GeoSonics Inc.

Alternative Methods for Downloading
SSU 3000 Series Seismograph Event Records

About our "Friends" at Microsoft™

Due to changes by Microsoft™ in how the various flavors of their operating system handle times, dates and numbers, difficulty has been experienced downloading events from GeoSonics, 3000 series seismographs, on some platforms. Some individuals have manipulated control panel settings to minimize the effects but not all have been successful. This is unfortunate and we regret any complexities that this fact may cause. Until we have resolved these compatibility issues, there is however, a workable solution to side step the problems introduced by Bill Gates.

Using Hyper-Terminal with GeoSonics, 3000 Series Seismographs.

Hyper-Terminal is a communications package integrated into the Windows operating system. It does not experience the same problems that numerous 3rd party software applications have experienced trying to keep pace with the ever-changing Microsoft Operating System.

The following information allows an alternate method of communications with 3000 series seismographs for setting up or downloading events, using the terminal package that accompanies the Windows operating system. It assumes that you are familiar with terminal type communications and with the GeoSonics, 3000 Series Seismographs.

Connecting to the PC- Connect the Seismograph to the pc serial port using the GeoSonics, Null modem cable, (p/n 3039mm)

Running Hyper Terminal- Select Programs from the Windows start menu, then Accessories. HyperTerminal should be listed as selection here or as a subfolder in the Communications folder.

Adding Hyper Terminal if not previously installed- ** If Hyper Terminal is not available as a selection under Accessories, go to "Settings" and open the Control Panel.

Select Add/Remove Programs.

At the Add/Remove Programs Properties display, select the "Windows Setup"

Select the Communications Component folder and select Hyper Terminal as a component.

After selecting OK, screen will return to the Windows Setup tab. Apply and then OK after executed to return to the Control Panel.

At the Hyper Terminal- Open HyperTerminal folder, then run HyperTerm.exe. At this point you should be at the "Add as a New Connection" screen. Enter a name (i.e., Direct 9600), choose an icon and then OK. The window should close and you should be at a blank terminal with a flashing cursor. If instead, you find yourself at the "Connect To" details window, press Cancel to return to the terminal window.

Select File, then Properties.

At the New Connection Properties window, "Set Connect using:" to the appropriate comm port.

Next, select "Configure..." and verify the following-

```
               Bits per second -  9600
               Data bits        -  8
               Parity           -  None
               Stop Bits        -  1
               Flow Control     -  None
```

NOTE: Seismograph serial port should be setup the same (default power up settings).

Switch from the "Connect to/Phone Number" tab to the "Settings" tab and insure the following-

```
     Function,arrow and ctrl keys act as -  "Terminal keys"
     Backspace Key sends – Ctrl+H
     Emulation - "VT52"
        (no changes required to ASCII setup)

               Close window with "OK".
```

At the Terminal, select "Call" and the connection should be made.

Connecting to the Unit

Pressing the [Enter] on the pc a few times should start returning seismograph prompts, {>}. This is the basic command line for the instrument.

At {>}, type "inf" and press [Enter}, seismograph should return its' serial number, version and free space.

If the above action has produced the expected reply, you may wish to "Save as" the terminal settings for future tests or communications.

Communications Interface-

Once connected, the following information pertains to commands that may be sent to the unit while it is at the command prompt, [>].

BATCH MODE COMMANDS:
```
KEY [nnnn]          ; unlock the unit (access code)
RUN                 ; enter data collection mode
OFF                 ; force serial port to close (does not change run mode)
HLT                 ; exit data collection mode
BYE                 ; shutdown the unit
TRG                 ; force an event trigger (when in run the mode)
CLR E               ; clear all events, preserve templates. "E" uppercase.
CLR [[-]n]          ; clear event number specified, re-organizes memory.
INF                 ; basic information about the unit (always available)
XFR [[-]n]          ; transfer event (0 transfers all)
CLK [n]             ; clock, requires full string, mm/dd/yy hh:mm:ss to set.
LST [[-]n]          ; directory list of events
SUM [[-]n]          ; list summary information
CAL                 ; perform a calibration test, get calibration date
```

All of the above command line arguments are issued at the (>), followed by an [Enter]. [n] refers to a number such as, XFR 4, would transfer event 4, XFR 0, would transfer all events in memory as detailed below. Note that [-] preceding [n], starts the end of the list, going forward, i.e., LST -1, would display the last directory entry and LST -2, next to the last. Also note that brackets are not part of the strings to be send.

Using XFR command for downloading events- 3000 series seismographs use YMODEM protocol for downloading purposes and as such are accessible though Hyper-terminal. Prior to downloading records, the Hyper-terminal Transfer protocol and down path should be set so that during the download initiation process, there are no delays that could result in a YMODEM timeout. This is accomplished as follows.

- At the terminal window, select **Transfer** from the toolbar, then select **[Receive File].**
- Set, **[Place received file in following folder],** to the required path and set protocol to **YMODEM.**
- Close **Receive file** window for time being.

Note that if a filename exists in the folder that the YMODEM transfer is sent in Hyper-terminal, the existing file will be replaced. It is recommended that a temporary folder be made and the downloaded files moved after transferring, using the GeoSonics Analysis software, with "Safe Filename" selected. This will prevent overwriting by automatically renaming the incoming filenames if that file is already present.

Once the download path has been set, the following process may be followed to retrieve all the records from the connect seismograph.

- With the unit connected and the terminal active, send a few [Enters] to insure unit is active. A [>] should be returned by the seismograph for each [Enter]
- Access the unit by sending its access code as follows, where [nnnn] is the code.
    - o At [>], send [key [nnnn]]
    - o >.OK should be returned
- At [>], type [XFR [0]] and press [Enter]

GeoSonics Inc.   3/30/2004

- Immediately, pull down the Hyper-terminal Transfer toolbar and then Receive File and click on Receive.

The YMODEM protocol should be initiated and the files transferred to the selected folder. When finished, the seismograph should respond with >.DONE.

Deleting the events is accomplished as follows-

- At [>], type [**CLR**<space>**E**] and press [Enter]. All events in memory will be erased. Note that once [Enter] is pressed, the memory is erased and there is no second chance to retrieve the data. **DO NOT ERASE EVENTS UNTIL YOU PHYSICALLY CHECK THEM**, using the Analysis program and view **ALL** records of concern. As stated, there are no second chances.

Alternatively, a single event may be downloaded using the following commands.

After "login" by sending the access code and observing a return [>]:

- At [>], type [LST] and press [Enter] to display a listing of events.
- After determining list number for event to download, type [XFR [n]] and press [Enter]. (where [n] is list number of required event)
- Immediately, pull down the Hyper-terminal Transfer toolbar and then Receive File and click on Receive.

The YMODEM protocol should be initiated and the files transferred to the selected folder. When finished, the seismograph should respond with >.DONE.

After downloading is completed, it is a good practice to open the analysis software (if not already opened) and check the events before clearing the events out of the seismograph.

Deleting the events is accomplished as follows-

- At [>], type [**CLR**<space>**n**] and press [Enter]. event number selected will be erased and memory space recovered. Note that once [Enter] is pressed, the event is erased and there is no second chance to retrieve the data.

At this point Hyper-terminal may be closed and the seismograph disconnected from the PC.

The only difference with events downloaded this way, as opposed to using Event Manager is that the event numbers will start with a # and will have the time downloaded for the file creation time. When viewed with the GeoSonics software, the actual event time will be displayed in the software's event listing.

Note that you should use the GeoSonics Analysis Software- to Copy or Move files into folders, which may contain previous files of the same name. The "Safe filenames" feature of file transfer function renames incoming file if the filename is already in use.

_____

GeoSonics Inc.   3/30/2004

Beyond Downloading- Working from the instrument's command prompt may also be used for remote communications and setup during a Hyper-terminal session. It should be noted that this is much like direct access and when an "OK" is received back from a command, that there is no checking as to what you sent the unit, only that it was successfully received.

If you are already familiar with using Hyper-terminal for retrieving records or setting the clock, there should be little difficulty in accomplishing other tasks such as setting client name, etc. Note that all functions that are available using GeoSonics WinLc software, are not addressed here, only typical setup routines.

As an example, to "set" the client name to Acme Blasting-
- At [>], type [**set**<space>**5**<space>**Acme Blasting**] and press [Enter].
- To confirm what you sent, type [**get**<space>**5**].

To set the time to 10/14/02 09:00:00-
- At [>], type [**clk**<space>**10/14/02**<space>**09:00:00**] and press [Enter].
- To confirm what you sent, simply type [**clk**].

Note that seismic trigger levels are set with respect to decimal point places for velocity scaling, i.e.- to set trigger to .020 ips,
- At [>], type [**set**<space>**16**<space>**20**] and press [Enter].
- To confirm what you sent, type [**get**<space>**16**] and press [Enter], 20 should be returned.

Sound trigger is actually set in psi, i.e.- .0051 psi is equal to 125 dB. To turn off sound trigger, set to **-1**.

<div align="center">(Version 2.xx Firmware)</div>

Action / Type Entry	Command	Entry / Text
Login	Key	
Set Clock	clk	mm/dd/yy hh:mm:ss
Erases all events in memory	clr E	
Resets event number to 0	set 1	0 to 999
Client name	set 5	text, upto 23 characters
Operation	set 6	text, upto 23 characters
Location	set 7	text, upto 23 characters
Operator	set 8	text, upto 23 characters
Comments	set 9	text, upto 23 characters
Xtra info line 1	set 2	text, upto 23 characters
Xtra info line 2	set 3	text, upto 23 characters
GPS coordinates / line 3	set 4	hddmm.mmm,hdddmm.mmm
Set recording mode	set 11	1=trig,2=con+f,3=sustrg
Set seismic trigger (.020 ips)	set 16	20
set air trig,(-1=off)(51=125db)	set 17	-1
* set number of records for sustrg or histogram record size	set 34	5 = 25 sec., with 5 sec record time. for sustrg
set histogram recording interval	set 35	0=1min., 1-6 = 1, 5,10,15,30 and 1 min.

GeoSonics Inc.   3/30/2004

Set Timer mode to on	set 24	1
Set Timer to daily	set 25	0 for daily, 1 for once
Set wakeup to 08:00:00 (typical)	set 23	mm/dd/yy hh:mm:ss
Set sleep to 17:00:00 (typical)	set 22	mm/dd/yy hh:mm:ss

Always confirm sets with gets- When the unit responds "OK", it means that the unit received what you sent, not that you sent a valid entry.

Special Alarm Setup- Special alarm setups are used for or alarm accessories such as lights, sirens or alarm dialers.

Note that setting Special Alarm Trigger levels to -1, turns off alarms

The following illustrates, Special Alarm 1 set to trigger on a seismic input of .050 ips and to turn it's output on, for 20 seconds. Special Alarm 2 has been set off.

Special Alarm Setup:

Special Alarm 1 Trigger level (ips or psi,omit decimel point)	set 18	50
Special Alarm 2 Trigger level (ips or psi,omit decimel point)	set 19	-1
Special Alarm 1 Source 0= seis, 1= sound (in psi)	set 26	0
Special Alarm 2 Source 0= seis, 1= sound (in psi)	set 27	0
Special Alarm 1 on time (in sec) default= 20	set 20	20
Special Alarm 2 on time (in sec) default= 20	set 21	20

AGAIN- ONE REAL BIG NOTE about gets and sets- When the 3000 returns "OK" to command, it is saying "I got what you sent", it is not saying whether or not what you sent is correct. Always check sets with a get.

For additional assistance with utilizing gets and sets or if you need additional assistance, contact the GeoSonics Service Center by phone (724) 934-2900 or by e-mail to – support@geosonics.com.

GeoSonics Inc.   3/30/2004