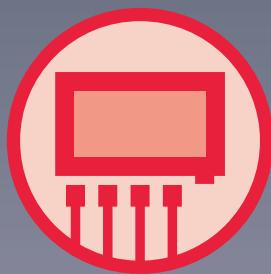Signamax Security Router

Model: 065-1530

Active

Install Guide

Revision A1

SIGNAMAX ™
CONNECTIVITY SYSTEMS

Table of Contents

Overview

065-1530 Signamax Security Router is a data communication product that can be widely applied to finance, telecommunication, tax and security industries, and large-medium-scale enterprises.

065-1530 Signamax Security Router series modular router provides a set of high efficiency and low-cost network connection solutions.

065-1530 Signamax Security Router supports the following applications:

Computer network interconnection

Multi-service data integration

Branch institute dialup and dialup backup service

Internet and enterprise (Extranet) access

Hardware Features

065-1530 Signamax Security Router Appearance

065-1530 Signamax Security Router Front Panel
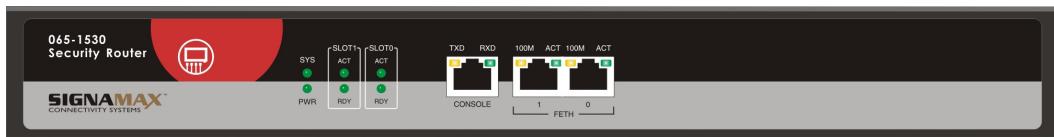
Following are the indicators on the panel:

SYS & PWR (system and power supply indicator):

SYS - system status indicator
Fast shining: Loading
Slow shining: Load successful

PWR (system power supply indicator)
On: After power on

SLOT1 (slot 1 status indicator)

ACT - voice card module data

RDY - slot has voice card module link status

SLOT 0 (slot 0 status indicator)

ACT - insert module data indicator

RDY – inserting module link status

CONSOLE (console port)

TXD – sending console port data

RXD – receiving console port data

FETH1 (Ethernet interface1)

100M - 10/100M Ethernet interface data rate indicator
On: 100M
Off: 10M

ACT - Ethernet interface data

FETH0 (Ethernet interface0):

100M - 10/100M Ethernet interface data rate indicator
    On: 100M
    Off: 10M

ACT - Ethernet interface data indicator

065-1530 Signamax Security Router Backboard Interface

From left to right:

Interface	Form	Description	Application
ON/OFF		Power supply switch. Right is OFF and left is ON.	
INPUT		AC 100-240 1A input	
SLOT1		Bus slot	VOP/VOS voice module
SLOT0	Interface module decides interface form	Fast serial, bus slot	MIM module

SLOT1 - voice card module slot for VOP/VOS serial module

SLOT0 - MIM module slot, which adopts modular design

065-1530 Signamax Security Router System

The following table explains 065-1530 Signamax Security Router basic configuration and working environment:

Item	Description
Console port	One fixed, async DTE working mode (RJ45)

Ethernet port	Two fixed 10/100Mbps fast Ethernet port (RJ45)
Voice card slot	One voice card SLOT1
MIM slot	MIM module SLOT0 supporting kinds of slot module
Processor	High performance PowerPC processor
FLASH	8MB
SDRAM	64MB
Dimension (W × D × H)	340 × 230 × 44 (mm)
Power supply input voltage	**AD:** 100 – 240V - 50/60Hz **DC:** −40 ∼ −57V Optional AC, DC power supply. Confirm before shipment
Environment temperature	0-40°C
Environment humidity	10-90%. Non-condensing
Power supply rating power	45W
Maximum power consumption	15W

065-1530 Signamax Security Router Functionality

The following table explains 065-1530 Signamax Security Router functionality, and supported protocols and services.

Protocols & services	Description
Network protocol	WAN supports: PPP PPP compression SLIP CSLIP protocol Frame relay Frame relay switch X.25 X.25 switch HDLC LAPB ISDN LAN is Ethernet supporting two kinds of link layer frame format:

	Ethernet-II Ethernet-SNAP
Dialup network	MODEM dialup (call-in/call-out) CALLBACK Dial-on-demand Dialup backup
Routing protocol	Static routing Dynamic routing: RIPv1 RIPv2 OSPF BGP IRMP (compatible with CISCO EIGRP) SNSP (compatible with CISCO ODR) Dial-on-demand routing (DDR) Policy routing Multicast: IGMP PIM-SM PIM－DM DVMRP Hot backup VRRP VBRP (compatible with CISCO HSRP)
Network service	ARP Proxy ARP L2TP Configure command-level protocol to guarantee unauthenticated user not to intrude into router: IP packet filter firewall IP UNNUMBERED IP policy routing DHCP relay PAP/CHAP validation EASY IP NAT network concealing RADIUS validation IPsec data encryption IKE GRE Load balance MPLS

QoS	PQ
	CQ
	WFQ
	CBWFQ
	LLQ
	WRED
	CAR
Network management	SNMPv1, SNMPv2, SNMPv3
	Standard network management (compatible with CISCO)
	Configuration via local console port
	Local telnet login or remote login configuration
	Configure command security isolation function
	Provide Chinese/English prompt and help information
	Debugging information
	Login via telnet and manage other product
	Download and upload configuration file and application program via FTP
	Download and upload configuration file and application program via TFTP
	Colorful level debugging information support
	Support log function
Security	IP packet filter firewall, PAP/CHAP, MD5, NAT, RADIUS, TACACS and IPsec data encryption

065-1530 Signamax Security Router Main Board

The 065-1530 Signamax Security Router main board comprises three fixed interfaces, one voice card slot, one MIM slot, six indicators and power supply jack and one fixed interface. The 065-1530 Signamax Security Router provides three fixed interfaces – one console port, two Ethernet interfaces and their attributes:

Console port:

Attributes	Description
Linker type	RJ45
Interface standard	RS232
BR	9600bps - 115200bps
Supported service	Connects with character terminal
	Connects with local PC serial and operates terminal emulation program CLI

Ethernet interface:

Attributes	Description

Linker type	RJ45
Interface number	2
Supported frame format	Ethernet_II Ethernet_SNAP IEEE 802.2 IEEE 802.3
Working mode	10M/100M adaptive Full/half duplex Supports auto-crossing
Supported network protocol	IP

Slots:

The 065-1530 Signamax Security Router has two slots - SLOT0 and SLOT1. SLOT0 comprises MIM slots, which can be inserted into different modules. SLOT0 supports the following modules:

Ethernet interface module

Sync/async interface module

Async interface module

E1/CE1 interface module

U interface module

ST interface module

Base-band MODEM module

Frequency-band MODEM module

VOP/VOS module

SLOT1 is voice card slot used for VOP/VOS module, which can access the phone in IP network via dialup or second dialup. The user makes free phone calls in IP network.

Modules

065-1530 Signamax Security Router is a modular router. It provides two slots. SLOT1 is voice card slot for VOP and VOS serial voice module. SLOT0 is an MIM slot compatible with all interface modules of Signamax routers.

Following are the modules:

1SAE

1CE1

1E1

1M336

1M128

1U

1VOP

2VOP

1VOS

2VOS

1ETE

1ST

Sync/Async Serial Interface Module (SAE) Series

1-port High-speed V.24/V.35 Serial Module (1SAE)

1SAE module is used for 065-1530 Signamax Security Router. 1SAE completes 1-port sync/async serial data flow -- receiving and sending. The port operates in synchronous mode:

DCE mode: 2.048Mbps
DTE mode: 8 Mbps

The port in asynchronous mode operates 115.2Kbps. 065-1530 Signamax Security Router sync/async serial interface default working mode is sync. The sync serial interface is in DTE or DCE mode. In DTE mode, it receives external DCE clock such as external sync modem. In DCE mode, the router provides clock. The V24/V35 mode switch functions via panel.

1SAE Interface Module

1-port high-speed V.24/V.35 serial module (1SAE)

1SAE Interface Module Connected Cable

1SAE interface cable is V35 DTE cable and V24 connected DTE cable.

1SAE Interface Attributes

11-port high-speed V.24/V.35 serial module (1SAE) attributes:

Attributes	Description	
	Sync	Async

Tie-in	DB25-DB25		DB25-DB25
Interface standard & working mode	V.24	V.35	EIA/TIA-232
	DTE DCE	DTE DCE	
Minimum baud rate (bps)	1200	1200	300
Maximum baud rate (bps)	128K	8M	115.2K
Supported protocol & service	X25 HDLC PPP SLIP FR LAPB		Dialup Backup HDLC PPP SLIP

Channelized E1 Module (CE1)

1-port Channelized E1 Module (1CE1)

The 1-port channelized E1 module provides 1984K multi-timeslot data flow receiving and sending and processing port. As CE1 interface, it divides slot 1-31 to different groups and each group timeslot after using binding as one interface.

1CE1 Interface & Indicator

1-port channelized E1 (1CE1) indicator:

LOS	**On:** Cannot check frame sync signal **Off:** After sync

1CE1 Interface Connected Cable

1CE1 and BNC pin coaxial cable and RJ45-RJ45 connected twisted-pair.

1CE1 Interface Attributes

1-port Channelized E1 (1CE1) attributes:

Attributes	Description
Interface	BNC, RJ45 (can not be used together)
Interface number	1 group
Interface standard	G.703
Supported protocol	PPP X.25 HDLC FR

Non-channelized E1 (E1) Series

1-port Non-channelized E1 (1E1)

The 1-port non-channelized E1 module provides a data transmission port with 2.048Mbit/s bandwidth. E1 is same as CE1. It can be divided into 32 timeslots, and timeslot 0 of E1 can be used to transmit data in unframed mode to realize 2M transparent transmissions.

1E1 Interface Module & Indicator

1E1 interface module:

1-port non-channelized E1 (1E1)

1-port non-channelized E1 (1E1) indicator:

LOS	**On:** Transparent 2M transmission **On:** Non-transparent and cannot check frame sync signal **Off:** After sync

1E1 Interface Connected Cable

1E1 and BNC pin coaxial cable and RJ45-RJ45 connected twisted-pair.

1E1 Interface Attributes

1-port non-channelized E1 (1E1) attributes:

Attributes	Description

Interface	BNC, RJ45 (cannot be used together)
Interface number	1 group
Interface standard	G.703
Supported service	X.25 FR
Supported protocol	PPP HDLC

Frequency-band MODEM M336 Series

1-port 33.6K Frequency-band MODEM (1M336)

1-port 33.6-K frequency-band MODEM works in sync or async mode.

1M336 Interface & Dialup DIP

1M336 interface module:
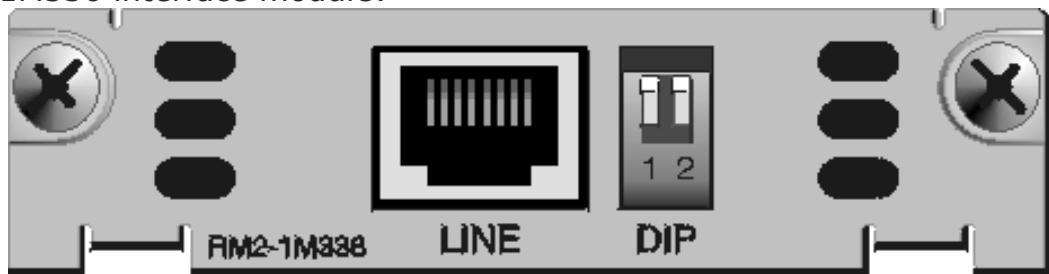
1-port 33.6K frequency-band MODEM (1M336)

DIP:
1-port 33.6K frequency-band MODEM (1M336) DIP:

Mode	DIP switch configuration		Description
	1	2	
Frequency-band MODEM mode	OFF	OFF	LINE port used as inbuilt frequency-band MODEM interface
Console port mode	ON	OFF	LINE port used as CONSOLE port. Configure router via dialup remote login

1M336 Interface Module Connected Cable

1M336 module connected cable is RJ45 (4, 5 signal wire) or RJ11 telephone line.

1M336 Interface Attributes

1-port 33.6K frequency-band MODEM (1M336) attributes:

Attributes	Description
Tie-in	RJ45
Interface number	1
Supported link protocol	PPP Frame relay X.25 HDLC
Supported network protocol	IP

Base-band MODEM (M128) Series

1-port 128K base-band MODEM (1M128)

1M128 Module, Indicator & DIP Switch

1M128 interface module:
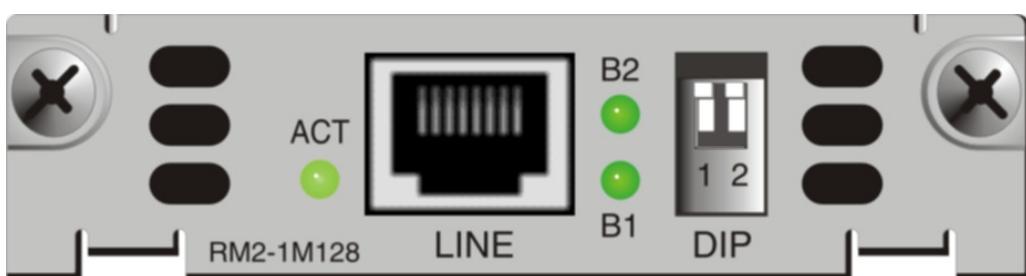
1-port 128K base-band MODEM (1M128):

The 1-port 128K base-band MODEM (1M128) indicator:

ACT	**On:** Link established

B1	B1 channel indicator
	Light on: when using channel B1, and rate is 64K
B2	B2 channel indicator
	Light on: when using channel B2, and the rate is 128K

DIP switch:

The 1-port 128K base-band MODEM (1M128) DIP:

Mode	DIP switch configuration		Description
	1	2	
Loopback	ON	Reservation	

1M128 Module Connected Cable

1M128 module connected cable is RJ45 (4, 5 signal cable) or RJ11 line.

1M128 Interface Attributes

1M128 interface attributes:
1-port 128K base-band MODEM (1M128) interface:

Attributes	Description
Tie-in	RJ45
Interface number	1
Supported link protocol	PPP
	Frame relay
	X.25
	HDLC
Supported network protocol	IP

ISDN (U) Series

1-port ISDN U Module (1U)

1-port ISDN U module connects DDN network and ISDN network and not to connect modem.

1U Module & Indicator

1U module:
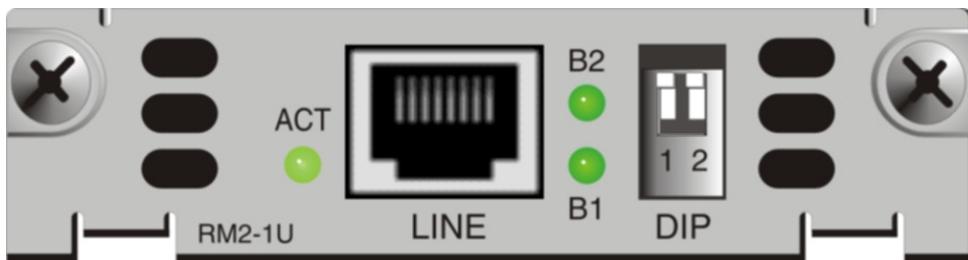
1-port ISDN U module (1U):

1-port ISDN U module (1U) indicator:

ACT	Light shines after link established
B1	B1 channel indicator **Light on:** When using channel B1, and rate is 64K
B2	B2 channel indicator **Light on:** When using channel B2, and the rate is 128K

1-port ISDN U module (1U) DIP switch:

Mode	DIP switch configuration		Description
	1	2	
Loopback	ON	Reservation	

1U Module Connected Cable

1U module connected cable RJ45 (4, 5 signal cable) or RJ11 line.

1U Interface Attributes

1-port ISDN U module (1U) interface attributes:

Attributes	Description
Tie-in	RJ45
Interface number	1
Supported link protocol	PPP
Supported network protocol	IP

IP Module (VOP/VOS) Series

1-port IP Module (1VOP)

1-port IP phone module accesses any telephone via IP network. The user makes free phone calls via IP network.

1VOP Module Indicator

1VOP interface module:
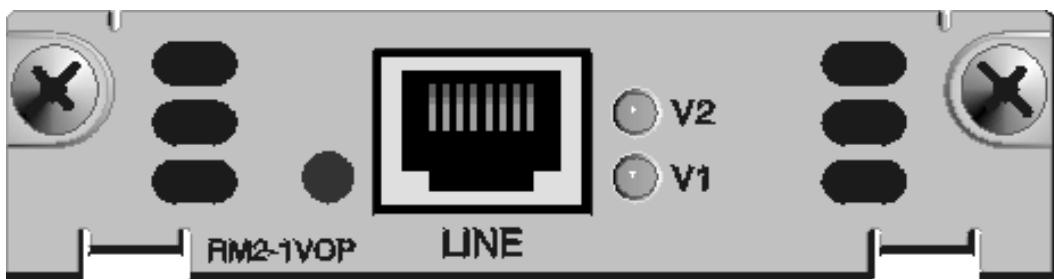
1-port IP phone module (1VOP):

1-port IP phone module (1VOP) indicator:

V1	IP phone module indicator, and the light is on during the call
V2	1VOP module may not have this light, and if it has, the light will be not on

1VOP Module Connected Cable

1VOP module connected cable is RJ45 (4, 5 signal cable) and RJ11 line.

1VOP Interface Attributes

1-port IP phone module (1VOP) interface attributes:

Attributes	Description
Interface	RJ45 jack
Interface number	1
Supported protocol	H.225 H.245 RTP RTCP G.711 G.723 G.729

2-port IP Phone Module (2VOP)

The 2-port IP phone module accesses any call in IP network via dialup. The user makes free phone calls via IP network.

2VOP Module & Indicator

2VOP module:

2-port IP phone module (2VOP)
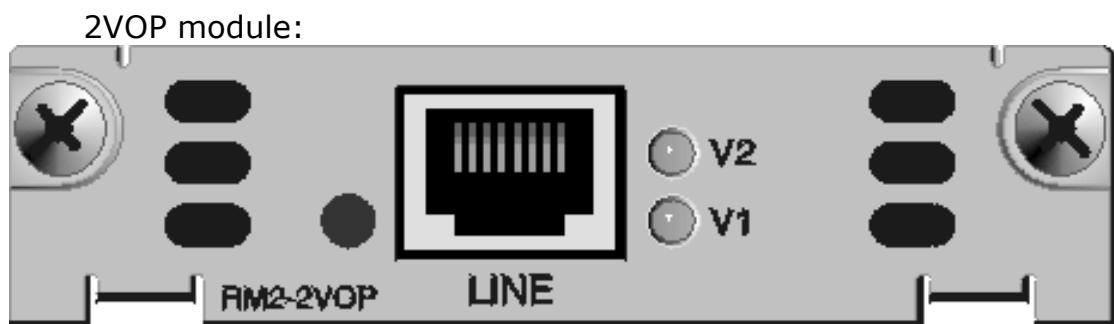
The 16 2-port IP phone module (2VOP) indicator:

V1	IP phone module indicator **Light on:** After pickup, during the call
V2	IP phone module indicator **Light on:** After pickup, during the call

2VOP Module Connected Cable

2VOP module connected cable is RJ45 external cable.

2VOP Module Interface Attributes

2-port IP phone module (2VOP) interface attributes:

Attributes	Description
Interface	RJ45 jack (two RJ11 plugs)
Interface number	2 RJ11
Supported protocol	H.225 H.245 RTP RTCP G.711 G.723 G.729

1-port Switch IP Phone Module (1VOS)

The 1-port switch IP phone module accesses any phone in IP network via dialup or second dialup. The user makes free phone call via IP network.

1VOS Module & Indicator

1VOS module:

1-port switch IP phone module (1VOS)

1-port switch IP phone module (1VOS) indicator:

V1	IP phone module indicator. **Light on:** During the phone call
V2	1VOS module may not have this indicator, or the lamp will never be on

1VOS Module Connected Cable

1VOS module connected cable is RJ45 (4, 5 signal cable) and RJ11 line.

1VOS Interface Attributes

1-port switch IP phone module (1VOS) interface attributes:

Attributes	Description
Interface	RJ45 jack
Interface number	1
Supported protocol	H.225 H.245 RTP RTCP G.711 G.723 G.729

2-port Switch IP Phone Module (2VOS)

The 2-port switch IP phone module accesses any phone in IP network via dialup or second dialup. The user makes free phone calls via IP network.

2VOS Module & Indicator
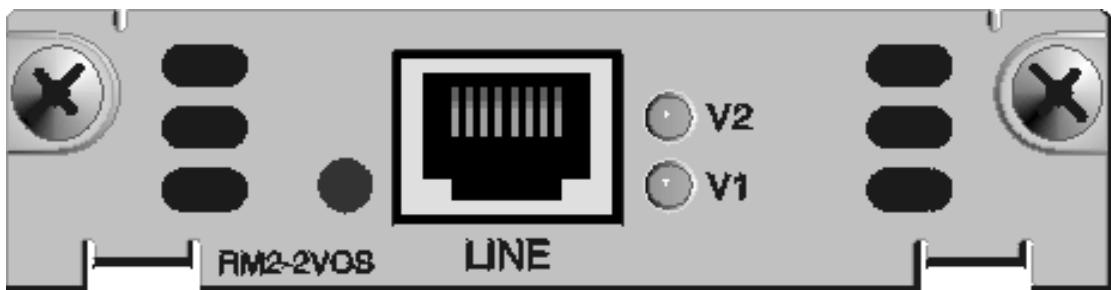
2-port switch IP phone module (2VOS):

2-port switch IP phone module (2VOS) indicator:

V1	IP phone module indicator
	Lamp on: During the phone call
V2	IP phone module indicator
	Lamp on: During the phone call

2VOS Module Connected Cable

2VOS module connected is RJ45.

2VOS Module Interface Attributes

2-port switch IP phone module (2VOS) interface attributes:

Attributes	Description
Interface	RJ45 jack
Interface number	2 (RJ11)
Supported protocol	H.225 H.245 RTP RTCP G.711 G.723 G.729

Ethernet Module (ETE) Series

1-port Ethernet Module (1ETE)

1-port Ethernet module provides Ethernet connection.

1ETE Module & Indicator

1ETE module:
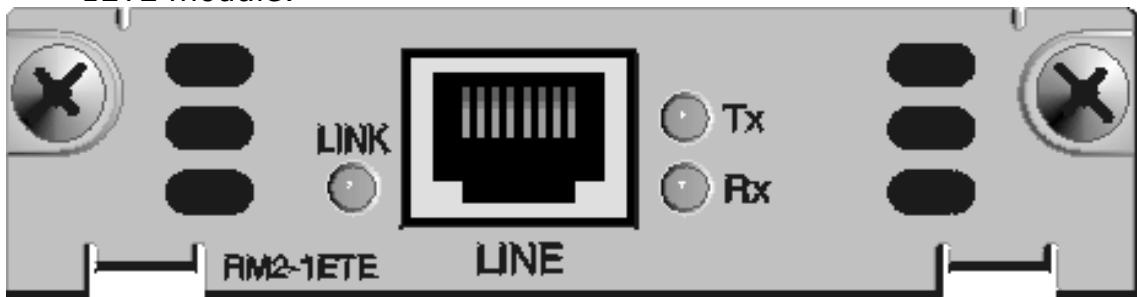
1-port Ethernet module (1ETE)

1-port switch IP phone module (1ETE) indicator:

LINK	**On:** Link connected
Tx	**Data sending lamp shining:** Data sending
Rx	**Data receiving lamp shining:** Data receiving

1ETE Module Connected Cable

RJ45 twisted-pair.

1ETE Module Interface Attributes

1-port Ethernet port (1ETE) attributes:

Attributes	Description
Tie-in	RJ45
Tie-in number	1
Supported protocol	802.3

ISDN S/T Module (ST) Series

1-port ISDN S/T Module (1ST)

1-port ISDN S/T module provides 64K or 128K high-speed access

and backup.

1ST Module & Indicator

1ST module:
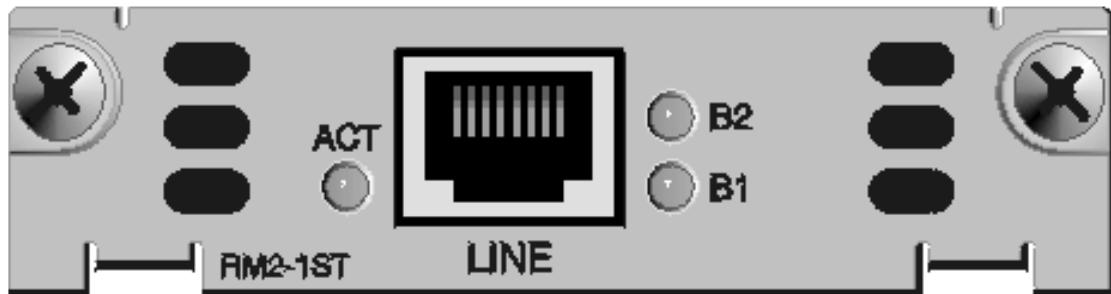
1-port ISDN S/T module (ST) indicator:

ACT	Activated indicator **On:** Operating normally
B1	B1 channel indicator On: Using channel B1 with a rate of B1=64K or B1+B2=128K
B2	B2 channel indicator On: Using channel B2 with a rate of B2=64K or B1+B2=128K

1ST Module Connected Cable
1ST cable is RJ45 connected Ethernet cable.

1ST Module Interface Attributes
1-port ISDN S/T module (1ST) interface attributes:

Attributes	Description
Plug	RJ45
Plug number	1
Supported protocol	PPP

System Installation

Precautions

Read this manual

Place 065-1530 Signamax Security Router on flat surface to avoid falling down

Do not put heavy material on 065-1530 Signamax Security Router

Use UPS system

Ensure proper grounding

Do not open chassis with power supply

Environment

Operating Environment

To ensure stable functioning of routers, maintain stable temperature and humidity in the equipment room.

Environment temperature: 0～40°C
Humidity: 10～90%. Non-condensing

065-1530 Signamax Security Router configures its fan, and the theory of radiation is: take out the cold air from the left and radiate the hot air out from right via the fan. Around the radiation hole, the space should be no less than 10cm. We suggest installing router on 19-inch standard rack. Or we can place the router on flat floor, and in the hot area, we suggest installing air-conditioning.

Temperature & Humidity

Temperature		Relevant humidity	
Long-term	Short-term	Long-term	Short-term
15℃ ~ 30℃	0℃ ~40℃	40%~65%	10%~90%

Dust Prevention

Dust is harmful for the operation of 065-1530 Signamax Security Router. Maintain a clean and dust-free atmosphere.

Routers & Accessories

Before installing router, check the router and accessories. Following is the 065-1530 Signamax Security Router basic configuration equipment list:

Name	Number	Remarks
065-1530 Signamax Security Router chassis	1	Router chassis
Power supply cable	1	220V/10A
Console port cable	1	RJ45-DB9 crossing cable
Ethernet cable	2	Connected Ethernet cable
Technical documents	1	Installation manual and CD
Product packaging	1	Includes foam anti-shock material, external packing box and plastic bag

Chassis Installation

Tools & Equipment

Needed tools:

Screwdriver

Anti-static equipment

Connected cable:

Console port cable

Ethernet cable (065-1530 Signamax Security Router Ethernet cable is configured according to the number of Ethernet modules)

Modular interface cable

Needed equipment:

Ethernet 10 BASE-T HUB

Configuring terminal (can be PC)

Equipment relevant to optional module

Machine Installation

The dimensions of 065-1530 Signamax Security Router are 340mm x 230mm x 44mm (W×D×H). Following is the installation process:

Step 1: Fix angle iron on the front panel or back panel sides with bolts

Step 2: Place router on empty slot

Step 3: Fix the angle iron to slots with bolts

Step 4: Fix the bracket and fixed angle iron over the rack

Connecting Power Supply

065-1530 Signamax Security Router adopts stable power supply switch system, and it has lower requirement of AC.
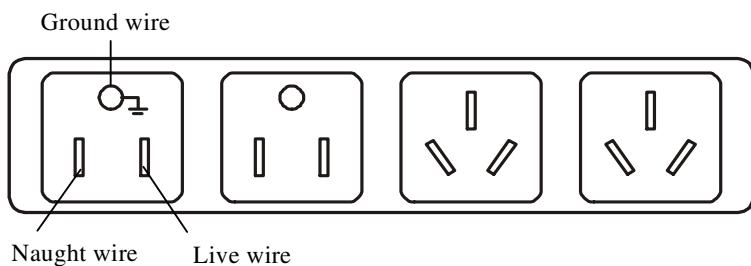
AC power supply input: 100~240V, 50~60Hz

DC power supply input: -40 ~ -57V

Maximum power: 15W ± 10%

Use the below shown power supply jack or MIM PC power supply jack, and ensure reliable grounding.

Power supply jack:

Ground wire

Naught wire   Live wire

Connecting power supply:

Step 1: Switch off the power supply switch. Connect one side of power supply cable to the entry of back panel of router, and another side to power supply jack (**AC:** 220V 50Hz/60Hz. **DC:** -48V).

Step 2: Switch on the power supply.

Step 3: Check whether the power supply indicator front panel is on. If it is not on, repeat step 1 and 2.

Grounding Connection

The grounding requirement of equipment with plastic chassis and without grounding post:

Grounding mode should be in accordance with the united grounding requirement of working place, protection place and anti-thunder grounding.

Grounding cable section area: The grounding cable (section area is according to maximum current load) should adopt (copper) lead, but not naked lead. The united grounding resistance should be <5Ω.

Good power supply grounding

Main Control Board Cable Connection

The section explains the method of connecting 065-1530 Signamax Security Router control board cable to network including connecting router console port.

Console Port Connection

The 065-1530 Signamax Security Router provides one EIA/TIA-232 async serial console port. Via this port, the user configures the router by adopting RS-232 serial character terminal (normally it is a PC).

Step 1: Find a character terminal. It can be standard terminal with RS-232 serial or normal PC.

Step 2: Ensure that power supply is off for router or terminal. Connect RS-232 serial and console port with cables.

Grounding Wire Connection

The 065-1530 Signamax Security Router grounding wire normal connection ensures protection against thunder and anti-jamming.

Configure the power supply yawp filter at the input end of router power supply. Connect the center with chassis. For external network connection, such as E1 interface, the grounding cable protects PSTN.

Connect this point and ground using a thick cable with the resistance not more than 4Ω. If the router is installed on 19-inch standard rack, ground the rack well.

Module Installation

065-1530 Signamax Security Router adopts modular system structure and different kinds of interface configuration. Following are the module installation steps:

Step 1: Choose the module and interface (relation of module and slot refers to basic configuration and module configuration list).

Step 2: Insert module into slot. Insert the module circuit board into interface card slot.

Step 3: Push in the module close to back panel

Step 4: Tighten the screw

Rack/Desk

If 065-1530 Signamax Security Router is placed onto 19-inch standard rack, use front-end installation method. If 065-1530 Signamax Security Router is placed on desk, stick the formula.

Panel Wire Connection

Panel wire connection includes Ethernet interface cable, WAN sync/async cable connection.

Hardware Installation

Step 1: Complete machine installation and ensure that the power supply switch is off.

Step 2: Connect one side of AC power supply cable to entry side of router power supply and other side to power supply jack.

Step 3: Configure the router via console port after first power on.

Step 4: Insert one side of configuration cable to console port and other side to PC or terminal serial.

Step 5: Insert one side of Ethernet cable to LAN interface and other side to LAN.

Step 6: Connect sync/async communication cable to router WAN interface.

The 065-1530 Signamax Security Router sync/async interface works in the mode of V.24 or V.35. The two modes are completed via V.24/V.35 button. In V.24 mode, interface adopts standard RS232 cable connection.

In V.35 mode, interface adopts special V.35DTE cable connection.

V.35DTE cable:

Step 7: After completing the cable connection, open the power supply switch for router configuration.

Interface Cable Connection

1SAE Module Cable Connection

This section explains 1SAE module and cable connection.

NOTE: Before connecting sync/async serial, ensure the following:

The equipment type connecting sync/async serial, which is sync/async, DTE/DCE

Access equipment requires signal standard, baud rate and sync clock.

Sync/async serial usually accesses external Modem or TA (terminal adapter) as dialup interface. Sync serial has two modes, which is DTE and DCE. Router is used as DTE equipment.

DTE and DCE equipment:

Equipment type	Interface type	Typical equipment
DTE	Pin type	PC Router
DCE	Hole type	MODEM Multiplexer CSU/DSU

Rate and transmission distance:
Sync/async serial supports different signal standards and baud rate in different working modes. Choose cables according to prevailing actual conditions. Signal maximum transmission distance and BR should be relevant to cables.

V.24 cable rate and transmission distance:

BR (bps)	Max. transmission distance (m)
2400	60
4800	60
9600	30
19200	30
38400	20
64000	20
115200	10

V.35 cable rate and transmission distance:

BR (bps)	Max. transmission distance (m)
2400	1250
4800	625
9600	312
19200	156
38400	78
56000	60
64000	50
2048000	30

When adopting EIA/TIA-232 cable, BR rate should not be over 64Kbps.

1SAE Module Cable Connection

Connecting sync/async serial module cable:

Step 1: Insert one side of DB-25 to 1SAE module DB-25-interface and then screw down fixed knob.

Step 2: Connect another DB25 interface to V.24-V.35 (DB-25, M-34) cable and then connect to the following equipment: If WAN is DDN line, connect (V.35 cable) to digital Modem V.35 interface.

If WAN is dialup line, connect (V.24 cable) to analog Modem serial.

1CE1/1E1 Module Cable Connection

Connect 1CE1/E1 interface according to the following steps:

Step 1: Connect one side of BNC plug to BNC interface of 1CE1/E1 module.

Step 2: Connect another side to the equipment. TX should be connected with the RX equipment. RX should be connected with TX line.

Step 3: After power on, check LOS status of 1CE1/E1 module. If indicator is on, there is malfunction and signal loses sync, so check the line.

Connect with RJ45-RJ45 twisted-pair if you are using RJ45 interface. BNC and RJ45 cannot be used together.

1M336 Module Cable Connection

Insert RJ11 plug of 1M336 module cable to LINE jack.

1M128 Module Cable Connection

Step 1: Insert RJ11 plug of 1M336 module cable to LINE jack and other side with external wire.

Step 2: After power on, check ACT status of 1M128 module. If the indicator is not on, check the circuit.

1U Module Cable Connection

Step 1: Insert RJ11 plug of 1U module cable to LINE jack and another side with external wire.

Step 2: After power on, check ACT status of 1U module. If the indicator is not on, check the circuit.

1VOP/2VOP Module Cable Connection

Connecting VOP module cable:

Step 1: Insert telephone line to RJ11/RJ45 interface of 1VOP/2VOP and another side to telephone.

Step 2: When having the phone call, pay attention to the indicator of 1VOP/2VOP card back panel. The indicator and Active light should be on.

1VOS/2VOS Module Cable Connection

Connecting VOS module cable:

Step 1: Insert telephone line to RJ11/RJ45 interface of 1VOS/2VOS and another side to small switch or external junction box.

Step 2: When having the phone call, pay attention to the indicator of 1VOS/2VOS card back panel. The indicator and Active light should be on.

1ETE Module Cable Connection

Connecting 1ETE module cable:

Step 1: Insert RJ45 plug of 1ETE cable to RJ45 jack.

Step 2: Connect another side of RJ45 plug to relevant equipment wire.

1ST Module Cable Connection

Connecting 1ST module cable:

Step 1: Insert RJ45 plug of 1ST module cable to RJ45 jack.

Step 2: Connect another side of RJ45 plug to related equipment wire.

Interface Cable Signals

Ethernet Cable (Twisted-pair Interface RJ45)

065-1530 Signamax Security Router Ethernet interface cable is 8-core non-screen twisted-pair. Port1/2 is sending-end and port 3/6 is receiving-end. They are the same as Ethernet card interface, which can be connected to HUB.

RJ45 direct connected cable (type-5 twisted-pair) connection relation:

RJ45	Signal	Direction	RJ45	Description	Length
1	TX+	—>	1	Twisted-pair 1	2m
2	TX-	—>	2		
3	RX+	<—	3	Twisted-pair 2	
6	RX-	<—	6		
4	---	---	4	Twisted-pair 3	
5	---	---	5		
7	---	---	7	Twisted-pair 4	
8	---	---	8		

RJ45 crossing connected cable (type-5 twisted-pair) connection relation:

RJ45	Signal	Direction	RJ45	Description	Length
1	TX+	—>	3	Twisted-pair 1	2m
2	TX-	—>	6		
3	RX+	<—	1	Twisted-pair 2	
6	RX-	<—	2		
4	---	---	7	Twisted-pair 3	
5	---	---	8		
7	---	---	4	Twisted-pair 4	
8	---	---	5		

Console Port Cable

065-1530 Signamax Security Router console port cable connects with PC 9-core serial jack. It is 8-core non-screen cable. One side is RJ45 plug and another side DB9 (hole).

A-3 console port cable connection relation:

RJ45	Signal	Direction	DB9	Length
1	CTS	—>	8	3m
2	DSR	—>	6	
3	RXD	—>	2	
4	---	---	---	
5	GND	---	5	
6	TXD	<—	3	
7	DTR	<—	4	
8	RTS	<—	7	

A.3 RM2-1E1 and RM2-1CE1 uses RJ45-RJ45 crossing twisted-pair

When using E1 card RJ45 interface, if required use RJ45-RJ45 crossing twisted-pair.

A-4 E1 and CE1 using RJ45-RJ45 crossing twisted-pair

RJ45	Signal	Direction	RJ45
1	RX+	<—	4
2	RX-	<—	5
3	---	---	7
6	---	---	8
4	TX+	—>	1
5	TX-	—>	2
7	---	---	3
8	---	---	6