

RVON Serial and Telnet Commands

The following details the serial port programming of the RVON-8 Card. This can be done via direct serial or telnet connection. There are several physical connections to a RVON board: Direct serial through custom debug cable (J20 6-pin bottom front), Backcard DB-9 J2, Backcard RJ-45 J1. The custom debug cable will always function as a general purpose debug tool. The backcard DB-9 must be disabled/enabled via a DIP Switch because it can also be used for serial port pass-thru. *More detailed information about the use of DIP Switches will be added to this document at a later date.*

Setup:

Serial Port : 38,400 baud, No-flow control
Telnet : IP address, Use port 23

RVON-8 Revision 0.16.01

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Autoload disable based on Dip Switch 7.

Flash File System initialized.

Monitor Revision 0.16.01

Monitor Compilation time Mar 30 2003, 12:10:14

Board type / revision 0 (Unknown) / 1

RTL ID / revision 9 (Unknown) / 0.16

Processor ID / Revision 0x80 (4Kc) / 0x05

Avalanche Device Type Avalanche-I, Revision 1.3

Memory Controller Revision 1.204

Endianness Big

External Memory rate Half

CPU Frequency 125 MHz

Flash memory size 16 MBytes

RAM size 64 MBytes

First free RAM address 0x94016b28

PLL Mode Operating 2.50X

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Press any key to abort OS load, or wait 5 seconds for OS to boot...

Loading file /bin/telex from FFS

PC: 94020000

FTP done!, PC: 94020000

Target Name: vxTarget

Attached TCP/IP interface to emac unit 0

Attaching network interface lo0... done.

NFS client support not included.

Adding 5141 symbols for standalone.

Following these power-on messages, if the user presses <Return>, you will get:

->

This is the operating system prompt. There are many different serial port commands supported from here but it is **NOT** recommended that any be used **EXCEPT**

dbgcmd

Typing “dbgcmd” and <Return> places the serial port into the

MXP>

Command Mode. The MXP Command Mode is the only mode which will be used. The following is a list of commands supported from the MXP Shell Prompt.

Command Table

Command	Variable1	Variable2	Description
set rvon			Help screen which lists all “set rvon” commands
set rvon	ip_addr	X.X.X.X	Set the IP address for the RVON-8 Card
set rvon	netmask	X.X.X.X	Set the network mask for the RVON-8 Card
set rvon	gateway	X.X.X.X	Set the gateway IP address for the RVON-8 Card
set rvon	serial_ip	X.X.X.X	Set the pass-thru serial port IP address for the RVON-8 Card
set rvon	serial_baud	X	Set the pass-thru serial port baud rate for the RVON-8 Card
set rvon	user	abcdefg	Set the RVON-8 user name for telnet access <i>Default “telex”</i>
set rvon	password	abcdefg	Set the RVON-8 password for telnet access (8-40 characters) <i>Default “password”</i>
set tcid			Help screen which lists all “set tcid” commands (TCID 0-7)
set tcid X	dest_ip	X.X.X.X	Set the destination IP address for this particular RVON_CH (same as tcid)
set tcid X	dest_type	X	dest_type Y = 0(rvon-1) 1(trunk) 2(rvon-io),
set tcid X	dest_chan	X	Set the destination channel – what port of far-end (0-7) (0=keypanel)
set tcid X	chan_codec	X	Set the profile to use which includes the compression codec – see below
set tcid X	onhook		Force the channel to disconnect the port
set tcid X	offhook		Force the channel to connect the port
set tcid X	autohook		Force the channel to disconnect and re-connect the port
activate			Must do an activate command to save and change the audio paths

Coding Profile Table

Coding	Codec	Codec Rate	Size	VAD
1	711u	64k	10	Y
2	711u	64k	20	Y
3	711u	64k	30	Y
4	711u	64k	10	N
5	711u	64k	20	N
6	711u	64k	30	N
7	711A	64k	10	Y
8	711A	64k	20	Y
9	711A	64k	30	Y
10	711A	64k	10	N
11	711A	64k	20	N
12	711A	64k	30	N
13	729AB	8k	10	Y
14	729AB	8k	20	Y
15	729AB	8k	40	Y
16	729AB	8k	60	Y
17	729AB	8k	10	N
18	729AB	8k	20	N
19	729AB	8k	40	N
20	729AB	8k	60	N
21	723	5.3k	30	Y
22	723	5.3k	60	Y
23	723	5.3k	30	N
24	723	5.3k	60	N
25	723	6.3k	30	Y
26	723	6.3k	60	Y
27	723	6.3k	30	N
28	723	6.3k	60	N

Codec: This determines how the audio is compressed/decompressed and the name given to the defined algorithm.

Codec Rate: Actual bits/s of the audio in the compressed form. This is sent over IP packets with additional overhead. One could calculate network efficiency with IP header for each packet of X ms of audio.

Size: Amount of audio in each IP packet, milliseconds (ms).

VAD: Voice Activity Detection, when enabled, only when audio is above a certain threshold will packets be sent. Otherwise, a silence packet is sent once and not again until audio is above the threshold. Enabling this will result in a more efficient network but care must be taken because of the mother's day phenomenon. If there is EVER a need to have all audio paths open and active, a network designer must account for this scenario.

Default Setup

Every attempt will be made to ensure when the board is shipped from the factory it will contain the following:

All are “set rvon” commands

Variable	Environment Name	Value	Description
ip_addr	EMACA_IPADDR	192.168.1.1	Set the IP address for the RVON-8 Card
netmask	EMACA_NETMASK	255.255.255.0	Set the network mask for the RVON-8 Card
gateway	EMACA_GW	none	Set the gateway IP address for the RVON-8 Card
serial_ip	RVON_SERIAL_IP	none	Set the pass-thru serial port IP address for the RVON-8 Card
serial_baud	RVON_SERIAL_BAUD	9600	Set the pass-thru serial port baud rate for the RVON-8 Card
user	RVON_USER	Telex	RVON-8 user name for telnet access
password	RVON_PASSWORD	Password	RVON-8 password for telnet access (8-40 characters)

There are more parameters which the software will auto-configure if they have not been previously setup. The user can also set these up in which case the software would not modify but take them as they are.

All are “set tcid #” commands because they are for each audio channel.

Variable	Environment Name	Value	Description
dest_ip	RVON_DEST_IP_#	X.X.X.X	Destination IP Address for this particular RVON_CH
dest_type	RVON_DEST_TYPE_#	X	Destination Type Y = 0(rvon-1) 1(trunk) 2(rvon-io)
dest_chan	RVON_DEST_CHAN_#	X	Destination Channel – what port of far-end (0-7) (0=keypanel)
chan_codec	RVON_CHAN_CODEC_#	X	Set the profile to use (previous coding table)

These can be shown by typing “printenv <return>” from ADAM2 boot code or “sys_printenv” from the “MXP>” Debug System Prompt. The Environment Name is listed because this is the label used by the software. So, if the user is attempting to do a “setenv” to change a parameter from the ADAM2 boot code, the Environment Name must be used and NOT the “set rvon variable” name.

The above disclaimer is present because each test phase (board level, system level) will require some IP setup. If the factory test network is different than the default, it is the responsibility of the factory to restore these settings when the testing has been completed. Engineering is looking at the possibility of using a DIP Switch to force a restore to factory defaults.

NOTE: DO NOT CHANGE OR MODIFY OTHER ENVIRONMENT VARIABLES WITHOUT CHECKING WITH ENGINEERING FIRST!

DIP Switch S1 Table

Switch	Name	Description
1	Engineering Use Only	
2	Engineering Use Only	
3	Engineering Use Only	
4	Engineering Use Only	
5	Engineering Use Only	
6	Backcard Serial Port	Force software to use backcard serial port for debug only.
7	Default Parameters	Force software to restore default parameters.
8	Boot Code	Force software to only run startup code and stop. Do not run full application software.