Trek 541A/542A Serial Commands

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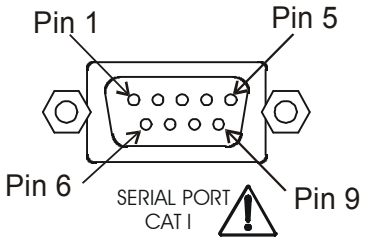

D9 Serial Pin Readouts

D-Type 9-Pin No.	Abbreviation	Full Name
Pin 3	TD	Transmit Data
Pin 2	RD	Receive Data
Pin 7	RTS	Request To Send
Pin 8	CTS	Clear To Send
Pin 6	DSR	Data Set Ready
Pin 5	SG	Signal Ground
Pin 1	CD	Carrier Detect
Pin 4	DTR	Data Terminal Ready
Pin 9	RI	Ring Indicator

The commands sent over the serial port to the Model 541A/542A are of a form of a 3 character string. The characters are always lower case and will always garner a 3 character response from the Model 541A/542A. The setup of the serial port is as follows:

8 data bits
1 stop bit
No parity
9600 baud rate

The responses from the Model 541A/542A are always marked by one of two responses. They are an "_OK" or "ERX". Note that the "_OK" is actually an "OK" preceded by a space, and the "X" in the "ERX" is a number from 1-9 that indicates that an error has occurred and what type of error it is. The "_OK" response indicates that the command was understood, data may follow, in which case certain commands will respond with data followed by an "_OK" statement. What follows is a summary of the commands.

Model 541A/542A Serial Commands (cont.)

Command	Description	Model 541A/542A Response
tx1	Start to transmit data	"_Okpresent/max/min/present/max/min……." Data starts to come, in a binary fashion (16 bit signed Integer), as present voltage, maximum voltage (peak), minimum voltage (peak), present voltage, maximum voltage, minimum voltage…..
tx0	Stop data transmission	"_OK"
+th	Set + threshold	"_OK" then send threshold voltage inn a binary fashion (signed 16 bit integer) low byte, high byte, then an "_OK" is again sent"
-th	Set - threshold	"_OK" then send threshold voltage inn a binary fashion (signed 16 bit integer) low byte, high byte, then an "_OK" is again sent"
ver	Firm ware version	"_OK" Then string with model and firm ware version followed by "_OK" for example: "_OKModel 541-2 v1.11_OK"
get	Get the set thresholds	"_OK" followed by + threshold then –threshold in binary fashion (16 bit signed integer) Low byte then high byte, followed by "_OK"
gtp	Get peak values	"_OK" followed by Maximun Peak then the Minimum Peak in binary fashion (16 bit signed integer) low byte then high byte, followed by "_OK"
aa0	disable audio alarm	"_OK"
aa1	enable audio alarm	"_OK"
ar0	Alarm reset type: "Auto"	"_OK"
ar1	Alarm reset type: "Manual"	"_OK"
at0	Audio type: "Continuous"	"_OK"
at1	Audio type: "Pulsed"	"_OK"
dta	Data acquisition period	"_OK" followed by a string that indicates the sampling period followed by "_OK". For example "_OK25E-3_OK" means 25ms sampling rate"
rst	Reset peaks and alarms	"_OK"

For the 541A series of instruments, the numbers returned are always adjusted from 1000. For a reading of 900 on the Model 541A-1 (1000 volt unit) the measured voltage is 900. The Model 541A-2 (100 volt unit) reading of 900 is in actuality 90.0 volts.

In regards to the 542A-1 and 542A-2, the number reported will be 1/5th the actual voltage. For example, if the number 500 is sent from the unit, the actual voltage is 2.5kV.