# O P E R A T I O N S   A N D   P R O C E D U R E S   F O R   C S - C A L / D L I U   V 6 . 0   A N D   A C C E S S O R I E S

Model CS-CAL/DLIU V6.0

• Visual screen display allows easy step-by-step operation
• Rechargeable battery pack
• 110VAC/12VDC battery recharger
• In truck communication via Infra-Red
• P.C. Communication via RS-232 connection

**COMPU-SPREAD** ®

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**T A B L E   O F
C O N T E N T S**

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**F U N C T I O N A L
P U R P O S E**

The CS-CAL/DLIU V6.0, (Data Logging Interface Unit), is used for the transfer of logged data from a CS-230 to a P.C. or serial port printer.

Unlike the CS-Caliprompter, the CS-CAL/DLIU can only upload logged data. It can upload from the CS-230, then transfer the data to a P.C. or printer.

The in-vehicle communication is achieved via infra-red. There is no physical connection required (see diagram #1). Just point the CS-CAL/DLIU at the CS-230 and operate as easily as a television remote.

Communication between the CS-CAL/DLIU and a personal computer or serial printer is achieved via an RS-232 interface cable.

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## C S - 2 3 0   C S - C A L / D L I U   F L O W   P A T H S

### D I A G R A M   # 1
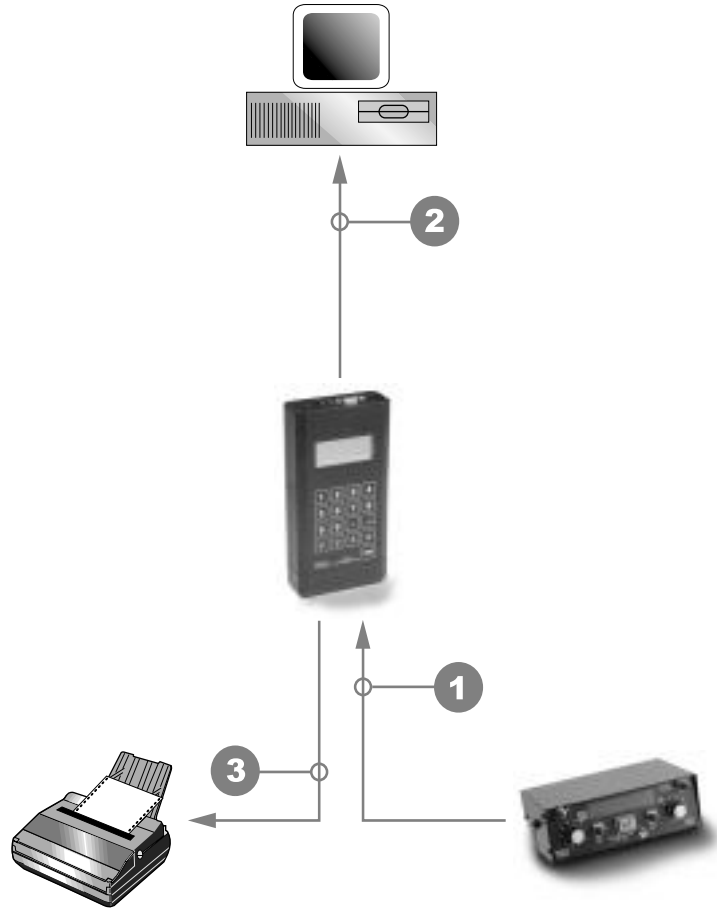


Definition of Information Flow Paths

1. Uploading refers to a communication path direction going from the CS-230 to the CS-CAL/DLIU and from the CS-CAL/DLIU to a PC.

1, Upload direction for logged data from the CS-230 to the CS-DLIU.

2. Use the CS-DLIU main menu "P.C. Connection", and the computer software menu to upload loggd data from the CS-DLIU to the P.C.

3. Use CS-DLIU to print logged info direct to a serial printer.

**P O W E R   S U P P L Y**

On the CS-CAL/DLIU's backside is a removable battery access cover. Under this cover is a 7.2 Volt rechargeable battery pack.

There are three (3) signs of battery weakening:

1. The communication distance between the CS-CAL/DLIU and the CS-230 decreases from approximately 9ft.(3meters) which is full power distance.

2. The digital readout of the CS-CAL/DLIU weakens.

3. The CS-CAL/DLIU will shut off within seconds of being turned on.

Memory in the CS-CAL/DLIU can be maintained long after the battery has become too weak to keep the CS-CAL/DLIU on.  Additionally, the CS-CAL/DLIU can retain it's memory with no battery at all for approximately 5 minutes.  This allows ample time for the removal and replacement of the battery packs, without concern for loss of stored information.

**R E C H A R G I N G**
**B A T T E R Y**

**C H A R G E R**
**C O M P O N E N T S**

1. Intelligent Battery Charger.

2. AC Wall Transformer, with female adapter lug.

3. 12 Volt Power Point DC Adaptor, with female adapter lug.

4. Adapter Cable from Charger to CS-Calipromter, with female adapter lug.

**NOTE:** You must always use 3 items when charging the battery pack:
   1. Caliprompter.
   2. Charging Unit.
   3. 110V or 12V Adaptor.

**NOTE:** Both the Intelligent Battery Charger, and the CS-CAL/DLIU are manufactured with the same 2.1 mm DC input jack (as this is a typical, readily-available type of connector). However, caution must be used in connecting the components together.
DO NOT CONNECT THE AC TRANSFORMER/DC CIGARETTE LIGHTER ADAPTER DIRECTLY TO THE CS-CAL/DLIU.

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R E C H A R G I N G
B A T T E R Y
C O N T I N U E D

C H A R G I N G

1. Connect CS-CAL/DLIU to charging unit with grey cable. You will find a connection point on the side of the CS-CAL/DLIU.

2. Connect either the 110V or the 12V adapter to the charging unit, depending on whether you are near a 110V or 12V power source.

3. Plug the 110V adapter into a wall socket, or the 12V adapter into the power point in the vehicle.

**NOTE:** The charger's auto sensor will check the battery voltage automatically. The red LED will flash three times to indicate 7.2 Volts.

**NOTE:** The battery pack should be discharged before recharging.

4. Press the discharge button on the charging unit as labelled on the charger. The green LED will light showing that discharge is in progress, After discharge is complete, the green LED will automatically turn off to inform you that discharge is complete.

5. Once discharge is complete, the charging unit will automatically begin to charge the battery pack.

**NOTE:** You may want to place the magnetic temperature sensor directly on the battery pack to monitor the batteries temperature. However, due to the battery being isolated, it may be of some inconvenience and is typically not necessary.

6. The progress of charging will be indicated in four steps. The LED indicators will show the following:

a) ●○○ 1/4 charged.

b) ●●○ 1/2 charged.

c) ●●● 3/4 charged

d) ○○● full (the audible beeper will sound three times when the battery pack is fully charged.

7. Disconnect all charging components from the CS-CAL/DLIU. It is now ready to use.

## K E Y P A D   F U N C T I O N S



**ON**

### 1 .   O N

Pressing this key activates the CS-CAL/DLIU.

**NOTE:** Automatic Power OFF. Your CS-CAL/DLIU conserves battery power by automatically turning off after 60 seconds providing no keys were pressed or functions activated.

### 2 .   E S C A P E   K E Y

This key will bring you back to the main menu at any time.  In some cases it may be necessary to activate this key twice.

### 3 .   E N T E R   K E Y

This key is used to enter numeric values or to enter or start a procedure.

Eg: Uploading, etc..

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### 4 . L E F T   C U R S O R   K E Y

This key moves the cursor to the left of the menu.

### 5 . U P   C U R S O R   K E Y

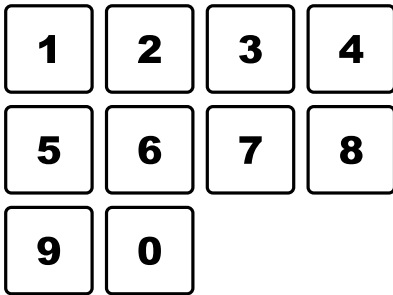This key moves the cursor up the menu.

### 6 . D O W N   C U R S O R   K E Y

This key moves the cursor down the menu.

### 7 . R I G H T   C U R S O R   K E Y

This key moves the cursor to the right of the menu.

### 8 . N U M B E R   K E Y S

The numeric keys are used to enter values into the CS-CAL/DLIU.

**O P E R A T I O N**

**N O T I C E !   A L E R T !**

**NOTE:** The following steps are only necessary if these parameters were not set up during the commissioning of the CS-230.

Prior to the operation of any of the CS-CAL/DLIU functions as outlined in this manual, there are two (2) preparation steps that must be adhered to:

1.   With a program key enter the program mode of the CS-230 unit and preset the following parameters (See Module 6C):

   A.   Parameter 50. Set the units of measure desired: Metric or Imperial.
   B.   Parameter 56. Set the present time on the 24 hour clock.
   C.   Parameter 58. Set the truck identification number.
   D.   Parameter 61. Set the current year. This parameter is only available in series 5 and higher software.

**S i m p l i f i e d   O v e r v i e w   o f   O p e r a t i o n**

Basically, you use the up or down arrow cursor direction keys to scroll through the menu.  Having found the desired menu function, use the right cursor key to enter that function.  At that time the screen will instruct you to use the enter key to start the procedure and follow the word prompts as they appear on the readout screen.  With the on-screen instructions you can use the CS-DLIU to it's maximum potential with little or no additional help.

The CS-DLIU can hold logged data for 8 trucks. When a ninth truck is uploaded the information from the first truck entered will be deleted.

i.e.   You can hold data on 8 trucks only. Therefore, once you have accumulated 8 trucks in the CS-CAL/DLIU's memory you must now upload (see module 7F) that information to a personal computer or Printer. When you collect a ninth truck, the first truck entered is now erased.

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## S I M P L I F I E D  O V E R V I E W
## O F  O P E R A T I O N
## C O N T I N U E D

ON

• Press the ON KEY

• The opening screen is displayed with the flashing cursor (>) in the top left corner.

• The digital readout displayed is as shown

```
> COMPU-SPREAD
    CAL./DLIU
  (C) 1997 6.0
  PRESS ANY KEY
```

• The digital readout instructs you to "Press any key" to continue.

**NOTE:** The screen displays the version of software installed as well as the year manufactured.

• When you have done this, the screen displays the cursor flashing in the top left corner. Additionally, the screen displays part of the main menu.

```
>   CAL./DLIU   <
UPLOAD  LOG.INFO
DISPLAY LOG.INFO
PRINT   LOG.INFO
```

• When you press the down cursor key the cursor will travel down the main menu.  Since the main menu is longer than the screen, the menu will scroll up to facilitate the complete list.

• Complete list as shown:

Main Menu List

<> CAL./DLIU >
Upload Log. Info
Display Log. Info
Print Log. Info
Clear Log. Info
PC Connection
Caliprompter Off

U P L O A D I N G
L O G G E D   I N F O        This is the function of gathering logged data from the CS-230 into the
CS-CAL/DLIU.

S C R E E N   D I S P L A Y                    N O T E S

| ON |

```
> COMPU-SPREAD
    CAL./DLIU
  (C) 1997 6.0
  PRESS ANY KEY
```

⬇

Cursor down to Upload Log. Inf

```
>   CAL./DLIU   <
UPLOAD  LOG.INFO
DISPLAY LOG.INFO
PRINT   LOG.INFO
```

⮕

```
<UPLOAD LOG. INF>
PRESS "ENTER" TO
   START DATA
UPLOAD:         <
```

↵

```
POINT TO CS220 !
```

When connection is being made, the screen will display "Uploading". When completed, screen will display "Ready".

```
    UPLOADING
```

```
    READY
```

```
>   CAL./DLIU   <
UPLOAD  LOG.INFO
DISPLAY LOG.INFO
PRINT   LOG.INFO
```

Screen returns to main menu. Upload is now complete.

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D I S P L A Y
L O G G E D   I N F O

This is the function that allows reviewing of the number of vehicles collected as well as the reflected time and date that the logged information was collected on.

S C R E E N   D I S P L A Y          N O T E S

**ON**

```
> COMPU-SPREAD
    CAL./DLIU
  (C) 1997 6.0
  PRESS ANY KEY
```

⬇

Cursor down to Disp. Log. Inf

➡

```
<DISPLAY LOG INF>
TRUCK (00): XXXX<
TIME/DATE
MATERIAL
```

The last truck uploaded will be displayed. The two digit number in brackets will be the CS-CAL/DLIU file number for the entry from 00 to 07. The one to four digit number at the cursor will be the actual truck I.D. number.

⬆

Using the cursor up key you can see all trucks that have been uploaded into the CS-CAL/DLIU.

↵

When the correct truck has been selected, press enter. This will move the cursor to the left of the screen.

⬇

Select either Time/Date or Material for the truck you selected to view.

**Note:** This function allows only a quick reference as to when information was uploaded. For more detailed report transfer this information directly to a Personal Computer.

D I S P L A Y
L O G G E D   I N F O
C O N T I N U E D        S C R E E N   D I S P L A Y              N O T E S

Use the cursor keys as shown to
return to the main menu.

PRINT
LOGGED INFO

Use this function for printing all logged data collected in the CS-CAL/
DLIU. You may print all the stored log information directly from the
CS-CAL/DLIU to a serial printer. Please note, to print to a parallel printer,
you must first enter the data into a P.C. and use the P.C. to direct the
information to a parallel printer. See P.C. connection for further
information.

Before beginning please review the following steps:

* Connect the RS 232 interface cable P/N 120342 to the CS-CAL/DLIU
  and the printer.
* Ensure the CS-CAL/DLIU contains data.
* Ensure the CS-CAL/DLIU is operating on fully charged batteries.
* Ensure you have the most recent version of software installed in the
  CS-CAL/DLIU. (Consult Basic Technologies if you require
  assistance).
* Ensure you are connected to the printers serial port.
* Ensure printer is configured as:
    * Data Bits - 8
    * Stop Bits - 1
    * Start Bits - 1
    * Parity Bits - None
    * Baud Rate - 4800 (Version 2 series)
    * Baud Rate - 9600 (Version 5 series)
* Complete all connections before turning printer on.
* Ensure Printer is on line.

P R I N T
L O G G E D   I N F O
C O N T I N U E D          S C R E E N   D I S P L A Y          N O T E S

**ON**

```
> COMPU-SPREAD
   CAL./DLIU
  (C) 1997 6.0
 PRESS ANY KEY
```

⬇

Down cursor to Print Log. Info

➡

```
<PRINT LOG. INF>
TRUCK(00): XXXX<
PRESS "ENTER" TO
START PRINTING:
```

Select desired truck number with up and down cursor keys before pressing Enter.

↵

```
 ONE MOMENT PLS

PRINTER IS BUSY
```

```
   PRINTING!
```

If you have properly configured the serial printer and the connection is good, the next message will read "Printing". However, if a wrong or incompatible printer is selected or if the printer is Busy then the message "Printer is Busy" will be displayed. The only choice to escape is to disconnect and reconnect the battery, wait until the printer is ready and retry above procedure. If problems still persist check all connections and printer configuration for possible problems.

**NOTE:** The data stored will not be lost with a quick temporary battery disconnect.

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P R I N T
L O G G E D   D A T A
C O N T I N U E D

S C R E E N   D I S P L A Y                    N O T E S

```
>   CAL./DLIU   <
UPLOAD  LOG.INFO
DISPLAY LOG.INFO
PRINT   LOG.INFO
```

Upon completion of printout for selected truck, screen will return to main menu awaiting the next command.

C L E A R   L O G .   I N F O

This function allows the user to select one of the eight log files and delete them from the CS-CAL/DLIU.

S C R E E N   D I S P L A Y

**ON**

```
>  COMPU-SPREAD
     CAL./DLIU
    (C) 1997 6.0
   PRESS ANY KEY
```

⬇

Cursor down to Clear Log. Info

➡

```
<CLEAR LOG.INFO>
  TRUCK(00):XXXX
PRESS 'ENTER' TO
CLEAR THE INFO
```

The last truck uploaded will be displayed. The two digit number in brackets will be the CS-CAL/DLIU file number for the entry from 00 to 07. The four digit number at the cursor will be the actual truck I.D. number.

⬆

Using the cursor up key you can see all trucks that have been uploaded into the CS-CAL/DLIU.

↵

When the correct truck has been selected, press enter. This will move the cursor to the bottom right of the screen.

↵

Press enter again to clear the selected file. Once the file has been cleared, the cursor will move back to the main menu.

## P . C .   C O N N E C T I O N



Use this function to transfer all data gathered by the CS-CAL/DLIU from the CS-230 units into a Computer.

Before beginning please review the following steps

• Connect the RS-232 Interface cable P/N 120342 to the CS-CAL/DLIU and either COM1 or COM2 of the computer depending on your system configuration

• Ensure the CS-CAL/DLIU contains data

• Ensure the CS-CAL/DLIU is operating on fully charged batteries

• Ensure you have the most recent version of software installed in the CS-CAL/DLIU (Consult Basic Technologies if you require assistance)

• If using Version 6.1 series software refer to module 7F for instructions on how to load and use the computer software.

**COMPU·SPREAD** ®

**P . C .   C O N N E C T I O N**
**C O N T I N U E D**          Proceed as follows

S C R E E N   D I S P L A Y          N O T E S

**ON**

```
> COMPU-SPREAD
    CAL./DLIU
  (C) 1997 6.0
  PRESS ANY KEY
```

⬇

Down cursor to P.C. Connection

➡

```
< PC CONNECTION >
 PRESS ENTER TO
  QUIT THE PC
  CONNECTION <
```

CS-CAL/DLIU is ready to communicate with P.C.
For operation of computer software, please refer to module 7F software operation.

**C S - C A L / D L I U   O F F**     S C R E E N   D I S P L A Y          N O T E S

⬇

```
>   CAL./DLIU   <
 CLEAR LOG.INFO
 PC CONNECTION
CALIPROMPTER OFF
```

Down cursor CS-CAL/DLIU OFF

➡

```
<CALIPROMP. OFF>
PRESS "ENTER" TO
   SHUT DOWN
 CALIPROMPTER <
```

↵

This ends all screen activities of the CS-CAL/DLIU. However, the memory remains active.