



MIlitary Xeon D Fanless Server with Intel® Xeon®

D-1700 processor



User's Manual Revision Date: Nov. 05. 2024

Safety Information

Electrical safety

- To prevent electrical shock hazard, disconnect the power cable from the electrical outlet before relocating the system.
- When adding or removing devices to or from the system, ensure that the power cables for the devices are unplugged before the signal cables are connected. If possible, disconnect all power cables from the existing system before you add a device.
- Before connecting or removing signal cables from the motherboard, ensure that all power cables are unplugged.
- Seek professional assistance before using an adapter or extension cord. These devices could interrupt the grounding circuit.
- Make sure that your power supply is set to the correct voltage in your area.
- If you are not sure about the voltage of the electrical outlet you are using, contact your local power company.
- If the power supply is broken, do not try to fix it by yourself. Contact a qualified service technician or your local distributor.

Operation safety

- Before installing the motherboard and adding devices on it, carefully read all the manuals that came with the package.
- Before using the product, make sure all cables are correctly connected and the power cables are not damaged. If you detect any damage, contact your dealer immediately.
- To avoid short circuits, keep paper clips, screws, and staples away from connectors, slots, sockets and circuitry.
- Avoid dust, humidity, and temperature extremes. Do not place the product in any area where it may become wet.
- Place the product on a stable surface.
- If you encounter any technical problems with the product, contact your local distributor

Statement

- All rights reserved. No part of this publication may be reproduced in any form or by any means, without prior written permission from the publisher.
- All trademarks are the properties of the respective owners.
- All product specifications are subject to change without prior notice

Revision History

Revision	Date	Changes
	(yyyy/mm/dd)	
Version 1.0	2024/11/05	Initial release

Packing list

- ► ROC200-DL MIlitary Xeon D Fanless Server
- ► CD (Driver + Usermanual)

Ordering Information

	ROC200-DL-A20	ROC200-DL-35A	ROC200-DL-A45	ROC200-DL-50A	ROC200-DL-R	ROC200-DL-4S	ROC200-DL-A2015
CPU	Xeon-D-1732TE, 8C	Xeon D-1746TER, 10C	Xeon D-1746TER, 10C	Xeon D-1746TER, 10C	Xeon-D-1732TE, 8C	Xeon D-1746TER, 10C	Xeon D-1715TER, 4C
GPU	MXM A2000	MXM 3500Ada	MXM A4500	MXM 5000Ada	MXM A2000	MXM A3500Ada	MXM A2000
RAM	DDR4 up to 128GB SO-DIMM						DDR4 32GB SO-DIMM
Storage	1x M.2 2280 M-key, 2x SATA 2x SATA SSD (Option HW Raid 0/1)				SATAIII 512GB WT		
PSU	9V~36V DC-IN				9V~36V DC-IN		
	4x 10GbE LAN					4x 10GbE LAN	
1/0	2x USB3.0 + 2x USB2.0				2x USB3.0 + 2x USB2.0		
1/0	2x DP ports				2x DP ports		
	Power Switch + HDD/SSD LED				Power Switch + SSD LED		
OS	Win10, Win server 2019, Win10 LTSC				Win10, Win server 2019, Win10 LTSC		
Remark	NA			Test sample			



If any of the above items is damaged or missing, please contact your local distributor.

Revision Date: Nov. 05. 2024

Index

Safety Info	prmation	1
Revision H	listory	2
Packing lis	st	2
Ordering Ir	nformation	2
Specific	cations	5
Dimens	sion	7
System	n Block Diagram	8
CPU M	odule Functional Block Diagram	8
Chapter 2 (Connector Pin Define	9
	Power IN:	9
Chapter 3 (CPU Module	10
3.1	Introduction	10
3.2	Block Diagram	10
3.3	Specifications	11
3.4	Supported Operating Systems	12
3.4.1	Windows OS Driver	12
3.5	Electrical Characteristics	12
3.6	Power Consumption	13
Chapter 4 I	BIOS Setup	14
4.1	Entering Setup Launch System Setup	
4.2	Main	15
4.3	Configuration	16
4.3.1	CPU Configuration	17
4.3.2	Chipset Configuration	18
4.3.3	LAN Configuration	19
4.3.4	PCI/PCIE Configuration	20

Revision Date: Nov. 05. 2024

4.3.4.1	COMe PCIe Port 0/4/8/12 21
4.3.4.2	COMe PCIe Port 16~31 22
4.3.5	SATA Configuration
4.3.6	USB Configuration 24
4.3.7	Power Control Configuration 25
4.3.8	TPM Configuration 26
4.3.9	Super IO Configuration
4.3.9.1	Serial Port 1 Configuration 29
4.3.9.2	Serial Port 2 Configuration
4.3.10	H/W Monitor
4.3.11	Serial Port Console Redirection 32
4.3.11.1	Console Redirection Settings 33
4.3.12	EC Firmware Update 35
4.4	Security
4.4.1	Secure Boot
4.5	Boot
4.6	Save & Exit
4.7	BIOS/EC Update 40

Chapter 1 Product Introduction

Specifications

System

COM Express CPU	Intel [®] Xeon [®] D-1700 processor (Ice Lake-D LCC)
(Туре 7)	
COM Express CPU	Intel [®] Xeon [®] D-1700 processor (Ice Lake-D LCC)
Options	•Xeon [®] D-1746TER 2.0/3.1GHz, 15MB, 67W, 10C
(Туре 7)	•Xeon [®] D-1732TE 1.9/3.0GHz, 15MB, 52W, 8C
	•Xeon [®] D-1715TER 2.4/3.5GHz, 10MB, 50W, 4C
GPU Module	NVIDIA [®] Quadro [®] 5000Ada, 115W, 16GB GDDR6, 9728 CUDA Cores
Options	NVIDIA [®] Quadro [®] MXM A4500, 80/115W, 16GB GDDR6, 5888 CUDA Cores
	NVIDIA [®] Quadro [®] 3500Ada, 115W, 12GB GDDR6, 5120 CUDA Cores
	NVIDIA [®] Quadro [®] MXM A2000, 60W, 8GB GDDR6, 2560 CUDA Cores
Memory type	DDR4, up to 128GB
Chipset	Base On CPU module
Watchdog	Base On CPU module
Display	
Display Port	1x Display Port outputs from MXM GPU
Storage	
M.2	1x M.2 2280 M-Key Slot (PCIe x4 GEN3, NVMe)
Swappable SSD	1x 2.5" SATA III Swappable tray
Ethernet	
10GbE SFP+	4x (Intel C827 10G Retimer)
RJ45 GbE LAN	2x 1GbE(one from CPU module, One from I210IT)
Rear I/O	
10GbE SFP+	4x
Swappable SSD Trav	1x 2.5" SATA III Swappable tray

Revision Date: Nov. 05. 2024

COM	2x RS232
Front I/O	
LED	1x SSD LED
Power Button	1x Power Button w/Indicator LED
USB	2x USB 3.0
Display port	1x DP
LAN	2x RJ45
DC-IN	1x D38999 connector
Power Managen	nent
Power Type	Wide Voltage DC-IN 9V~36V (Support AT/ATX mode)
Applications, Op	perating System
Applications	Energy/Power Plant Management, Intelligent Automation and manufacturing applications
Operating System	Win10, Win server 2012 R2 Standard
Mechanical & Er	nvironmental
Dimension	250 x 350 x 88 mm (W x D x H)
Weight	TBC
Chassis	Aluminum Alloy
Heatsink	Aluminum Alloy, Corrosion Resistant
Finish	Anodic aluminum oxide
Compliance	MIL-STD-810G, IEC-61850-3, IEEE-1613, CE and FCC, RoHS
Operating Temp.	-20 to 50°C
Storage Temp.	-40 to 85°C
Relative Humidity	5% to 95%, non-condensing

Revision Date: Nov. 05. 2024

Dimension





Revision Date: Nov. 05. 2024

System Block Diagram



CPU Module Functional Block Diagram



Revision Date: Nov. 05. 2024

Chapter 2 Connector Pin Define

• Power IN:





	CON1	
Yellow (+)	A	TN1
Black (-)	В	TN2
Green	Shell	

Revision Date: Nov. 05. 2024

Chapter 3 CPU Module

3.1 Introduction

PCOM-B705GT, a Type 7 COM Express[®] basic size(125 x 95 mm) module which based on Intel[®] Xeon[®] D-1700 series processors. In this architecture, it could provide up to 10 cores / 20 threads processors with the maximum TDP=67w, and 4x 10G KR ports. It also supports 16x PCIe 4.0, 16x PCIe 3.0 lanes, 4x USB 3.2 Gen1, and 2x SATA III ports. Selected SKUs support wide-temperature range.

PCOM-B705GT offer an effective upgrade path for solutions already using the previous D-1600 COM Express modules, ideal for applications in edge/micro server and alike, requiring relatively lower power consumption while supporting high computing performance and communication throughput.

PCOM-B705GT COM Express® Type 7 Basic Module 125x95mm AT / ATX Mode -40' C ~ +85° C Option (Solder Side 8mm) SO-DIMM Row AB Row CD F]ਤ[]ਤ[3x PCle 3.0 x2 1x PCIe 4.0 x16 PCIe #0~#5 HSIO # 0~5 IIO x16 # 0~15 PCIe #16~#31 HSIO # 8~11 PCIe #8~#11 1x PCle 3.0 x4 1x PCle 3.0 x2 HSIO # 6~7 PCle #6~#7 PCle #12~#15 1x PCle 3.0 x4 HSIO # 12~15 HSIO # 20~23 4x USB 3.0 USB #0~#3 2x SATA III SATA #0~#1 HSIO # 17~18 10GbE KR KR #0 Intel[®] Xeon[®] D-1700 Family 10GbE KR KR #2 4x USB 2.0 USB 2.0 #0~#3 10GbE KR (45x45mm) KR #1 NCSI २ KR #3 10GbE KR Intel I210 PCle 3.0x 1 HSIO # 16 GbE €€ EERPOM BIOS EERPON SPI TPM LPC/eSPI (Default LPC) LPC/eSPI LPCieSPI (Default LPC Embedded Controlle IT5121E SMBUS 120 SER 0/ GPIO #0~#3 SMBUS SMBus

3.2 Block Diagram

3.3 Specifications

Product	PCOM-B705GT
Form Factor	COM Express [®] Type 7, Basic Size (125mm X 95mm)
Processor	Intel [®] Xeon [®] D-1746TER
	Intel [®] Xeon [®] D-1732TE
	Intel [®] Xeon [®] D-1715TER
BIOS	AMI UEFI BIOS
Memory	Support ECC and Non-ECC, up to 3 Channel Memory Operation
	4x DDR4 SO-DIMM slots with 3 channels for 8 Core / 10 Core SKUs, up
	to 128GB, 2666MT/s
	3x DDR4 SO-DIMM slots with 2 channels for 4 Core SKUs, up to 96GB,
	2666MT/s
Ethernet	1x GbE (via Intel [®] i210AT/IT)
	4x 10GbE: Mode Configuration, need different BIOS firmware for
	proper operation.
	• 100G and 50G SKU: provide default BIOS support 4x 10G support
	LEK 7.0 CEI Mode.
	• For KR Mode Support, please contact sales for firmware support.
	• For 4x 25GbE Support on 100G SKU, please contact sales for ODM
	request.
PCI Express	16x PCIe 4.0 and 16x PCIe 3.0
I/O	4x USB 3.0 / 2.0
	2x SATA
	8 bit GPIO (default 4 in / 4 out)
	I2C / SMBus
	2x UART
Hardware Monitors	ITE series Embedded Controller, Voltage, Fan and Temperature
Security	TPM 2.0
Power Management	ACPI 4.0
Environment	Operating Temperature: -40°C ~+80°C (selected SKU)
	Storage Temperature: -40°C ~+85°C
	Relative Humidity 5%~95%



3.4 Supported Operating Systems

Vendor	Operating System	Support	
M/indows	Microsoft Windows 10 IoT Enterprise LTSC	Intel, Microsoft	
windows	Microsoft Windows Server 19H1, 19H2, 20H1	Intel, Microsoft	
	Red Hat Enterprise Linux 7.6 or latest	Red Hat	
	SUSE Linux Enterpriser Server 12 SP4 or latest	SUSE, Open Source	
Linux	SUSE Linux Enterpriser Server 15 SP2 or latest	SUSE, Open Source	
LINUX	Ubuntu 19.04 or latest	Canonical, Open Source	
	Wind River Linux	Wind River	
	Yocto Project BSP tool-based embedded Linux(64-bit)	Intel, Open Source	
RTOS	Wind River VxWorks	Wind River	
	Linux KVM	Open Source	
	ACRN	Open Source	
VMM	VMWare ESXi	VMware, Open Source	
	Microsoft Windows Hyper-V: Windows Server 19H1		
	Microsoft Windows Hyper-V: Windows Server 19H2	Nierooft	
	Microsoft Windows Hyper-V: Windows Server 20H1	WICIOSOIL	
	Microsoft Azure		

Does not endorse/validate/support any specific Linux distribution or entity mentioned on this list. Recommends customers to work with Linux vendors/open-source communities to find feature list and support model

3.4.1 Windows OS Driver

Please download the drivers from Portwell download center website:

http://www.portwell.tw/support/download_center.php

3.5 Electrical Characteristics

Input voltage	+12V ± 5%
RTC Battery	From Carrier
Power on mode	ATX Mode & AT Mode

3.6 Power Consumption

Series	PCOM-B705GT		
Processor	D-1746TER	D-1732TE	D-1715TER
S0 Idle	1.56A	1.54A	1.64A
100% workload	4.48A	4.13A	3.43A
without turbo mode			
100& workload with	4.83A	4.35A	3.81A
turbo mode			
Peak Current	2.83A	2.69A	2.48A



Chapter 4 BIOS Setup

PCOM-B705GT is equipped with the AMI BIOS stored in Flash ROM. These BIOS has a built-in setup program that allows users to modify the basic system configuration easily. This type of information is stored in SPI ROM so that it is retained during power-off periods. When system is turned on, PCOM-B705GT communicates with peripheral devices and checks its hardware resources against the configuration information stored in the BIOS. If any error is detected, or the BIOS parameters need to be initially defined, the diagnostic program will prompt the user to enter the SETUP program. Some errors are significant enough to abort the start up.

4.1 Entering Setup -- Launch System Setup

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press key will enter BIOS setup screen.

Press to enter SETUP

If the message disappears before responding and still wish to enter Setup, please restart the system by turning it OFF and On or pressing the RESET button. It can be also restarted by pressing <Ctrl>, <Alt>, and <Delete> keys on keyboard simultaneously.

Press <F1> to Run General Help or Resume

The BIOS setup program provides a General Help screen. The menu can be easily called up from any menu by pressing <F1>. The Help screen lists all the possible keys to use and the selections for the highlighted item. Press <Esc> to exit the Help screen.

/	General Help¥
/ Enter +/- ESC F1 F2 F3 F4 <k></k>	: Move : Select : Value : Exit : General Help : Previous Values : Optimized Defaults : Save & Exit Setup : Scroll help area upwards : Scroll help area downwards
	 NL
¥	/

4.2 Main

Main Configuration	Aptio Setup - AMI Security Boot Save & Exit	
/		¥¥ ^
Project Name	PCOM-B705GT	*
BIOS Version & Build	0.0.6 (05/23/2023 12:30:40)	* *
Date EC Version & Build	0.4 (05/22/2023)	* *
Date Access Level	Administrator	* *
Platform Information Platform Processor PCH RC Revision BIOS ACM SINIT ACM	ServerSocIdaville 606C1 - ICX-D B0 CDF SKU - B1 24.D26 1.2.2 1.2.2	* * * * * * * *
Memory Information		Ť V
Total Memory	16384 MB	*
System Language	[English]	* *
System Date System Time	[Thu 06/08/2023] [10:57:47]	* * * V
		/

Version 2.22.1286 Copyright (C) 2023 AMI

Feature	Description	Option
System Language		★English
System Date	The date format is <day>, <month> <date> <year>. Use</year></date></month></day>	
	[+] or $[-]$ to configure system Date.	
System Time	The time format is <hour> <minute> <second>. Use</second></minute></hour>	
	[+] or [-] to configure system Time.	

Revision Date: Nov. 05. 2024

4.3 Configuration

Aptio Setup - AMI Main Configuration Security Boot Save & Exit		
<pre>/</pre>	CPU Configuration Parameters	
> Serial Port Console Redirection > EC Firmware Update ¥	<pre>><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>	
Version 2.22.1286 Copyright (C) 2023 AMI		

4.3.1 CPU Configuration

Configuration	Aptio Setup - AMI	
CPU Configuration Processor O Version Intel(R) Xeon(R) D-1746 TER CPU @ 2.00GHz		+¥ Enables Hyper Threading (Software Method to Enable/Disable Logical Processor threads.
Hyper-Threading [ALL] SpeedStep (Pstates) Turbo Mode Boot performance mode Package C State CPU Flex Ratio Override CPU Core Flex Ratio	[Enable] [Enable] [Max Performance] [Auto] [Disable] 23	<pre>><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>

Version 2.22.1286 Copyright (C) 2023 AMI

Feature	Description	Option
	Enables Hyper Threading (Software	Disabled, ★Enabled
Hyper-Threading [ALL]	Method to Enable / Disable Logical	
	Processor threads.)	
SpeedStep (Pstates)	Enable/Disable EIST (P-States)	Disabled, ★ Enabled
Turbo Modo	Enable/Disable processor Turbo Mode	Disabled, ★ Enabled
	(requires EMTTM enabled too)	
	Select the performance state that the	★ Max Performance, Max
Boot performance mode	BIOS will set before OS hand off	Eifficient, Set by Intel Node Manager
	Package C State limit.	CO/C1 state, C2 state,
Package C State		C6(non Retention) state,
CPU Flex Ratio Override	Enable/Disable CPU Flex Ratio	\bigstar Disabled, Enabled
	Programming	
CPU Core Flex Ratio	Non-Turbo Mode Processor Core Ratio	
	Multiplier	

4.3.2 Chipset Configuration

Configuration	Aptio Setup - AMI	
Chipset Configuration		Enables or Disables
Above 4G Decoding	[Enabled]	to be Decoded in Above 4G Address Space (Only if System Supports 64 bit PCI Decoding).
¥		><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Vers	ion 2.22.1286 Copyright (C)	2023 AMI

Feature	Description	Option
Above 4G Decoding	Enables or Disables 64bit capable	Disabled, ★ Enabled
	Devices to be Decoded in Above 4G	
	Address Space (Only if System Supports	
	64 bit PCI Decoding).	



Revision Date: Nov. 05. 2024

4.3.3 LAN Configuration

Aptio Setup - AMI Configuration		
LAN ConfigurationEnable 1210 LAN[Enabled]ControllerIntel Ethernet Controller WGI210ATLAN WAC Address00-90-FB-7B-80-F8Intel Ethernet Controller E823-LLAN WAC Address00-00-00-00-01-00Intel Ethernet Controller E823-LLAN MAC Address00-00-00-00-01-01Intel Ethernet Controller E823-LLAN MAC Address00-00-00-00-01-01Intel Ethernet Controller E823-LLAN MAC Address00-00-00-00-01-02Intel Ethernet Controller E823-LLAN MAC Address00-00-00-00-01-03	Control the PCI Express Root Port. ><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2 22 1286 Copyright (C) 20	/ 123 AMI	

Feature	Description	Option
Enabled I210 LAN	Control the PCI Express Root Port.	Disabled, ★ Enabled
Control		

Revision Date: Nov. 05. 2024

4.3.4 PCI/PCIE Configuration

Configuration	Aptio Setup - AMI	
PCI/PCIE Configuration		Enable when using
Compliance Test Mode	[Disabled]	Compliance Load Board
COMe PCIe Port 0-7	[2×4]	
COMe PCIe Port 8-15 Bifurcation COMe PCIe Port 0 COMe PCIe Port 4 COMe PCIe Port 8 COMe PCIe Port 8 COMe PCIe Port 12	[2x4]	 ><: Select Screen ^v: Select Item Enter: Select
COMe PCIe Port 16-31 Bifurcation	[Auto]	+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
+	- 0.00.1000 Comunitation (C) /	2022 AMI

Feature	Description	Option
Compliance Test Mode	Enable when using Compliance Load	★Disabled, Enabled
	Board	
COMe PCIe Port 0-7	Allows changing PCIE bifurcation	4x2, 1x4 2x2, 2x2 1x4, ★
Bifurcation		2x4, 1x8
COMe PCIe Port 8-15	Allows changing PCIE bifurcation	4x2, 1x4 2x2, 2x2 1x4, ★
Bifurcation		2x4, 1x8
COMe PCIe Port	PCI Express Root Port Settings	
0/4/8/12		
COMe PCIe Port 16-31	Selects PCIe port Bifurcation for	★Auto, x4x4x4x4, x4x4x8,
Bifuration	selected slot(s)	x8x8, x16

4.3.4.1 COMe PCIe Port 0/4/8/12

Configuration	Aptio Setup	AMI
/ COMe PCIe Port O PCIe Speed	[Enabled] [Gen3]	Control the PCI Express Root Port.
¥		 ><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
 ¥ Ver:	sion 2.22.1286 Copyrig	ESC: Exit + ht (C) 2023 AMI

Feature	Description	Option
COMe PCIe Port	Control the PCI Express Root Port.	Disabled, \star Enabled
0/4/8/12		
PCIe Speed	Configure PCIe Speed Auto is equal to Gen2	Gen1, Gen2, ★Gen3
	or Gen3 depending on DTR soft strap	

4.3.4.2 COMe PCIe Port 16~31

Configuration	Aptio Setup - AMI	
PCI-E Port Link Speed PCI-E Port Link Status PCI-E Port Link Max PCI-E Port Link Speed	[Auto] [Auto] Link Did Not Train Max Width x16 Link Did Not Train	In auto mode the BIOS will remove the EXP * port if there is no * device or errors on * that device and the * device is not HP + capable. + Enable/Disable is used v
Varaiar	, 2, 22, 1288 Convrimht (C) :	2023 AMI

Feature	Description	Option
PCI-E Port	In auto mode the BIOS will remove the EXP	★Auto,
	port if there is no device or errors on that	Disabled, Enabled
	device and the device is not HP capable.	
	Enable/Disable is used to enable/disable	
	the port and expose/hide its CFG space.	
Link Speed		★Auto
		Gen 1 (2.5 GT/s),
	Choose Link Speed for this PCIe port.	Gen 2 (5 GT/s),
		Gen 3 (8 GT/s),
		Gen 4 (16 GT/s)

4.3.5 SATA Configuration

Configuration	Aptio Setup - AMI	
SATA Configuration		Enable or Disable SATA
Serial ATA Port 1	[Not Installed]	Port
Serial ATA Port 2	[Not Installed]	
Port 0 Port 1	[Enabled] [Enabled]	
		><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Versi	on 2.22.1286 Copyright ((C) 2023 AMI

Feature	Description	Option
Port 0	Enabled or Disabled SATA Port	Disabled, ★ Enabled
Port 1	Enabled or Disabled SATA Port	Disabled, ★ Enabled

4.3.6 USB Configuration

Configuration	Aptio Setup - AMI	
USB Configuration		^ Enables Legacy USB
USB Controllers: 1 XHCI USB Devices: 1 Keyboard		<pre>* support. AUTU option * disables legacy support * if no USB devices are * connected. DISABLE * option will keep USB * devices available opty</pre>
Legacy USB Support XHCI Hand-off USB Mass Storage Driver Support	[Enabled] [Enabled] [Enabled]	* for EFI applications. * *
USB hardware delays and time-outs: USB transfer time-out Device reset time-out Device power-up delay	[20 sec] [20 sec] [Auto]	* v: Select Item * Enter: Select * +/-: Change Opt. * F1: General Help * F2: Previous Values + F3: Optimized Defaults v F4: Save & Exit ESC: Exit

Version 2.22.1286 Copyright (C) 2023 AMI

Feature	Description	Option
Legacy USB Support	Enables Legacy USB support. AUTO option	\bigstar Enabled , Disabled,
	disables legacy support if no USB devices are	Auto
	connected.	
XHCI Hand-off	This is a workaround for OSes without XHCI	Disabled, ★ Enabled
	hand-off support. The XHCI ownership change	
	should be claimed by XHCI driver	
USB Mass Storage	Enable/Disable USB Mass Storage Driver	Disabled, ★ Enabled
Driver Support	Support	
USB transfer time-out	The time-out value for Control, Bulk, and	1, 5, 10, ★20 sec
	Interrupt transfers.	
Device reset time-out	USB mass storage device Start Unit command	10, ★ 20, 30, 40 sec
	time-out.	
Device power-up	Maximum time the device will take before it	★Auto, Manual
delay	properly reports itself to the Host Controller.	
	'Auto' uses default value: for a Root port it	
	is 100 ms, for a Hub port the delay is taken.	

4.3.7 Power Control Configuration

Configurati	Aptio Setup - AM on	Ι	
/ Power Control Conf	iguration	Specify what state to	
AC Power Loss	[Power off]]	go to when power is re-applied after a power failure (G3 state). 	
 ¥		+/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version 2.22.1286 Copyright (C) 2023 AMI			

Feature	Description	Option
AC Power Loss	Specify what state to go to when power is	Power On, ★Power Off
	re-applied after a power failure (G3 state)	

4.3.8 TPM Configuration

	Aptio Setup - AMI Configuration			
1	TPM 2.0 Device Found Firmware Version: Vendor:	13.11 IFX	<pre>^ +</pre>	
	TPM v1.2 Support Active PCR banks Available PCR banks	[Enable] SHA256 SHA256	* protocol and INT1A * interface will not be * available.	
	SHA256 PCR Bank	[Enabled]	* * XXX Solast Saraan	
	Pending operation Platform Hierarchy Storage Hierarchy Endorsement Hierarchy TPM 2.0 UEFI Spec Version	[None] [Enabled] [Enabled] [Enabled] [TCG_2]	<pre>* FX: Select Screen * ^v: Select Item * Enter: Select * +/-: Change Opt. + F1: General Help + F2: Previous Values + F3: Optimized Defaults v F4: Save & Exit</pre>	
	Physical Presence Spec Version TPM 2.0 InterfaceType Device Select	[1.3] [TIS] [Auto]]	* +/-: Change Opt. * F1: General Help * F2: Previous Values * F3: Optimized Defaults v F4: Save & Exit ESC: Exit	

Version 2.22.1286 Copyright (C) 2023 AM

Feature Description		Option
TPM v1.2 Support	Enables or Disables BIOS support for security device.	★Enabled,
	O.S. will not show Security Device. TCG EFI protocol	Disabled
	and INT1A Interface will not be available.	
SHA256 PCR Bank	Enable or Disable SHA256 PCR Bank.	Disabled, ★
		Enabled
Pending operation	Schedule an Operation for the Security Device.	★None, TPM
	NOTE: Your Computer will reboot during restart in	Clear
	order to change State of Security Device	
Platform Hierarchy	Enable or Disable Platform Hierarchy.	Disabled, ★
		Enabled
Storage Hierarchy	Enable or Disable Storage Hierarchy	Disabled, ★
		Enabled
Endorsement	Enable or Disable Endorsement Hierarchy.	Disabled, ★
Hierarchy		Enabled

Revision Date: Nov. 05. 2024

TPM 2.0 UEFI Spec	Select the TCG2 Spec Version Support,	TCG_1_2, ★
Version	TCG_1_2: the Compatible mode for Win8/Win10,	TCG_2
	TCG_2: Support new TCG2 protocol and event format	
	for Win10 or later.	
Physical Presence	Select to Tell O.S. to support PPI Spec Version 1.2 or	1.2, ★1.3
Spec Version	1.3.	
	Note some HCK tests might not support 1.3	
Device Select	TPM 1.2 will restrict support to TPM 1.2 devices,	TPM 1.2, TPM
	TPM 2.0 will restrict support to TPM 2.0 devices,	2.0, ★Auto
	Auto will support both with the default set to TPM 2.0	
	devices if not found,	
	TPM 1.2 devices will be enumerated.	

ROC200-DL User's Manual Revision Date: Nov. 05. 2024

4.3.9 Super IO Configuration

Configurat	Aptio Setup - AMI on	
Super IO Configura Serial Port 1 Conf Serial Port 2 Conf Watch Dog Timer Timer Unit Timer Value	ation E iguration iguration [Enabled] [Second] 20	nable/Disable watch og timer
¥		<pre><: Select Screen v: Select Item nter: Select /-: Change Opt. 1: General Help 2: Previous Values 3: Optimized Defaults 4: Save & Exit SC: Exit 3 AM1</pre>
Feature	Description	Option
Watch Dog Timer	Enable/Disable Watch Dog Timer	★ Disabled, Enabled
Timer Unit	Select Timer count unit of WDT [Watch Dog Timer [Enabled]]	★Second, Minute
Timer value	Set WDT Timer value seconds / minutes	★20

[Watch Dog Timer [Enabled]]

4.3.9.1 Serial Port 1 Configuration

Aptio Setup - AMI Configuration			
Serial Port 1 Configuration		Enable or Disable	
Module Serial Port 1 [Enabled] Current Limit Override IO=3F8h; IRQ=4;		Serial Port (COM)	
Change Settings	[Auto]		
¥		 ><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
V	ersion 2.22.1286 Copyright ((C) 2023 AMI	
Feature	Description	Option	
Module Serial Port 1	Enable or Disable Serial Port (CON	M) ★Enabled, Disabled	
Change Settings	Select an optimal settings for Sup	er IO 🛛 🛧 Auto ,IO=3F8h; IRQ=4;	
	Device	IO=3F8h; IRQ=3,4,10,11;	
		IO=2F8h; IRQ=3,4,10,11;	
		IO=3E8h; IRQ=3,4,10,11;	
		IO=2E8h; IRQ=3,4,10,11;	

4.3.9.2 Serial Port 2 Configuration

Configuration	Aptio Setup - AMI	
Serial Port 2 Configurat	ion	Enable or Disable
Module Serial Port 2 Current Limit Override	[Enabled] 10=3E8h; IRQ=3;	Serial Fort (COM)
Change Settings	[Auto]	
Y		
Version	2 22 1286 Copyright (C)	2023 AMI

Feature	Description	Option
Module Serial Port 2	Enable or Disable Serial Port (COM)	★Enabled, Disabled
Change Settings	Select an optimal settings for Super IO	★Auto ,IO=3E8h; IRQ=3;
	Device	IO=3F8h; IRQ=3,4,10,11;
		IO=2F8h; IRQ=3,4,10,11;
		IO=3E8h; IRQ=3,4,10,11;
		IO=2E8h; IRQ=3,4,10,11;

4.3.10 H/W Monitor

Aptio Setup Utility Configuration	– Copyright (C) 2021 Amer.	ican Megatrends, Inc.
CPU temperature Fan1 Speed Vcore +3.3V +5V +12V VDIMM	: +36 °C : 6738 RPM : +1.824 V : +3.360 V : +5.107 V : +12.513 V : +1.242 V	<pre>**: Select Screen fl: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Vension 9 90 1971	Conunight (C) 2021 Amonio	on Magathanda Tha



4.3.11 Serial Port Console Redirection

Aptio Setup - AMI Configuration	
/Serial Port Console Redirection	Console Redirection
COMO Console Redirection [Enabled] > Console Redirection Settings	
COM1 Console Redirection [Disabled] > Console Redirection Settings	
Version 2 22 1286 Copyright (C) 2023 AMI

Feature	Description	Option
COM0 Console Redirection	Console Redirection Enable or Disable	Disabled, ★ Enabled
COM1 Console Redirection	Console Redirection Enable or Disable	★Enabled, Disabled

Revision Date: Nov. 05. 2024

4.3.11.1 Console Redirection Settings

Configuration	Aptio Setup -	AMI
Configuration COMO Console Redirection Sett Terminal Type Bits per second Data Bits Parity Stop Bits Flow Control VI-UTF8 Combo Key Support Recorder Mode Resolution 100x31 Putty KeyPad	ings [VT100Plus] [115200] [8] [None] [1] [None] [Enabled] [Disabled] [Disabled] [VT100]	Emulation: ANSI: Extended ASCII char * set. VT100: ASCII char * set. VT100Plus: Extends * VT100 to support color, * function keys, etc. * VT-UTF8: Uses UTF8 + encoding to map Unicode v
¥		ESC: Exit

Version 2.22.1286 Copyright (C) 2023 AMI

Feature	Description	Option
Terminal Type	Emulation: ANSI: Extended ASCII char set. VT100:	★VT100+, VT100,
	ASCII char set. VT100+: Extends VT100 to support	ANSI, VT-UTF8
	color, function keys, etc. VT-UTF8: Uses UTF8	
	encoding to map Unicode chars onto 1 or more	
	bytes.	
Bits per second	Select Serial port transmission speed. The speed	★115200, 9600,
	must be matched on other side. Long or noisy lines	19200, 38400,
	may require lower speeds.	57600
Data bits	Data bits	★ 8, 7
Parity	A parity bit can be sent with the data bits to detect	★None, Even,
	some transmission errors. Even: parity bit is 0 if the	Odd, Mark, Space
	num of 1's in the data bits is even. Odd: parity bit is 0	
	if num of 1's in the data bits is odd. Mark: parity bit	
	is always 1. Space parity bit is always 0. Mark and	
	Space Parity do not allow for error detection. They	
	can be used as an additional data bit.	
Stop Bits	Stop bits indicate the end of a serial data packet. (A	★1,2

Revision Date: Nov. 05. 2024

	start bit indicates the beginning). The standard	
	setting is 1 stop bit. Communication with slow	
	devices may require more than 1 stop bit.	
Flow Control	Flow control can prevent data loss from buffer	★None,
	overflow. When sending data, if the receiving buffers	Hardware
	are full, a 'stop' signal can be sent to stop the data	RTS/CTS
	flow. Once the buffers are empty, a 'start' signal can	
	be sent to re-start the flow. Hardware flow control	
	uses two wires to send start/stop signal.	
VT-UTF8 Combo	Enable VT-UTF8 Combination Key Support for ANSI /	★Enabled,
Key Support	VT100 terminals	Disabled
Recorder Mode	With this mode enabled only text will be sent. This is	★Disabled,
	to capture Terminal data.	Enabled
Resolution 100x31	Enables or disables extended terminal resolution	★Disabled,
		Enabled
Putty KeyPad	Select Function Key and KeyPad on Putty.	★VT100, LINUX,
		XTERMR6, SCO,
		ESCN, VT400

4.3.12 EC Firmware Update

Configuration	Aptio Setup - AMI	
/ EC Firmware Update		+¥ Select ROM image
EC Model Name EC Version & Build Date	705-P₩G 0.4 (05/22/2023)	
> Select File Select File Name > Update	N/A	
		><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values
¥		F3: Optimized Defaults F4: Save & Exit ESC: Exit +/
Version	n 2.22.1286 Copyright (C) 2	023 AMI

Revision Date: Nov. 05. 2024

4.4 Security

Aptio Setup - AMI Main Configuration Security Boot Save & Exit			
is a power on password ar boot or enter Setup. In S have Administrator rights The password length must in the following range: Minimum length Maximum length	nd must be entered to Setup the User will s. be 3 20	<pre>^ Secure Boot + configuration + + + * * *</pre>	
Password Check Mode	[Setup]	*	
Administrator Password User Password > Secure Boot		<pre>* ><: Select Screen * `v: Select Item * Enter: Select * +/-: Change Opt. * F1: General Help * F2: Previous Values * F3: Optimized Defaults v F4: Save & Exit</pre>	
¥ Version	2 22 1286 Convright (C)	+/ 2023 AMI	

Feature	Description	Option
Password Check Mode	[Setup] check password when enter setup	★Setup, Power
	screen. [Power on] check password on every	On
	time system power on.	
Administrator Password	Set Administrator Password	

4.4.1 Secure Boot

Aptio Setup - AMI Security		
System Mode	Setup	Secure Boot feature is
Secure Boot	[Enabled] Not Active	is Enabled, Platform Key(PK) is
Secure Boot Mode > Restore Factory Keys > Reset To Setup Mode	[Standard]	is in User mode. The mode change requires platform reset
> Key Management		 ><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.22.1286 Copyright (C) 2023 AMI		

Feature	Description	Option
Secure Boot	Secure Boot feature is Active if Secure Boot is Enable,	Disabled,
	Platform Key(PK) is enrolled and the System is in User mode.	★Enabled
	The mode change requires platform reset	
Secure Boot Mode	Secure Boot mode options:	★Standard,
	Standard or Custom. In Custom mode, Secure Boot Policy	Custom
	variables can be configured by a physically present user	
	without full	



Revision Date: Nov. 05. 2024

4.5 Boot

Aptio Setup - AMI Main Configuration Security <mark>Boot</mark> Save & Exit			
7 Boot Configuration Setup Prompt Timeout Bootup NumLock State Full Screen LOGO	3 [On] [Disabled]	+¥ Set the default timeout before system boot. A value of 65535 will disable the timeout	
Boot Option Priorities Boot Option #1	[UEFI: Built-in EFI Shell]	compretery.	
		><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. El: Ceperal Help	
		F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit	
Version	2 22 1286 Convright (C) 2	023 AMI	

Feature	Description	Option
Setup Prompt	Set the default timeout before system boot. A value of	★3
Timeout	65535 will disable the timeout completely.	
Bootup NumLock	Select the keyboard NumLock state.	★On, Off
State		
Full Screen LOGO	Enables or disables Quiet Boot option and Full screen Logo.	\bigstar Disabled,
		Enabled
Boot Option #	Sets the system boot order	UEFI:
		Built-in EFI
		Shell
		Disabled

4.6 Save & Exit

Aptio Setup - AMI Main Configuration Security Boot Save & Exit	
/	Reset the system after saving the changes.
Default Options Restore Default Values	
Boot Device Priority UEFI: Built-in EFI Shell	<pre>><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit</pre>
Version 2 22 1286 Convright (C) 2	023 AMI

Feature	Description	Option
Save Changes and	Reset the system after saving the changes.	
Reset		
Restore Defaults	Restore/Load Default values for all the setup options.	
Values		
UEFI: Built-in EFI	Reset the system after saving the changes. (Boot option	
Shell	filter: UEFI only)	

Revision Date: Nov. 05. 2024

4.7 BIOS/EC Update

PCOM-B705GT only support BIOS/EC update under UEFI shell environment, refer the following step, please.





Step 2. Unzip update file to the USB DOK (USB DOK must be FAT or FAT32 format)

Step 3. Plug the USB DOK on the target system and boot from UEFI shell

Aptio Setup - AMI Main Configuration Security Boot Save & Exit	
/	Reset the system after saving the changes.
Default Options Restore Default Values	
Boot Device Priority UEFI: Built-in EFI Shell	><: Select Screen ^v: Select Item Enter: Select +/-: Change Opt. F1: General Help F2: Previous Values F3: Optimized Defaults F4: Save & Exit ESC: Exit
Version 2.22.1286 Copyright (C) 2	023 AMI





Step 6. The updating process will start and show the updating progress Step 7. Please power off and restart the system once updating finished



Revision Date: Nov. 05. 2024

🧕 COM6:115200baud - Tera Term VT	x
Eile Edit Setup Control Window KanjiCode Help	
UPDATING >>DO NOT TURN OFF POWER<<< PLEASE RESET SYSTEM AFTER UPDATING COMPLETE! ¥ 64 Bit	*
AMI Firmware Update Utility v5.09.02.1384 Copyright (C)2017 American Megatrends Inc. All Rights Reserved.	
Reading flash	· · · · · · · · · · · · · · · · · · ·

(BIOS updating progress)



(EC updating progress)