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Getting MPL Configuration File (CALC)

I. Purpose:

The purpose of this procedure is to describe how to get the configuration file for the MPL.

II. Cautions and Hazards:

None.

III. Requirements:

- Handset and form for writing down handset numbers.

IV. Procedure:

A. Steps:

1. Is the word "Emission" lit up on the remote laser handset? If not, press the Diode Power button. Within 3 seconds, the "Emission" light should come on.
2. Is the laser in "Pulse" mode? (The button is at the lower right.) If not, press the Pulse button.

The next few steps require use of a button on the handset which is unfortunately not labeled. The button is located just above the word "Control," so we will call it the Control button.

3. Press the Control button until the word WATTS is shown. If the WATTS setting is not 1.00, use the up-arrow button to set it to 1.00.
4. Press the Control button again to display the PRF. If the value shown is not 2500, use the arrow buttons to set it to 2500.
5. Press the Control button until the word STATUS is shown.

When in STATUS mode, various system values may be examined. Each time the down arrow is pressed, the display will show either the name of a system parameter or the corresponding value.

6. Press the down-arrow until PWRT is displayed then fill in the following table:

PWRT:

HRS1:

PWR1:

CUR1:

TMP1:

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MODE:
 GPIP:
 SYNC:
 FDBK:
 BAUD:
 PRTY:
 DBIT:
 SBIT:
 FLBD:

The most important values here are the PWRT, PWR1, and CUR1. In particular, the PWRT and PWR1 values should be close and should agree with the WATTS setting in step #3. The laser system is designed to adjust the current to keep the sensed power (PWRT and PWR1) close to the WATTS setting. As the laser diodes age, they take more current to reach the same power, so at some point the CUR1 will reach an upper limit around 2.00 A. After this happens, the laser system can no longer compensate and the output power displayed by PWR will continue to decrease. The only remedy is replacement of the laser diode supply. Fortunately, the site observers have experience doing this, so there is no need to wait for a RESET visit.

7. Copy the table above into a file called `cfg_site_MPLyddmm.txt` and send configuration to the TWP FTP site.

V. References:

1. Spinhirne, J.D., A.R. Rali and V.S. Scott, 1995: "compact Bye Safe Lidar Systems," Rev. of Laser Engineering (submitted) 6p.
2. Science & Engineering Services, Inc., MPL Instruction Manual, 1996, MAN(MPL)-025.

VI. Attachments:

1. ARCS Micro Pulse Lidar Overlap Calibration Check Form, FM(MPL)-001.
2. Example of Completed Form.

Attachment 1: ARCS MPL Overlap Calibration Check Form FM(MPL)-001

ARCS Micro Pulse Lidar Overlap Calibration Check Form

I. Calibration information

This is a (check which):

Calibration <input type="checkbox"/>	Calibration Check <input checked="" type="checkbox"/>	Field Calibration <input type="checkbox"/>
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Date:	GMT Begin Time:	GMT End Time:	ARCS #
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Instrument / System:	TWP OMS Part Number(s):	TWP OMS Serial Number(s):
<input type="text" value="High resolution MPL"/>	<input type="text" value="MPL 1000"/>	<input type="text"/>
<input type="text" value="Low resolution MPL"/>	<input type="text" value="MPL 1000-009"/>	<input type="text"/>

Location (eg. PNNL, ARCS1):	Participant(s):	Issued by:	Signature(s):
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

V. Completed Steps

Check the following steps
when completed

Overlap Test

Hard Target Test

Lid ON, Laser ON

Lid ON, Laser OFF

Date Data Transferd to
Mentor

Document(s) Referenced:

PRO(MPL)-015.002

Document(s) Updated:

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SUMMARY OF RESULTS:

PROBLEMS:

NOTES:

Attachment 2: Example of Completed Form

ARCS Micro Pulse Lidar Overlap Calibration Check Form

I. Calibration information

This is a (check which):

Calibration	Calibration Check	Field Calibration
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Date:	GMT Begin Time:	GMT End Time:	ARCS #
<input type="text" value="04/30/98"/>	<input type="text" value="4:00"/>	<input type="text" value="5:00"/>	<input type="text" value="1"/>

Instrument / System:	TWP OMS Part Number(s):	TWP OMS Serial Number(s):
<input type="text" value="High resolution MPL"/>	<input type="text" value="MPL 1000"/>	<input type="text"/>
<input type="text" value="Low resolution MPL"/>	<input type="text" value="MPL 1000-009"/>	<input type="text" value="NASA-141503 (Property #)"/>

Location (eg. PNNL, Manus):	Participant(s):	Issued by:	Signature(s):
<input type="text" value="Manus"/>	<input type="text" value="W.Porch"/>	<input type="text" value="W. Porch"/>	<input type="text"/>
<input type="text"/>	<input type="text" value="D. Scott"/>	<input type="text"/>	<input type="text"/>

V. Completed Steps

Check the following steps when completed

Overlap Test	<input checked="" type="checkbox"/>
Hard Target Test	<input type="checkbox"/>
Lid ON, Laser ON	<input checked="" type="checkbox"/>
Lid ON, Laser OFF	<input checked="" type="checkbox"/>
Date Data Transfer to Mentor	<input type="text" value="4/30/98"/>

Document(s) Referenced:

PRO(MPL)-015.002

Document(s) Updated:

SUMMARY OF RESULTS:

PROBLEMS:

NOTES:

Data from this second overlap were put in file at PNNL to be transfered to C. Flynn.