

SWTCHSET

Switching Setup Program

SWTCHSET allows a new degree of flexibility and control from within the T81 control language. The results can be more testing done, from one environment, in one error log and report. This helps simplify complicated testing while supplying more control over the testing environment.

SWTCHSET.EXE allows you to communicate with the DIT-MCO Master Switching Console (MSC) and provide the ability to set switching addresses for use by other programs and/or test devices external to the T81 control environment. This program should be controlled by a user written program that can be executed in T81 by use of the SYS directive.

Beginning in revision 3.304 of T81, there is an additional program included called "SWTCHSET". SWTCHSET stands for Switch Setup and allows you to pick switching addresses without T81. The following switches modify SWTCHSET:

/R	issues a Reset to the MSC
/Ixxxxx	sets up address xxxxx as the Input
/Oyyyy	sets up address yyyy as the Output
/E	connects the switching to the External access jacks
/F	connects the switching as four-wire rather than two-wire

If you do not specify an input or output address, SWTCHSET uses address 0.

The main purpose of this application is for calibration of the DCS-III. Since the DCS is a stand-alone device during calibration and contains its own calibration program, the computer is connected to an RS-232 port on the back of the DCS as a "dumb terminal" using terminal emulation software. This could also be connected to a modem and accessed from DIT-MCO's corporate headquarters to aid in trouble-shooting (Remote Diagnostics).



The following scenario describes the possible use of SWTCHSET. You need to run a frequency test. With an IEEE-488 control card for your computer, you can write a control program for your frequency counter to check frequency between two limits as shown below:

```
MEASURE 1000 1025
```

This program named MEASURE tests the frequency then writes the result to a disk file named RESULTS.RO. The input to the frequency counter is connected to the external access jacks on the MSC. SWTCHSET then routes the proper switching addresses to the counter.

The test program could look as follows:

```
[Program to measure frequency of signal generator  
SYS, DOIT.BAT  
CNR, RESULTS  
END
```

This program calls a batch file named DOIT.BAT that contains the IEEE test instructions, and then runs the file RESULTS.RO to enter the test results in an error log. DOIT.BAT could contain the following instructions:

```
REM DOIT.BAT  
SWTCHSET /I1032 /O1033 /E  
MEASURE 1000 1025  
SWTCHSET /R
```

This program calls SWTCHSET and sets up address 1032 as Input, 1033 as Output, and connects these to the external access jacks of the MSC. Then it calls the IEEE-488 control program MEASURE to verify that the frequency is greater than 1000 but less than 1025 hz. This program writes a file called RESULTS.RO that contains the test results, and then calls SWTCHSET to reset the MSC before returning to T81 control.

You must perform the reset (/R) function on completion of your custom applications for T81 to function properly. Reset ensures the MSC is in the required state for T81 to proceed. Without reset, you may experience control problems and possibly an unexpected termination of your test.



The error log file from the IEEE-488 control program MEASURE named RESULTS.RO, could look as follows:

```
*Measured Frequency: 1014.3Mhz *** PASS ***  
RTN
```

The * as the first character on a line tells T81 to enter this line both on the CRT and the Error Log.

You have more options than the basic operation shown above. Using T81 "SYS" calls, you can pass batch file arguments to control the entire switching setup and frequency ranges. The files could look as follows:

Sample Test Program:

```
[Program to measure frequency of signal generator  
SYS,DOIT 1032 1033 1000 1025  
CNR, RESULTS  
END
```

Sample Controlling Batch File:

```
REM DOIT.BAT  
SWTCHSET %1 %2 /E  
MEASURE %3 %4  
SWTCHSET /R
```

SWTCHSET offers you greater flexibility. The above examples are just sample ideas and are not meant to limit or define the use of this program.

