

DANIEL DANLOAD™ 6000

**NIST HANDBOOK 44 (2003) IMPLEMENTATION
CATEGORY 3 DEVICE AND METHOD OF SEALING**

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**Part Number 3-9008-853
Revision C**

AUGUST 2005



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Version v5.75 or higher: NIST HB 44 Implementation in DanLoad™ 6000

The DanLoad™ 6000 firmware V5.75 (or higher) logs Weight and Measurements (W&M) parameter changes. Each parameter logged stores the date and time stamp of the log event, the parameter number and assigns a new parameter value.

In the auto mode DanLoad™ 6000 is not looking for a change in the value to log the event; it will log the event as soon as the operator or TA system writes to the W&M parameter, i.e., in the auto mode, if the old and new values are the same, then DanLoad™ 6000 will log it as the event; in the manual mode, if the old and new values are the same, then DanLoad™ 6000 does not log it as the event.

W&M Log:

1. The DanLoad™ 6000 can store a maximum of 1000 records using the FIFO (first in first out) method.
2. Each parameter logged stores the date and time stamp of the event, the parameter number and the new parameter value.

Unit address: 001				
Date: 03/22/05		Time: 12:21:38		
Log	Date	Time	Parameter	New Value
0001	03/22/05	11:14:27	665	5
0002	03/22/05	11:14:34	665	6
0003	03/22/05	11:14:35	666	2
0004	03/22/05	11:14:35	665	7
0005	03/22/05	11:14:37	665	8
"	"	"	"	"
0998	03/22/05	12:16:35	664	9600
0999	03/22/05	12:16:36	665	8
1000	03/22/05	12:16:41	667	Even

Example of W&M Log

W&M Communication and Log Retrieval:

- Issue print command from keypad
- Issue print command from remote
- Retrieve one log at a time from TAS

1. Keypad Method

Use the keypad method for printing the event log.

From the keypad, to enter the *Program Mode*:

- a) Depress the ALT and ENTER keys and enter the pass code.
- b) Scroll to second screen of the program mode menu.
- c) Scroll to “W&M Log” line.
- d) Press enter.

After following the above procedure, all 1000 logs will be printed on the printer or HyperTerminal. If multiple printers are configured then the printer will be the same as the program code value change printer, i.e. Program Code 702.

1.2 Data Logging

Program Code / Function	Range <Default> OR Option (* = Default)
696 Batch summary	0 Off *
697 Transaction summary	1 PR
698 Alarm log	2 PRFF
699 Power fail log	3 PR1
700 Program mode entry/exit	4 PR1FF
701 W&M switch opened/closed	5 PR2
702 Program value change log	6 PR2FF
703 Configuration summary	7 PR3
704 Crash memory summary	8 PR3FF
705 Totalizers	9 PR4
706 Transaction ticket	10 PR4FF
707 Transaction ticket reprint	
708 Throughput	
709 Sequence Numbers	0 Off * 1 On
710 Cutoff hour	0 to 23 <0>

Data Logging program codes are used to control printing of several types of reports or event / alarm logs. Program codes 696 through 708 enable data printing to one of four printers or disable the printing of the related report. Program code 709 Sequence Numbers enables or disables printing of report sequence numbers on all reports. See Section 4.4 in the DanLoad™ 6000 Reference Manual, P/N 3-9000-670, for a description of data spooling and printing with a code operated switch.

Data logging program codes with common option selections:

696 Batch summary

This program code controls spooling and printing of the fixed format *batch summary report*.

697 Transaction summary

This program code controls spooling and printing of the fixed format *transaction summary report*.

698 Alarm log

This program code controls spooling and printing of single line alarm logs.

699 Power fail log

This program code controls spooling and printing of single line power fail logs.

700 Program mode entry/exit

This program code controls spooling and printing of single line program mode change logs.

701 W&M switch opened/closed

This program code controls spooling and printing of single line W&M switch status logs.

702 Program code value change log

This program code controls spooling and printing of program code value change logs.

703 Configuration summary

The configuration summary data log (a log showing all program code values) can be printed from the diagnostics menu in the manual operating mode. The printer on which to print (via a Code Operated Switch) and form feed control can be configured.

704 Crash memory summary

This program code controls spooling and printing of the *Crash memory summary*.

705 Totalizers

This program code enables/disables automatic printing every 24 hours (per program code 710 and manual reprinting (from the program mode menu) of meter, component, recipe and additive running totalizers. The printer on which to print (via a Code Operated Switch) and form feed control can be configured.

706 Transaction ticket

This program code controls spooling and printing of the current user defined transaction ticket. See *Section 3.10* in the DanLoad™ 6000, P/N 3-9000-670 for a complete description of transaction data storage and user defined transaction tickets.

707 Transaction ticket reprint

This program code controls spooling and printing of a copy of a completed user defined transaction ticket from the archive of up to 10,000 transaction tickets. See *Section 3.10* in the DanLoad™ 6000 Reference Manual, P/N 3-9000-670 for a complete description of transaction data storage and ticket printing.

708 Recipe throughput

This program code controls spooling and printing of the *Recipe Throughput* report every 24-hours.

The following option selections apply to each of the program codes 696 through 708.

- **Off**

Disable spooling and printing for this data log.

- **PR**

Enable spooling and printing for this data log. (No code operated switch)

- **PRFF**

Same as **PR** above, except send form feed control to printer at end of report.

- **PR1**

Enable spooling for this report and direct this report to printer number 1 via control code-to-code operated switch.

- **PR1FF**

Same as **PR1** above, except send form-feed control to printer at end of report.

- **PR2**

Enable spooling for this report and direct this report to printer number 2 via control code-to-code operated switch.

- **PR2FF**

Same as **PR2** above, except send form-feed control to printer at end of report.

- **PR3**

Enable spooling for this report and direct this report to printer number 3 via control code-to-code operated switch.

- **PR3FF**

Same as **PR3** above, except send form-feed control to printer at end of report.

- **PR4**

Enable spooling for this report and direct this report to printer number 4 via control code-to-code operated switch.

- **PR4FF**

Same as **PR4** above, except send form-feed control to printer at end of report.

709 Sequence numbers

This program code globally enables or disables printing of data log sequence numbers on all reports. Up to four counters, one for each data printer enabled, are maintained by the DanLoad™ 6000. Each counter maintains the current sequence number of any report printed to one data printer. The sequence is 0000 to 9999 with automatic rollover to 0000 after report 9999 is printed. Sequence numbers are generated on a per printer basis and each printed report or alarm / event printed line is assigned a sequence number which is printed if this function is enabled. Note that the report sequence numbers are not related to transaction or batch sequence numbers.

- **Off** (default)

Enable printing of report sequence numbers on each report.

- **On**

Disable printing of report sequence numbers.

2. Issue Print Command from Remote (0x3E, v5.75 and above)

Query data:

```
struct Tasq {
    unsigned char dfl;
    unsigned char cmdcode;
};
```

Response data:

```
struct Tasr {
    unsigned char dfl;
    unsigned char cmdcode;
};
```

Status flags immediately set:

Status flags immediately cleared:

Exceptions: 0x66 DanLoad™ is printing the log
0x70 if channel B is not configured for data logging and print command is issued from the TA.

Description: When the terminal automation system sends the 0x3E command, DanLoad™ will print all the W&M Logs on the appropriate printer or Hyper Terminal. If the log is already printing and new print command is issued from the remote, then DanLoad™ will return 0x66 exception.

Valid modes: Manual
Automatic

3. Retrieve one log at a time from (0x3F, v5.75 and above)

Query data:

```
struct Tasq {
    unsigned char dfl;
    unsigned char cmdcode;
    int row_id; /* log number from 1 to 1000 */
};
```

Response data:

```
struct Tasr {
    unsigned char dfl;
    unsigned char cmdcode;
    Char log_date[46]; /* contains response as ascii string, not null terminated */
};
```

Status flags immediately set:

Status flags immediately cleared:

Exceptions:

- 0x67 DanLoad™ is printing the log so can't retrieve the log
- 0x68 row_id is out of range
- 0x69 log is not stored in the DanLoad™
- 0x70 if channel B is not configured for data logging and tried to retrieve a log

Description: When terminal automation system will send 0x3F command, DanLoad™ will retrieve the specified log from the memory and send it as a response to the terminal automation system. Each log consists of row_id, date, time, parameter number and new value of the parameter. If the log is not available in the memory, row_id is not in the range, or DanLoad™ is printing the log, then this DanLoad™ will raise an exception for the 0x3F command.

Valid modes:

- Manual
- Automatic

Notes:

1. Attributes of the required parameter should be set as W&M parameter.
2. Channel B should be configured as Data Logging to retrieve a log or print the logs.
3. Program code 702 should be set to the appropriate printer as W&M Log will be printed on the same printer.
4. Counters are not available for calibration and configuration parameters.
5. Transaction storage area is reduced by three pages. Pages 6, 7 and 8 are now used to store W&M Logs. The transaction storage area will start from page 9 and up to 15. New default value of program codes-
 - Program code 835- 902 (two pages for transaction data)
 - Program code 837- 1105 (five pages for batch data)
6. For any parameter there are four attributes, Read Only, Weight and Measures, Data Logging and Value Change. If the W&M attribute is selected, it will be stored in the W&M Log. If Data Logging attribute is selected, it will be stored in as a Data Log. If W&M and Data Logging attributes are both selected, the parameter will only be stored in the W&M Log.
7. If the W&M Logs are printing and another print request is generated, it will be queued.
8. W&M parameters are restricted to 15 characters.
9. If a W&M parameter is updated from a TA system, it will be logged as an event.

References:

- DanLoad™ 6000 Reference Manual, P/N 3-9000-670
- DanLoad™ 6000 Communications Specification, P/N 3-9000-674

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