



02-010C
2 May, 2007

M700 SEQUENCE WRITING

I. PURPOSE:

To help guide you through writing sequences for your M700 Teledyne API calibrator using the RS 232 port and a communication program. If you are going to use HyperTerminal and you don't know how to use it then read the Service Note 98-049. If you don't have this service note, contact the Teledyne API customer service department.

II. TOOLS:

Computer with RS 232 cable.
Communication program such as HyperTerminal

III. PARTS:

None

IV. PROCEDURE:

1. Using HyperTerminal type "V config" enter. You should see a list of the configuration of your software that is in that calibrator, similar to the one below.

```
V 236:09:37 0700 CONFIG[0]=Model 700 Calibrator
V 236:09:37 0700 CONFIG[1]=Serial Number M700-123456
V 236:09:37 0700 CONFIG[2]=Software Revision D.9
V 236:09:37 0700 CONFIG[3]=Rear Panel V1.02A
V 236:09:37 0700 CONFIG[4]=SBC40 CPU, AMX86 V03.05
```

2. For you to be able to do the sequence configuration via the RS 232 you have to have the line in this configuration list that says "Software Revision D.9". If your software revision is not D.9 or larger (D.9, E.0 etc) then you can NOT do the sequence configuration from the RS 232 port.
⇒ If you do have the correct software version then type "c print script" enter.
3. Copy the data that the calibrator has just sent to you.
⇒ Go to START_PROGRAMS_ACCESSORIES_NOTE PAD and open note pad.
4. "PASTE" your sequence into note pad.
5. Modify your sequence to what you want.
⇒ Save your sequence to your hard drive as a "TEXT DOCUMENT" (.TXT file).
6. Go to HyperTerminal click on "TRANSFER_SEND TEXT FILE."
7. Select the file that you have just saved and click on "OPEN."
8. You should get a message back from the calibrator that says "new sequence configuration stored." If you get a message that says "XXX syntax error(s) encountered. Sequence configuration not modified" (where XXX is some number of errors) then the calibrator did not like the file that you sent to it and you are going to have to go back into the notepad and find out why the calibrator did not like your sequence file.

9. Check the sequence file that you have just modified with one that is in this manual & find out what command you have wrong or left out.
10. Resave the file to your disk and then send it to the calibrator.
If you get an error message that says "1 syntax error(s) encountered. Sequence configuration not modified," then make sure that you have a carriage return after the last line of your sequence file. Re-save your file and try to send it to your calibrator again.
11. Please keep in mind that if you are communicating with your calibrator via multi-drop that this will only work if you have one calibrator on the multi-drop network. If you have more than one calibrator on the multi-drop network you are going to have to disconnect the one that you do NOT want to store the file. Or you can go directly into the calibrator and make your modifications then put the calibrator back onto the multi-drop.
12. An alternative is for you to connect to the calibrator using APICOM and editing the sequence with it. This does not allow you to upload and download the sequence all at one time but you can make any changes to your sequence that you would like using APICOM.
13. See the example sequence that is at the end of this note for an idea of what the sequence should look like. It is a good idea that once you have the sequence that is loaded into the calibrator downloaded onto your computer that you save it and print it out so that you have a reference to go back to if you have any problems with the sequences.

Example Sequence for generating gasses.

```
SEQLISTBEGIN
SEQBEGIN
NAME "SO2"
REPEATCOUNT 1
CCINPUT "100000000000"
CCOUTPUT "100000000000"
TIMER ENABLED
TIMERSTART 01/01/1999 00:00
TIMERDELTA 001:00:00
STEPBEGIN
GENERATE 450 PPB SO2
DELAY 30.0
STANDBY
STEPEND
SEQEND
SEQBEGIN
NAME "H2S"
REPEATCOUNT 1
CCINPUT "010000000000"
CCOUTPUT "010000000000"
TIMER ENABLED
TIMERSTART 01/01/1999 00:30
TIMERDELTA 001:00:00
STEPBEGIN
GENERATE 450 PPB H2S
DELAY 30.0
STANDBY
STEPEND
SEQEND
SEQBEGIN
NAME "NOX"
REPEATCOUNT 1
CCINPUT "001000000000"
CCOUTPUT "001000000000"
TIMER ENABLED
TIMERSTART 01/01/1999 01:00
TIMERDELTA 001:00:00
STEPBEGIN
GENERATE 450 PPB NO
DELAY 30.0
STANDBY
STEPEND
SEQEND
SEQBEGIN
NAME "CO"
REPEATCOUNT 1
CCINPUT "000010000000"
CCOUTPUT "000010000000"
TIMER ENABLED
TIMERSTART 01/01/1999 01:30
TIMERDELTA 001:00:00
STEPBEGIN
GENERATE 45 PPM CO
```

```
DELAY 30.0
STANDBY
STEPEND
SEQEND
SEQBEGIN
NAME "O3"
REPEATCOUNT 1
CCINPUT "000001000000"
CCOUTPUT "000001000000"
TIMER ENABLED
TIMERSTART 01/01/1999 02:00
TIMERDELTA 001:00:00
STEPBEGIN
GENERATE 450 PPB O3
DELAY 30.0
STANDBY
STEPEND
SEQEND
SEQBEGIN
NAME "ZERO"
REPEATCOUNT 1
CCINPUT "101010000000"
CCOUTPUT "101010000000"
TIMERSTART 01/01/1999 02:30
TIMERDELTA 001:00:00
STEPBEGIN
GENERATE ZERO
DELAY 30.0
STANDBY
STEPEND
SEQEND
SEQBEGIN
NAME "STANDBY"
REPEATCOUNT 1
CCINPUT "000000000000"
CCOUTPUT "000000000000"
TIMERSTART 01/01/1999 03:00
TIMERDELTA 001:00:00
STEPBEGIN
STANDBY
STEPEND
SEQEND
SEQLISTEND
```