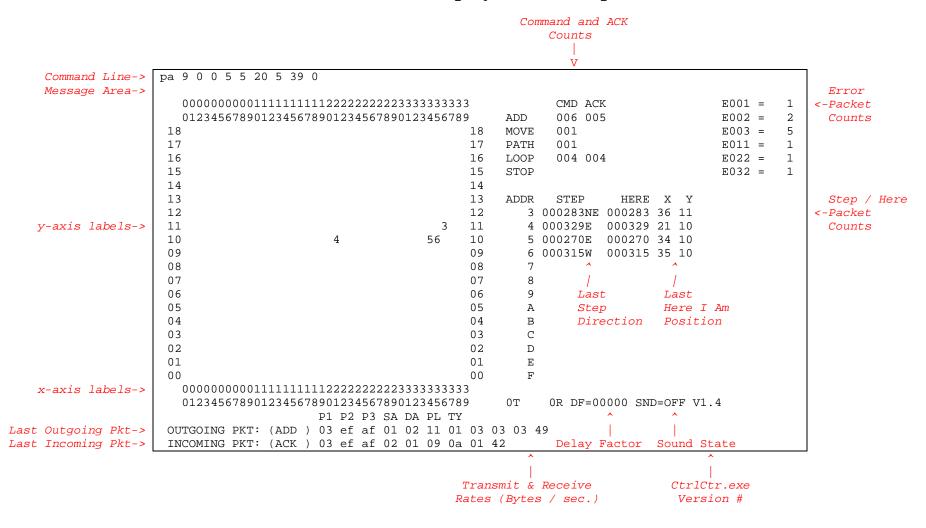
## CtrlCtr.exe V1.4 Display Screen Snapshot



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## **CtrlCtr.exe Command List**

COMMAND	DESCRIPTION	COMMAND PACKET TYPE
AD addr x y	Add a new robot whose address is $addr$ at position $(x,$	Add robot
	(y).	
MV addr x y	Move robot $addr$ to position $(x, y)$ .	Move robot
PA addr $x_1$ $y_1$ $x_2$ $y_2$ $x_3$ $y_3$	Make robot addr follow the path from its current	Follow Path
	position to up to 10 stops at positions $(x_1, y_1)$ , $(x_2,$	
	$(y_2), (x_3, y_3),$	
LP addr $x_1$ $y_1$ $x_2$ $y_2$ $x_3$ $y_3$	Make robot addr repeatedly follow the path from its	Loop
	current position to up to 10 stops at positions $(x_1,$	
	$(y_1), (x_2, y_2), (x_3, y_3), (x_1, y_1), (x_2, y_2), (x_3, y_3),$	
	$(x_1, y_1), (x_2, y_2), (x_3, y_3),$ The robot will	
	continually trace out a looping path through the	
	specified stop positions. Note that the loop does not	
	include the starting position of the robot at the time	
	the command is issued (unless the first stop is the	
	initial position.	
ST addr	Make robot addr stop looping.	Stop Looping
OF filename	Open and execute command file filename.cmd	None
	(Up to 20 levels of nesting).	
FE 1 n	Force a preamble byte 1 error once per $n$ command	None
	packets transmitted to the STM32F107.	
FE 2 n	Force a preamble byte 2 error once per $n$ command	None
	packets transmitted to the STM32F107.	
FE 3 n	Force a preamble byte 3 error once per $n$ command	None
	packets transmitted to the STM32F107.	
FE 4 n	Force a checksum error once per n command packets	None
	transmitted to the STM32F107.	
FE 5 n	Force a packet length error once per <i>n</i> command packets	None
	transmitted to the STM32F107.	
FE 6 n	Force a message type error once per <i>n</i> command packets	None
	transmitted to the STM32F107.	
FE	Stop forcing errors.	None
QU	Quit from CtrlCtr.exe.	None
DF n	Set the delay factor to "n." Increasing the delay	None
	factor slows the rate that Robot.exe transmits bytes	
	on the RS232 link.	
RE	Send a Reset packet to the microcontroller, forcing a	Reset
	reboot.	
	Comment prefix	None
WA	Await a key press before continuing script execution.	None
SO	Toggle sound on and off.	None

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**LOG FILE:** CtrlCtr.exe records a log file called "Robots.log" giving a history of commands entered, command packets transmitted, and reply packets received. This file is erased and recreated each time CtrlCtr.exe starts up. A sample log file is shown below:

COMMAND: ad 3 3 3

OUTGOING PKT: 03 ef af 01 02 0b 01 03 03 03 49

Add Robot 3 3 3

INCOMING PKT: 03 ef af 02 01 09 0a 01 42

COMMAND: mv 3 5 5

OUTGOING PKT: 03 ef af 01 02 0b 02 03 05 05 4a

Move Robot 3 5 5

INCOMING PKT: 03 ef af 02 03 0d 07 01 00 00 00 02 4b

Step Robot 3 from (3, 3) to (4, 4).

OUTGOING PKT: 03 ef af 03 00 0a 09 04 04 43

INCOMING PKT: 03 ef af 02 01 09 0a 02 41

INCOMING PKT: 03 ef af 02 03 0d 07 02 00 00 00 02 48

Step Robot 3 from (4, 4) to (5, 5).

OUTGOING PKT: 03 ef af 03 00 0a 09 05 05 43

COMMAND: qu