



DURHAM GEO-ENTERPRISES, INC.

E-41520 SAS

Serial Acquisition System Manual

E-41520 Ver 6.03

January 3, 1998

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Installation Instructions

System Requirements:

IBM PC compatible running MS-DOS
ANSI.SYS driver (Installed in Config.sys file)
Share.exe program (Installed in Autoexec.bat file)
3 ½" Disk Drive

This program has been tested on 486 and Pentium machines running MS-DOS 6.0 or higher. If you have difficulties running the program, please contact Durham Geo-Enterprises at 1-800-837-0864 or (770)-465-7557.

- 1) Insert the disk into the appropriate drive. For instruction purposes, assume that this is drive A.
- 2) At the DOS prompt, type "**md c:\SAS**". This creates the SAS directory. If you already have a SAS directory, you don't need to do this.
- 3) Next, type "**copy A:.* c:\SAS**". This copies the SAS files to the SAS directory.
- 4) It is possible you will need to modify your "config.sys" file to run the SAS program. The "config.sys" file needs to contain the line "**Device=C:\DOS\ANSI.SYS**". If this line is not in your "config.sys", you will need to modify the file. Your DOS manual has instructions on how to modify your "config.sys" file.
- 5) Depending on your hardware configuration, you will also need to have the DOS "Share.exe" program loaded. To do this, add the command line "**C:\DOS\SHARE.EXE**" to your "autoexec.bat" file. This command enables DOS to open multiple files and share information between them. If your version of DOS does not have the "Share.exe" file, you will need to upgrade to a version that does. DOS 6.xx has this program.
- 6) After you have added the appropriate drivers and command lines, you should be ready to start the SAS program. To insure that all your changes have taken effect, reboot your computer.
- 7) At the DOS prompt, type in "**cd C:\SAS**".
- 8) To start the SAS program, type in "**SAS2**".

Follow the instructions on the screen to run the program.

```
+-----+  
|                                             |  
+-----+
```

This SAS software is a Durham Geo Products Group product. It is to be used with E-415 and E-416 Serial Acquisition Digital Indicators. It will take information from those devices through COM1 or COM2 and store it onto disc as an easily manipulated text file.

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Press ENTER key to Continue

E-41520 SAS

SERIAL PORT SELECTION

The E-415 and E-416 indicator devices are to be connected to either COM1 or COM2. Please specify the desired port by pressing F7 to change the setup.

CURRENT SERIAL PORT: COM1

FOLLOWING SELECTION, press ENTER key to continue

The following pages are taken directly from the Serial Acquisition System (SAS) program developed by Durham Geo Enterprises. The brief narrative at the bottom of each page is meant to help the new user understand how to use SAS and quickly become comfortable with the program.

The information found on this page is actually the first two screens found in the SAS program. The upper box is a brief description of the program. The lower box allows the user to choose the appropriate COM port on their computer that for connecting the E-415 and E-416 digital display boxes. The COM (Serial, RS-232) ports on your computer are usually the ports that are NOT being used for your printer and can be either 25 pin or 9 pin. The COM port is addressed as COM1 or COM2.

Note: The SAS program will only work on COM1 or COM2.

CONTROL MENU

```

+--TEST CONFIGURATION AND CONTROL-----+
|                                     |
|          SETUP  START  DATA        |
|          =====  =====  =====  |
| Test One      F1    ShF1  AltF1  Please Verify |
| Test Two     F2    ShF2  AltF2  Requires Setup |
| Test Three   F3    ShF3  AltF3  Requires Setup |
| Test Four    F4    ShF4  AltF4  Requires Setup |
| Test Five    F5    ShF5  AltF5  Requires Setup |
|-----+
+--GAUGE SETUP, TEST STATUS-----+
|                                     |
| F6 - Setup Gauges and Transducers |
| F7 - Display Graphics Run-Time Trace |
| ShF7- Setup Graphics Display      |
| F8 - Observe Run-Time Test Status and Readings |
|-----+
X - For EXIT to DOS

```

This is the main screen that you will see during the operation of the SAS program. All other functions of the program can be accessed from this screen by pushing the appropriate Function key. SAS Version 6.03 has the ability to run up to five tests simultaneously, but each test will use different channels and therefore each channel will be setup separately.

The upper "Test Configuration and Control" box allows the user to enter pertinent test data for each test, start and stop tests, display the data of a test that is running, and gives the status of each of the five tests.

The lower "Gauge Setup, Test Status" box is used for observing data while tests are running, defining the type of transducer being used on each channel, and defining which channel you would like to see on a run-time graph.

The subsequent pages of this manual will show all the screens that can be accessed from the main Control Menu and offer a brief description of how to use each screen. The screens are covered in the following sequence:

- F6 - Setup Gauges and Transducers
- F1 - Setup (Test 1)
(Also used for F2 through F5)
- ShF7 - Setup Graphics Display
(Sh = Shift Key, Press Shift and Function key at the same time)
- ShF1 - Start/Stop Test
(Also used for ShF2 through ShF5)
- F8 - Observe Run-time test status and readings
- AltF1 - Data Display
(Alt = Alt Key, Press Alt and Function key at the same time)

Note: If you are using this program for the first time, the above sequence should be followed.

```

+-----+
+-----+
| INDICATOR 1 (E-415) | | INDICATOR 3 (E-416) | |
| | | | |
| | | | |
| TRANSDUCER RANGE | | TRANSDUCER RANGE |
| | | | |
| | | | |
| CHAN 1: Pressure 0 - 75 Psi_____ | | CHAN 5: Pressure 0 - 75
| | | | | Psi_____ | |
| CHAN 2: Pressure 0 - 75 Psi_____ | | CHAN 6: Pressure 0 - 75
| | | | | Psi_____ | |
+-----+
+-----+
+-----+
+-----+
| INDICATOR 2 (E-416) | | INDICATOR 4 (E-416) | |
| | | | |
| | | | |
| TRANSDUCER RANGE | | TRANSDUCER RANGE |
| | | | |
| | | | |
| CHAN 3: Pressure 0 - 75 Psi_____ | | CHAN 7: Pressure 0 - 75
| | | | | Psi_____ | |
| CHAN 4: Pressure 0 - 75 Psi_____ | | CHAN 8: Pressure 0 - 75
| | | | | Psi_____ | |
+-----+
+-----+

```

ESC- Cancel F5- Accept
F2 - NEXTchoice, Sft+F2 - PREVchoice

F6 - Setup of gauges and transducers

This page is used to define the gauge or transducer is being used for each channel. This information is in the header of each data file and will let's the user know the device each channel is setup for.

Note: Transducers must be calibrated to read to the correct engineering units (psi, inches, mm, kPa, etc.) with the E-415 and the E-416. Please see the E-415/E-416 manual for calibration. (If transducers and readouts were purchased at the same time from BLA or a BLA authorized distributor, then they will have been factory calibrated.)

Each channel must be defined by Transducer type and range. To change the definition of a channel:

- Move the cursor to the desired channel using

ESC- Cancel F5- Accept

F1 - Setup for Test 1

This screen is used to define the parameters for test 1. Tests 2 through 5 have setup screens which are exactly the same. This screen is used to define the test name, and type, the channels the program should read during the test, and the number of readings and time interval of each reading. Once again the user can move the cursor around the screen using the *arrowkeys*, *TAB* key, or *ENTER* key.

FILENAME: The user should enter a name of 8 characters or less where the current file is to be saved. The SAS program will save data in an ASCII file with a ".txt" suffix. Each test must have a different name.

NOTE: SAS will save the file in the same directory from which the SAS program is being run, in most cases that will be C:\SAS.

TEST NUMBER: This is a user defined field. Any data up to 8 characters may be entered here to help further define the test.

TEST TYPE: This field allows the user to define what test is running. To scroll through the choices, push the *F2* key until the desired test is displayed.

TIME RECORD: The first column in all tests is reserved to record the elapsed time. The user has three options for this column.

No Time Column: No elapsed time will be recorded or displayed in the data.

Show as SECOND: The time column will record elapsed time in seconds.

Shows as HHH: MM: SS: The time column will display elapsed time in hours, minutes, and seconds. This is a good time stamp for extremely long tests.

CHANNEL SELECTIONS: This section allows the user to define the channels being used for each test. If the channel has a status of ENABLE, then data from this channel be recorded in this test, if the channel has a status of DISABLE, no data will be recorded. *F2* allows the user to toggle between ENABLE and DISABLE.


```

|           1  ENABLE_           |           1  CONT  000:00:10
|           2  DISABLE          |           2  0___  000:00:00
|           3  DISABLE          |           3  0___  000:00:00
|           4  DISABLE          |           4  0___  000:00:00
|           5  DISABLE          |           5  0___  000:00:00
|                               |
|           6  DISABLE          |
|           7  DISABLE          |
|           8  DISABLE          |
|                               |
+-----+
Start Test One (Y/N)?

```

ShF1 - Start / Stop Test

Before a test begins, the above screen will appear showing the information that has been input. If all the information is correct, the test can be started by pushing "Y". The first data point will be taken immediately and recorded in the data as time = 0.

Once a test is running, it can be stopped prematurely if desired. If the user decides to end the test, the SAS program will ask "Stop Test___?". The user must then push "Y" to confirm. SAS will then ask if the user wants to save the data file. If the user pushes "N", the data file will be destroyed and cannot be recovered.

NOTE: If a test is prematurely stopped, it cannot be re-started.

```

+-----+
STATUS OF TESTS AND INDICATORS
+-----+

```

TEST	STATUS	DELAY	SAMPLES
1	Ready	000:00:00	CONT
2			
3			
4			
5			

INDICATOR 1		INDICATOR 3	
Ch 1:	ch 2:	Ch 5:	ch 6:
INDICATOR 2		INDICATOR 4	
Ch 3:	ch 4:	Ch 7:	ch 8:

ESC to Exit

F8 - Status of Tests and Indicators

This screen will show what is happening in real-time. The upper box displays the status of each test. If a test is running, it displays READY, and if the test is running, the DELAY will count down to the next reading. SAMPLES gives two pieces of information. The first number says what time interval is being used and the second number tells how many data points are left to take in the current time interval.

The lower boxes show what the current readings of any transducers currently connected to the computer are reading. These readings are updated approximately every four seconds.

```

                                GRAPHICS DISPLAY SETUP
+-----+-----+-----+-----+-----+-----+-----+-----+
                                -+
                                |
                                | INDICATOR TO DISPLAY: OFF
                                |
                                | USE OF HORIZONTAL AXIS: Time_____
                                |
                                | HORIZONTAL PRESENTATION: Left to Right_
                                |
                                | VERTICAL PRESENTATION: Bottom to Top_
                                |
                                | LABEL AT TOP OF GRAPH: _____
                                |
                                | LABEL ON HORIZONTAL AXIS: _____
                                |
+-----+-----+-----+-----+-----+-----+-----+-----+
                                -+
                                ESC- Cancel   F5- Accept
                                F2 - NEXTchoice, Sft+F2 - PREVchoice

```

ShF7 - Graphics Display and Setup

The SAS program allows a run-time graph of one in-use channel at a time. This graph is very simple and is meant to allow the user to quickly determine general trends in the data. The graph is a screen only display and is not to scale. The graph will display the data being generated by the desired channel on the y-axis and will update the graph every time a new data point is taken. Time is plotted on the x-axis.

This screen allows the user to define the channel to graph and allows you to enter labels for the graph.

DATA DISPLAY

The user can look at all of the data previously recorded on a specific test by pushing *ALT* and the appropriate function key for the test that is running. This information is only available when the test is running and is for observation only. Once the test is stopped, the data will have to be viewed from it's file.

FILE NAME: EXAMPLE.TXT
TEST NAME: 0001
START DATE: 01/03/96 12:00

CHANNEL 1 TRANSDUCER TYPE: Travel
TRANSDUCER RANGE: 0 - 1.000 In

CHANNEL 2 TRANSDUCER TYPE: Travel
TRANSDUCER RANGE: 0 - 1.000 In

COUNTS INTERVAL:
===== =====
TIME PROFILE: 5 000:00:10
5 000:00:07

RUN TIME	CHANNEL 1	CHANNEL 2
=====	=====	=====
0	.001	.0001
10	.001	.0140
20	.001	.0402
30	.001	.0427
40	.001	.0440
47	.001	.0440
54	.001	.0444
61	.774	.0000
68	.823	.0001
75	1.022	.0001

*** END OF TEST ***

EXAMPLE OF DATA FILE

Above is an example of a data file saved by the SAS program. This file was printed directly from the DOS Editor. The file is saved as an ASCII (.txt) file and can be easily imported into a spreadsheet program for data manipulation.

See "Help" Topics on the spreadsheet you are using to import and export data from txt files.

SAS VERSION 6.03 PROGRAM

The SAS program is a data collection program that organizes information acquired through BLA Digital Readouts models E-415 & E-416.

The program's intention is to organize data in ASCII files in such a way that they will be easily imported by existing spreadsheet programs like EXCEL™ or LOTUS™.

In order to register your software, please fill out the following form and mail or fax it to the address below. In doing so, you will receive information on the latest updates and improve our service to you and our other customers. Thank you.

Durham Geo-Enterprises
Software Registration
P.O. Box 870907
Stone Mountain, GA 30087

Fax +1 (770) 465-7447

Name: _____

Company: _____

Address: _____

SAS Program Serial #: _____

Tests being performed that you are using the SAS system to collect data

Was the program easy to install? Yes ____ No ____

If not, please describe the problem and the solution.

Was the instruction manual helpful? Yes ____ No ____

What else would you like us to add with the instruction manual?

What type of computer are you using for the SAS program?

Pentium ____

486 DX ____

486 SX ____

386 ____

286 ____

What DOS version? ____

What Windows version? ____

Did you use this program directly from DOS or did you access it from Windows?

DOS ____ Windows ____

General Comments:
