



**QUICK START for DOS SAMPLE SOURCE and
HARDWARE REFERENCE CARD**

**RocketPort 550 Range
RocketPort 550 Universal Range
BroadPort 550 Range**



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1. Before you begin

V1.10 and above of the DOS sample software supports the original RocketPort/BroadPort 550 range, the RocketPort/BroadPort 550 Universal range and the new BroadPort 550 Universal RS422 SMPTE cards.

When this document refers to RocketPort/BroadPort 550 it is relevant to the RocketPort/BroadPort 550, the RocketPort/BroadPort 550 Universal controller and the BroadPort 550 cards. If the text is relevant to only one controller type then the reference will be to the '*RocketPort/BroadPort 550 Universal*', '*original RocketPort/BroadPort 550*' or '*BroadPort 550*'.

The MS DOS sample source code for the RocketPort/BroadPort 550 is supplied as a self extract file.

The sample source code is intended for use with standard MS DOS. It can also be used in a DOS session under Windows 9x. It will work with a single RocketPort/BroadPort 550 controller, however developers are free to modify the code for operation with multiple RocketPort/BroadPort 550 cards.

This software's primary purpose is to assist DOS developers in the porting of their existing Hostess 450/550 register level driver software to the RocketPort/BroadPort 550.

The sample source, as supplied, builds a simple application called 'TERM'EXE'.

NOTE: The DOS sample source code accesses the RocketPort/BroadPort 550 controller at the register I/O level. Executable code produced using these techniques cannot be used under Windows NT, XP or 2000.

Prior to installing the RocketPort/BroadPort 550 controller, the driver files must be extracted to a folder on your PC's hard disk.

2. Extracting the driver files to the PC's hard disk

Terminology <cr> means press the enter key.

The term 'directory' will be used which is synonymous with a Windows 'folder'

The following assumes that you are running MS DOS or a DOS session under Windows 9x. If running under Windows, then you may, of course, use Windows Explorer to create a working folder and copy/paste files.

1. Create a working directory on your PC's hard disk eg.,

```
md c:\r550DOS<cr>
```

2. Copy the zipped file R550DOS.EXE, from the CD to the directory created in step 1.

```
copy d:\DOSSMPL\dos550.exe c:\r550DOS <cr>
```

Step 2 assumes that you are installing from a distribution CD with a driver letter d: Replace this with the driver letter for your CD ROM drive, if it is different.

Step 2 also assumes that the destination working directory is c:\r550DOS. You should enter the path to the working directory that you entered in step 1, if it is different.

If you have downloaded the file from Control's web site then copy it from your download folder to the Dos sample working directory.

3. Unzip the files by running dos550.exe

```
cd \r550DOS<cr>
```

```
dos550<cr>
```

3. Installing Your RocketPort/BroadPort 550 hardware



Take care when you handle the RocketPort/BroadPort 550 PCI cards, like any electronic device, they are sensitive to static electricity. Use normal static precautions such as wearing an earth ground strap.

Hardware Installation

Power down the host PC and disconnect its mains input.

Follow the host PC manufacturer instructions describing how to access the PC in order to install additional cards.

Ensure the RocketPort/BroadPort 550 back plate retaining screw is fitted.

Follow the host PC instructions for re assembly of the host PC it's cabling and re-fitting of safety covers.

Re-connect the host PC mains input and power up the PC.

If you are using the RocketPort/BroadPort 550 from a Windows 9x DOS session then the controller hardware will need to be enumerated by Windows, proceed to section 4, enumerating the RocketPort/BroadPort 550. If you are using MS DOS then proceed to section 5, verifying operation.

4. Enumerating the RocketPort/BroadPort 550 for use under a Windows 9x DOS session.

The RocketPort/BroadPort 550 controllers require bus enumeration so that they can be accessed from a Windows 9x DOS session. The procedure is similar to installing a Windows 9x driver, and the term 'driver' is used however no software is actually installed (*or needs to be at this stage*). The controllers are simply made known to Windows 9x..

1. In the previous section you installed the RocketPort/BroadPort 550 and powered up the PC

2. Windows will detect the new hardware at power up and display the: "Add New Hardware Wizard" dialog Window.

Click **Next**

3. The next dialog window asks :

Search for the best driver for your device. (*Windows Default*)

or

Display a list of all the drivers in a specific location, so you can select the driver you want.

ENSURE THAT SEARCH IS SELECTED

Click **Next**

4. The next dialog window asks where to search for the Driver.

Select **Specify a location**

Enter **C:\R550DOS** into the dialog Window

If you extracted the driver files to an alternative folder then replace the above path with the alternative path for the RocketPort/BroadPort 550 DOS files.

5. Windows will search the folder for the Driver

When found, the dialog displays the path to the generic 'inf' file **r550dos.inf**

Click **Next**

6. On completion, Windows will display the 'Finished Installing dialog window'

Click **Finish.**

5. Verifying operation

The MS DOS sample code, consists of a number of 'C' source files, headers etc. The primary purpose is to provide examples for developers in order to assist them in porting their register level drivers from the Hostess 450/550 ISA range to the RocketPort/BroadPort 550 series.

A Make file is provided for Borland C/C++ 3.1 along with various environment setting batch files.

The files, unmodified can be used to build a simple application called 'TERM.EXE'. This application can be used to verify the controller installation.

1. Change to the R550DOS working directory.

```
cd \r550dos
```

If you extracted the driver files to an alternative folder then replace the above path with the alternative path for the RocketPort/BroadPort 550 DOS sample files.

2. Place a loopback plug into the port to test.
3. Run the application.

```
term<cr>
```

follow the 'on screen' instructions, to select the port to test and whether local echo is required.

Press a key, the character should be echoed to the screen either once (no local echo) or twice (local echo).

6. RocketPort/BroadPort 550 Removal

Simply delete the files in the working directory C:\r550dos

If you extracted the driver files to an alternative folder then replace the above path with the alternative path for the driver files.

Shut down and power off the PC prior to accessing the PC in order to remove the RocketPort/BroadPort 550 controller(s).

Follow the host PC manufacturer instructions describing how to access the PC in order to remove adapter cards.

Follow the host PC instructions for re assembly of the host PC its cabling and re-fitting of safety covers.

7. RocketPort 550, RocketPort 550 Universal & BroadPort 550 Connector Pin-outs

RocketPort 550 4 Quad

RocketPort 550 Universal 4 Mini

RocketPort 550 4 RJ45, RocketPort 550 Universal 4 RJ45

RocketPort 550 8 OCTA, RocketPort 550 Universal 8 OCTA

RocketPort 550 8 RJ11, RocketPort 550 Universal 8 RJ11

BroadPort 550 8 Universal (RS422 SMPTE)

BroadPort 550 16 Universal (RS422 SMPTE)

RocketPort 550 8 Port (with dedicated interface box)*

RocketPort 550 16 Port (with dedicated interface box)*

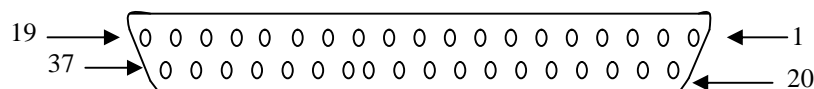
***Includes RocketPort 550 Universal 4, 8 & 16 Port**

RocketPort 550 4 Quad Cable - 37 way D type fan out to 4 DB25 Male

DB37 pin	DB25 pin	RS232 Signal/Port	DB37 pin	DB25 pin	RS232 Signal/Port
35	2	TxD Port 0	26	2	TxD Port 2
34	3	RxD Port 0	25	3	RxD Port 2
16	4	RTS Port 0	7	4	RTS Port 2
17	5	CTS Port 0	8	5	CTS Port 2
15	6	DSR Port 0	6	6	DSR Port 2
37	7	Signal Gnd Port 0	28	7	Signal Gnd Port 2
33	8	DCD Port 0	24	8	DCD Port 2
36	20	DTR Port 0	27	20	DTR Port 2
18	22	RI Port 0	9	22	RI Port 2
12	2	TxD Port 1	3	2	TxD Port 3
11	3	RxD Port 1	2	3	RxD Port 3
30	4	RTS Port 1	21	4	RTS Port 3
31	5	CTS Port 1	22	5	CTS Port 3
29	6	DSR Port 1	20	6	DSR Port 3
14	7	Signal Gnd Port 1	5	7	Signal Gnd Port 3
10	8	DCD Port 1	1	8	DCD Port 3
13	20	DTR Port 1	4	20	DTR Port 3
32	22	RI Port 1	23	22	RI Port 3

Pin 19 of the 37 way connector is not used

Pins 1, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 23, 24 and 25 of each 25 way connector are not used. The cable shields and connector metal bodies should be connected.



RocketPort 550 Universal 4 MINI Cable - 44 way HD type fan out to 4 DB9 Male

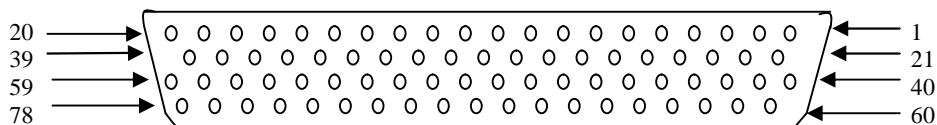
DB44 pin	DB9 pin	RS232 Signal/Port	DB44 pin	DB9 pin	RS232 Signal/Port
2	3	TxD Port 0	25	3	TxD Port 2
17	2	RxD Port 0	39	2	RxD Port 2
32	7	RTS Port 0	9	7	RTS Port 2
18	8	CTS Port 0	40	8	CTS Port 2
1	6	DSR Port 0	24	6	DSR Port 2
19	5	Signal Gnd Port 0	41	5	Signal Gnd Port 2
31	1	DCD Port 0	8	1	DCD Port 2
33	4	DTR Port 0	10	4	DTR Port 2
3	9	RI Port 0	26	9	RI Port 2
36	3	TxD Port 1	13	3	TxD Port 3
5	2	RxD Port 1	28	2	RxD Port 3
21	7	RTS Port 1	43	7	RTS Port 3
6	8	CTS Port 1	29	8	CTS Port 3
35	6	DSR Port 1	12	6	DSR Port 3
7	5	Signal Gnd Port 1	30	5	Signal Gnd Port 3
20	1	DCD Port 1	42	1	DCD Port 3
22	4	DTR Port 1	44	4	DTR Port 3
37	9	RI Port 1	14	9	RI Port 3

RocketPort 550 8 OCTA Cable - 78 way D type fan out to 8 DB25 Male

DB78 Pin	DB25 Pin	RS232 Signal/Port	DB78 Pin	DB25 Pin	RS232 Signal/Port
30	2	TxD Port 0	40	2	TxD Port 4
55	3	RxD Port 0	28	3	RxD Port 4
51	4	RTS Port 0	21	4	RTS Port 4
16	5	CTS Port 0	25	5	CTS Port 4
54	6	DSR Port 0	5	6	DSR Port 4
71	7	Signal Gnd Port 0	75	7	Signal Gnd Port 4
35	8	DCD Port 0	43	8	DCD Port 4
49	20	DTR Port 0	22	20	DTR Port 4
36	22	RI Port 0	44	22	RI Port 4
50	2	TxD Port 1	2	2	TxD Port 5
17	3	RxD Port 1	8	3	RxD Port 5
31	4	RTS Port 1	41	4	RTS Port 5
53	5	CTS Port 1	4	5	CTS Port 5
34	6	DSR Port 1	42	6	DSR Port 5
72	7	Signal Gnd Port 1	76	7	Signal Gnd Port 5
33	8	DCD Port 1	23	8	DCD Port 5
32	20	DTR Port 1	3	20	DTR Port 5
15	22	RI Port 1	24	22	RI Port 5
11	2	TxD Port 2	63	2	TxD Port 6
37	3	RxD Port 2	46	3	RxD Port 6
12	4	RTS Port 2	62	4	RTS Port 6
59	5	CTS Port 2	9	5	CTS Port 6
58	6	DSR Port 2	29	6	DSR Port 6
73	7	Signal Gnd Port 2	77	7	Signal Gnd Port 6
39	8	DCD Port 2	48	8	DCD Port 6
13	20	DTR Port 2	61	20	DTR Port 6
20	22	RI Port 2	47	22	RI Port 6
10	2	TxD Port 3	64	2	TxD Port 7
56	3	RxD Port 3	27	3	RxD Port 7
14	4	RTS Port 3	60	4	RTS Port 7
57	5	CTS Port 3	45	5	CTS Port 7
38	6	DSR Port 3	26	6	DSR Port 7
74	7	Signal Gnd Port 3	78	7	Signal Gnd Port 7
18	8	DCD Port 3	6	8	DCD Port 7
52	20	DTR Port 3	1	20	DTR Port 7
19	22	RI Port 3	7	22	RI Port 7

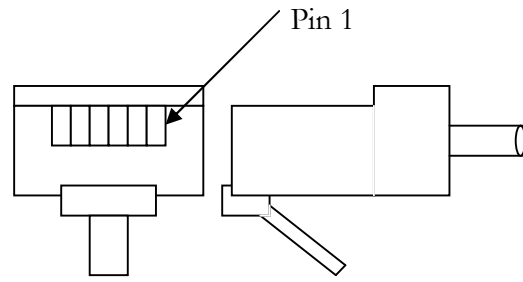
Pin 67 of the 78 way connector is not used. Pins 65, 66, 68, 69 and 70 are Signal Ground. Pins 1, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 23, 24 and 25 of each 25 way connector are not used.

The cable shields and connector metal bodies should be connected.



RocketPort 550 8 RJ11 Cable Pin Out

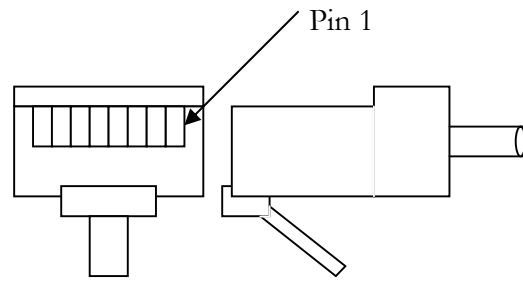
RJ11 pin	RS232 Signals
1	DTR
2	Signal Ground
3	TxD
4	RxD
5	DCD
6	CTS



RJ11 Plug front and side view

RocketPort 550 4 RJ45 Cable Pin Out

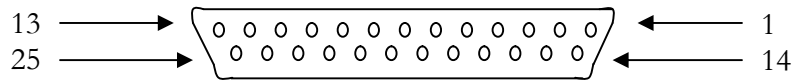
RJ45 pin	RS232 Signals
1	RTS
2	DTR
3	Signal Ground
4	TxD
5	RxD
6	DCD
7	DSR
8	CTS



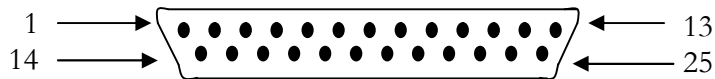
RJ45 Plug front and side view

RocketPort 550 8 Port - with 8 DB25 Female RS232 dedicated interface box
and

RocketPort 550 16 Port - with 16 DB25 Female RS232 dedicated interface box



DB25 Female Interface Box Connector



DB25 Male Connector

Rocket Port Interface Box DB25 Signals

DB25 Pin	RS232 Signal	RS422 Signal (RocketPort RS232/422 version only)	Universal Interface
2	TxD	*See note	See UI manual
3	RxD	*See note	See UI manual
4	RTS	*See note	See UI manual
5	CTS	*See note	See UI manual
6	DSR	*See note	See UI manual
7	Signal Gnd	*See note	See UI manual
8	DCD	*See note	See UI manual
20	DTR	*See note	See UI manual
15	Not used	RxD+ RxD(B)	See UI manual
17	Not used	RxD- RxD(A)	See UI manual
19	Not used	TxD+ TxD(B)	See UI manual
25	Not used	TxD- TxD(A)	See UI manual

*Note : All RS232 signals are present in RS422 mode.

The RocketPort interface box can only be used with the RocketPort 550-8 and RocketPort 550-16. These controllers have a single DB25F mounted on the backplate which connects via the RocketPort cable to the interface box. Alternatively the RocketPort 550-8 and 550-16 controllers may connect to the Control Universal Interface (UI). Refer to the UI manual for connector pin-outs.

The Quad, Octa, RJ11 and RJ45 RocketPort versions do not support RS422 mode.

Pins 1, 9, 10, 11, 12, 13, 14, 21, 22, 23 and 24 of each 25 way connector are not used.

BroadPort 550

Each port of the BroadPort 550 can be configured to be BUS controller or Tributary (SMPTE STANDARD 207M-1997). The user can select for each port the configuration using 2 DIP switches.

The DIP switch S1 has 8 switches and control the ports 1-8.

The DIP switch S2 has 8 switches and controls the ports 9-15.

The next tables shows S1 S2

BroadPort 550 DIP SWITCH S1

DIP SWITCH S1	Function
switch 1 closed (open)	Port 8 is BUS controller (Tributary)
switch 2 closed (open)	Port 7 is BUS controller (Tributary)
switch 3 closed (open)	Port 6 is BUS controller (Tributary)
switch 4 closed (open)	Port 5 is BUS controller (Tributary)
switch 5 closed (open)	Port 4 is BUS controller (Tributary)
switch 6 closed (open)	Port 3 is BUS controller (Tributary)
switch 7 closed (open)	Port 2 is BUS controller (Tributary)
switch 8 closed (open)	Port 1 is BUS controller (Tributary)

BroadPort 550 DIP SWITCH S2

DIP SWITCH S2	Function
switch 1 closed (open)	Port 16 is BUS controller (Tributary)
switch 2 closed (open)	Port 15 is BUS controller (Tributary)
switch 3 closed (open)	Port 14 is BUS controller (Tributary)
switch 4 closed (open)	Port 13 is BUS controller (Tributary)
switch 5 closed (open)	Port 12 is BUS controller (Tributary)
switch 6 closed (open)	Port 11 is BUS controller (Tributary)
switch 7 closed (open)	Port 10 is BUS controller (Tributary)
switch 8 closed (open)	Port 9 is BUS controller (Tributary)

BroadPort 550 (16 ports) Interface SCSI68 Signals

SCSI68 Pin	RS422 Signals (Tributary)	RS422 Signals (BUS controller)
1	RxD_B Port 1	TxD_B Port 1
2	RxD_A_Port 1	TxD_A_Port 1
3	TxD_B Port 1	RxD_B Port 1
4	TxD_A Port 1	RxD_A Port 1
5	RxD_B Port 2	TxD_B Port 2
6	RxD_A_Port 2	TxD_A_Port 2
7	TxD_B Port 2	RxD_B Port 2
8	TxD_A Port 2	RxD_A Port 2
9	RxD_B Port 3	TxD_B Port 3
10	RxD_A_Port 3	TxD_A_Port 3
11	TxD_B Port 3	RxD_B Port 3
12	TxD_A Port 3	RxD_A Port 3
13	RxD_B Port 4	TxD_B Port 4
14	RxD_A_Port 4	TxD_A_Port 4
15	TxD_B Port 4	RxD_B Port 4
16	TxD_A Port 4	RxD_A Port 4
17	RxD_B Port 5	TxD_B Port 5
18	RxD_A_Port 5	TxD_A_Port 5
19	TxD_B Port 5	RxD_B Port 5
20	TxD_A Port 5	RxD_A Port 5
21	RxD_B Port 6	TxD_B Port 6
22	RxD_A_Port 6	TxD_A_Port 6
23	TxD_B Port 6	RxD_B Port 6
24	TxD_A Port 6	RxD_A Port 6
25	RxD_B Port 7	TxD_B Port 7
26	RxD_A_Port 7	TxD_A_Port 7
27	TxD_B Port 7	RxD_B Port 7
28	TxD_A Port 7	RxD_A Port 7
29	RxD_B Port 8	TxD_B Port 8
30	RxD_A_Port 8	TxD_A_Port 8
31	TxD_B Port 8	RxD_B Port 8

32	TxD_A Port 8	RxD_A Port 8
33	RxD_B Port 9	TxD_B Port 9
34	RxD_A_Port 9	TxD_A_Port 9
35	TxD_B Port 9	RxD_B Port 9
36	TxD_A Port 9	RxD_A Port 9
37	RxD_B Port 10	TxD_B Port 10
38	RxD_A Port 10	TxD_A Port 10
39	TxD_B Port 10	RxD_B Port 10
40	TxD_A Port 10	RxD_A Port 10
41	RxD_B Port 11	TxD_B Port 11
42	RxD_A Port 11	TxD_A Port 11
43	TxD_B Port 11	RxD_B Port 11
44	TxD_A Port 11	RxD_A Port 11
45	RxD_B Port 12	TxD_B Port 12
46	RxD_A Port 12	TxD_A Port 12
47	TxD_B Port 12	RxD_B Port 12
48	TxD_A Port 12	RxD_A Port 12
49	RxD_B Port 13	TxD_B Port 13
50	RxD_A Port 13	TxD_A Port 13
51	TxD_B Port 13	RxD_B Port 13
52	TxD_A Port 13	RxD_A Port 13
53	RxD_B Port 14	TxD_B Port 14
54	RxD_A_Port 14	TxD_A_Port 14
55	TxD_B Port 14	RxD_B Port 14
56	TxD_A Port 14	RxD_A Port 14
57	RxD_B Port 15	TxD_B Port 15
58	RxD_A_Port 15	TxD_A_Port 15
59	TxD_B Port 15	RxD_B Port 15
60	TxD_A Port 15	RxD_A Port 15
61	RxD_B Port 15	TxD_B Port 15
62	RxD_A_Port 15	TxD_A_Port 15
63	TxD_B Port 15	RxD_B Port 15
64	TxD_A Port 15	RxD_A Port 15
65	GND	GND
66		
67	GND	GND
68		

SCSI 68 connector front view



BroadPort 550 IF DB9 signals

DB9 Pin	RS422 signal (Tributary)	RS422 signal (BUS controller)
1	Frame Ground	Frame Ground
6	GND (TxD signal common)	GND (RxD signal common)
2	TxD_A	RxD_A
7	TxD_B	RxD_B
3	RxD_B	TxD_B
8	RxD_A	TxD_A
4	GND (RxD signal common)	GND (TxD signal common)
9	Frame ground	Frame ground
5	N/A	N/A

8 Technical Support

Comtrol has a staff of support technicians available. Telephone support is available daily, Monday through Friday (except holidays) on the US (Central Time) or UK number listed below. Before you call please have the following information available :

Item	Your System Information
RocketPort 550 RocketPort 550 Universal BroadPort 550 Universal Model number	
RocketPort 550 RocketPort 550 Universal BroadPort 550 Universal Serial number	
RocketPort 550 RocketPort 550 Universal BroadPort 550 Universal Device driver version	
Interface type	
Operating system type and release	
PC make, Model and speed	
Details of other cards configured in the PC	

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FTP site : <ftp.comtrol.com>
telnet : www.comtrol.com

9. Specifications

RocketPort 550 & RocketPort 550 Universal	Specification
Baud rate :	
RP550 PCI 4 (RJ45 and QUAD)	50 to 460.8K baud
RP550 PCI 8 (RJ11 and OCTA)	50 to 115.2K baud
RP550 PCI 8 and 16 Port (uses interface box)	50 to 230.4K baud
RP550 UPCI 4 (RJ45 and QUAD)	50 to 115.2K baud
RP550 UPCI 8 (RJ11 and OCTA)	50 to 115.2K baud
RP550 UPCI 8 and 16 Port (uses I/F box)	50 to 230.4K baud
Note : Throughput (CPS) is dependant upon platform, operating system & application s/w	
Bus interface	32 Bit PCI (5V) UPCI (5V & 3.3V)
Control by device driver	
Data bits	5,6, 7 or 8
Parity	Odd, Even,Mark, Space or None
Stop bits	1, 1.5, or 2
Note: Certain combinations of data bits, parity or stop bits may not be allowed by some operating systems.	

BroadPort 550 Universal	Specification
Baud rate :	
BP 550 UPCI 8 (SMPTE)	50 to 230.4K baud
BP 550 UPCI 16 (SMPTE)	50 to 230.4K baud
Note : Throughput (CPS) is dependant upon platform, operating system & application s/w	
Bus interface	UPCI (5V & 3.3V)
Control by device driver	
Data bits	5,6, 7 or 8
Parity	Odd, Even,Mark, Space or None
Stop bits	1, 1.5, or 2
Note: Certain combinations of data bits, parity or stop bits may not be allowed by some operating systems.	

Environmental Condition	Specification
Air temperature :	
System on	0 to 40°C
System off	-20 to 85°C
Humidity (non-condensing)	
System on	8 to 80%
System off	20 to 80%
Altitude	0 to 10,000 feet
MTBF	Greater than 30 years

Product	5V Current	+12V Current	-12V Current
RocketPort 550 4 Quad	210 mA	20 mA	20 mA
RocketPort 550 4 RJ45	190 mA	20 mA	20 mA
RocketPort 550 8 OCTA	140 mA	120 mA	120 mA
RocketPort 550 8 RJ11	250 mA	80 mA	80 mA
RocketPort 550 8 Port See note*	215 mA	0 mA	0 mA
RocketPort 550 16 Port See note*	300 mA	0 mA	0 mA
Product	5V Current	+12V Current	-12V Current
RocketPort 550 Universal 4 RJ45	260mA	200mA	200mA
RocketPort 550 Universal 4 Mini	280mA	200mA	200mA
RocketPort 550 Universal 8 OCTA	400mA	400mA	400mA
RocketPort 550 Universal 8 RJ11	315mA	260mA	260mA
RocketPort 550 Universal 8 Port See note*	400mA	0 mA	0 mA
RocketPort 550 Universal 16 Port See note*	600mA	0 mA	0 mA

***Note the current figures are for the card only and do not include the attached interface box. Refer to the manual for the RocketPort or Universal interface boxes for current consumption figures and add to the above.**

Product	5V Current	+12V Current	-12V Current
BroadPort 550 Universal 8	250 mA	N/A	N/A
BroadPort 550 Universal 16	300 mA	N/A	N/A

10. Trademarks

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