----- Depth Cell Size (cm)
WV = 175 ----- Mode 1 Ambiguity Vel (cm/s radial)

TE = 00:10:00.00 ----- Time per Ensemble (hrs:min:sec.sec/100)
TF = **/**/**, **: **: ** --- Time of First Ping (yr/mon/day, hour:min:sec)
TP = 00:06.00 ----- Time per Ping (min:sec.sec/100)
TS = 08/09/17,19:48:29 --- Time Set (yr/mon/day, hour:min:sec)

EA = +00000 ----- Heading Alignment (1/100 deg)
EB = +00000 ----- Heading Bias (1/100 deg)
ED = 00000 ----- Transducer Depth (0 - 65535 dm)
ES = 31 ----- Salinity (0-40 pp thousand)
EX = 11111 ----- Coord Transform (Xform: Type,Tilts,3 Bm,Map)
EZ = 111111 ----- Sensor Source (C,D,H,P,R,S,T)

Press any key to continue

CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)
CK ----- Keep Parameters as USER Defaults
CR # ----- Retrieve Parameters (0 = USER, 1 = FACTORY)
CS ----- Start Deployment

>SYSTEM?

System Control, Data Recovery and Testing Commands:

AC ----- Output Active Fluxgate & Tilt Calibration data
AF ----- Field calibrate to remove hard/soft iron error
AR ----- Restore factory fluxgate calibration data
AX ----- Examine compass performance
AZ ----- Zero pressure reading

CB = 411 ----- Serial Port Control (Baud; Par; Stop)
CP # ----- Polled Mode (0 = NORMAL, 1 = POLLED)
CZ ----- Power Down Instrument

FC ----- Clear Fault Log
FD ----- Display Fault Log

OL ----- Display Features List

PA ----- Pre-Deployment Tests
PC1 ----- Beam Continuity
PC2 ----- Sensor Data
PS0 ----- System Configuration
PS3 ----- Transformation Matrices

RR ----- Recorder Directory

Press any key to continue

RF ----- Recorder Space used/free (bytes)
RY ----- Upload Recorder Files to Host

>TS?

TS = 08/09/17,19:48:33 --- Time Set (yr/mon/day,hour:min:sec)

>PS0

Instrument S/N: 2272

Frequency: 307200 HZ

Configuration: 4 BEAM, JANUS

Match Layer: 10

Beam Angle: 20 DEGREES

Beam Pattern: CONVEX

Orientation: UP

Sensor(s): HEADING TILT 1 TILT 2 DEPTH TEMPERATURE PRESSURE

Pressure Sens Coefficients: (c3,c2,c1,offset) 0.00,0.00,0.14,14.87

Temp Sens Offset: -0.30 degrees C

CPU Firmware: 16.20 [0]

Boot Code Ver: Required: 1.13 Actual: 1.13

DEMOM #1 Ver: ad48, Type: 1f

DEMOM #2 Ver: ad48, Type: 1f

PWRTIMG Ver: 85d3, Type: 4

Board Serial Number Data:

00 00 00 03 01 90 98 09 CPU727-2000-00H

25 00 00 02 C9 02 58 09 DSP727-2001-04F

67 00 00 03 01 8B 39 09 REC727-1000-04A

EC 00 00 03 01 60 95 09 PIO727-3000-04C

>PA

PRE-DEPLOYMENT TESTS

CPU TESTS:

RTC.....PASS

RAM.....PASS

ROM.....PASS

RECORDER TESTS:

PC Card #0.....DETECTED

Card Detect.....PASS

Communication.....PASS

DOS Structure.....PASS

Sector Test (short).....PASS

PC Card #1.....DETECTED

Card Detect.....PASS

Communication.....PASS

DOS Structure.....PASS

Sector Test (short).....PASS

DSP TESTS:

Timing RAM.....PASS

Demod RAM.....PASS

Demod REG.....PASS

FIFOs.....PASS

SYSTEM TESTS:

XILINX Interrupts... IRQ3 IRQ3 IRQ3 ...PASS

Receive Loop-Back.....PASS

Wide Bandwidth.....PASS

Narrow Bandwidth.....PASS

RSSI Filter.....PASS

Transmit.....PASS

SENSOR TESTS:

H/W Operation.....***FAIL***

>PC2

Press any key to quit sensor display ...

Heading	Pitch	Roll	Up/Down	Attitude Temp	Ambient Temp	PRESSURE
138.73ø	10.76ø	-33.96ø	Up	23.06øC	21.84øC	-0.5 kPa
140.07ø	13.03ø	-33.46ø	Up	23.05øC	21.80øC	1.6 kPa
140.29ø	16.17ø	-33.32ø	Up	23.06øC	21.82øC	2.1 kPa
140.04ø	16.61ø	-33.97ø	Up	23.06øC	21.80øC	0.6 kPa
139.78ø	14.27ø	-33.97ø	Up	23.14øC	21.80øC	-1.6 kPa

>CZ

Powering Down

>>>>> Function starting 09/17/08 19:51:13 >>>>>

[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 16.20

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>RR

Recorder Directory:

Volume serial number for device #0 is 1b66-1ee1

No files found.

Bytes used on device #0 = 0

Volume serial number for device #1 is 065b-10ef

No files found.

Bytes used on device #1 = 0

Total capacity = 111697920 bytes

Total bytes used = 0 bytes in 0 files

Total bytes free = 111697920 bytes

>

[BREAK Wakeup A]

WorkHorse Broadband ADCP Version 16.20

RD Instruments (c) 1996-2001

All Rights Reserved.

>CR1

[Parameters set to FACTORY defaults]

>CF11101

>EA0

>EB0

>ED850

>ES33

>EX11111

>EZ1111111

>WA50

>WB0

>WD111100000

>WF176

>WN23

>WP69

>WS400

>WV175

>TE00:15:00.00

>TP00:13.04

>TF08/09/18 16:00:00

>CK

[Parameters saved as USER defaults]

>The command CS is not allowed in this command file. It has been ignored.

>The following commands are generated by this program:

>CF?

CF = 11101 ----- Flow Ctrl (EnsCyc;PngCyc;Binry;Ser;Rec)

>CF11101

>RN E1_UU

>cs

