



AAEON Technology INC.
ISO-9001/ISO-14001 Certified
Industrial Automation PCs

QE Compatibility Test Plane

Release No : SBC-659-T-01

Product Model	SBC-659
Product Description	FC/Socket 370 Half-size CPU Card with LCD,Dual Ethernet,Audio,AGP 2X Cpmpact Flash,& USB Ports
Test Reason	<input checked="" type="checkbox"/> New product <input checked="" type="checkbox"/> PCB : SBC-659 Rev:A0.2 <input checked="" type="checkbox"/> BIOS: SBC-659 BIOS Rev.A0.4 WDT & Digital I/O (03/02/2001) <input type="checkbox"/> Renew product <input type="checkbox"/> PCB : <input type="checkbox"/> BIOS: <input type="checkbox"/> Revision change <input type="checkbox"/> PCB : <input type="checkbox"/> BIOS: <input type="checkbox"/> Component:

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There are 3 test results in this document; they are described as follows:

Pass: It worked perfectly

Fail: Test failed, and to be modified in the next version

N/A: Outside of specifications or no test equipment

The test report would be tested and updated after version changed.

1. Dynamic / Boot_UP Burn_In Test

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	Infineon HYB39S128800CT – 7.5 / PC-133 /SD-128M
Primary IDE Master	Quantum LM20A011-01-A 20.5AT
Primary IDE Slave	N/A
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
Compact FlashType	N/A
VGA Card & Driver Version	On Board Intel 815E
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562
Audio Chipset & Driver Version	Arance AC'97

A.Dynamic Burn-In Test:

A-1.Diagnostics Software Burn_In Test:

Test Point:

1. Test items includeing system, Memory, Display, Keyboard, LPTs W/ loopback, COMs W/ loopback.

Test Condition: Under Temperature 0 °C ~ 60 °C(48 Hours)

Test Program	Result		Note
	Pass	Fail	
Qaplusfe 5.6	✓		
AMIDIAG 5.21 [Option]			

A-2.Audio Play For Sound Codec Chipset Burn-In Test

Test Condition : Under Temperature 60 °C (2 Hours)

Test Method	Software Program	Result		Note
		Pass	Fail	
Play MP3 Sound cycle Test	Winamp 2.6	✓		

Test Condition : Under Temperature 0 °C (2 Hours)

Test Method	Software Program	Result		Note
		Pass	Fail	
Play MP3 Sound cycle Test	Winamp 2.6	✓		

A-3. LAN Chipset Burn-In Test**Switch HUB Type:****Test Condition : Under Temperature 60 °C (2 Hours)**

Test Method	Software Program	Result		Note
		Pass	Fail	
Play VCD	Media Player	✓		

Test Condition : Under Temperature 0 °C (2 Hours)

Test Method	Software Program	Result		Note
		Pass	Fail	
Play VCD	Media Player	✓		

B. Boot_Up Burn-In Test: Operating System Environment :DOS /Windows Mode.**B-1. Test Condition : Under Temperature 0°C~60°C (24Hours)**

Test Method	Actual	Successful	Failure rate	On time	Off Time	Note
Power On/Off (DOS Mode)	1390	1390	%_31__Sec	_31__Sec		Allow failure rate under 2/1000
Power On/Off (Windows Mode) [Option]			%_____Sec	_____Sec		Allow failure rate under 2/1000

B-2. Test Condition : Under Room Temperature [25°C].

Test Method	Actual	Successful	Failure rate	On time	Off Time	Note
H/W Reset 300Times (DOS Mode)	1570	1570	0 %_46__Sec	_46__Sec		
KB Reset 20 Times (DOS Mode)	20	20	0 %_____Sec	_____Sec		
H/W Reset 300Times (Windows Mode) [Option]			%_____Sec	_____Sec		
KB Reset 20 Times (Windows Mode) [Option]			%_____Sec	_____Sec		

Note : System is halt on power on sometimes with cold reboot.

2. Timer Accuracy Test

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	Infineon HYB39S128800CT – 7.5 / PC-133 /SD-128M
Primary IDE Master	Seagate ST315320A 15.3GB
Primary IDE Slave	TEAC CD-540E
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	On Board Intel 815E

A.System Clock & RTC Clock test

Test Points:

- 1.This test focuses on the system clock & RTC Clock accurately.
- 2.Setups verify: Verify the System Clock and RTC are marked number correctly during 24hrs at the screen.
- 3.Diagnostics: Setups BIOS RTC Timer to marked number 24hrs.
Setups System Clock on MS-DOS 6.22 /Win 98 to marked number 24hrs.

A-1. Environment Setting: MS-DOS 6.22

The Result: Under Temperature 0 ~ 60 °C(Option)

Item Function	Test Times	Margin for error	Acturl	Result		Note
				Pass	Fail	
System Clock	24 hrs	+/-5 sec	Sec			
RTC Clock	24 hrs	+/-3 sec	Sec			

A-2. Environment Setting: Windows 98 SE

The Result: Under Temperature 0 ~ 60 °C(Option)

Item Function	Test Times	Margin for error	Acturl	Result		Note
				Pass	Fail	
System Clock	24 hrs	+/-5 sec	Sec			
RTC Clock	24 hrs	+/-3 sec	Sec			

A-3. Environment Setting: MS-DOS 6.22

The Result: Under Room Temperature 25 °C

Item Function	Test Times	Margin for error	Acturl	Result		Note
				Pass	Fail	
System Clock	24 hrs	+/-5 sec	+ 1 Sec	✓		
RTC Clock	Static	24 hrs	- 2 Sec	✓		
	Dynamic	24 hrs	+/-3 sec	+ 1 Sec	✓	

B. Watchdog Timer test**Test Points:**

1. Setups BIOS Watchdog Timer every type Time-out interval.
2. Diagnostics: Can generate a system reset whether on setting time.
3. Attention --Watchdog-IRQ n .

The Result: Under Room Temperature [25°C] / DOS Mode .

Time-out interval	IRQ	Margin for error	Acturl	Result		Note
				Pass	Fail	
10 sec		+/-1 sec	10 Sec	✓		
20 sec		+/-1 sec	20 Sec	✓		
30 sec		+/-1 sec	31 Sec	✓		
40 sec		+/-1 sec	41 Sec	✓		
1 min		+/-1 sec	1 min 0 Sec	✓		
2 min		+/-1 sec	1 min 59 Sec	✓		
3 min		+/-1 sec	Sec			N/A
4 min		+/-1 sec	3 min 59 Sec	✓		

3 . Power Consumption

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	Infineon HYB39S128800CT-75 /128MB/PC133
Backplane	N/A
DOC	N/A
Riser Card	N/A
Power Supply	SHARK TECHNOLOGY SPC5110-250ATX2 / 250W
VGA Card & Driver Version	On Board Intel 815E

A. Operating System Environment :

DOS 6.22	Config.sys	Device=c:\dos\himem.sys dos=high,umb files=35 Buffers=40
	Autoexec.bat	Prompt \$p\$g c:\dos\smartdrv.exe /x

Test Software (DOS Mode):

Test Software	Landmark Speed V.2.0(Speed200.exe)
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Test Result:

Mode Type	CPU TYPE				Current
	Celeron 533	Celeron 766	PIII 850	PIII 1G	
Normal Mode(+5V)	3.7	3.6	3.5	4.9	Amp/Max
Suspend Mode(+5V)	0.9	0.8	0.7	1.2	Amp/Max
Normal Mode(+12V)	0.15	0.16	0.15	0.15	Amp/Max
Suspend Mode(+12V)	0.08	0.07	0.08	0.06	Amp/Max
Normal Mode(+3.3V)	0.97	1.03	1.05	1.07	Amp/Max
Suspend Mode(+3.3V)	1.02	1.02	1.04	1.07	Amp/Max

B. Power Margin Test: Play VCD in Win 98 O.S.

Test Point:

1. Play VCD 10 Minutes.

Power Supply :

Voltage	Low/High Voltage 110 V / 220 V	Actual Voltage		Result				Note
		110 V	220 V	110V		220V		
				Pass	Fail	Pass	Fail	
5 V	4.75 V	4.88 V	4.82 V	✓		✓		
	5.25 V	5.31 V	5.31 V	✓		✓		
3.3V	3.135V	3.33 V	3.33 V	✓		✓		
	3.465V	3.33 V	3.33 V	✓		✓		
12 V	11.4 V	11.51 V	11.51 V	✓		✓		
	12.6 V	12.67 V	12.67 V	✓		✓		

4 . Hardware Compatibility

A. Component Compatibility- CPU

Test Points:

- 1.This test focuses on the compatibility test of all supported processors in the system.
- 2.Setups verify: Verify the processor and L2 are reported correctly during POST at the top of the screen (Reboot 10 times).
- 3.Diagnostics: Run HCT SYSTEM STRESS in Windows NT4.0.

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
Memory Type	Pentium III 850 / 100
O.S.	Windows NT 4.0 Workstation Ver.4.00.1381 with SP6
Primary IDE Master	Seagate ST315320A / UDMA66 / 15.3GB
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	On Board Intel 815E

Test Result:

OS	CPU Type	Host Bus CLK	Test Item	Result		Note
				Pass	Fail	
Windows NT 4.0	Pentium III 1G	133MHz	CPU CMOS Message	✓		
			HCT System Stress	✓		
	Pentium III 933	133MHz	CPU CMOS Message	✓		
			HCT System Stress	✓		
	Pentium III 850	100MHz	CPU CMOS Message	✓		
			HCT System Stress	✓		
	Celeron 750	100MHz	CPU CMOS Message			N/A
			HCT System Stress			N/A
	Celeron 766 [.18u]	66MHz	CPU CMOS Message	✓		
			HCT System Stress	✓		
	Celeron 633 [.18u]	66MHz	CPU CMOS Message			N/A
			HCT System Stress			N/A
	Celeron 533 [.25u]	66MHz	CPU CMOS Message	✓		
			HCT System Stress	✓		

B. Component Compatibility- SDRAM DIMM Module**Test Points:**

1. Setups verify—Verify the memory size is reported correctly during POST at the top of the screen (Reboot 10 times).
2. Diagnostics—Run the HCT SYSTEM STRESS program for 8 Hrs each item.

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
O.S.	Windows NT 4.0 Workstation Ver.4.00.1381 with SP6
Primary IDE Master	Seagate ST315320A / UDMA66 / 15.3GB
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	On Board Intel 815E

Memory List:

Item	Brand	DRAM TYPE	Total Size	
1	NEC – JAPAN	D45128163G51 / PC-133 / SD-64M	64	MB
2	Infineon	HYB39S128800CT – 7.5 / PC-133 / SD-128M	128	MB
3	NEC - SINGAPORE	D4564163G5-A10-9JF / PC-100 / SD-32M	32	MB
4	NEC - SINGAPORE	D45128841G5 A75 – 9JF / PC-133 / SD-128M	128	MB
5	TOSHIBA	TC59SM716FT - 80	128	MB
6	SIEMENS	HYB39S64160AT-8	64	MB
7	NANYA	NT56V6620C0T – 75 / PC-133 / SD-64	64	MB
8				MB
9				MB
10				MB
11				MB
12				MB
13				MB
14				MB
15				MB
16				MB
17				MB
18				MB
19				MB
20				MB
21				MB
23				MB
24				MB

Environment Description: “DIMM 2(1)” means to insert DIMM item 1 in DIMM slot 2

Test Result:

Environment Configuration Run HCT System stress	Result		Note
	Pass	Fail	
DIMM 1	✓		
DIMM 2	✓		
DIMM 3	✓		會卡鍵,但可以用
DIMM 4		✓	藍體白字
DIMM 5		✓	會卡鍵,不能用
DIMM 6		✓	會卡鍵,不能用
DIMM 7	✓		
DIMM 8			

C.On Board Audio Function Test

Test Points:

- 1.Installation Test—Verify the indicated board can be installed correctly.
- 2.Software Test—Run the test programs that is supplied with the sound drivers and verify all of the tests function correctly.

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	Infineon HYB39S64800CT-7.5/PC133 128MB
O.S.	Windows 98 SE 4.10.2222A
Primary IDE Master	Quantum LM20A011-01-A 20.5AT
Primary IDE Slave	CD-8500/A/ASUS/50X/G
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	On Board Intel 815E
Game Joystick	N/A

The Result:

Function Test	Result		Note
	Pass	Fail	
System Sound	✓		
Play CD_IN	✓		
Play Sound Recorder	✓		
Line Out	✓		
Line In	✓		
Line In Sound Record	✓		
MIC Speaker	✓		
MIC Sound Recorder	✓		
Game Port	N/A		Fly Joystick (Avant Garde Rockfire K5MQF-606i)
Play VCD 30mins	✓		

Note1: 將 3D Depthu 開起,並調高 3D Depthu 音量,音質會變差

Note2: 在OS:Win95下安裝SOUND Driver時,Avance SB Emulation(Support application soft.)出現驚嘆號,
RD(得生)說: 並不影響其效能,其IRQ,手動調整即 OK!
PS. 廠商新版已不 Support Win95, 僅目前該版 Driver !

D.PCI Function(PCI Adapter Card) Test (N/A :RD Bankplane Not Reday)**Test Points:**

- 1.This test includes Multimedia Card, SCSI Controller Card, LAN Card and the other PCI Card.
- 2.Install drivers and utilities to verify all functions correct (Including installation, **un-installation, reboot, suspend and PnP**).
- 3.Run diagnostic test program to verify all kind of PCI Cards one by one then load stress.

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 750/100
Memory Type	NEC D4564841G5-A10-9JF/(PC-100) 128MB
O.S.	Windows 98 SE 4.10.2222A
Primary IDE Master	Quantum K13600AT 13GB Fireball DMA/66
Primary IDE Slave	ASUS CD-S500/A 50X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

The Result:

Adapter Card VGA Card	Dual Display		Install Driver		Play VCD for least 10 Min		Note
	pass	fail	Pass	Fail	Pass	Fail	
ET-4000/W32P							PCI
ET-4000AX							ISA
3D Blaster Savage4							ISA
Adapter Card Sound Card			Install Driver		Play VCD for least 10 Min		Note
			Pass	Fail	Pass	Fail	
Creative SB16 PNP/CT2980							ISA
Creative AUDIO							PCI
Blaster Vibra 16XV							PCI
Lemel ESS ES1868F 3D/16 PnP							ISA
Adapter Card SCSI Card			Install Driver		Plav VCD for least 10 Min		Note
			Pass	Fail	Pass	Fail	
AHA-2940U2WK ULTRA-2-WIDE							PCI
AHA-1520B							
Adapter Card Modem Card			Install Driver		Connect to Internet		Note
			Pass	Fail	Pass	Fail	
GVC F2000 56K/V.90 DATA/FAX/MODEN							
LEMEL 33.6 FAX/MODEM							
Genuine GM56-AMI2019							
Cyber Lander 2000 56K							

Adapter Card LAN Card	Install Driver		Play VCD for least 10 Min		Note
	Pass	Fail	Pass	Fail	
Switch HUB Type	Intel InBusiness 4-Port 10/100 Switch HUB				
RTL8139 PCI(10/100MBPS)					PCI
D-Link DFE-540TX PCI(10/100Mbps)					PCI
RTL-8139B					PCI
3COM 3C905B-TX					ISA
D-Link DFE-530TX PCI(10/100Mbps)					PCI
Adapter Card Other Card	Install Driver		Play VCD for least 10 Min		Note
	Pass	Fail	Pass	Fail	
YUAN/聰泰 DVD MPEG-2 MPEG Card					
UPMOST 1394 CardBus + FireWire 3.5 HardDisk Enclosure					In O.S. WIN98 SE / 98ME /2000 Support

E.Peripheral Compatibility-HDD / CDROM Device**Test Points:**

- 1.This test emphasizes on PCI IDE Devices compatibility test.
- 2.Autosense Test—Verify the HDDs reported correctly during POST after setup(EXP: Capacity up than 40GB).
2. Setup BIOS--AUTO, USER and Disable on IDE detect item then reboot 10 times.

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	Infineon HYB39S64800CT-7.5/PC133 128MB
O.S.	Windows 98 SE 4.10.2222A
Primary IDE Master	Quantum K13600AT / 13GB / ATA-66
Primary IDE Slave	NEC C&C-BCD F561B / 52X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Peripheral Compatibility-HDD / CDROM Device:

HDD Device	Dectect Message		Booting Up		Read/Write		Play VCD		Note
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	
IBM DTLA-307075 / 76.8GB / ATA-100	✓		✓		✓		✓		
IBM DTLA-307045 / 46.1GB / ATA-100	✓		✓		✓		✓		
IBM DHEA-34330 / 4.3GB / ATA-33									
Maxtor 54610H6 / 46.1GB / ATA-100									
Maxtor 54098U8 / 40.9GB / ATA-66	✓		✓		✓		✓		
Maxtor 51536U3 / 15.3GB / ATA-66	✓		✓		✓		✓		
Seagate ST315320A / 15.3GB / ATA-66	✓		✓		✓		✓		
Seagate ST34520 / 4.5GB / ATA-33									
Quantum LM20500AT / 20.5GB /ATA-66	✓		✓		✓		✓		
Quantum K13600AT / 13GB / ATA-66									
Fujitsu MPE 33072 / 30.7GB / ATA-100									
Fujitsu MPE 3136AH / 13.6GB / ATA-66									
W/D AC28400 / 8.4GB	✓		✓		✓		✓		
W/D AC26400 / 6.4GB									
Hitach DK226A-21U / 2.6GB									
Fujitsu MAH3091MP / 9.1GB / Ultra160 / LVD									
Seagate ST34520LW / 4.55GB / U2W-SCSI									
Seagate ST34520W / 4.55GB / UW-SCSI									
DVD/CD-ROM Device	Dectect Message		Booting Up		Read/Write		Play VCD		Note
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	
NEC C&C-BCD F561B / 52X									
ASUS CD-S500A / 50X	✓		✓		✓		✓		
TEAC CD-540E / 40X	✓		✓		✓		✓		
SONY CDU4811-81 / 48X	✓		✓		✓		✓		
CREATIVE CD5220E / 52X									
CREATIVE DVD1240E / 12X / DVD-ROM	✓		✓		✓		✓		
PIONEER ATAPI DVD-A03S / 6X / DVD-ROM									
Acer DVP1640A / 16X / DVD-ROM									
MITSUMI CRMC-FX4824T /48X									
AFREEY CD-2050E / 50X	✓		✓		✓		✓		
RICOH MP7060S / 24X / SCSI-CDROM									

Full 4 IDE HDD Device		Dectect Message		Booting Up		Read/Write		Play VCD		Note
		Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	
P1	IBM DTLA-307075 / 76.8GB / ATA-100	✓		✓		✓		✓		
P2	IBM DTLA-307045 / 46.1GB / ATA-100	✓		✓		✓		✓		
S1	IBM DHEA-34330 / 4.3GB / ATA-33									N/A
S2	Maxtor 54610H6 / 46.1GB /ATA-100									N/A

E-1.Ultra ATA/66/100 Test (N/A :RD Bankplane Not Reday)

Test Points:

- 1.Compare the Performance between ATA/66 and ATA/100 HDD.
- 2.Test Software is WinBench 99 v1.1 .
- 3.Verify ATA RAID Function test.

Platform Information:

PCB Model & Version	
CPU Type & FSB	
Memory Type	
Primary IDE Master	
Primary IDE Slave	
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	

Drivers Information:

AGP Driver & Driver Version	
IDE Driver & Driver Version	Intel Ultra ATA Storage Driver Ver.6.0
LAN Driver & Driver Version	Intel 82559ER & Intel 82562ET
SCSI Driver & Driver Version	AdvanSys Wide Driver 3.2E
Audio Driver & Driver Version	CS4299 Sound Driver Ver.5.12.01.4026
VGA Driver & BIOS	Intel 82815 Ver.4.12.01.2656

The Result:

Test Item	Device Model	PROMISE Ultra 100		ABIT HotRod 100 Pro		Note
		ATA/66	ATA/100	ATA/66	ATA/100	
		Maxtor 4098U8 40GB	IBM DTLA- 307030 30.7GB	Maxtor 4098U8 40GB	IBM DTLA- 307030 30.7GB	
WinBench 99 v1.1						
Business Disk WinMark 99						
High-End Disk WinMark 99						
Disk Access Time (ms)						
Disk CPU Utilization (percent used)						
Disk Transfer Rate: Beginning (kB/s)						
Disk Transfer Rate: End (kB/s)						
Disk Playback/Bus Overall						
Disk Playback/HE Overall						
Avs/Express 3.4						
FrontPage 98						
MicroStation SE						
Photoshop 4.0						
Premiere 4.2						
Sound Forge 4.0						
Visual C++ 5.0						
Disk Playback/Removable Media						

ATA RAID Test: (N/A :RD Bankplane Not Reday)

RAID Function	Result		Note
	Pass	Fail	
RAID 0(Striping)			ABIT HotRod™ 100 Pro
RAID 1(Mirror)			ABIT HotRod™ 100 Pro

F .USB Function Test**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Celeron 766 / 66
Memory Type	Hyundai HY57V658020 TC-10 / PC-100
Primary IDE Master	Maxtor 94098U8 / 40GB / ATA-66
Primary IDE Slave	ASUS CD-S500A / 50X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & OnBoard Intel 82562

Device Item:

Item	Device Type	Brand	Model
1	Keyboard	LEMEL	7932
2	Mouse	Logitech	M-BB48
3	Scanner	HP	SJ4200C
4	Printer	HP	Photo Smart P1000
5	Camera	Tekcam	P35U
6	ZIP	IOMEGA	ZIP 100MB
7	Ethernet Adapter	D-Link	DU-E10
8	HUB	D-Link	DSB-H4/DU-H4

Environment Description: "USB2(1)" means to insert USB item 1 in USB Port 2

Test Result:

Test Item		Result		Note
		Pass	Fail	
BIOS setup test				
MS-DOS 6.22	USB Legacy Function Test	✓		Keyboard
Windows 98 SE 4.10.2222A	USB1(1)	✓		
	USB2(2)	✓		
	USB3(3)	✓		
	USB4(4)	✓		
	USB1(2)+ USB2(7)	✓		
	USB3(5)+ USB4(6)	✓		
	USB1(1)+ USB2(3)+ USB3(6)	✓		
	USB2(2)+ USB3(4)+ USB4(5)	✓		
	USB1(3)+ USB2(4)+ USB3(5)+ {USB4(8)+ USB(1)+ USB(2)+ USB(6)+ USB(7)}	✓		
	Enable/Disable USB Drive	✓		
OS Rebooting Test	✓			
Windows 2000 Professional 5.00.2195	USB1(1)	✓		
	USB2(2)	✓		
	USB3(8)	✓		

G.Floppy Disk Controller**Test Result:**

Test Item		Result (1.44M)		Note
		Pass	Fail	
Copy and Compare file between C: and A/B	MS-DOS 6.22	✓		
	Windows 98 SE 4.10.2222A	✓		
Format A/B with system transfer and boot PC from floppy	MS-DOS 6.22	✓		
	Windows 98 SE 4.10.2222A	✓		
SWAP FDD	MS-DOS 6.22	✓		
	Windows 98 SE 4.10.2222A	✓		

H. I/O Peripheral Test**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	NANYA NT56V6620C0T-75 / 64MB / PC133
Primary IDE Master	Quantum K13600AT / 13GB / ATA-66
Primary IDE Slave	TEAC CD-540E / 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & OnBoard Intel 82562

Environment Setting:

Operating System	Windows 98 SE 4.10.2222A MS-DOS 6.22
------------------	---

The Result:

I/O	Pass	Fail	Not support	Note	Reference Page
FDD Driver A:	✓				17 Page
FDD Driver B:	✓				17 Page
Primary IDE Master	✓				35 Page
Primary IDE Slave	✓				35 Page
Secondary IDE Master	N/A				35 Page
Secondary IDE Slave	N/A				35 Page
COM 1	✓				35 Page
COM 2-232	✓				35 Page
COM 3	✓				35 Page
COM 4	✓				35 Page
COM 2-422	✓				35 Page
COM 2-485	✓				35 Page
PS/2 MOUSE	✓				35 Page
LPT 1	✓				35 Page
LPT 2	N/A				35 Page
SIR / 115Kbps	✓				35 Page
FIR / 4M bps	✓				35 Page
DIO	✓				19 Page
DOC	N/A				19 Page
Compact Flash	✓				19 Page
Function	Pass	Fail	Not support	Notes	Reference Page
H/W Reset	✓				35 Page
Speaker	✓				35 Page
Buzzer	✓				35 Page
Keyboard Lock	N/A				35 Page
HDD LED	✓				35 Page
Power LED	✓				35 Page
Ext. K/B Connector	N/A				35 Page
ATX Power button	✓				35 Page
CPU FAN Connector	✓				35 Page
Watchdog –Reset	✓				6 Page
Watchdog –IRQ n	N/A				6 Page
LAN LED	✓				35 Page

I. Peripheral Compatibility- Storage Device Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Celeron 766 / 66
Memory Type	Hyndai HY57V1291620 LTC-10S / 64MB / PC100
O.S.	Windows 98 SE 4.10.2222A
Primary IDE Master	Quantum K13600AT / 13GB / ATA-66
Primary IDE Slave	TEAC CD-540E / 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & OnBoard Intel 82562

Device List:

Device item	Booting		Format		Read/Write		Programming		Note
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	
ZIP 100 [IDE]	✓		✓		✓		✓		
LS 120 [IDE]	✓		✓		✓		✓		
DOC 2000 Model	2MB								N/A
	8MB								N/A
	16MB								N/A
	MB								N/A
	MB								N/A
DOC 2000 MB Memory Segment	CC00								N/A
	D000								N/A
	D400								N/A
	D800								N/A
	DC00								N/A
	Disable								N/A
Compact Flash	340MB	✓		✓		✓		✓	TYPE II
	32MB	✓		✓		✓		✓	TYPE I

J. Adapter Compatibility- Industry Control Card / PC104 PLUS Modules**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Celeron 766 / 66
Memory Type	Hyndai HY57V1291620 LTC-10S / 64MB / PC100
O.S.	Windows 98 SE 4.10.2222A
Primary IDE Master	Quantum K13600AT / 13GB / ATA-66
Primary IDE Slave	TEAC CD-540E / 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & OnBoard Intel 82562

Device List: PC/104 PLUS Module

Device item	Booting/ Format		Read/Write		Programming		+/- 12V: +/- 5V		Note
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	
AAEON PCM-3430	✓		✓		✓		✓		Fast SCSI Modul

Note1: PCM-3430 Rev.A1 必須將卡上 PC104 Con 拿掉,才能使用

Note2: PCM-3430 Rev.A1 在 SBC-659 上只能在 DOS 下使用,若要在 OS:Win95/98/NT/2000 使用
必須在 SBC-659 上跳線.

K. On-Board SCSI Function Test (N/A)

Test Points:

- 1.This test emphasizes on SCSI compatibility test.
- 2.Autosense Test—Verify the HDDs reported correctly during POST after setup(EXP: Capacity up than 40GB).
- 3.Setup BIOS--AUTO, USER and Disable on SCSI ID Address detect item then reboot 10 times.

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.22
CPU Type & FSB	Pentium III 850 / 100
Memory Type	
O.S.	Windows 98 SE 4.10.2222A
Primary IDE Master	Quantum K13600AT / 13GB / ATA-66
Primary IDE Slave	NEC C&C-BCD F561B / 52X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
On-Board SCSI Module	N/A
Riser Card	N/A
VGA Card & Driver Version	
LAN Card & Driver Version	

Device List:

Device item	Booting		Format		Read / Write		Programming		Note
	Pass	Fail	Pass	Fail	Pass	Fail	Pass	Fail	
RICOH MP7060S / 24X / SCSI-CDROM									
Seagate ST34520LW / 4.55GB / U2W-SCSI									
Seagate ST34520W / 4.55GB / UW-SCSI									
Fujitsu MAH3091MP / 9.1GB / Ultra160 / LVD									

5 . System Integer Application Test

Test Points:

1. On Board I/O Function is embedded on PCB ; Adapter I/O Function is external device.
2. Plugging in all of the onboard , riser card and backplane slots to test the system integer application.

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 933/133
Memory Type	Infineon HYB39S64800CT-7.5/PC133 128MB
O.S.	Windows 98 SE 4.10.2222A
Primary IDE Master	W/D AC28400 8.4GB
Primary IDE Slave	ASUS CD-S500A / 50X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & OnBoard Intel 82562

System integer application Test (Burn-In 8 Hrs):

On Board I/O Function	PCI / ISA	Installation		Function		Multi Test		Note
		Pass	Fail	Pass	Fail	Pass	Fail	
Floppy-A		✓		✓		✓		MITSUMI – D353M3
Floppy-B		✓		✓		✓		TEAC – FD-235HF
Usb-1		✓		✓		✓		HP Phpto Smart P1000
Usb-2		✓		✓		✓		Chic USB Mouse
Usb-3		✓		✓		✓		Enhanced USB Keyboard ack-298
Usb-4		✓		✓		✓		Iomega USB –ZIP
IDE-1		✓		✓		✓		IBM DTLA-307045 46.1GB
IDE-2		✓		✓		✓		IBM DTLA-307075 76.8GB
COM1		✓		✓		✓		LEMEL MD-336RSVD
COM2		✓		✓		✓		Rock Modem Cyber Lander2000
LPT1		✓		✓		✓		Iomega ZIP
Compact Flash		✓		✓		✓		
Adapter I/O Function	PCI / ISA	Installation		Function		Multi Test		Note
		Pass	Fail	Pass	Fail	Pass	Fail	

6 . BIOS Function Test

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 750/100
Memory Type	NEC D45128841G5-A10-9JF/(PC-100) 256MB
O.S.	Windows 98SE 4.10.2222A
Primary IDE Master	Fujitsu MPE 3136AH 13.6GB UDMA/66
Primary IDE Slave	ASUS CD-S500/A 50X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & OnBoard Intel 82562

A. Y2K Test:

Y2K Software Test	Result		Note
	Pass	Fail	
TEST2000.EXE	✓		
Y2KEYE.EXE (Option)			

B. Standard CMOS Setup Test:

Test Item	Setting		Function		Note
	Pass	Fail	Pass	Fail	
Data (mm:dd:yy)	✓		✓		
Time (hh:mm:ss)	✓		✓		
Primary Master	✓		✓		
Primary Slave	✓		✓		
Secondary Master					N/A
Secondary Slave					N/A
Floppy Disk A	✓		✓		
Floppy Disk B	✓		✓		

C. Boot Sequence Test:

Test Item	Result		Note
	Pass	Fail	
A:	✓		
LS-120	✓		
HDD-0:	✓		
SCSI			
CDROM	✓		
HDD-1:	✓		
HDD-2:			N/A
HDD-3:			N/A
ZIP	✓		
LAN [Boot From LAN First]			N/A

D. Power Manager Test:**D-1.APM Power Manager Test:**

Test Item	Time	Result		Note
		Pass	Fail	
Suspend Mode	1 Min	✓		
HDD Power Down	1 Min	✓		
Power Button	Delay 4 Sec	✓		
Power Button	Instant-Off	✓		

D-2.ACPI Power Manager Test:

Test Item	Result		Note
	Pass	Fail	
Enabled	✓		
Disabled	✓		

Note:Supported only ATX Power.

D-3.Power On Function Test:

Test Item	Result		Note
	Pass	Fail	
Password	✓		
Hot KEY	✓		
MOUSE Move	✓		
MOUSE Click	✓		
Any KEY	✓		
BUTTON ONLY	✓		
Keyboard 98	✓		

D-4.Wake Up Event Test:

Test Item	Result		Note
	Pass	Fail	
Wake On RING	✓		
Wake On LAN	✓		
Wake On ALARNG	✓		

E. CMOS Backup Test:

CMOS Backup Test	Result		Note
	Pass	Fail	
	✓		

F. Boot ROM Test:

Boot ROM Test	Result		Note
	Pass	Fail	
Boot ROM to Novell 4.11	N/A		HP ProCurve Switch 2224 [HP J4095A] HUB
Boot ROM to NT Server 4.0	N/A		D-Link DES-1008 Switch HUB

G. COM Address / IRQ Test:**Mouse: Logitech M-M35**

Test Item	BIOS Adjust		Function		Note
	Pass	Fail	Pass	Fail	
COM 1					
3F8 / IRQ4	✓		✓		
2F8 / IRQ3	✓		✓		
3E8 / IRQ4	✓		✓		
2E8 / IRQ3	✓		✓		
AUTO	✓		✓		
Disable	✓		✓		
COM 2					
3F8 / IRQ4	✓		✓		
2F8 / IRQ3	✓		✓		
3E8 / IRQ4	✓		✓		
2E8 / IRQ3	✓		✓		
AUTO	✓		✓		
Disable	✓		✓		
COM 3					
3E8 / IRQ10					N/A
2E8 / IRQ5					N/A
3F8 / IRQ10					N/A
2F8 / IRQ5					N/A
AUTO					N/A
Disable					N/A
COM 4					
3E8 / IRQ10					N/A
2E8 / IRQ5					N/A
3F8 / IRQ10					N/A
2F8 / IRQ5					N/A
AUTO					N/A
Disable					N/A

H. LPT Address / IRQ Test:**Printer Type : Photo Smart P1000**

Test Item	BIOS Adjust		Function		Note
	Pass	Fail	Pass	Fail	
LPT 1					
378/IRQ7 (ECP+EPP/DMA3)	✓		✓		
278/IRQ5 (ECP+EPP/DMA3)	✓		✓		
3BC/IRQ7 (ECP+EPP/DMA3)	✓		✓		
Disabled	✓		✓		
LPT1 Mode					
ECP+EPP (378 / IRQ7)	✓		✓		
SPP (378 / IRQ7)	✓		✓		
EPP (278 / IRQ5)	✓		✓		
ECP (3BC / IRQ7)	✓		✓		
LPT1 Port DMA Channel					
DMA3 (ECP+EPP 378 / IRQ7)	✓		✓		
DMA1 (ECP+EPP 378 / IRQ7)	✓		✓		
LPT2					
278 /IRQ5(ECP+EPP/DMA3)					N/A
3BC/IRQ7(ECP+EPP/DMA3)					N/A
378 /IRQ7(ECP+EPP/DMA3)					N/A
Disable					N/A

LPT2 Mode					
ECP+EPP (278 / IRQ5)					N/A
SPP (278 / IRQ5)					N/A
EPP (278 / IRQ5)					N/A
ECP (278 / IRQ5)					N/A
LPT2 DMA Channel					
DMA3 (ECP+EPP 278 / IRQ5)					N/A
DMA1 (ECP+EPP 278 / IRQ5)					N/A

I. Hardware Monitor Test:

Hardware Monitor Test	Result		Note
	Pass	Fail	
Voltage 0	✓		1.47V
Voltage 1	✓		2.01V
Voltage 2	✓		1.66V
Voltage 3	✓		5.02V
Voltage 4	✓		12.09V
Voltage 5	✓		(-)11.37V
Voltage 6	✓		(-)5.05V
Voltage 7	✓		4.78V
Voltage Battery	✓		3.88V
Temperature 1	✓		43° C
Fan 1 Speed	✓		5400 RPM

7 . Performance Test

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
Memory Type	D45128841G5-A75-9JF/PC-133 256MB
Primary IDE Master	Quantum K13600AT 13GB Fireball DMA/66
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & OnBoard Intel 82562

Drivers Information:

AGP Driver	Intel(R) 82815 Graphics Controller
IDE Driver	Intel Ultra ATA Storage Driver Ver.6.0
LAN Driver	Intel 82559 & Intel 82562
SCSI Driver	AdvanSys Wide Driver 3.2E
Audio Driver	CS4299 Sound Driver Ver.5.12.01.4026
VGA Driver & BIOS	Intel 82815 Ver.4.12.01.2656

A. Operating System Environment :

MS-DOS 6.22	Config.sys	Device=c:\dos\himem.sys dos=high,umb files=35 Buffers=40
	Autoexec.bat	Prompt \$p\$g c:\dos\smartdrv.exe /x

Test Result:

CPU Type	Pentium III 1G/133	Pentium III 933/100	Pentium III 850/100	Celeron 766/66	Unit
Testing Utility					
LandMark Speed 2.0					
CPU	6501.95	6068.45	5526.55	4984.72	MHz
FPU	20910.00	20910.00	13510.50	12185.55	MHz
VIDEO	12288.00	12288.00	11170.00	8936.00	Chr/ms
QAPLUS 5.4-PM					
Data Transfer Rate	14073.9	14073.9	13688.3	7513.2	KB/Sec
Coretest V3.02					
Average Seek Time	6.0	5.9	5.9	5.8	ms
Track-Track Seek	1.4	1.4	1.4	1.4	ms
DTR (Buffered Read)	9504	9488	8400	7056	KB/Sec
Performance ID	65.73	65.79	59.32	51.48	

B. Operating System Environment :

Windows 98	SE 4.10.2222A
Resolution, Depth	1024x768x16bits

Test Result:

CPU Type Testing Utility	Pentium III 1G/133	Pentium III 933/100	Pentium III 850/100	Celeron 766/66	Unit
WinBench 99 V1.1					
H.E. Graphic WinMark 99	889	850	734	605	MP/s
Business Graphic WinMark 99	232	230	189	165	TB/s
FPUmark	5340	4990	4520	4090	
CPUmark 99	86.8	81.7	69.8	47.9	
Final Reality V1.01—BenchMark Test					
2D image	8.08	7.92	5.63	5.05	
3D	5.92	5.77	5.43	4.45	
Bus transfer	9.51	9.50	6.25	5.18	
Overall	7.10	6.97	5.61	4.74	
3D Winbench 2000 V1.0(DirectX 7.0 1024X768X16bits) [Least 120MB Memory In O.S. WIN98 & 2K Support]					
3D Winbench 2000 Processor Test	1.92	1.89	1.52	1.11	
Content Creation Winstone 2000 V1.0					
C.C. Winstone 2000	34	33.8	29.8	25.8	

C. Operating System Environment :

Windows NT4.0 Workstation	
Resolution, Depth	1024x768x16bits

Test Result:

CPU Type Testing Utility	Pentium III 1G/133	Pentium III 933/100	Pentium III 850/100	Celeron 766/66	Unit
WinStone 99 V1.3					
Business Winstone 99	41.9	41.1	39.6	30.9	

8 . O.S. Compatibility Test

A. O.S. Compatibility -Linux RedHat7.0

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
Kernel Version	
CPU Type & FSB	Intel Celeron 766
Memory Type	IBM 0312804CT3A 360
Primary IDE Master	IBM DARA-206000
Primary IDE Slave	ASUS CD-S500/A 50X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	

Installation Software:

Installation	Result		Note
	Pass	Fail	
Linux 7.0	✓		
Linux 6.4 English		✓	The garbage is show on screen when installion setting the process mode.

Test Result:

Test Item	Pass	Fail	Note
Installation to HDD			
Install from CD-ROM	✓		
Funtion Test			
LILO Funtion	✓		
Ping IP Address	✓		
Telnet IP Address	✓		
Base Funtion			
Reboot	✓		
Shutdown	✓		
Xf86config Setup			
Mouse setup	✓		
VGA setup	✓		
Monitor resolution setup	✓		
X Windows Application			
Xclock	✓		

Note1 : Linux 6.4 English Lan Driver Not Reday

Note2 : Linux 6.4 English X-Windows : Fail VGA Driver not Roday

Note2 : Linux 6.4 English X-Windows : Fail

B. O.S. Compatibility-Novell Network O.S./V 4.11**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	NEC D4564163G5-A10B-9JF / 64MB / PC100
Switch HUB Type	HP ProCurve Switch 2224 / HP J4095A
Primary IDE Master	Maxtor 51536U3 / 15.3GB / ATA-66
Primary IDE Slave	TEAC CD-540E / 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

The Result:

Test Item	Pass	Fail	Note
Server Function Testing			
Install to IDE HDD	✓		
Boot File Server From HDD	✓		
Down & Exit	✓		
Data Transfer		✓	Lan Driver Not Reday
Client Function Testing			
Login	✓		
Logout	✓		
Data Transfer		✓	Lan Driver Not Reday
Client to Server		✓	Lan Driver Not Reday

C. O.S. Compatibility & On_Board Network Test -Novell Network O.S./V 5.0 Platform Information(Client Site):

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	NEC D4564163G5-A10B-9JF/(PC-100) 64MB
Primary IDE Master	Maxtor 51536U3 15.3GB UDMA/66
HP Switch HUB	HP ProCurve Switch 2224 / HP J4095A
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Platform Information(Server Site):

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	NEC D45128841G5-A10-9JF/PC-100
O.S.	Novell V 5.0
Primary IDE Master	Maxtor 54610H6 46.1GB UDMA/100
Primary IDE Slave	ASUS CD-S500/A 50X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
VGA Card	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card	OnBoard Intel 82559 & Intel 82562

The Result:

Test Item	Pass	Fail	Note
Server Function Testing			
Install to IDE HDD	✓		
Boot File Server From HDD	✓		
Down & Exit	✓		
Data Transfer	✓		
Client Function Testing			
Login	✓		
Logout	✓		
Data Transfer	✓		
Network Function Testing			
Test Item	Pass	Fail	Note
Transceiver	✓		
Receiver	✓		
CRC error	✓		
Collision back-off generation	✓		
Network Operation System Function Testing			
Test Item	Pass	Fail	Note
NetWare 5.0	✓		
Network Performance Testing			
Test Item	Pass	Fail	Note
NWTEST	✓		12 Hrs

Client Application Function Testing			
Test Item	Pass	Fail	Note
Dos 6.22 for IPXODI	✓		
Dos 6.22 for package driver	✓		
Transfer Data Between SRV And WK	✓		Multy Task 12 Hrs(NOTE 1.)

Note : 1.Multy Task is that transfers files(copy/verify/delet) and VCD in the same time

D. O.S. Compatibility-Windows 95**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	NEC D4564163G5 – A10 – 9JF /PC100/32M
Primary IDE Master	Western Digital AC28400-00RT 8.4GB
Primary IDE Slave	TEAC CD-540E-002-0 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
Monitor Type	ViewSonic E70
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Installation Software:

Installation	Result		Note
	Pass	Fail	
WIN95 English	✓		
WIN95 Chinese(Optional)			

VGA Driver Testing:

Resolution	Color	SF	LF	Pass	Fail	Note
640X480	16	✓		✓		
	256	✓		✓		
	16bits	✓		✓		
	24bits	✓		✓		
	32bits					N/A
800X600	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1024X768	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1280X1024	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits					N/A
	32bits					N/A
1600X1200	16					N/A
	256					N/A
	16bits					N/A
	24bits					N/A
	32bits					N/A

Test Results:

Test Item	Pass	Fail	Note
Installation From Storage Device			
Install to IDE HDD	✓		
DOC Device – Read / Write			
DOC MB / Address			N/A
Boot			
Normal	✓		
Logged (\BOOTLOG.TXT)	✓		
Safe Mode	✓		
Safe Mode with network support	✓		
Previous version of MS-DOS	✓		
Step By Step Confirmation	✓		
Command Prompt Only	✓		
Safe Mode Command Prompt only	✓		
Function Test			
Serial Mouse	✓		
FDD Format/Copy/Read/Write	✓		
PS/2 Mouse	✓		
System Clock	✓		
Keyboard Function Test			
Alt+F4 Quit a Program	✓		
Ctrl+Esc Display the Start Menu	✓		
Alt+Tab Switch To Last Windows	✓		
Ctrl+Alt+Del Close Program	✓		
F8 Start up Boot Up Menu	✓		
F4 Boot Up from Previous	✓		
Shutdown			
Shutdown the Computer	✓		
Shutdown Restart	✓		
Shutdown to MS-DOS Mode	✓		
Close all Prog. & Login Other User	✓		

E. O.S. Compatibility-Windows 98 SE**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850/100
Memory Type	Lfnineon HYB39S128800CT-7.5/PC-133/SD128M
Primary IDE Master	Quantum LM20A011-01-A 20.5AT
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
Monitor Type	ViewSonic P775
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Installation Software:

Installation	Result		Note
	Pass	Fail	
WIN98 SE English	✓		
WIN98 SE Chinese(Optional)			

VGA Driver Testing:

Resolution	Color	SF	LF	Pass	Fail	Note
640X480	16	✓		✓		
	256	✓		✓		
	16bits	✓		✓		
	24bits	✓		✓		
	32bits					N/A
800X600	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1024X768	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1152X864	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits					N/A
	32bits					N/A
1152X864	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits					N/A
	32bits					N/A
1600X1200	16					N/A
	256	✓	✓	✓		
	16bits					N/A
	24bits					N/A
	32bits					N/A

Test Results:

Test Item	Pass	Fail	Note
Installation From Storage Device			
Install to IDE HDD	✓		
DOC Device – Read / Write			
DOC MB / Address			N/A
Boot			
Boot Normal	✓		
Boot Logged (\BOOTLOG.TXT)	✓		
Boot Safe Mode	✓		
Previous version of MS-DOS	✓		
Boot Step By Step Confirmation	✓		
Boot Command Prompt Only	✓		
Boot Safe Mode Command Prompt	✓		
Function Test			
Serial Mouse	✓		
FDD Format/Copy/Read/Write	✓		
PS/2 Mouse	✓		
USB Mouse/ Keyboard	✓		
IR Mode	✓		
System Clock	✓		
Keyboard Function Test			
Alt+F4 Quit a Program	✓		
Ctrl+Esc Display the Start Menu	✓		
Alt+Tab Switch To Last Windows	✓		
Ctrl+Alt+Del Close Program	✓		
F8 Start up Boot Up Menu	✓		
F4 Boot Up from Previous	✓		
Shutdown			
Stand by	✓		
Shut down	✓		
Restart	✓		
Restart in MS-DOS mode	✓		
Close all Prog. & Login Other User	✓		

F. O.S. Compatibility-Windows 98 ME**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850/100
Memory Type	IBM 0312804CT3A 360 09K0594 128MB PC100
Primary IDE Master	Maxtor 52049U4 DMA/66
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
Monitor Type	ViewSonic P775
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Installation Software:

Installation	Result		Note
	Pass	Fail	
WIN98 ME English	✓		
WIN98 ME Chinese(Optional)			

VGA Driver Testing:

Resolution	Color	SF	LF	Pass	Fail	Note
640X480	16	✓		✓		
	256	✓		✓		
	16bits	✓		✓		
	24bits	✓		✓		
	32bits					N/A
800X600	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1024X768	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1280X1024	16					N/A
	256					N/A
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1600X1200	16					N/A
	256	✓	✓	✓		
	16bits					N/A
	24bits					N/A
	32bits					N/A

Test Results:

Test Item	Pass	Fail	Note
Installation From Storage Device			
Install to IDE HDD	✓		
DOC Device – Read / Write			
DOC MB / Address			N/A
Boot			
Boot Normal	✓		
Boot Logged (\BOOTLOG.TXT)	✓		
Boot Safe Mode	✓		
Previous version of MS-DOS	✓		
Boot Step By Step Confirmation	✓		
Boot Command Prompt Only	✓		
Boot Safe Mode Command Prompt	✓		
Function Test			
Serial Mouse	✓		
FDD Format/Copy/Read/Write	✓		
PS/2 Mouse	✓		
USB Mouse/ Keyboard	✓		
IR Mode	✓		
System Clock	✓		
Keyboard Function Test			
Alt+F4 Quit a Program	✓		
Ctrl+Esc Display the Start Menu	✓		
Alt+Tab Switch To Last Windows	✓		
Ctrl+Alt+Del Close Program	✓		
F8 Start up Boot Up Menu	✓		
F4 Boot Up from Previous	✓		
Shutdown			
Shutdown the Computer	✓		
Shutdown Restart	✓		
Shutdown to MS-DOS Mode	✓		
Close all Prog. & Login Other User	✓		

G. O.S. Compatibility & On_Board Network Test-Windows NT 4.0**Platform Information(Client Site):**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850/100
Memory Type	Infineon HYB39S128800CT – 7.5 /PC-133 /SD-128M
O.S.	Windows 98 SE 4.10.2222A
Switch HUB Type	D-Link DES-1008 / 10/100 Fast Ethernet Switch HUB
Primary IDE Master	Maxtor 51536U3 / 15.3GB / ATA66
Primary IDE Slave	TEAC CD-540E / 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
Monitor Type	ViewSonic P775
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	

Platform Information(Server Site):

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850 / 100
Memory Type	NEC D45128841G5-A10-9JF / PC-100
O.S.	Windows NT Server 4.0
Primary IDE Master	Maxtor 54610H6 / 46.1GB / ATA-100
Primary IDE Slave	ASUS CD-S500/A / 50X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Monitor Type	ViewSonic P775
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Installation Software:

Installation(With SP6)	Result		Note
	Pass	Fail	
WINDOWS NT4.0 Workstation English	✓		
WINDOWS NT4.0 Server English	✓		
WINDOWS NT4.0 Workstation Chinese(Optional)			
WINDOWS NT4.0 Server Chinese(Optional)			

VGA Driver Test:

Resolution	Color	SF	LF	Pass	Fail	Note
640X480	16					N/A
	256	✓		✓		
	65536	✓		✓		
	16bits	✓		✓		
	32bits					N/A
800X600	16					N/A
	256	✓	✓	✓		
	65536	✓	✓	✓		
	16bits	✓	✓	✓		
	32bits					N/A
1024X768	16					N/A
	256	✓	✓	✓		
	65536	✓	✓	✓		
	16bits	✓	✓	✓		
	32bits					N/A

1280X1024	16					N/A
	256	✓	✓	✓		
	65536	✓	✓	✓		
	16bits	✓	✓	✓		
	32bits					N/A
1600X1200	16					N/A
	256	✓	✓	✓		
	65536					N/A
	16bits					N/A
	32bits					N/A

Test Results:

Test Item	Pass	Fail	Note
Installation From CD/ROM			
Install to IDE HDD	✓		
DOC Device – Read / Write			
DOC MB / Address			N/A
Boot			
Boot to Windows NT	✓		
Boot to MS-DOS	✓		
Last known good configuration	✓		
Original Configuration	✓		
Shutdown	✓		
Shutdown & Restart	✓		
CPU/Memory/File System			
Memory size less than 64MB	✓		
Memory size Larger than 64MB	✓		
Virtual memory	✓		
System tasking settings	✓		
FAT	✓		
NTFS	✓		
Network	✓		
System clock	✓		
Task switching	✓		
Function Test			
Serial Mouse	✓		
FDD Format/Copy/Read/Write	✓		
PS/2 Mouse	✓		
System Clock	✓		
Keyboard Function Test			
CapLock,NumLock,ScrLock	✓		
Ctrl+Alt+Del	✓		
Ctrl+Esc,Alt+Tab/Esc/Space	✓		
Alt+Tab,Alt+Esc,Alt+Space	✓		
COM Port			
Serial Mouse	✓		
Security/Audit/Control			
User manager	✓		
Server manager	✓		
Disk administrator	✓		
Performance monitor	✓		
User profile editor	✓		
Event Viewer	✓		
Windows NT Diagnostics	✓		

Network Function Testing			
Test Item	Pass	Fail	Note
Transceiver	✓		
Receiver	✓		
CRC error	✓		
Collision back-off generation	✓		
Auto-negotiation	✓		
Network Operation System Function Testing			
Test Item	Pass	Fail	Note
Windows NT 4.0	✓		
Network Testing			
Test Item	Pass	Fail	Note
Connect to Neighborhood	✓		
Workstation Application Function Testing			
Test Item	Pass	Fail	Note
Windows 98 for NetBEUI	✓		
Windows 98 for TCP/IP	✓		
Windows NT 4.0 for NetBEUI	✓		
Windows NT 4.0 for TCP/IP	✓		
Transfer Data Between SRV And WK	✓		Multy Task 12 Hrs(NOTE 1.)

Note : 1.Multy Task is that transfers files(copy/verify/delet) and VCD in the same time

G-1.Microsoft Windows 98 Hardware Compatibility Test(HCT)**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 850/100
Memory Type	NEC D4564163G5 – A10 –9JF – 32MB /PC100
O.S.	4.10.2222A
Primary IDE Master	IBM DTLA-307445 46.1 7200RPM DMA/66
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Test Result:

HCT <input type="checkbox"/> 7.2 <input type="checkbox"/> 9.1 Features Test	Pass	Fail	Note
Virtual Dos Mach	✓		
DMPS Test	✓		
Video Playback	✓		
Extended BIOS Parameter Block	✓		
MCI CD Test	✓		
BCT API Test	✓		
INT 13 Extension	✓		
Disk(Stress) Individual Drive	✓		
Disk –CD (Stress)	✓		
Disk (Stress)	✓		
Coprocessor(Stress)	✓		
Net Class Dynamic	✓		
PCI I/O Space	✓		
PCI 2.1 (BIOS)	✓		
PCI 2.1 (Card)	✓		
Unreported I/O	✓		
Unreported Memory	✓		
PnP BIOS	✓		
APM 1.2	✓		
Media Class Dynamic Config	✓		
Wave Drift	✓		

H. O.S. Compatibility-Windows 2000**Platform Information:**

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 933 /133
Memory Type	Infineon HYB39S128800CT – 7.5 /PC-133 /SD-128M
Primary IDE Master	Quantum LM20A011-01-A 20.5AT
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
Monitor Type	ViewSonic P775
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Installation Software:

Installation(With SP6)	Result		Note
	Pass	Fail	
WINDOWS 2000 Professional English	✓		
WINDOWS 2000 Server English	✓		
WINDOWS 2000 Professional Chinese(Optional)			
WINDOWS 2000 Server Chinese(Optional)			

VGA Driver Testing:

Resolution	Color	SF	LF	Pass	Fail	Note
640X480	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
800X600	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1024X768	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1152X864	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1280X1024	16					N/A
	256	✓	✓	✓		
	16bits	✓	✓	✓		
	24bits	✓	✓	✓		
	32bits					N/A
1600 X1200	16					N/A
	256	✓	✓	✓		
	16bits					N/A
	24bits					N/A
	32bits					N/A

Test Results:

Test Item	Pass	Fail	Note
Installation From Storage Device			
Install to IDE HDD	✓		
DOC Device – Read / Write			
DOC MB / Addree			N/A
Windows 2000 Advanced Options Menu			
Safe Mode	✓		
Safe Mode with Networking	✓		
Safe Mode with Command Prompt	✓		
Enable Boot Logging	✓		
Enable VGA Mode	✓		
Last known Good Configuration	✓		
Directory Services Restore Mode (windows 2000 domain controllers only)	✓		
Debugging Mode	✓		
Boot Normally	✓		
Return to OS Choices Menu			N/A
Function Test			
Serial Mouse	✓		
FDD Format/Copy/Read/Write	✓		
PS/2 Mouse	✓		
USB Mouse/ Keyboard	✓		
IR Mode	✓		
System Clock	✓		
Keyboard Function Test			
Alt+F4 Quit a Program	✓		
Ctrl+Esc Display the Start Menu	✓		
Alt+Tab Switch To Last Windows	✓		
Alt+Esc Switch Windows	✓		
Ctrl+Alt+Del Windows Security Window	✓		
F8 Start up Windows 2000 Advanced Options Menu Menu	✓		
Shutdown			
Log off User	✓		
Shut down	✓		
Restart	✓		

I. O.S. Compatibility-DOS and DOS Utility Compatibility Testing

Platform Information:

PCB Model & Version	SBC-659 Rev.A0.2
CPU Type & FSB	Pentium III 933 /133
Memory Type	Infineon HYB39S128800CT – 7.5 /PC-133 /SD-128M
Primary IDE Master	Quantum LM20A011-01-A 20.5AT
Primary IDE Slave	TEAC CD-540E 40X
Secondary IDE Master	N/A
Secondary IDE Slave	N/A
Backplane	N/A
Riser Card	N/A
VGA Card & Driver Version	OnBoard Intel 82815 Ver.4.12.01.2656
LAN Card & Driver Version	OnBoard Intel 82559 & Intel 82562

Test Results:

Test Item	Result		Note
	Pass	Fail	
Installation MS-DOS6.22 From FDD			
Install to IDE HDD	✓		
DOC Device – Read / Write			
DOC MB / Address			N/A
DOS Commander			
MSD.COM	✓		
EDIT.COM	✓		
EMM386.EXE	✓		
HIMEN.SYS	✓		