

**Standard Reliability Prediction Report**

**Part Number** System  
**Reference Des**  
**Date** 12 11, 2003  
**Environment** GB, GC - Ground Benign, Controlled  
**Temperature** 25.00



**Description** Top-level assembly  
**File Name** VTS3200\_DC.RPJ  
**Time** 8:15  
**Failure Rate** 10.150890  
**MTBF** 98,514

Assembly Name	Part Number	Ref Des	Qty	Failure Rate	MTBF
VTS3200	System		1.00	10.150890	98,514
MAIN_BOARD			1.00	9.827695	101,753
PANEL_BOARD			1.00	0.323195	3,094,104

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**MTBF** 101,753

Part Number	Category	Ref Des	Failure Rate, Unit	Quantity	Failure Rate	Reamarks	Vendor
XPC855TZP50D4	Integrated Circuit		0.182446	1.00	0.182446		PBGA357,Steppi-
CS-306	Miscellaneous		0.029007	1.00	0.029007		32.768Khz,
SX-6	Miscellaneous		0.027256	1.00	0.027256		25.000Mhz,
SCO-060	Miscellaneous		0.062560	1.00	0.062560		5.000Mhz,
SCO-060	Miscellaneous		0.062560	1.00	0.062560		14.7456Mhz,
K4S561632C-TC75	Integrated Circuit		0.012235	2.00	0.024470		SDRAM 8MB,
1N4002	Semiconductor		0.057795	2.00	0.115590		Rectifier Diode,
1N4742	Semiconductor		0.040261	1.00	0.040261		Zener Diode,
K4S281632C-TC75	Integrated Circuit		0.061175	1.00	0.061175		SDRAM 16MB,
AM29DL640D120EI	Integrated Circuit		0.082023	1.00	0.082023		8MB, TSOP48
AT49BV321T-90TI	Integrated Circuit		0.082023	.00	0.000000		4MB, TSOP48
XC95288XL-10PQ208C	Integrated Circuit		0.016405	1.00	0.016405		3.3V CPLD,
LXT972ALC A4	Integrated Circuit		0.006093	1.00	0.006093		Ethernet
TL16C554APN	Integrated Circuit		0.006093	8.00	0.048740		QUAD UART,
MMDF3N02HD	Semiconductor		0.404531	2.00	0.809061		Dual N-Channel
MAX4420CSA	Semiconductor		0.105584	2.00	0.211167		MOSFET Driver,
LT1086CM-3.3	Integrated Circuit		0.006841	1.00	0.006841		Low Dropout
LTC1314CS	Integrated Circuit		0.006841	1.00	0.006841		PCMCIA
MIC811LU	Integrated Circuit		0.006834	1.00	0.006834		5V Voltage
MAX704TCSA	Integrated Circuit		0.006982	1.00	0.006982		3.3V Voltage
DS14C88M	Integrated Circuit		0.041557	26.00	1.080476		QUAD CMOS
DS14C89AM	Integrated Circuit		0.041469	34.00	1.409939		QUAD CMOS
SM8578BV	Integrated Circuit		0.006093	1.00	0.006093		Real-time Clock,
74LCX541WM	Integrated Circuit		0.048253	7.00	0.337773		Octal Buffer,
74LCX573WM	Integrated Circuit		0.048253	4.00	0.193013		Octal Latch,
74LCX574WM	Integrated Circuit		0.048253	4.00	0.193013		Octal D-Type
74FCT162244TPA	Integrated Circuit		0.120268	4.00	0.481072		16bit Buffer,
HB2012	Inductor		0.000030	8.00	0.000240		2012, Bead, 600
TANTAL	Capacitor		0.000601	1.00	0.000601		1µF, 16V, 3216(A)

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TANTAL	Capacitor		0.000857	2.00	0.001715		4.7µF, 20V,
TANTAL	Capacitor		0.001020	11.00	0.011220		10µF, 6.3V,
TANTAL	Capacitor		0.001020	4.00	0.004080		10µF, 10V,
TANTAL	Capacitor		0.001223	1.00	0.001223		22µF, 16V,
TANTAL	Capacitor		0.001456	2.00	0.002912		47µF, 16V,
1608, 0.001µF, 50V	Capacitor		0.000123	3.00	0.000368		1608, 0.001µF,
1608, 0.01µF, 16V	Capacitor		0.000208	3.00	0.000625		1608, 0.01µF, 16V
1608, 0.1µF, 16V	Capacitor		0.000354	213.00	0.075331		1608, 0.1µF, 16V
1608, 10pF, 50V	Capacitor		0.000043	1.00	0.000043		1608, 10pF, 50V
1608, 15pF, 50V	Capacitor		0.000047	2.00	0.000093		1608, 15pF, 50V
1608, 18pF, 50V	Capacitor		0.000049	2.00	0.000097		1608, 18pF, 50V
1608, 33pF, 50V	Capacitor		0.000056	231.00	0.012926		1608, 33pF, 50V
1608, 270pF, 50V	Capacitor		0.000091	2.00	0.000181		1608, 270pF, 50V
1N4733	Semiconductor		0.040261	1.00	0.040261		Zener Diode,
1N5819	Semiconductor		0.006935	2.00	0.013871		Schottky Diode,
0.001µF, 2KV, DIP 10MM	Capacitor		0.019244	1.00	0.019244		0.001µF, 2KV,
SM15	Semiconductor		0.001597	.00	0.000000		15V,SOT23
3216, 0 , 5%, 1/8W	Resistor		0.000060	2.00	0.000121		3216, 0 , 5%,
1608, 0 , 5%, 1/16W	Resistor		0.000046	234.00	0.010762		1608, 0 , 5%,
1608, 100kΩ, 5%, 1/16W	Resistor		0.000046	1.00	0.000046		1608, 100kΩ, 5%,
1608, 10kΩ, 5%, 1/16W	Resistor		0.000046	3.00	0.000138		1608, 10kΩ, 5%,
1608, 1kΩ, 5%, 1/16W	Resistor		0.000046	59.00	0.002714		1608, 1kΩ, 5%,
1608, 1.2kΩ, 5%, 1/16W	Resistor		0.000046	1.00	0.000046		1608, 1.2kΩ, 5%,
1608, 22.1kΩ, 1%, 1/16W	Resistor		0.000025	1.00	0.000025		1608, 22.1kΩ,
1608, 22 , 5%, 1/16W	Resistor		0.000046	10.00	0.000460		1608, 22 , 5%,
1608, 3.3kΩ, 5%, 1/16W	Resistor		0.000046	23.00	0.001058		1608, 3.3kΩ, 5%,
1608, 4.7kΩ, 5%, 1/16W	Resistor		0.000046	10.00	0.000460		1608, 4.7kΩ, 5%,
1608, 49.9 , 1%, 1/16W	Resistor		0.000025	6.00	0.000147		1608, 49.9 , 1%,
1X2PIN, CR2032 SOCKET	Other		0.014323	1.00	0.014323		1x2pin, CR2032

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1X4PIN, DIP 2.54MM, MALE	Other		0.007544	1.00	0.007544		1x4pin, DIP
1X3PIN, DIP 2.54MM, MALE	Other		0.007544	2.00	0.015088		1x3pin, DIP
2X5PIN, DIP 2.54MM, MALE	Other		0.007544	2.00	0.015088		2x5pin, DIP
CH6160AV100	Other		0.007544	2.00	0.015088		2x30pin,
5273-06	Other		0.011513	1.00	0.011513		Power Connector
61126-050CAH	Connection		0.001051	1.00	0.001051		3.3V PCMCIA
STP-1236A	Switching Device		0.100391	1.00	0.100391		Tact Switch, DIP,
RJ45, 8PIN, SHIELD, EMI FLIP	Other		0.073477	1.00	0.073477		RJ45, 8pin,
XFATM6-COMBO1-4S	Other		0.073477	1.00	0.073477		RJ45, 8pin, shield
RJ45, 2X8 ARRAY, SHIELD, EMI FLIP	Other		0.073477	2.00	0.146953		RJ45, 2x8 Array,
KRC101S	Semiconductor		0.000490	1.00	0.000490		NPN, SOT23 /
VTS3200 REV. 0.5	Connection		0.081600	1.00	0.081600		8Layers, 337mm
DC TO DC CONVERTER	Other		3.030303	1.00	3.030303		MTBF-330,000
SMDA24C-8	Semiconductor		0.001118	36.00	0.040251		TVS ARRAY
DC 12V	Other		0.492358	1.00	0.492358		Test Life Time -

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**MTBF** 3,094,104

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BL-HX133A-TR	Semiconductor		0.001265	102.00	0.129030		3216, Green,
TANTAL	Capacitor		0.001020	3.00	0.003060		10µF, 6.3V,
1608, 0.1µF, 16V	Capacitor		0.000354	4.00	0.001415		1608, 0.1µF, 16V
1608, 330 , 5%, 1/16W	Resistor		0.001178	65.00	0.076600		1608, 330 , 5%,
1608, 1kΩ, 5%, 1/16W	Resistor		0.001178	37.00	0.043603		1608, 1kΩ, 5%,
2X30PIN, 1.27X2.54MM, STRAIGHT, DIP	Other		0.007544	2.00	0.015088		2x30pin,
VTS3200_LED REV. 0.3	Connection		0.054400	1.00	0.054400		4Layers, 306mm