WTM-N28 Board

supports Intel ATOM Processor

with POWER DC

/2*RTL8111E LAN/1*SATA/ 6*COM / 1*DDR3

SODIMM/1*SIM/1*MINI-PCIE/1*MINI-SATA

User Manual

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Manual's first edition:

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Specifications

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CPU	INTEL ® Atom Dual-Core Processor D2550 CPU (32nm,1.86GHz,1024MB L2 Cache)
Chipset	INTEL® Atom D2550/D2500 + NM10
Memory	1 * 204-pin DIMM Sockets for un-buffered Single Channel DDR3 800/1066/1333 SDRAM up to 4GB
Expansion Slots	1* Mini PCI-E socket ,1*SIM
Storage	1* Serial ATA2 3Gb/s connectors 1 * Mini-SATA connector
Audio	Realtek ALC662
Ethernet LAN	2*RTL8111E-VL LAN
LVDS	Onboard 24-bit single channel LVDS connector
USB	Embedded 8 * USB 2.0
Special Features	Intel Cedarview Processor Support DC FAN Support CPU Smart Fan
Rear Panel I/O	1 * DC 12V IN port 1* Power button 1 * HDMI port 1 * VGA port 2 * RJ-45 port 2 * USB 2.0 ports 1 * Audio I/O ports (Mic and Line-out) 1 * LED (Power LED and HDD LED)
Internal I/O	3* USB 2.0 ports 1 * 12V DC 4pin in 3 * NB / Chassis Fan connectors; 1 * VGA header 2*6 2.54mm 1 * AUDIO header 1* GPIO header 1* Parallel connector 1* COM3-6(RS232) connector 2* COM(RS232) connector (COM1 and COM2) 1 * MINI PCI-E connector 1 * MINI_SATA connector 1*SIM socket 1* 24-bit single channel LVDS connector
BIOS	AMI 16MB SPI Flash ROM
Functional	ATM, Automation, medical Equipment, Security, Networking, POS, General Application, Gaming Machine, Transportation
Packing	Color Box Dimension200(W) x 200(D) x 70(H)mm
Certificate	CE, FCC, RoHS
Temperature	Operating within 0~40 centigrade **(Suggest to use system FAN)** Storage within -20-85 centigrade
Form Factor	EPICForm Factor(16.5cmx11.5cm)

Package Contents

Check if the following items are included in the package.

1 * WTM-N28 board

1 * Quick Manual

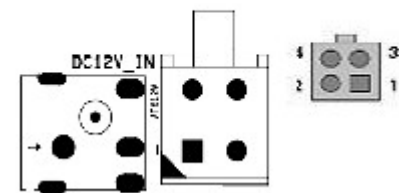1 * Software Utility CD

Locations(TopSide)
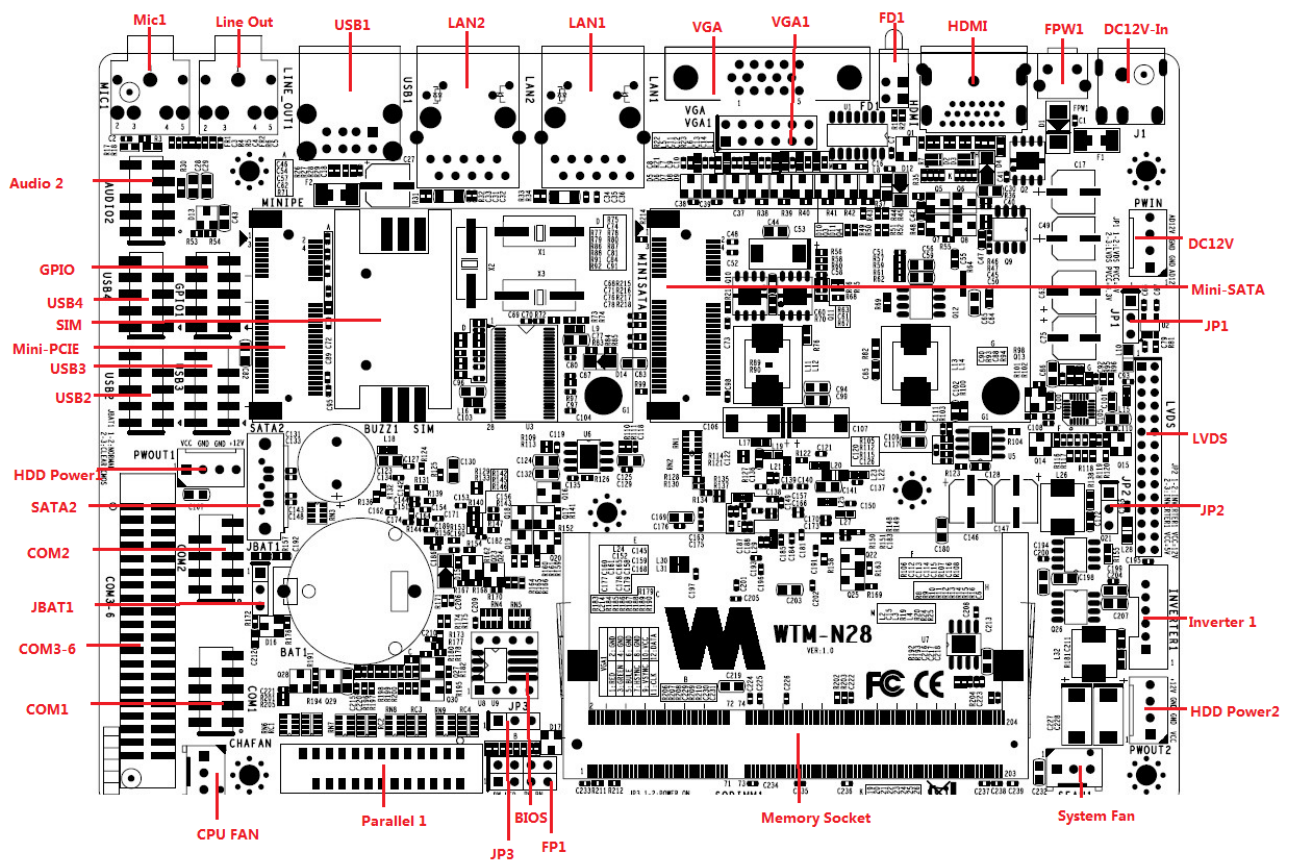
Connector and Jumper Setting

1)JBAT ：**CMOS Data retention/clear**

STATUS	SETTING
Open	CMOS data retention. (Default).
Short	CMOS data Clear

2)ATX 12V_IN：**External +12V DC Power input connector**

PIN	SETTING
1	GND
2	GND
3	+12V
4	+12V

3)USB3 ,USB4(P1-3-5-7) ：**Internal USB2.0 connector**

PIN	SETTING	PIN	SETTING
1	+5V	2	+5V
3	USB3-	4	USB4-
5	USB3+	6	USB4+
7	GND	8	GND
		10	GND

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4)SATA1：**SATA device connector #1   #2   #3   #4**
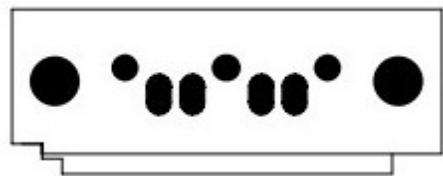
5）VGA1：Extra VGA Signal connector

PIN	SETTING	PIN	SETTING
1	RED	2	GND
3	GREED	4	GND
5	BULE	6	GND
7	HSYNC	8	GND
9	VSYNC	10	VCC 5V
11	DDC_CLK	12	DDC_DAT
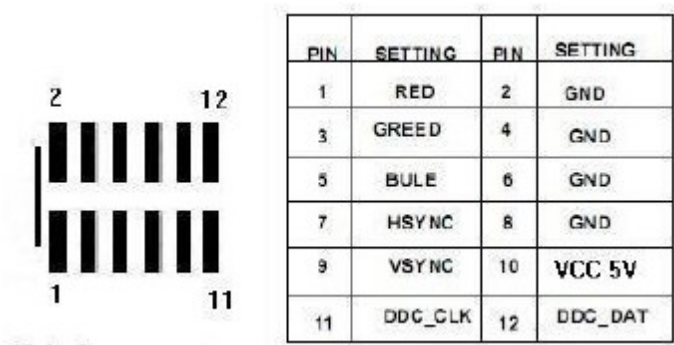
6)FP1：Front panel connector

STATUS	SETTING
1-3	HD_LED.
2-4	PW_LED
5-7	Reset
6-8	PW_BN
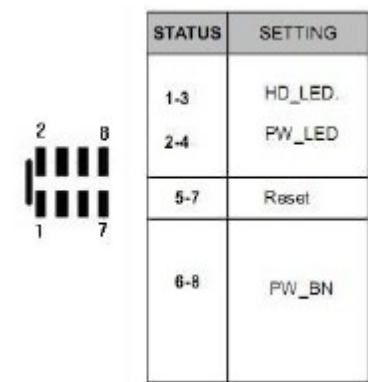
7)AUDIO 2：5.1channels Audio signal connector

PIN	SETTING	PIN	SETTING
1	MIC2_L	2	NC
3	MIC2_R	4	GPIO
5	LINEOUT2-R	6	GND
7	SENSE_B	8	
9	LINEOUT2-L	10	GND

8)CHAFAN CPUFAN：System DC fan connector

PIN	SETTING
1	GND
2	+12V
3	Fan speed data

ON/OFF controlled by
system temperature settir
of BIOS.
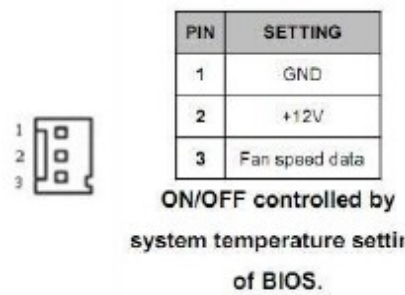
9)JP3：**POWER   voltage selection(未使用)**

1-2	POWER ON
2-3	POWER OFF

10)VGA：**D-SUB-15 female connector for VGA output**

D-SUB-15 female connector
for VGA output.
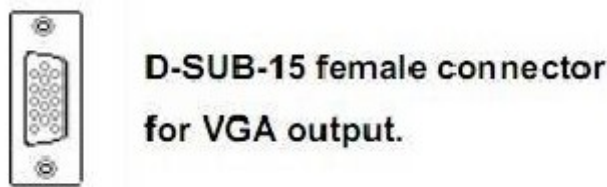
11)LAN1：**RJ45 connector for Ethernet port #1 #2**

RJ45 connector for Gigabit
Ethernet port #1.
Wake-On-LAN supported.
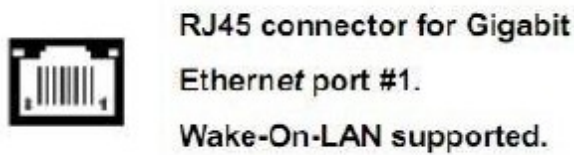
12)COM1-2：**COM connector**

COM 插针 (5*2Pin 2.54mm)

针脚	定义	针脚	定义
1	-NDCD	2	SIN
3	SOUT	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	N/A

13)COM3-6：**COM3-6 connector**

COM3-COM6 口 RS232 插针 (20*2Pin 2.0mm)

	COM3		COM4		COM5		COM6
针脚	定义	针脚	定义	针脚	定义	针脚	定义
1	-NDCD	11	-NDCD	21	NDCD	31	-NDCD
2	SIN*	12	SIN	22	SIN	32	SIN
3	SOUT*	13	SOUT	23	SOUT	33	SOUT
4	DTR	14	DTR	24	DTR	34	DTR
5	GND	15	GND	25	GND	35	GND
6	DSR	16	DSR	26	DSR	36	DSR
7	RTS	17	RTS	27	RTS	37	RTS
8	CTS*	18	CTS	28	CTS	38	CTS
9	RI*	19	RI	29	RI	39	RI
10	GND	20	GND	30	GND	40	GND

14)DVI1:DVI connector

15)J_HDMI1:connector

	J_HDMI1		
TMDS1_02P	1	2	DDC_CLK_CON
TMDS1_02N	3	4	DDC_DATA_CON
TMDS1_01P	5	6	HDMI_CEC
TMDS1_01N	7	8	DVI_HPD
TMDS1_00P	9	10	5V_DVI
TMDS1_00N	11	12	
TMDS1_CLKP	13	14	
TMDS1_CLKN	15	16	

PN2*8-F
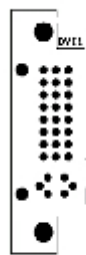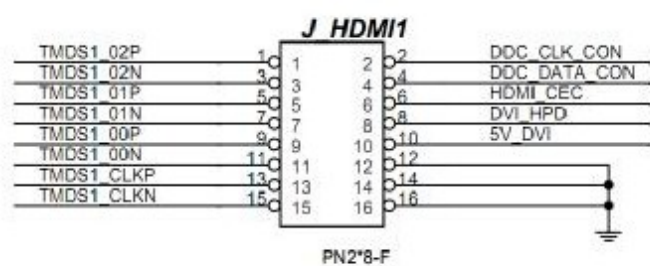
16)JP2:INVERTER   voltage selection
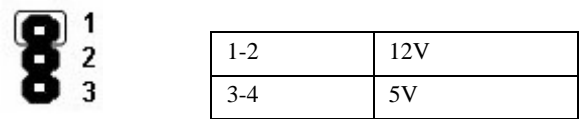
1-2	12V
3-4	5V

17)JP1:LCD panel driving voltage selection

STATUS	SETTING
2-3	+3.3V for LCD panel. (Default).
1-2	+5V for LCD panel.

18)INVERTER1：**LCD panel inverter**
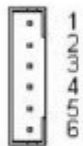
PIN	SETTING
1	GND
2	GND
3	BKL_CTL
4	BKL EN
5	12V
6	12V

19)LVDS1：**LCD panel** (Onboard 24-bit single channel LVDS)**connector**

PIN	SETTING	PIN	SETTING
1	VCC	2	VCC
3	VCC-	4	GND
5	GND	6	GND
7	RX00-	8	RX00+
9	RX01-	10	RX01+
11	RX02-	12	RX02+
13	GND	14	GND
15	RX0C-	16	RX0C+
17	RX03-	18	RX03+
19	DDC_CLK	20	DDC_DATA
21		22	
23		24	
25	GND	26	GND
27		28	
29		30	

E: Even for dual channel.

O: Odd for single channel

BIOS SETTING

This chapter describes the BIOS menu displays and explains how to perform common tasks
needed to get the system up and running. It also gives detailed explanation of the elements found
in each of the BIOS menu displays. The following topics are covered:

Main

Advanced

Chipset

Boot

Security

Save & Exit

Once you enter   the BIOS CMOS setup utility, you can use the control keys that listed at the
bottom of the menu to select the desired value in each item.