

Table 1 - Monitor Port Commands

Extended ASCII Command for Terminal mode	Shortened Hexadecimal Command for microprocessor mode	Command function	Response
Switching between Shortened and Extended Command sets			
'SCS'<cr>	\$10,\$0D	Switches to the shortened command set	This will return the prompt '>',\$0D to indicate that the device is in shortened command set mode.
'ECS'<cr>	\$11,\$0D	Switches to the extended command set	This will return the prompt 'D:\>',\$0D to indicate that the device is in extended command set mode.
'E'<cr>	'E'<cr>	Echo	This will return 'E',\$0D for synchronisation purposes
'e'<cr>	'e'<cr>	Echo	This will return 'e',\$0D for synchronisation purposes
Responses to indicate if disk is online			
<cr>	\$0D	Check if online	This will return the appropriate prompt or 'no disk' message for the current command set.
Response to Check if online for Extended Command Mode		If no valid disk is found	'No Disk',\$0D
		If a valid disk is found	'D:\>',\$0D
Response to Check if online for Short Command Mode		If no valid disk is found	'ND',\$0D
		If a valid disk is found	'>',\$0D
Directory operations			
'DIR'<cr>	\$01,\$0D	Lists the current directory	A list of file names and directory names are returned. Each entry is terminated by \$0D. A directory entry has <sp>'DIR' after the name and before the \$0D.
'DIR'<sp> <name><cr>	\$01,\$20, <name>,\$0D	Lists the file name followed by the size. Use this before doing a file read to know how many bytes to expect.	\$0D,<name><sp><size in hex(4 bytes) LSB frst> \$0D
'DLD'<sp> <name><cr>	\$05,\$20,<name>,\$0D	Delete directory	Deletes the directory <name> from the current directory. <prompt>\$0D
'MKD'<sp> <name><cr>	\$07,\$20, <name>,\$0D	Make directory	Creates a new directory <name> in the current directory. <prompt>\$0D
'CD'<sp> <name><cr>	\$02,\$20,<name> \$0D	The current directory is changed to the new directory <name>	<prompt>\$0D
'CD'<sp>'..'<cr>	\$02,\$20,\$2E,\$2E,\$0D	Move up one directory level.	<prompt>\$0D

File operations			
'RD'<sp> <name><cr>	\$04,\$20,<name> \$0D	Read file <name>	This will send back the entire file in binary to the monitor. The size should first be found by using the 'DIR' <sp> <name><cr> command so that the expected number of bytes is known. <prompt>\$0D
'RDF'<sp> <size in hex(4 bytes)><cr>	\$0B,\$20,size in hex(4 bytes) , \$0D	Reads the data of <size in hex(4 bytes)> from the current open file.	This will send back the requested amount of data to the monitor. <prompt>\$0D
'DLF'<sp> <name><cr>	\$07,\$20,<name> \$0D	Delete file <name>	This will delete the file from the current directory and free up the FAT sectors. <prompt>\$0D
'WRF'<sp> <size in hex(4 bytes)><cr> <data bytes of size><cr>	\$08,\$20,size in hex(4 bytes) , \$0D \$data,\$0D	Writes the data of <size in hex(4 bytes)> to the end of the current open file.	<prompt>\$0D
'OPW'<sp> <name><cr>	\$09,\$20, <name>,\$0D	Opens a file for writing to with 'WRF'	<prompt>\$0D
'OPR'<sp> <name><cr>	\$0E,\$20, <name>,\$0D	Opens a file for reading to with 'RDF'	<prompt>\$0D
'CLF'<sp> <name><cr>	\$0A,\$20, <name>,\$0D	Closes a file for writing.	<prompt>\$0D
'REN'<sp> <orig name> <sp> <new name><cr>	\$0C,\$20, <orig name>,\$20, <new name> <cr>	Rename a file or directory	<prompt>\$0D
'FS'<cr>	\$12,\$0D	Returns free space in bytes on disk	<free space in hex(4 bytes) LSB first> \$0D
Commands for UART monitor mode only			
'SBD'<sp><divisor (3 bytes) LSB first><cr>	\$14, \$20,divisor (3 bytes) LSB first , \$0D	Set Baud Rate (See Baud Rate Table)	<prompt>\$0D
Power Management Commands			
'SUD'<cr>	\$15,\$0D	Suspend the disk when not in use to conserve power. The disk will be woken up automatically the next time a disk command is sent to it.	<prompt>\$0D
'WKD'<cr>	\$16,\$0D	Wake Disk and do not put it into suspend when not in use.	<prompt>\$0D
'SUM'<cr>	\$17,\$0D	Suspend Monitor and stop clocks	<prompt>\$0D
Debug commands			
'SD'<sp> <sector number in ASCII hex><cr>	\$0,\$20,...\$0D	Sector Dump. This is used for debug purposes and may be removed. e.g. 'SD 0000<cr>' will dump sector 0000. 'SD 0010'<cr> will dump sector 16 decimal.	Sends back 512 bytes from the sector specified in HEX converted to ASCII. Every 16 bytes is followed by a \$0D. <prompt>\$0D
'IDD'<cr>	\$0F,\$0D	Identify Disk Drive. This will display information about the attached disk.	Sends IDD data block and then <prompt>\$0D
'FWV'<cr>	\$1,\$0D	Get Firmware Versions	Displays the version numbers of the main firmware and the reprogramming firmware in the VNC1L 'MAIN x.xx'\$0D 'RPRG x.xx'\$0D then <prompt>\$0D

Table 2 - Error Reporting

Error	Command Mode	Result
If command is unrecognised	Extended Command set	'Bad Command', \$0D
	Shortened Command Set	'BC', \$0D
If command fails	Extended Command set	'Command Failed', \$0D
	Shortened Command Set	'CF', \$0D

Table 3 - IDD Command Results Format

IDD - Identify Disk Drive Results
'USB VID = \$', 2 bytes in ASCII, \$0D
'USB PID = \$', 2 bytes in ASCII, \$0D
'Vendor Id = ', 8 bytes in ASCII, \$0D
'Product Id = ', 16 bytes in ASCII, \$0D
'Revision Level = ', 4 bytes in ASCII, \$0D
'I/F = ', 'SCSI' or 'ATAPI' in ASCII, \$0D
'FAT12' or 'FAT16' or 'FAT32' in ASCII, \$0D
'Bytes/Sector = \$', 2 bytes in ASCII, \$0D
'Bytes/Cluster = \$', 3 bytes in ASCII, \$0D
'Capacity = \$', 4 bytes in ASCII, \$0D
'Free Space = \$', 4 bytes in ASCII, \$0D

Table 4 - Baud Rate Table for UART Interface

Baud Rate	1st Byte	2nd Byte	3rd Byte
00	\$10	\$27	\$00
600	\$88	\$1	\$00
1200	\$C4	\$09	\$00
2400	\$E2	\$04	\$00
4800	\$71	\$02	\$00
9600*	\$8	\$41	\$00
19200	\$9C	\$80	\$00
38400	\$4E	\$C0	\$00
57600	\$34	\$C0	\$00
115200	\$1A	\$00	\$00
230400	\$0D	\$00	\$00
460800	\$06	\$40	\$00
921600	\$0	\$80	\$00
1000000	\$0	\$00	\$00
1500000	\$02	\$00	\$00
2000000	\$01	\$00	\$00
000000	\$00	\$00	\$00

* default baud rate after reset is 9600 baud.