NE08E&NE05E Series Control Boards

Product Overview

The control board of the NE08E&NE05E Series controls the system, grooms services, processes the clock, and provides auxiliary interfaces.

The NE08E&NE05E Series Routers support several kinds of modular control boards, as shown in Figure 1.

Figure 1. Control Board Components in NE08E&NE05E Series Routers

NED3CXPA

NED2CXPB

NED2CXPE

NEC2CXPL

📖 **NOTE**

The control boards of NE05E-SQ, NE05E-SE, NE05E-SF, NE05E-SG, NE05E-SH, NE05ESI, NE05E-SJ, NE05E-SK, NE05E-SL, NE05E-SM and NE05E-SN are not swappable and integrated in chassis.

Product Features

As the system control, and management unit, the control board components provide the following functions on the system control panel and data panel:

- Route calculation: All routing protocol packets are sent by the forwarding engine to the Control Board Component for processing. In addition, the Control Board Component broadcasts and filters packets, and downloads routing policies from the policy server.

- Outband communication between boards: The LAN switch modules integrated on the Control Board Component provide outband communications between boards. In this manner, messages can be controlled, maintained, and exchanged between boards.

- Device management and maintenance: Devices can be managed and maintained through the management interfaces (serial interfaces) provided by the Control Board Component.

- Data configuration: The Control Board Component stores configuration data, startup files, charging information, upgrade software, and system logs.

- System clock unit: provides accurate and reliable SDH clock signals for LPUs.

- Service traffic switching and forwarding: the control board component has the function of Service traffic switching and forwarding, like a switch fabric unit.

Table 1. Features of the NE08E&NE05E Series Control Board Components

Feature	Description
High availability	NE08E&NE05E Series router provides optional redundant-processor, the main control modules, clock modules, and LAN switch modules on the Control Board Component working in 1:1 hot backup mode, improving system reliability.
System clock	The system clock unit of the MPU provides NSPs and PICs with reliable and synchronous SDH clock signals. The MPU can provide 2.048 MHz synchronous clock signals for the downstream devices, or receive 2.048 MHz or 2.048 Mbps external reference clock signals.
	To support IEEE 1588v2, that is, the Precision Time Protocol (PTP), the SDH clock interface can input time information in multiple formats by selecting specific software.
Modularity	The control boards of NE08E&NE05E Series router are modularized, which offers maximum investment protection and flexibility by allowing customers to upgrade to future control board on NE08E&NE05E Series router.

Product Compatibility

Table 2 shows the compatible chassis and minimum software release for the Control Board Components supported in Huawei NE08E&NE05E Series Routers.

Table 2. Compatibility of Control Board Components on NE08E&05ESeries Routers

BOM	Order Name	Control Board Short Name	Compatible Chassis	Software Version
03031YJP	NEDD00CXPA00	NED3CXPA	NE08E-S6E	V300R002C00 and the later versions
03031GDW	NA	NED2CXPB	NE08E-S6	V200R005C00 and the later versions
03031GDX	NA	NED2CXPE	NE08E-S6	V200R005C00 and the later versions
03031GDY	NA	NEC2CXPL	NE05E-S2	V200R005C00 and the later versions

Product Specifications

Table 3 to Table 6 list the specifications of the control board components in NE08E&NE05E Series Routers respectively.

Table 3. Specifications of NED3CXPA

Item	Description
Silkscreen print	D3CXPA
BOM	03031YJP
Order name	NEDD00CXPA00

Item	Description			
Slot	NE08E-S6E: slot 7, slot 8			
Minimum software release	NE08E-S6E V300R002C00			
CPU	4-core 1.5G			
Storage capacity	1GB*2			
Flash capacity	64 MB			
Memory capacity	4 GByte			
Dimensions	Height: 22.86mm (0.90 in.) Width: 193.80mm (7.63 in.) Depth:225.75mm (8.89 in.)			
Weight	0.89 kg (1.96 lb)			
Typical power consumption	54.48 W			
Heat dissipation	176.8 BTU/hour			
Switching capacity	320 Gbps (160 Gbps upstream, 160 Gbps downstream)			
Functions	Supports switching, control, and clock management.			
Tact switches	Provides two tact switches. When you rotate the ejector levers to remove the board, the two tact switches are triggered to start the active/standby protection switching.			
Management interfaces	**Interface Function**	**Connector Type**	**Standard**	**Cable**
ETH/OAM interface	Provides one 10 Mbps or 100 Mbps auto-sensing Ethernet NM interface or Console interface for communication with the NMS.	RJ-45	IEEE 802.3-2002/ RS-232	Category 5 unshielded twisted pair (UTP) cables
CLK interface	Provides one clock input/output interface and provides the synchronization time source for the equipment. 📖 **NOTE** The clock and time input and output interfaces of the master control board are independent of those of the slave control board. You can separately configure clock sources for the control boards.	RJ-45	G.703	120 -ohm clock shielded cable
TOD interface	Provides one time input/output interface and provides the synchronization clock source for the equipment. 📖 **NOTE** The time input and output interfaces of the master control board are independent of those of the slave control board. You can separately configure time sources for the control boards.	RJ-45	ITU-T G.8271	Shielded or unshielded straight-through network cable

Item	Description			
ALMI/ALMO interface	Provides one alarm input/output interface. The interface provides three inputs of alarm digital parameters.	RJ-45	-	-
Reliability and availability	Supports the board-level 1+1 backup function.			

Table 4. Specifications of NED2CXPB

Item	Description			
Silkscreen print	D2CXPB			
BOM	03031GDW			
Order name	NA			
Slot	NE08E-S6: slot 7, slot 8			
Minimum software release	NE08E-S6 V200R005C00			
CPU	1 GHz			
Storage capacity	512 MB			
Flash capacity	128 MB			
Memory capacity	1 GByte			
Dimensions	Height: 22.86mm (0.90 in.) Width: 193.80mm (7.63 in.) Depth:225.75mm (8.89 in.)			
Weight	0.68 kg (1.50 lb)			
Typical power consumption	28.4 W			
Heat dissipation	92.1 BTU/hour			
Switching capacity	88 Gbps (44 Gbps upstream, 44 Gbps downstream)			
Functions	Supports switching, control, and clock management.			
Tact switches	Provides two tact switches. When you rotate the ejector levers to remove the board, the two tact switches are triggered to start the active/standby protection switching.			
Management interfaces	Interface Function	Connector Type	Standard	Cable
ETH/OAM interface	Provides one 10 Mbps or 100 Mbps auto-sensing Ethernet NM interface or Console interface for communication with the NMS.	RJ-45	IEEE 802.3-2002/ RS-232	Category 5 unshielded twisted pair (UTP) cables

Item	Description			
CLK interface	Provides one clock input/output interface and provides the synchronization time source for the equipment. 📖 **NOTE** The clock and time input and output interfaces of the master control board are independent of those of the slave control board. You can separately configure clock sources for the control boards.	RJ-45	G.703	120 -ohm clock shielded cable
TOD interface	Provides one time input/output interface and provides the synchronization clock source for the equipment. 📖 **NOTE** The time input and output interfaces of the master control board are independent of those of the slave control board. You can separately configure time sources for the control boards.	RJ-45	ITU-T G.8271	Shielded or unshielded straight-through network cable
ALMI/ALMO interface	Provides one alarm input/output interface. The interface provides three inputs of alarm digital parameters.	RJ-45	-	-
Reliability and availability	Supports the board-level 1+1 backup function.			

Table 5. Specifications of NED2CXPE

Item	Description
Silkscreen print	D2CXPE
BOM	03031YJP
Order name	NA
Slot	NE08E-S6: slot 7, slot 8
Minimum software release	NE08E-S6 V200R005C00
CPU	1GHz
Storage capacity	512 MB
Flash capacity	128 MB
Memory capacity	1 GByte
Dimensions	Height: 22.86mm (0.90 in.) Width: 193.80mm (7.63 in.) Depth:225.75mm (8.89 in.)
Weight	0.68 kg (1.50 lb)

Item	Description			
Typical power consumption	28.4 W			
Heat dissipation	92.1 BTU/hour			
Switching capacity	112 Gbps (56 Gbps upstream, 56 Gbps downstream)			
Functions	Supports switching, control, and clock management.			
Tact switches	Provides two tact switches. When you rotate the ejector levers to remove the board, the two tact switches are triggered to start the active/standby protection switching.			
Management interfaces	Interface Function	Connector Type	Standard	Cable
ETH/OAM	Provides one 10 Mbps or 100 Mbps auto-sensing Ethernet NM interface or Console interface for communication with the NMS.	RJ-45	IEEE 802.3-2002/ RS-232	Category 5 unshielded twisted pair (UTP) cables
CLK	Provides one clock input/output interface and provides the synchronization time source for the equipment. 📖 **NOTE** The clock and time input and output interfaces of the master control board are independent of those of the slave control board. You can separately configure clock sources for the control boards.	RJ-45	G.703	120 -ohm clock shielded cable
TOD	Provides one time input/output interface and provides the synchronization clock source for the equipment. 📖 **NOTE** The time input and output interfaces of the master control board are independent of those of the slave control board. You can separately configure time sources for the control boards.	RJ-45	ITU-T G.8271	Shielded or unshielded straight-through network cable
ALMI/ALMO	Provides one alarm input/output interface. The interface provides three inputs of alarm digital parameters.	RJ-45	-	-
Reliability and availability	Supports the board-level 1+1 backup function.			

Table 6. Specifications of NEC2CXPL

Item	Description
Silkscreen print	C2CXPL
BOM	03031GDY

Item	Description			
Order name	NA			
Slot	NE05E-S2: slot 1, slot 2			
Minimum software release	NE05E-S2 V200R005C00			
CPU	800MHz			
CF Card capacity	512 MB			
Flash capacity	128 MB			
Memory capacity	1 GByte			
Dimensions	Height: 22.86mm (0.90 in.) Width: 193.80mm (7.63 in.) Depth:225.75mm (8.89 in.)			
Weight	1.08 kg (2.38 lb)			
Typical power consumption	29.5 W			
Heat dissipation	95.7 BTU/hour			
Switching capacity	24 Gbps (12 Gbps upstream, 12 Gbps downstream)			
Functions	Supports switching, control, and clock management.			
Tact switches	Provides two tact switches. When you rotate the ejector levers to remove the board, the two tact switches are triggered to start the active/standby protection switching.			
Management interfaces	Interface Function	Connector Type	Standard	Cable
ETH/OAM	Provides one 10 Mbps or 100 Mbps auto-sensing Ethernet NM interface or Console interface for communication with the NMS.	RJ-45	IEEE 802.3-2002/ RS-232	Category 5 unshielded twisted pair (UTP) cables
CLK	Provides one clock input/output interface and provides the synchronization time source for the equipment. 📖 **NOTE** The clock and time input and output interfaces of the master control board are independent of those of the slave control board. You can separately configure clock sources for the control boards.	RJ-45	G.703	120 -ohm clock shielded cable
TOD	Provides one time input/output interface and provides the synchronization clock source for the equipment. 📖 **NOTE** The time input and output interfaces of the master	RJ-45	ITU-T G.8271	Shielded or unshielded straight-through network cable

Item	Description			
	control board are independent of those of the slave control board. You can separately configure time sources for the control boards.			
ALMI/ALMO	Provides one alarm input/output interface. The interface provides three inputs of alarm digital parameters.	RJ-45	-	-
Reliability and availability	Supports the board-level 1+1 backup function.			

For More Information

For more information about the Huawei NE08E&NE05E Series Routers, visit http://e.huawei.com or contact us in the following ways:

- Global service hotline: http://e.huawei.com/en/service-hotline
- Logging into the Huawei Enterprise technical support web: http://support.huawei.com/enterprise/
- Sending an email to the customer service mailbox: support_e@huawei.com

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