

ROCKY-6610

ROCKY-6614

Cost Effective Intel Pentium 4 Platforms



Solution innovator, Embedded your life



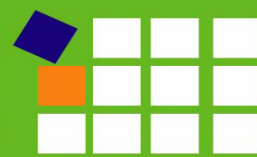
Member of ICP Group 



IEI Technology Corp.

ROCKY-6614/6610

Cost Effective Intel Pentium 4 Platforms



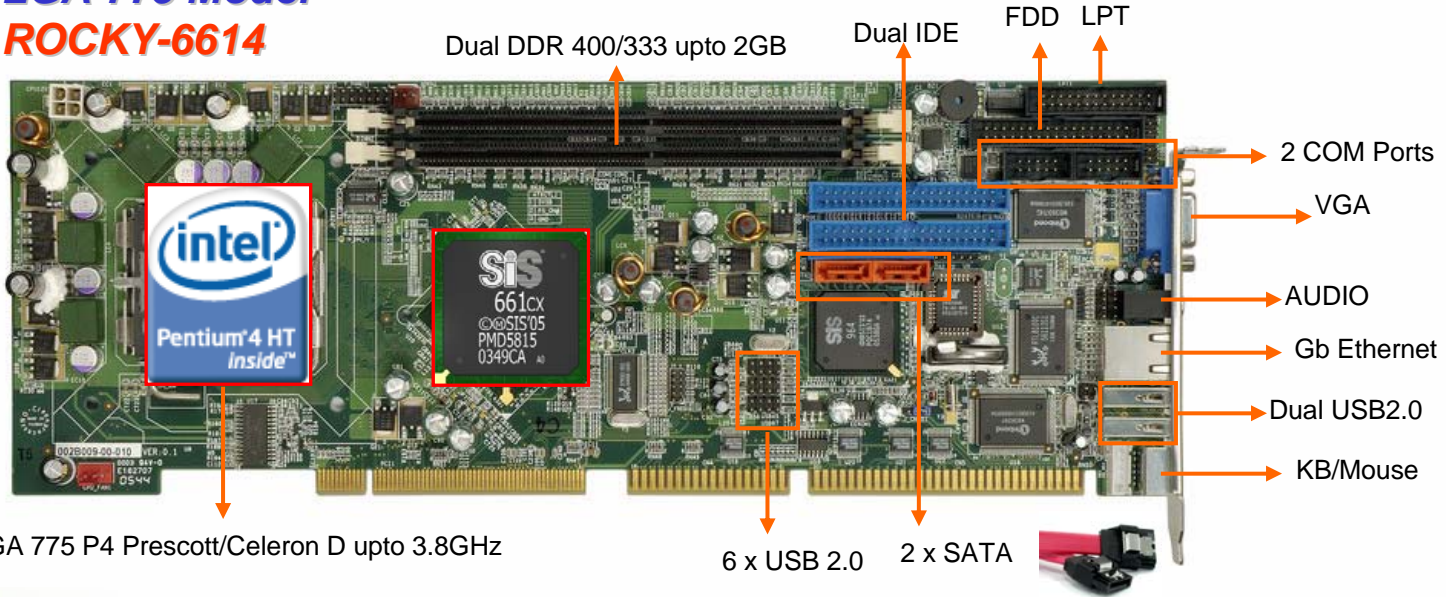
RoHS ready

PICMG 1.0 LGA775/SOCKET 478 800MHz FSB CPU board with GbE, 8 USB 2.0 and Dual SATA RAID function support

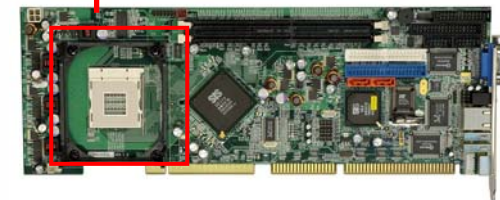
Long term support



**LGA 775 Model
ROCKY-6614**



**Socket 478 Model
ROCKY-6610**



The ROCKY-6614/6610 Intel® Pentium® 4 platform delivers high performance in diverse applications such as image processing, video content creation, and multimedia.



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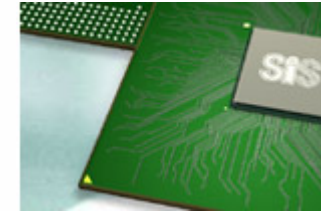
Member of ICP Group





Hyper Streaming Technology (HST)

HST improves the performance of the whole system by enabling the smooth, efficient and intelligent flow of chipset data over all data paths.



Host Interface

Intel® Pentium® 4 hyper-threading processors supported.



SiS Mirage™ Graphic Engine

Powered by SiS Mirage™ Graphic Engine. Microsoft DirectX 7.0 H/W and Microsoft DirectX 9.0 S/W compliant.



Single Channel Memory Architecture

Single channel DDR memory architecture. Offers a maximum 3.2GB/s (DDR400).



Ultra-AGP II™ Technology

The Ultra-AGP II™ provides faster communication and up to 3.2GB/s transmission bandwidth between the built-in graphic engine and the Northbridge memory controller.



Socket 478 Models

LGA 775 Models



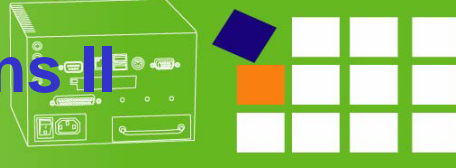
Intel® CPU ® Socket-478 for Intel P4 / Prescott / Celeron /Celeron-D
Supports 533/800MHz FSB up to 3.4GHz with Hyper-Threading Technology

Intel® CPU ®LGA775 P4 Prescott / Celeron /Celeron-D
Support 800/533 MHz FSB up to 3.8GHz with Hyper-Threading Technology.

Model Name	ROCKY-4786EVG	ROCKY-6610	WSB-9150	ROCKY-6614	WSB-9154
Form Factor	PICMG 1.0	PICMG 1.0	PICMG 1.0	PICMG 1.0	PICMG 1.0
Chipset	i865GV	SiS 661CX	i915GV	SiS 661CX	i915GV
CPU Socket	S-478	S-478	S-478	LGA775	LGA775
CPU FSB	800	800	800	800	800
CPU Frequency (GHz)	3.4	3.4	3.4	3.8	3.8
Memory Socket	DDR * 2	DDR * 2	DDR*2	DDR * 2	DDRII*4
Memory Frequency	DDR 400	DDR 400	DDR400	DDR 400	DDRII400/533
IDE (drive)	4	4	1	4	1
SATA (drive)	2	2	4	2	4
LAN	10/100 + GbE	GbE	PCI-E GbE	GbE	Dual PCI-E GbE
SSD	CF	NA	NA	NA	NA
Audio	Yes	Yes	Optional	Yes	Optional
Cooler	CF-514 / CF-519	CF-514/CF-519	CF-514/CF-519	CF-520	CF-520

Complete Intel Pentium 4 solutions II

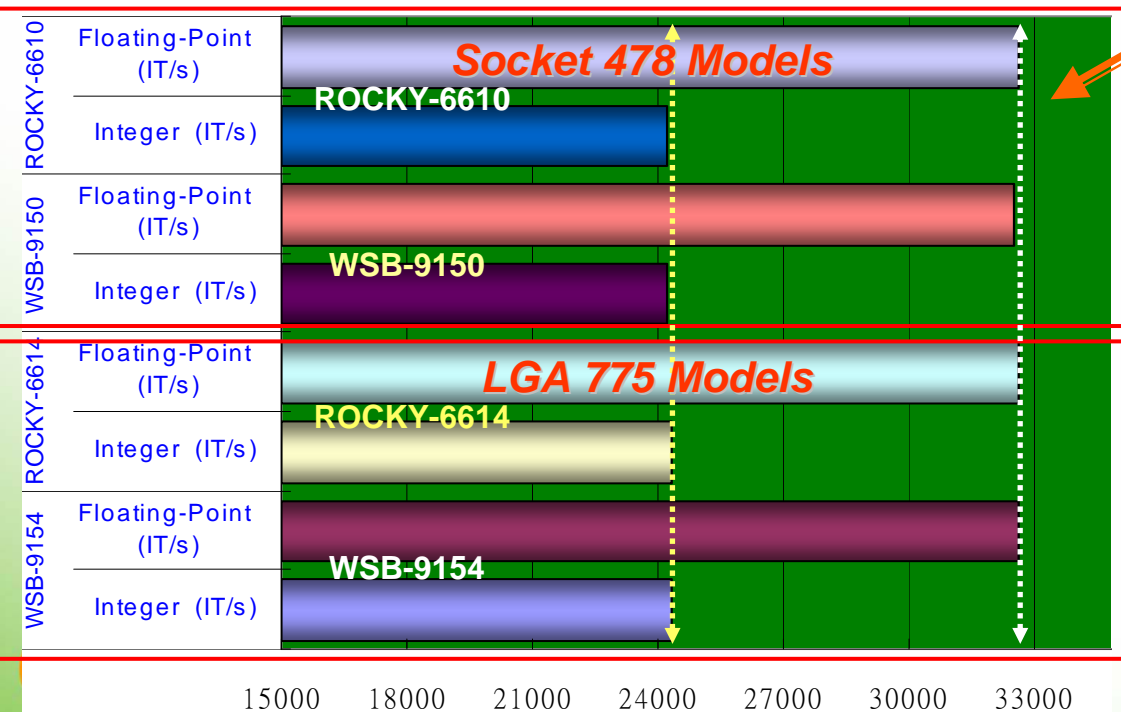
CPU Multimedia Performance Comparison



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Model	ROCKY-6614	Workstation	
CPU Type	P4-3.4G/2M/800 (HT) / LGA 775 Type	RAM Module	DDR400 1G x 2
Model	WSB-9154	Workstation	
CPU Type	P4-3.4G/2M/800 (HT) / LGA 775 Type	RAM Module	DDRII533 1G x 2
Model	ROCKY-6610	Workstation	
CPU Type	P4-3.2G/512K/800 (HT) / Socket 478 Type	RAM Module	DDR 400 1Gx2
Model	WSB-9150	Workstation	
CPU Type	P4-3.2G/512K/800 (HT) / Socket 478 Type	RAM Module	DDR 400 1Gx2

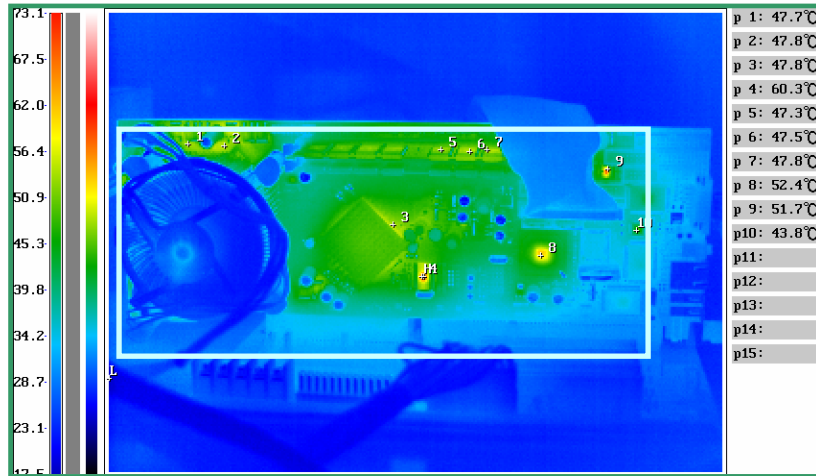
WSB-9154	Integer (IT/s)	24348
	Floating-Point (IT/s)	32635
ROCKY-6614	Integer (IT/s)	24347
	Floating-Point (IT/s)	32621
WSB-9150	Integer (IT/s)	24214
	Floating-Point (IT/s)	32489
ROCKY-6610	Integer (IT/s)	24191
	Floating-Point (IT/s)	32617



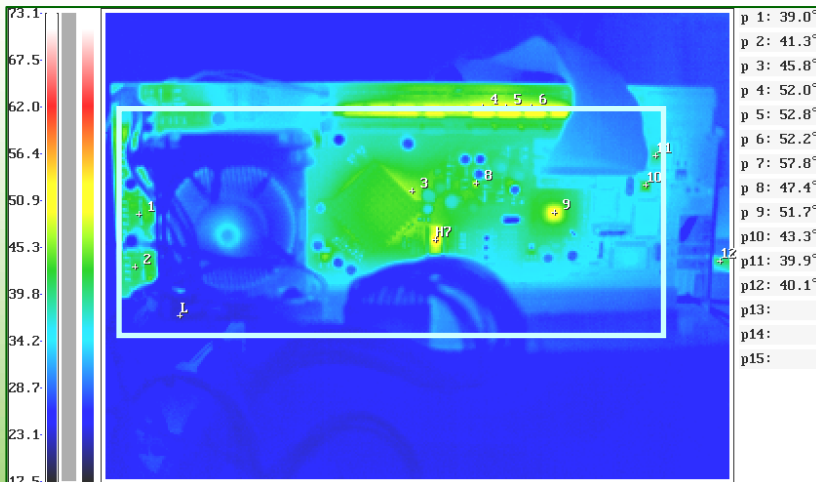
Similar performance but cost effective!!!

ROCKY-6614/6610 offers the best high performance, low cost solution to those looking for the best value !!!

ROCKY-6614

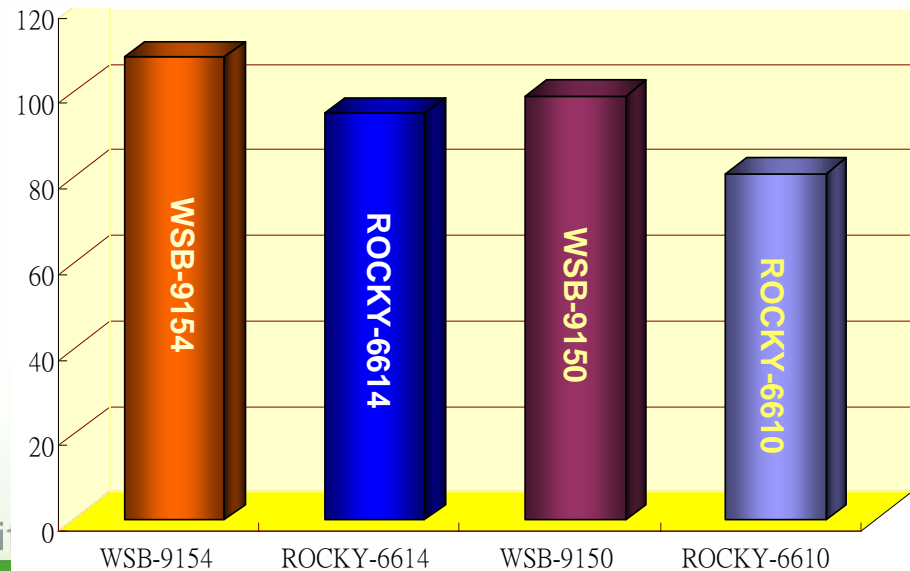


ROCKY-6610



Infrared thermography shows the Intel Pentium 4 based ROCKY 6614/6610 has an excellent thermal design. All IEI Pentium 4 SBC have extremely low power consumption and low operating temperatures.

Test Environment	3D MARK +5V	3D MARK +12V	Power Consumption
LGA 775	(P4-3.4G/2M/800(HT), 2GB DRAM)		
WSB-9154	5.72	6.63	108.16
ROCKY-6614	4.28	6.14	95.08 W
SOCKET-478	(P4-3.2G/512K/800(HT) 2GB DRAM		
WSB-9150	5.67	5.89	99.03
ROCKY-6610	3.10	5.45	80.90 W





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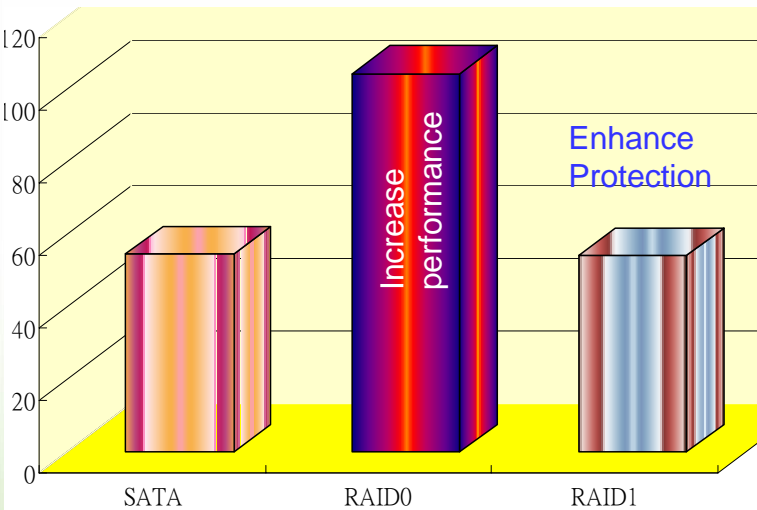
RAID protection

Dual SATA HDD RAID function support

www.ieiworld.com

ROCKY-6610/6614 integrates 2 SATA ports with RAID 0,1 function support which provide better performance and data protection to systems.

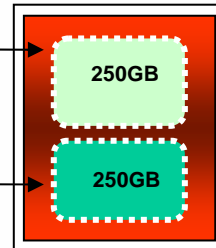
Testing Result 1



Testing Result 2

HD Tach	Average Read Speed MB/s	SATA	RAID0	RAID1
		54.5	104.4	54.2
Redundancy		NO	NO	YES

Single disk

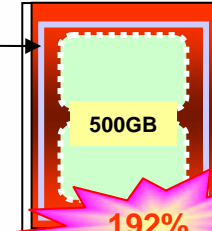


Performance Increasing

General mode
(capacity 250GB*2)

System recognizes each drive as an individual.

RAID 0 (disk stripping)

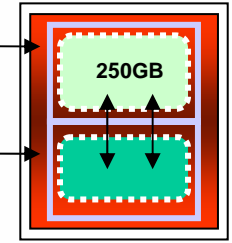


192%

RAID 0 mode
(capacity 500GB)

It recognizes 2 hard drives as one large drive, yielding higher performance than single disk mode. No redundancy provision.

RAID 1 (disk mirroring)



RAID-1 mode
(capacity 250GB*2)

All drives are paired and mirrored. All data is duplicated 100% on a separate drive of the equivalent size.

When looking for a system designed for digital data protection, performance increasing, be sure to look for IEI reliable technology ready products.



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RAID protection

RAID administration software tool

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SiS Raid - Configuration

Adapter: **SiS RAID Controller 1**

Present Physical Devices

- ST3120813AS
- ST3808110AS

Physical Device Information

Items	Device Information Description
Location	Primary Channel, Master [1]
Serial Number	[1] : 5LS1CX95
Device Capacity	111.8 G
Device Model	Hard Disk
Device Support Transfer Mode	UDMA mode 6 and below is supported
Device Current Mode	UDMA 6
Device Type	RAID
Array name	SiSRaid0_SET0
Array Status	Normal Raid Set
Array Mode	DMA
Array Block Size	64 K

SiS Raid - RAID Recovery

Current RaidType: **SiSRaid0_SET0 (2 = 1 3 | 1 3)**

RAIDTYPE INFORMATION ILLU...

RaidType:

BlockSize:

SRaid (Warning icon):
Congratulation! Rebuild action Succeed.

NonSync Raid Sets

Select one RaidSet you want to treat in this time !

RaidSetName: **Raid1_SET0**

< NonSync Disk members >

Synchronized 'Mirror (RAID 1)' / 'RAID 0+1' Rebuild

Asynchronous 'Mirror (RAID 1)' / 'RAID 0+1' disk members

Member	Disk	Capacity
1	Disk 1 ST3120813AS	111.8 G
1	Disk 3 ST3808110AS	74.5 G
2		
2		

Source disk and Target disk: **combination 1** **combination 2**

combination 1> Disk Copy Remaining Sectors = 101825328

Progress bar: 0% 25% 50% 75% 100%

Mirror/StripeMirror Synchronize (Info icon):

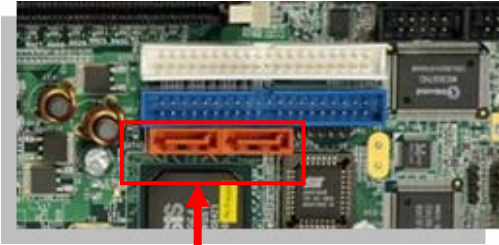
This controller found non-sync 'RAID 1' / 'RAID 0+1' set(s). You would have some choices. Whatever you select, the non-sync 'RAID 1' / 'RAID 0+1' will be set to completed 'RAID 1' / 'RAID 0+1' temporarily.

- You can select [Sync]: All data on the SOURCE disk(s) will be synchronized to the TARGET disk(s) !
- You can select [Delete]: Protect all data of RAID members :
 - For RAID 1 - deleting RAID 1 as two single disks.
 - For RAID 0+1 - degrading RAID 0+1 as two RAID 0 sets.
- You can select [Clear]: Clear 'Sync' notification or do nothing to use it but some data may be error on the disk !

<Warning>
Owing RAID set(s) are not synchronized, some data maybe error on the disk members of the RAID set(s) ! This may cause that OS crashed(if this RAID is OS disk) or any abnormal behavior.

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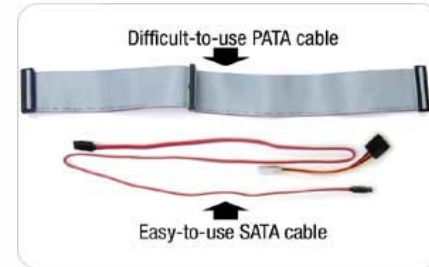
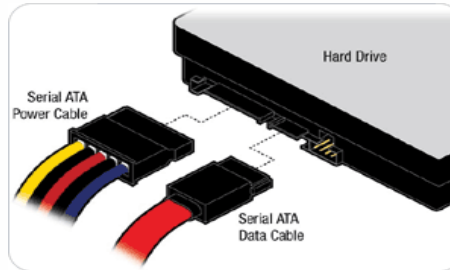
Lockable SATA connectors



Vibration free, lockable SATA connectors are available in both the ROCKY-6610 and ROCKY-6614 models

Retention latches on SATA connectors protect SATA drive connections from vibrations and accidental impacts.

It's Easier



Lockable SATA cable

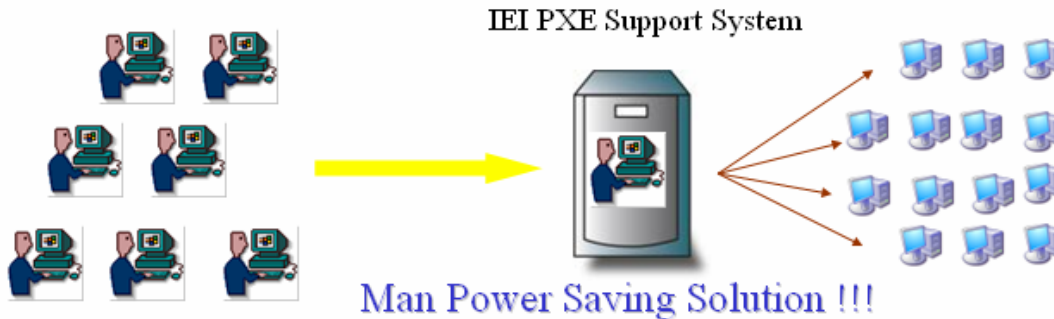
Parallel ATA	Serial ATA	SATA Advantage
Up to 133 Mb/sec	Up to 150 Mb/sec (1.5Gb/sec)	Faster, and room for expansion
Tiny Jumpers	No Master/Slave, Point to Point	Easy of use
18" cable	Up to 39" (1 meter) cable	Easy of integration
2"-wide ribbon cable	Thin cable (1/4")	Improved system airflow
80 conductor	7-wire differential (noise canceling)	Eliminates data integrity problems
40 pin and socket	Blade and Beam connector (snap in)	Easy of use
2"-wide data connector	1/2"-wide data connector	Ease of integration
Onboard DMA controller	First-party DMA support	Performance enhancement
High 5V tolerance for legacy drives	Low voltage (.25V) tolerance	Design improvement
Limited (legacy command queuing)	Intelligent Data Handling	Performance enhancement
-----	Hot Swap	Ease of integration
CRC on data only	Cyclic Redundancy Check on data, command, status	Enhance data protection



A complete set of trustworthy applications that recover, secure or access important data in the IEI integrated BIOS and Product Quality Verification process.

i. Pre-Boot Execution Environment

1. Boots diskless systems, such as thin clients and dedicated systems.
2. Deploys software and OS for new systems.
3. Automates systems maintenance, such as backups.
4. Lowers maintenance fee with a central recovery system with no on site requirement.

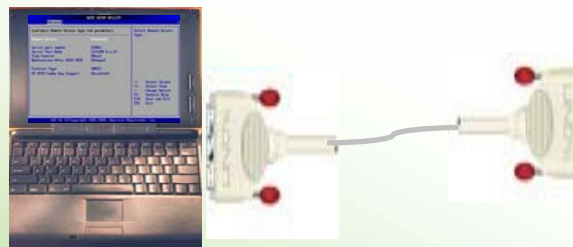


Instead of a whole service team, you need only one remote server to control all systems

ii. Console Redirection

Console redirection allows you to maintain a system from a remote location by re-directing keyboard input and text output through the serial port.

Console Unit



Client System





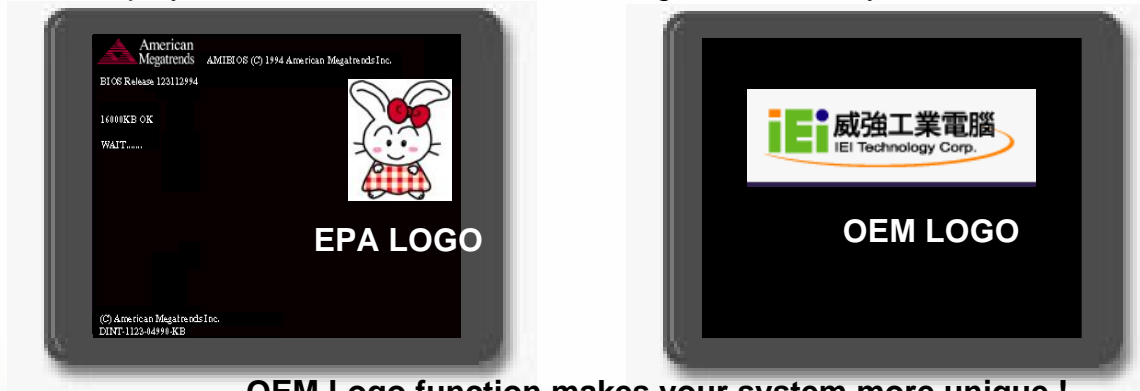
iii. User Data Storage area

System Management BIOS (SMBIOS) / Desktop management Interface (DMI) - Allows manufacturers to develop structures to access attributes that are known by the system BIOS. You can use it for:

- 1: Customizing OEM data and series number for system information track.
- 2: Bundling software and hardware to protect your development.

iv. OEM Logo Display Function

Ability to enable or disable the display of a customized EPA or OEM Logo to enhance your brand value



OEM Logo function makes your system more unique !

v. Boot from USB Removable Device

Support for replacing, repairing, or recovering data from damaged hard drive image. With boot-to-USB enabled, the end user has the option to run diagnostic utilities and debug damaged internal system devices through USB-bootable device.



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Specification



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CPU

ROCKY-6614

Intel CPU Pentium 4 @ LGA-775 P4 Prescott/Celeron-D support
800/533 MHz FSB up to 3.8Ghz with Hyper-Threading Technology.

ROCKY-6610

Intel CPU Pentium 4 @ Socket 478 P4 Prescott/Celeron-D support
800/533 MHz FSB up to 3.4Ghz with Hyper-Threading Technology.

System Chipset

SiS 661CX + SiS 964

DRAM

ROCKY-6614/ ROCKY-6610

2 x DDR 184-pin sockets of 400/333MHz DDR SDRAM up to
2GHz

Graphic Controller

ROCKY-6614/ ROCKY-6610

CRT integrated in SiS 661CX

Ethernet

ROCKY-6614/ ROCKY-6610

Realtek RTL8110S GbE

Watchdog Timer

ROCKY-6614/ ROCKY-6610

Software programmable supports 1~255 sec. system reset.

BIOS

ROCKY-6614/ ROCKY-6610

AMI Flash BIOS

SMIBIOS (DMI) compliant

Console redirection function support

PXE (Pre-Boot Execution Environment) support

USB booting support

I/O Interface

ROCKY-6614/ ROCKY-6610

2 x RS-232 by 2 x 5 pin header

1 x LPT by 2 x 13 pin header

1 x IrDA by 1 x 5 pin header

8 x USB 2.0 / 6 by 2 x 4 pin header

2 x SATA-150 connectors

1 x ATA-100 Channel

1 x FDD by 2 x 17 Pin header

1 x PS2 Keyboard / Mouse

2 x 5 Pin header for 4 input / 4 output GPIO

Super I/O

ROCKY-6614/ ROCKY-6610

Winbond W83697HG

Power Consumption

ROCKY-6614

+5V @ 4.28A, +12V @ 6.14 A (P4-3.4G/2M/800(HT), 2GB DDR 400)

ROCKY-6610

+5V @ 3.10A, +12V @ 5.45 A (P4-3.2G/512K/800(HT), 2GB DDR 400)

Audio

ROCKY-6614/ ROCKY-6610

AC '97 interface

Temperature

ROCKY-6614/ ROCKY-6610

operation: 0 ~ 60° C (32 ~ 140° F)

Humidity

ROCKY-6614/ ROCKY-6610

Operation: 5% ~ 90% Relative Humidity



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Packing List

1 x ROCKY-6614/ROCKY-6610 system host board computer	1 x ATX-12V cable for ROCKY-6610 (P/N:32100-087100-RS)
1x ATA66/100 flat cable (P/N: 32200-000052-RS)	1 x Keyboard/ PS2 mouse cable (P/N: 32000-000138-RS)
2 x SATA cable (P/N: 32000-062800-RS)	1 x Mini jumper pack
1 x SATA power cable (P/N: 32100-088600-RS)	1 x QIG (quick installation guide)
1x RS232 cable P/N: 19800-000051-RS	1 x Utility CD
1 x USB cable (P/N: CB-USB02-RS)	

Ordering Information

Part No.	Description
ROCKY-6614-R10	PICMG 1.0 LGA775 Intel Pentium4/ Celeron-D CPU Card with VGA, Dual GbE and SATA
ROCKY-6610-R10	PICMG 1.0 Socket 478 Intel Pentium4/ Celeron-D CPU Card with VGA, Dual GbE and SATA
CF-520-RS	LGA 775 type CPU cooler
CF-519-RS	Socket 478 type CPU cooler
32200-000017-RS	FDD cable
19800- 000049-RS	LPT cable

