

Monitoring Digitool Activity

Audio activity can be monitored via the RS-232 port using the stream function if the Digitool is running flash version 3.37 or later. These reports can only be initiated via the RS-232 port. To force Digitool to begin sending monitor activity, the following command must be sent via RS-232 port:

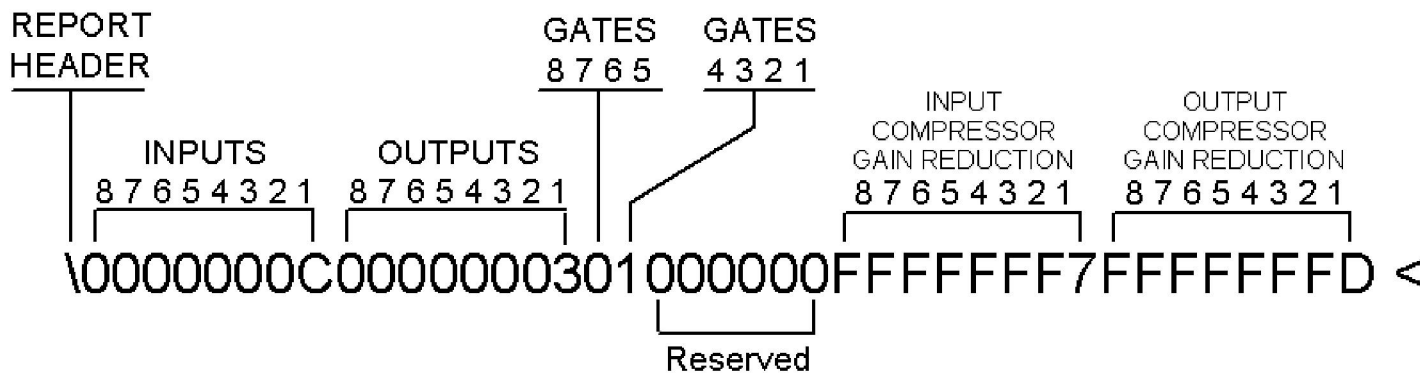
STREAM <CR-LF>

Once this command is received, Digitool begins sending continuous monitor strings that occur once every 30ms. Each report has a fixed length of 41 characters followed by a carriage return/Line feed. These reports continue until the next character is received by the Digitool on the RS-232 port. Once the reports are halted, they remain halted until another stream command is received.

Note that while streaming is active, Digitool may send additional reports between the monitor reports. These additional reports are related to front panel changes and RS-485 activity. These additional reports are described in the utility help file and are differentiated from the monitor reports by their header character and string length. All reports generated by the Digitool are terminated with a carriage return/line feed combination.

Monitor Report Fields Description

An example monitor string is shown below*:



*Digitool sends lower-case characters. The example above is shown with upper-case hex values so that field-lengths are uniform.

REPORT HEADER:

Each report string begins with a back-slash `\` character as shown above. This signals the receiver that the next 40 characters are monitor characters.

PEAK INPUT READINGS:

The hex character that immediately follows the header is the channel-eight input peak level. This character is followed by the channel-seven input peak level, then channel six through one as indicated above. The peak level is indicated as a single hex value

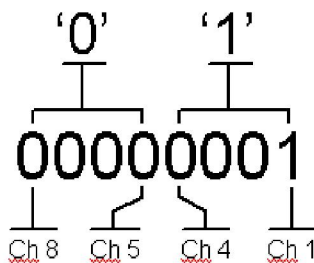
from -0 dB to $-F\text{ dB}$. -0 dB represents no signal while $-F\text{ dB}$ indicates a full scale input (0 dBFS) or clipping. Note that in the example string, input one has a peak reading of hex $-C\text{ dB}$. This is an input level of approximately -10 dBFS (2 dB). Refer to the table at the end of this document for the interpretation of each hex value.

PEAK OUTPUT READINGS:

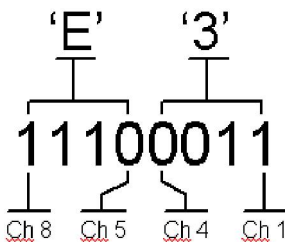
Immediately following the eight input peak characters are the output peak readings. As with the input levels, the readings begin with channel eight and end with channel one. In the above example only output channel one has a signal, which has a reading of hex -3 dB or approximately -46 dBFS, (2 dB). Refer to the table at the end of this document for the interpretation of each hex value.

INPUT GATE STATUS:

The two hex characters immediately following channel-one output level provides the gate status for channel one through eight. The hex value pair is converted to its binary form to determine the gate status for each channel. A bit value of 0 indicates that the gate is closed (off) while a bit value of 1 indicates that the gate is open (on). The example gate field above is shown below with its binary form:



This example shows that channel one gate is open (on) and channels 2 through 8 are closed (off). Another example is shown below:



This example indicates that channels 1,2, 6,7 & 8 are open (on) while channels 3,4 and 5 are closed (off). Note that gate status is only valid when a gate is in an active mode (not bypassed). When the gate is bypassed, the monitor status always indicates a binary value of zero.

RESERVED CHARACTERS:

The six hex characters immediately following the gate status hex pair are reserved for future use.

INPUT COMPRESSOR ATTENUATION:

The hex character that immediately follows the six reserved characters is the channel-eight input compressor attenuation level. This character is followed by the channel-seven input compressor attenuation level, then channel six and so on. The attenuation level is mapped to a dB level in the same way as the input or output peak levels (See the table at the end of this document). In the example string, all input compressors have an attenuation reading of 0 dB (-F0) except channel one which is approximately -26 dB (hex -70). In the case of compressor attenuation readings, an -F0 is not interpreted as clipping. Rather it is interpreted as simply 0 dB or no attenuation. Any reading other than -F0 for each channel means that the compressor input signal level has reached the threshold setting and the indicated attenuation is being applied to the signal.

OUTPUT COMPRESSOR ATTENUATION:

Following the input compressor attenuation characters are the eight output compressor attenuation characters. Interpretation of these characters is identical to the input compressor attenuation characters. In the example string, all output compressors have an attenuation reading of 0 dB (-F0) except channel one which is approximately +6 dB (hex -D0). Any reading other than -F0 for each channel means that the compressor input signal level has reached the threshold setting and the indicated attenuation is being applied to the signal.

Termination:

Each monitor string is terminated with a carriage return / Linefeed combination (ascii #13 followed by ascii #10).

TABLE - HEX VALUE INTERPRETATION

Level readings are indicated as a single hex value from -00 to -F0. -00 represents a value below +56 dBFS while -F0 indicates a full-scale value of 0 dBFS. Each hex value defines a level on 4 dB boundaries described in the following table:

Hex Value	Level (dBFS)	Error (dB)
F	0	0
E	-2	+/- 2.0
D	-6	
C	-10	
B	-14	
A	-18	
9	-22	
8	-26	
7	-30	
6	-34	
5	-38	
4	-42	
3	-46	
2	-50	
1	-54	
0	< -56	0