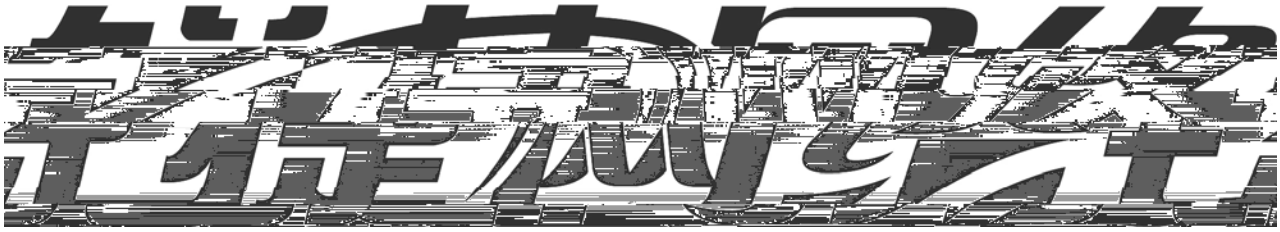



http://www.ruijie.com.cn

| | |
|---|---|
| | 24 10Base-T/100Base-TX RJ45 ( MDI/MDIX )<br>2<br>1 Console |

IEEE 802.3-2000
IEEE 802.1D IEEE 802.1Q
802.1x

**2.**

**3.**

VLAN Trunk IGMP Snooping

**4. *SNMP***

SNMP

**5. *Telnet/***

Telnet/ Telnet/

**6. *Web WBM***

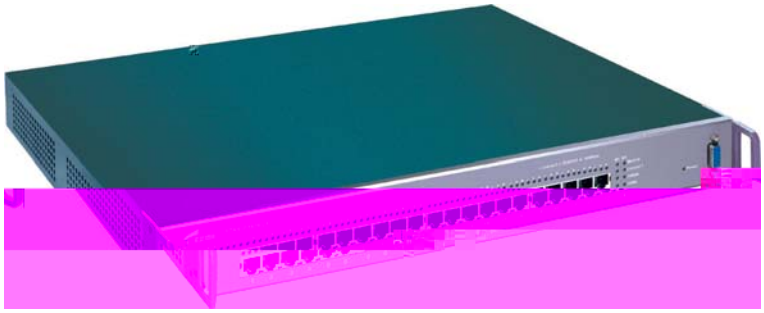
Web Server Web Web-Server

Web WBM

**7. *S1926F+***

S1926F+

## 2.1

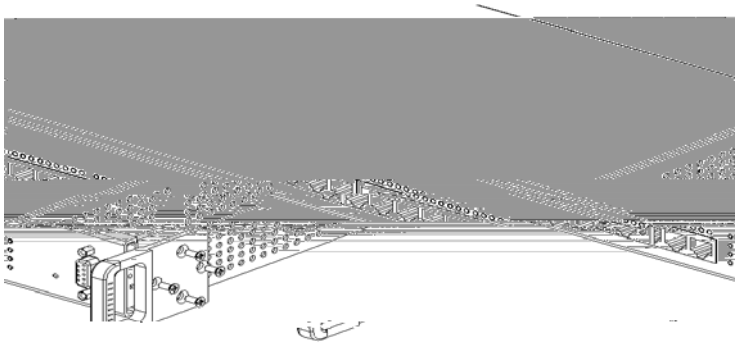


| | | | | | |
|---|---|---|---|---|---|
| | LED<br>(Full<br>duplex) | LED | | | |
| | 100Mbps<br><br>LED<br>(100Mbps) | LED | 100Mbps | RJ45<br><br>10Mbps | |
| | LED<br>Module | | | | |

/
LED
Link/AC
T

1)
2)
3)

4)



2-7

- Power

- S-Manager S-Manager S-Manager
  IP 5.3 Telnet/
  IP
  Telnet/ Web WBM

==========

*2.4*

==========

## 2.3

-

1 10Base-T 3 3 UTP STP

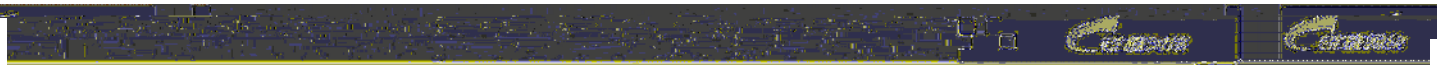
2 100Base-TX 5 UTP STP

3 UTP STP 100

## *HUB*

HUB

1 10Base-T 3 3



# 3.1

S1926F+ 2

- Port VLAN
- Tag VLAN

# 3.2

*S1926F+ 24 10Base-T/100Base-TX RJ 45 2*
*VLAN Trunk*

1 10Mbps- 2 10Mbps-
3 100Mbps- 4 100Mbps-

N

S1926F+

*MAC* *MAC*

Telnet

MAC

MAC

MAC

MAC

100kbps 100mbps

100kbps

==========

S1926F+ 1-24

==========

## 3.3 VLAN

.

*S1926F+* ***Port VLAN*** ***802.1Q Tag VLAN*** *VLAN*

| DA | SA | Tag | Type | Data | CRC |
|---|---|---|---|---|---|

tag

**0X8100 Priorit 5.44031 Tm(Priorit )T**

8802.1Q Tag
VLAN header

- S1926F+ IEEE 802.1Q VLAN VLAN

  1 **VLAN ID**

  VLAN VLAN

  2 **VLAN**

  VLAN VLAN

  VLAN

  3 **( Tag/Untag )**

  tag Tag tag

  tag UnTag tag tag

  4 **VID** tag VLAN (Untagged )

  VID VLAN

| |
|---|
| VLAN1<br><br>VLAN2 |

Port 3 VID 1 Port 4 VID 2

VLAN 1 VID 1 Port 1 Port 2 Port 3 Port 4

Port 1 Tag Port 2 Tag

Port 3 Untag Port 4 Untag

VLAN 2 VID 2 Port 1 Port 3 Port 4

Port 1 Tag Port 3 Untag Port 4 Untag

DA

**Trunk**

**200Mbps** **Trunk** **800Mbps**

- S1926F+ Trunk 1
  6 L2 Trunk 7 Trunk Trunk 2 - 4

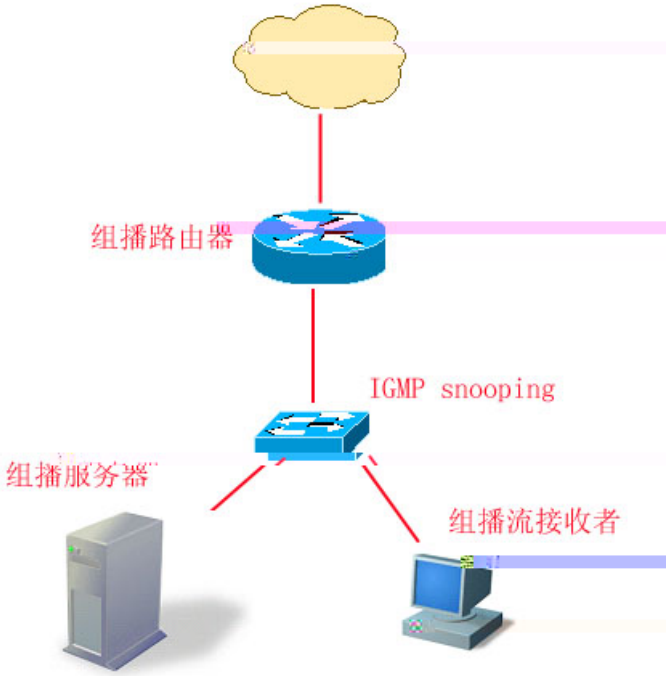
- Trunk Trunk Trunk VLAN
  Tr

==========

## 3.5

**S1926F+** **priority**

tag tag
S1926F+




IGMP snooping



**IGMP**

1 Report/Leave

i. report/leave

ii.

1. port vlan tag
2. SVGL VID of IGMP frame to route port ==0 tag
   tag = VID of IGMP frame to route port
3. IVGL VLAN tag tag
   untag tag

2 Query

i. query

ii.

1. port vlan tag
2. SVGL
   a) VID of IGMP frame to route port ==0 tag
   tag = VID of IGMP frame to route port
   b) tag

IVGL VLAN tag tag untag
tag

# 3.7 DHCP

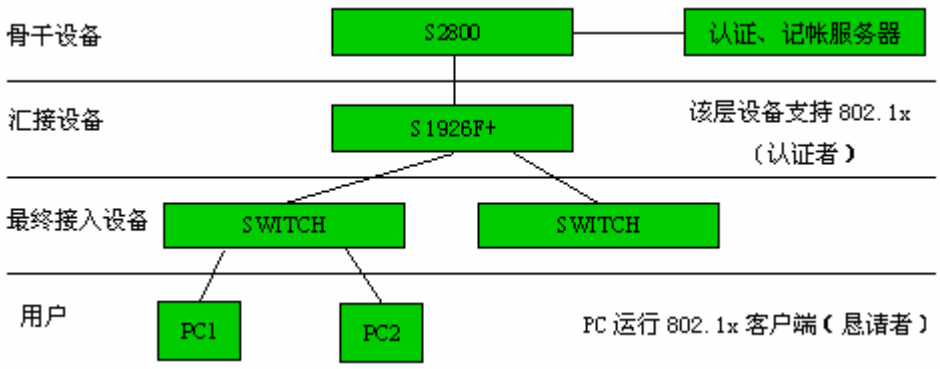
S1926F+ DHCP IP DHCP
IP ѕ DHCP DHCP
Server IP ѕ DHCP
DHCP 003
IP ž

==========

DHCP
1

S1926F+ EAP-MD5 CHAP

IEEE802.1x




IEEE802.1x

IEEE802.1x

- S1926F+ IEEE802.1x /TELNET AAA

IEEE802.1x IEEE802.1x

IEEE802.1x Trunk Trunk IEEE802.1x
IEEE802.1x MAC

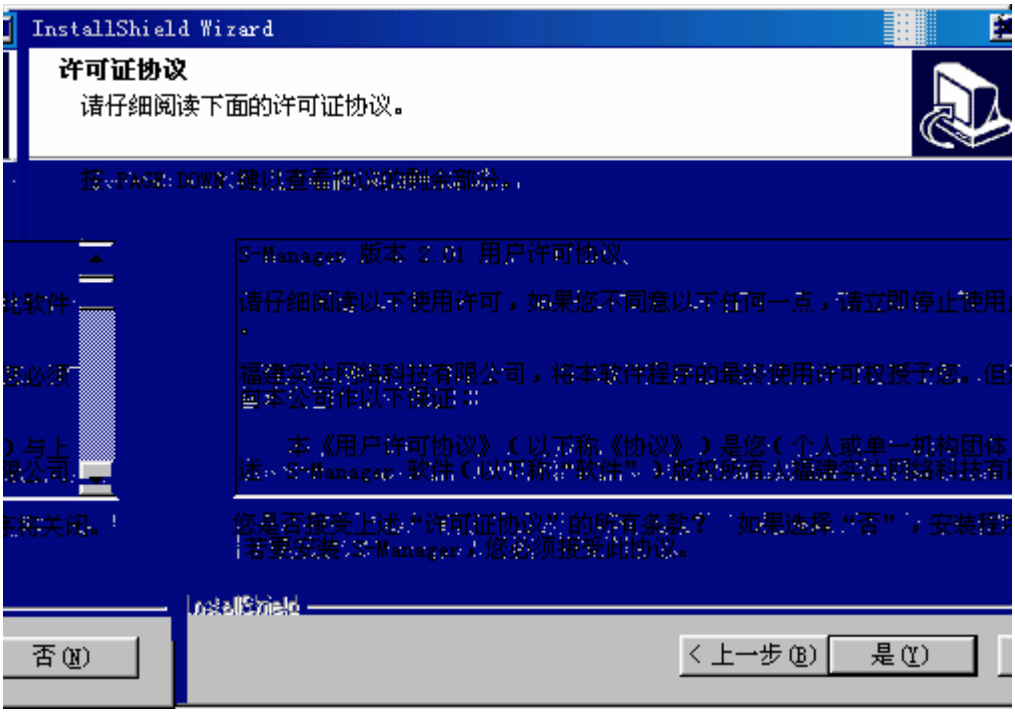
IEEE802.1x IP
IP

# SNMP

## 4.1

S-Manager SNMP
MIB-II Ethernet-like MIB Bridge MIB Start-Enterprise MIB MIB
MIB-Browser SNMPv1

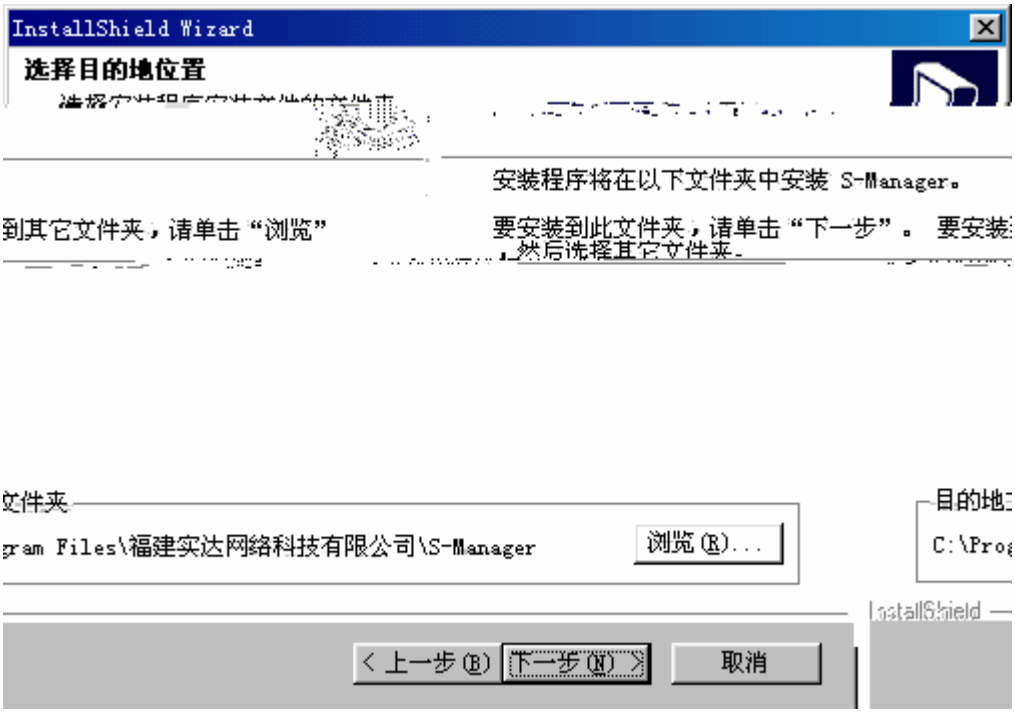
“ ” 4-2




4-2 S-Manager 2.01

“ ” 4-3

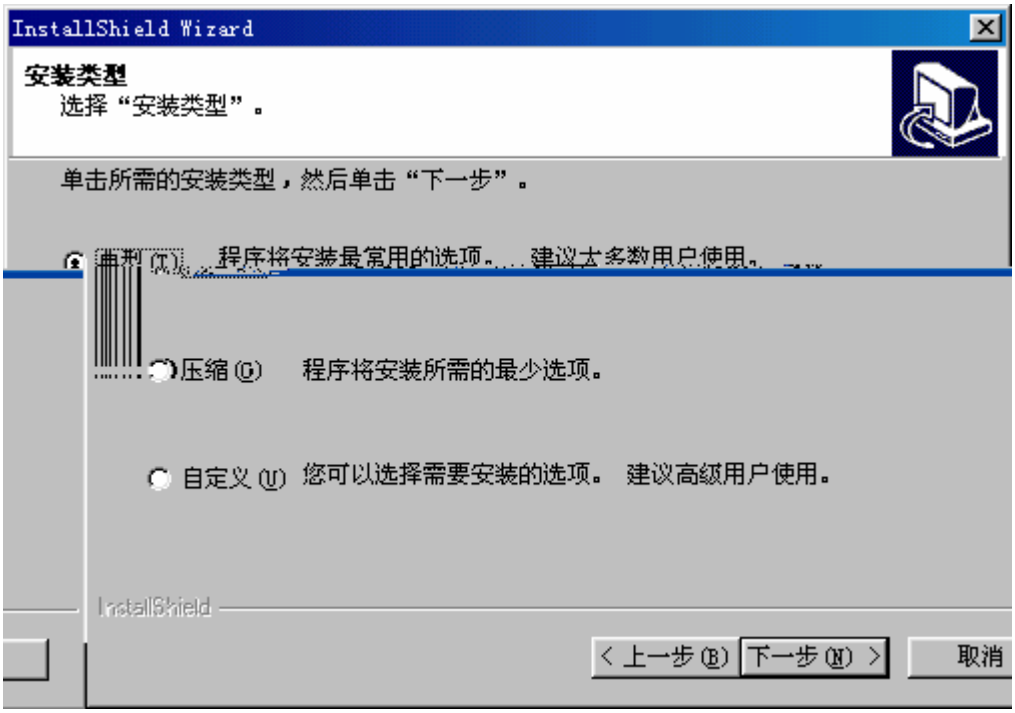
“ ”




4-3 S-Manager 2.01

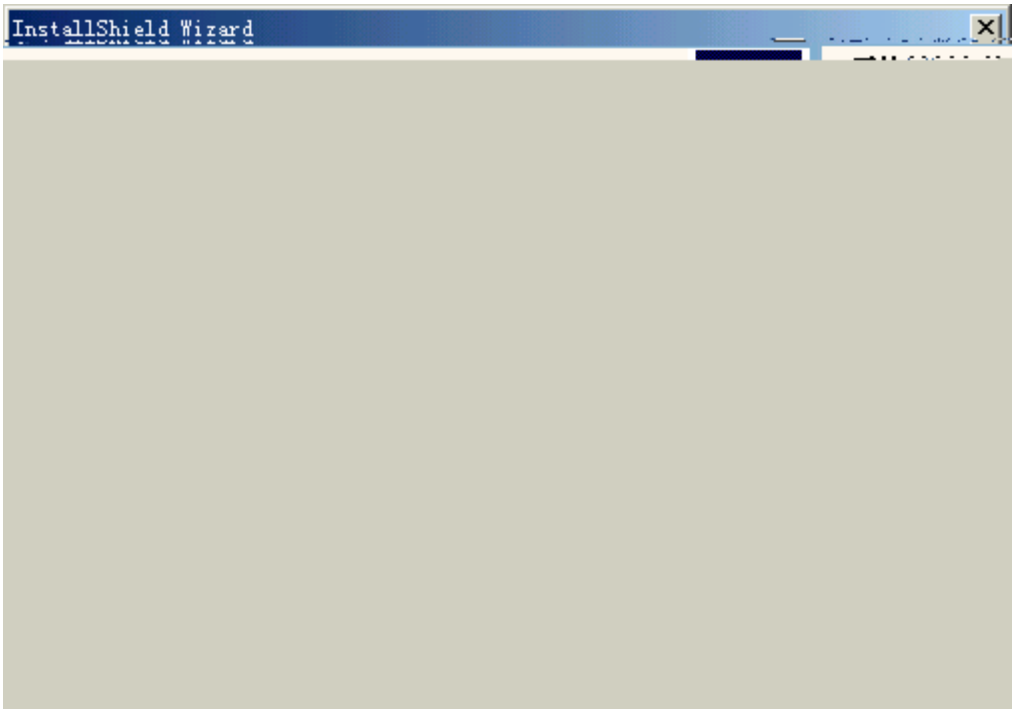
“ ” 4-4 ——

S-Manager MFC ODBC ——




4-4 S-Manager 2.01

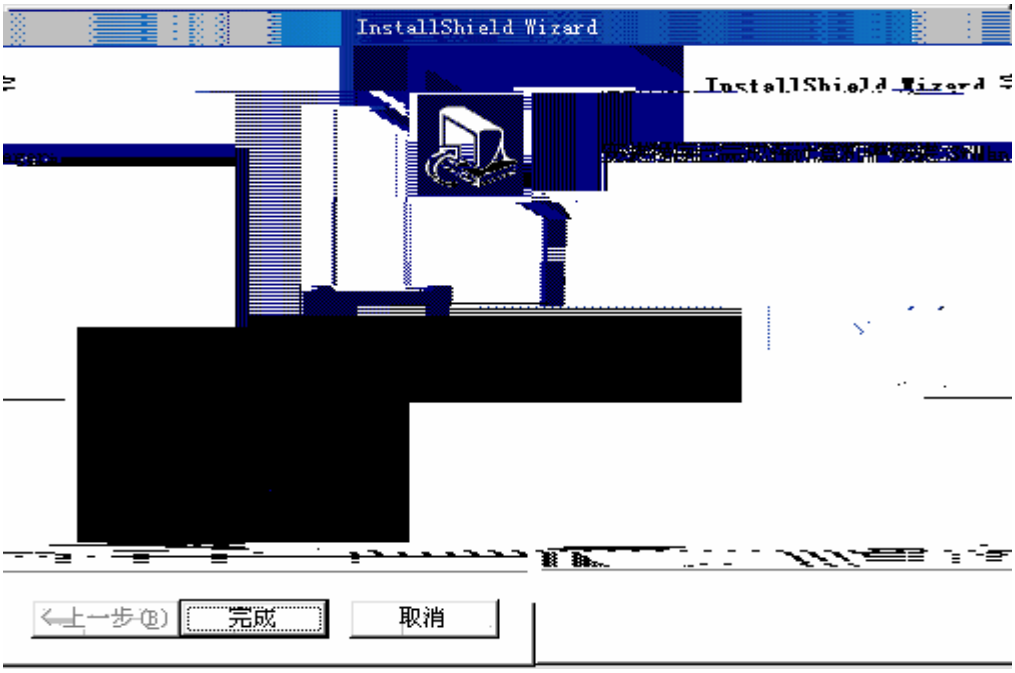
“ ” 4-5




4-6 S-Manager 2.01

“ ” 4-7

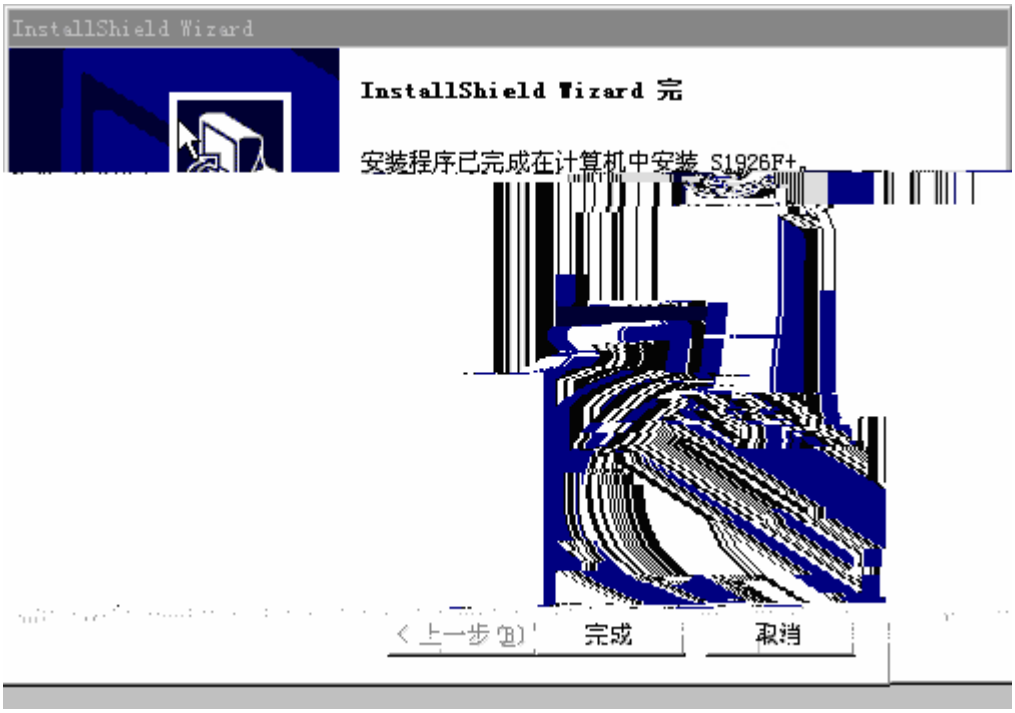
S-Manager




4-7 S-Manager 2.01 ŢŃ

InstallShield Wizard
欢迎使用 S1926F+ InstallShield Wizard
InstallShield(r) Wizard 将在计算机中安装
S1926F+。若要继续，请单击“下一步”。
< 上一步(B)
下一步(N) >
取消

4-9 S192




4-11 S1926F+

3 Install S-Manager 2.01 S1926F+

Install

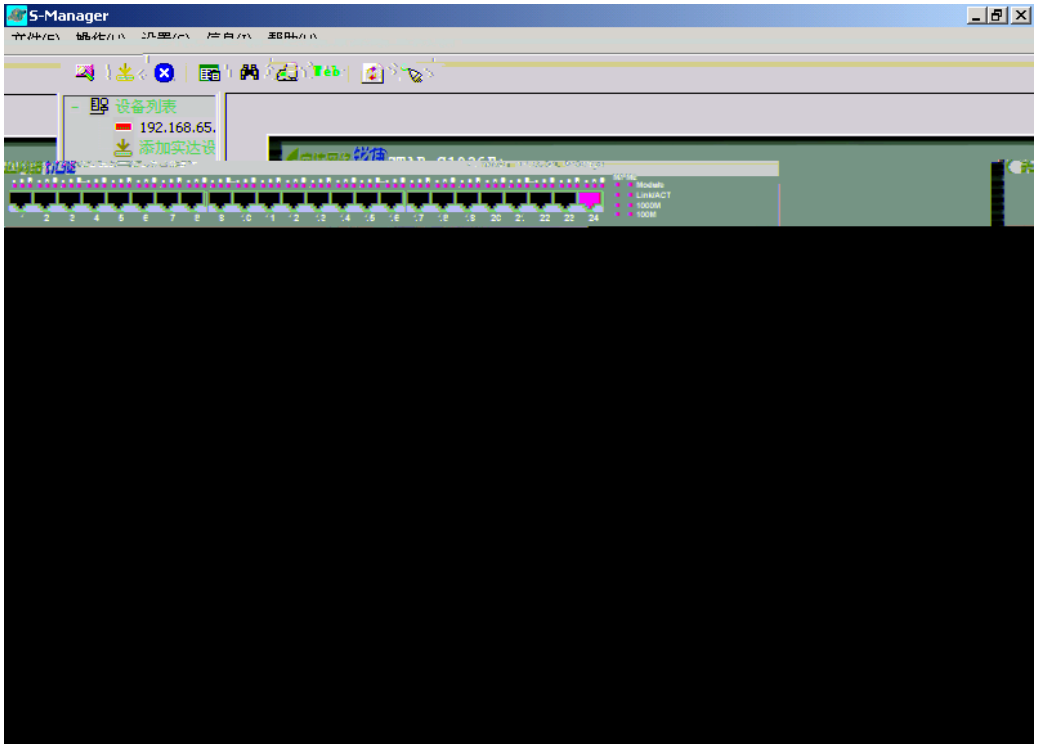
S-Manager IP SNMP IP

public

Supervisor 4-13

Supervisor Admin Monitor

Admin Monitor




4-13 S-Manager

### *S-Manager*

S-Manager

- 
- Add Start Device
- 

Linkdom(A)Tj10.5 0 0 1005 10.537977 302.48051 n(up)Tj/C2_0 1 Tf0.00571 Tc 10.5 0 0 13

4-14

1 **Trap** Trap

1 0 UDP UDP 0

2 Trap UDP 1 65535 10001 65535

3 5 UDP Trap UDP

4 Trap Trap Trap

5 Tr “ ” ‘ ’ UDP Trap

6 UDP 4 5 UDP

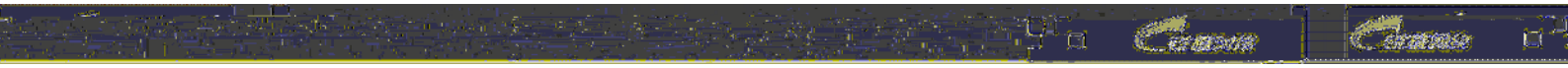
2 **Trap** Trap

IP ,

*Trap* *Telnet* *Outband* *Web* *SNMP* *STP* *4-15*

**Trap**

Trap Trap IP UDP 10 Trap Trap UDP 162 10000 ‘a’-‘z’, ‘A’-‘Z’, ‘0’-‘9’, ‘-‘, ‘_’ Trap



**Forward Delay** STP 10ms

“ Traffic Class ”

**IP** **TTL** **ARP**

2

none ——

normal —— MAC

“ ” “ MAC ” “ ”

MAC “ n ” “ MAC

” n n

( ) /

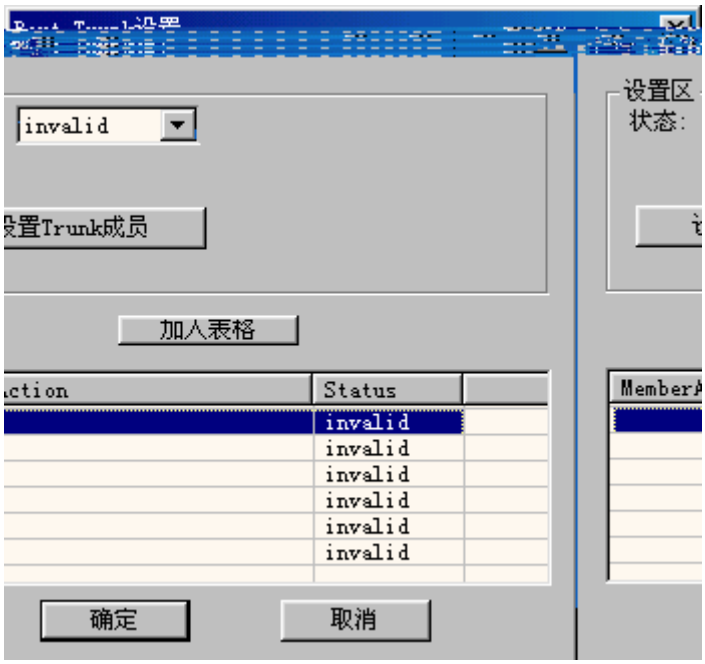
Trunk

IP TTL IP TTL .

300 10 1500

ARP ARP

*4-16*




4-18 Trunk

Trunk

1 Trunk

2 valid

3 “ Trunk ” Trunk Trunk

“ ”

4 “ ”

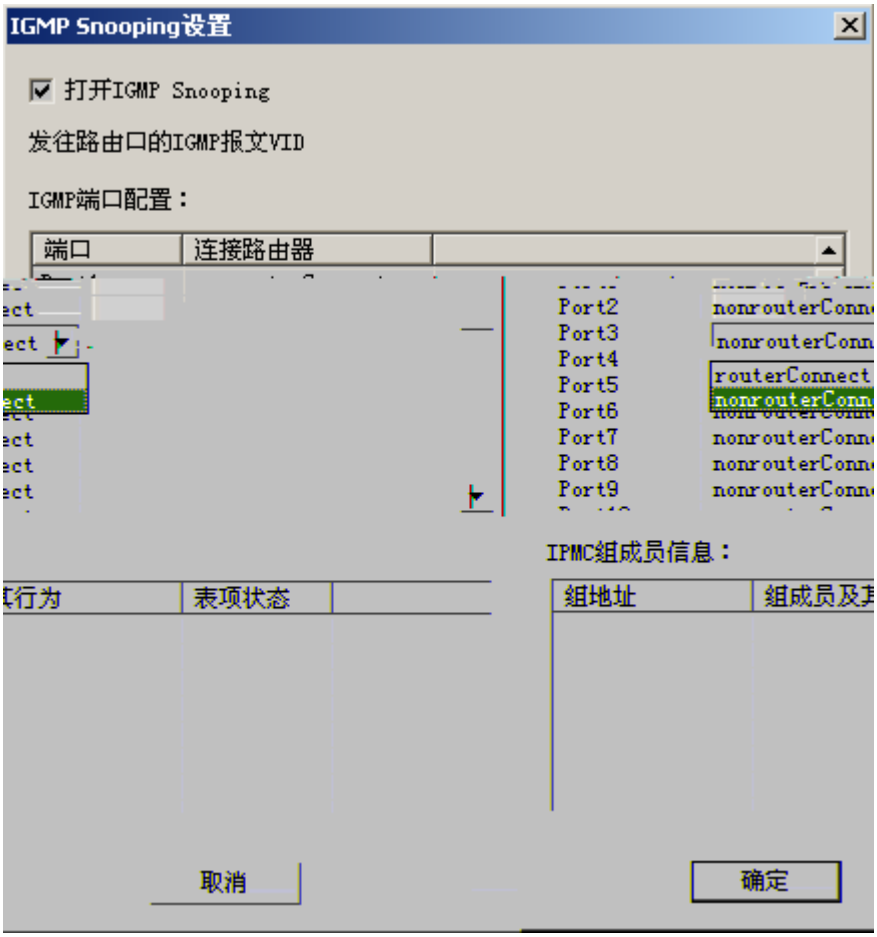
5 “ ” Trunk

Trunk

valid Trunk

invalid Port VLAN Trunk , Trunk

**IGMP Snooping** **4-19**




4-19 IGMP Snooping

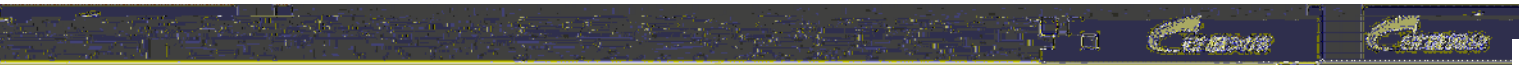
IGMP Snooping

**1** IGMP Snooping

**2** “ RouterConnect ” Trunk

Trunk

**3** “ ” IGMP Snooping



“ ”

“ ”

( ) ” ” . ” ”

.

## *S1926F+*

**S1926F+**

“ ” —> “ ” IP

“ ”

“ ”

4-22

**S1926F+**

Add Start Device IP

7 Object ID

GetNext Object ID SNMP

8) Add Item MIB Tree Object

9 Remove Item Object

10 Clear Items Object

11 Start SNMP

12 Result SNMP

Return Time

Operation

Object Name

| ID | Object ID | Object Type |
| --- | --- | --- |

- ***MIB-Compiler***

MIB-Compiler MIB MIB .MIB
MIB-Browser MIB-Browser
MIB-Browser MIB Tree File--MIBCompilerV2
MIB-Compiler S-Manager MIBCompiler.exe MIB-Compiler
“ ” MIB
MIB Tree MIB-Tree—Refresh MIB MIB
MIB

# 4.5 RMON View

*RMON View*

4 Statistics Table

5 Statistics Table Owner

6 Statistics Statistics Table

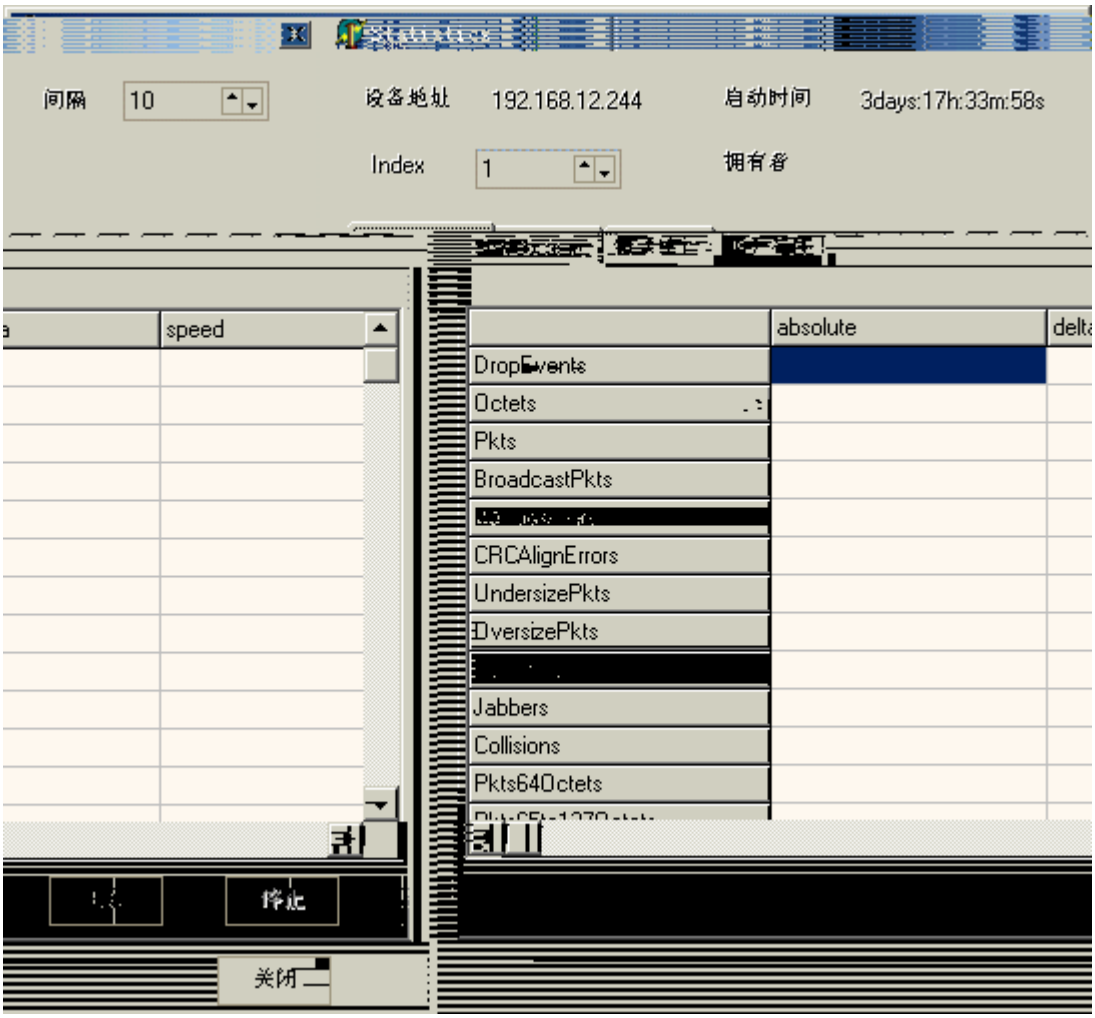
7

8

9 “ ”

10 “ ”

Statistics Index




4-28 Statistics

- ***History***

4-29 History

1 RMON IP

2

3 History Table

4 History Table

5 History Table Owner

6 Data Source History Ta

9 Utilization

10 Packet

History History Control Table

1 “ ”

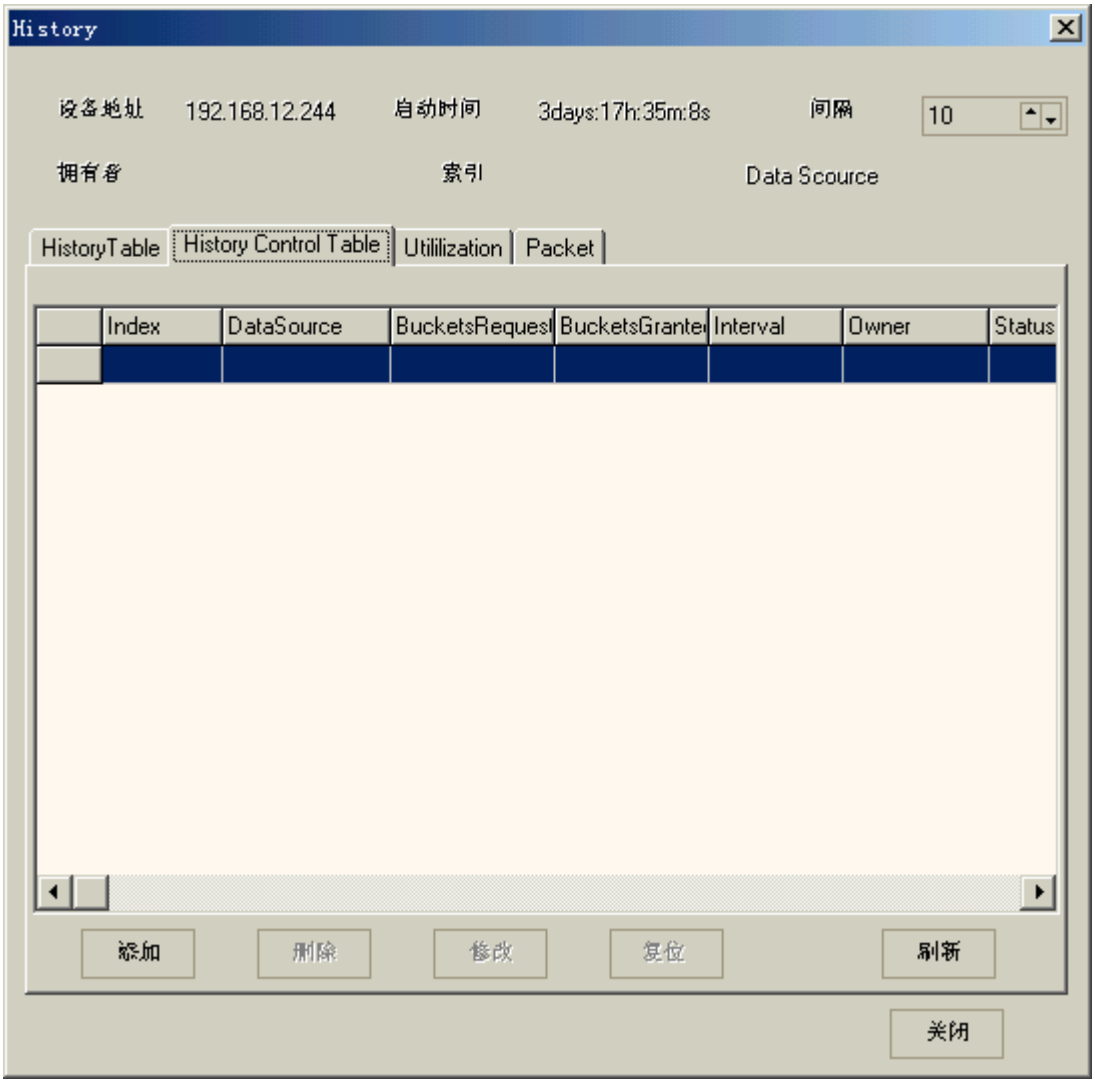
2 “ ”

3 “ ”

4 “ ”

5 “ ”

6 RMON History Table “ ”




4-29 History

## *Event/Alarm*

4-30 Event/Alarm

1 RMON IP

2

3 Alarm Alarm Table

4 Event Event Table

5 Log Log Table

Alarm

1 “ ”

2 “ ”

3 “ ”

Event

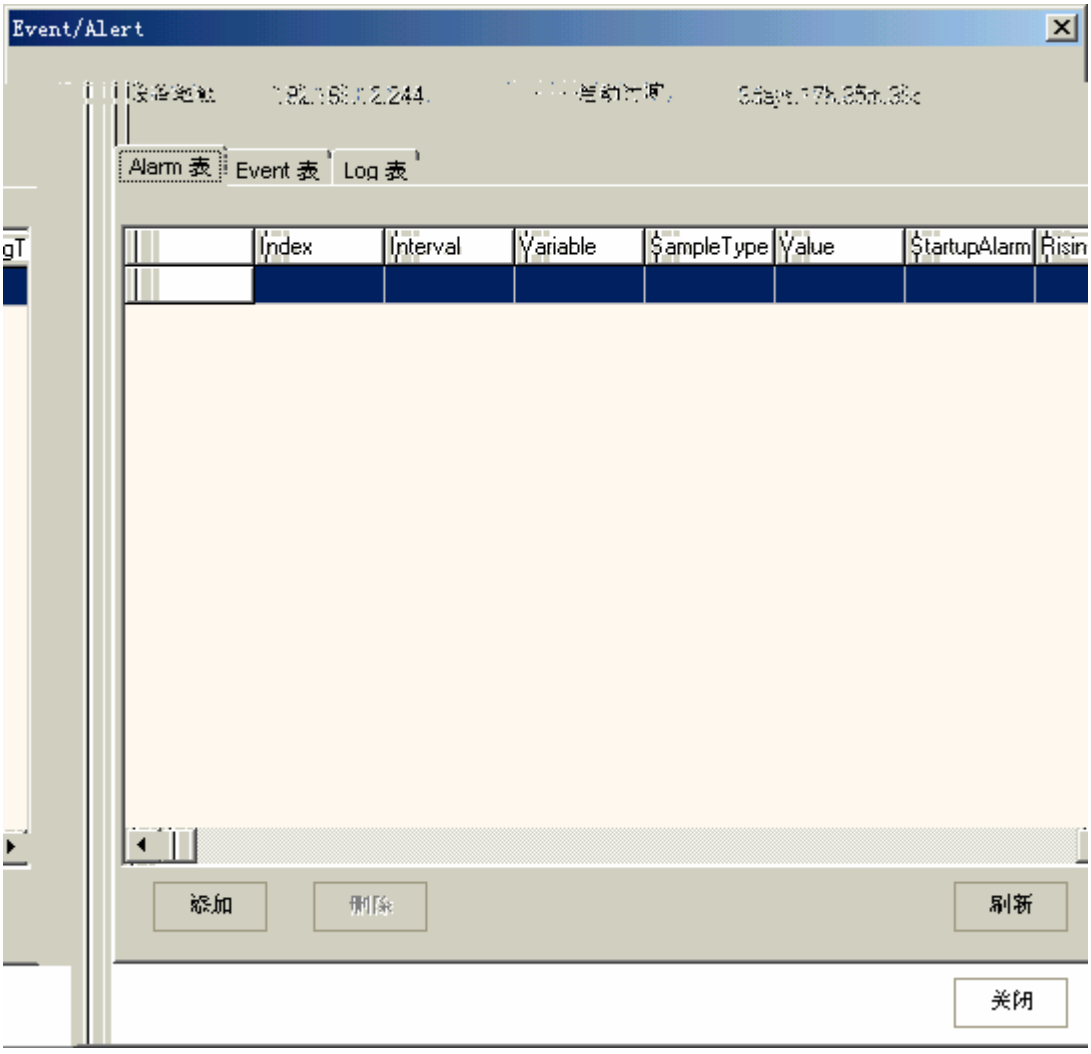
1 “ ”

2 “ ”

3 “ ”

4 “ ”

5 Log RMON Log Log




4-30 Event/Alarm

# Telnet/

## 5.1

**Telnet** TCP/IP Telnet
**Out-of-band**
Telnet

**(S)** -------- ,
**(N)** -------- **IP,IGMP,STP,Trap**
**(P)** --------
**(G)Tag VLAN** -------- **802.1Q Tag VLAN**
**(T)Trunk** -------- **Trunk**
**(A)AAA** --------
**(E)** -------
**(O)** --------
**(L)** --------

**********

**'Esc'**

**********

**:**

Port VLAN

**Tag VLAN** 802.1Q Tag VLAN

Port VLAN

Tag VLAN

¤

“ S ”

**********

**********

**(D)** **(S)**
**(F)** **(R**

“ S ”

**?(Y/N):**

“ Y ” “ N ”

==========

==========

“ F ”

Telnet TFTP Web

TFTP Web

/ Xmodem

**- Xmodem 20 (Y/N)?:**

“ N ” “ Y ”

“ ” “ ” Xmodem

“ ” “ ” Xmodem

Xm

**(1)coldStart trap And Log**
**(2)warmStart trap And Log**
**(2)warmStart trap And Log**
**(3)linkDown trap And Log**
**(4)linkUp trap And Log**
**(5)authenFailure trap And Log**
**(6)newRoot trap And Log**
**(7)topoChange trap And Log**
**(8)stormViolation trap And Log**
**(9)addrLockFirstViolation trap And Log**

**********

**(1-9) ,'Esc' :**

1

**coldStart**

**----------**

**(1) none (2) trap**

**(3) log (4) trap And Log**

**----------**

**(1-4, 1):**

1 4

“ X ”

**, ?(Y/N):**

”Y”

Telnet “ N ”

---

'A'

“ D ”

**********

**********

**(S)**

**(T)**

**********

**'Esc'**

**********

**:**

S

T 10 1500

“ ”

**IGMP Snooping**

“ G ” IGMP Snooping

**(T)IGMP snooping :**

**(P)IGMP (M)IPMC**

**********

**********

| | | |
|---|---|---|
| **1** | **2** | **3** |
| **4** | **5** | **6** |
| **7** | **8** | **9** |
| **10** | **11** | **12** |
| **13** | **14** | **15** |
| **16** | **17** | **18** |
| **19** | **20** | **21** |
| **22** | **23** | **24** |

**********

**'Tab' 'Esc'**

**********

IGMP Snooping

1 **IGMP snooping**

IGMP Snooping / IGMP Snooping “ T ”

2 **IGMP**

IGMP IGMP Snooping 'Tab'

“ P ” IGMP snooping

IGMP 2

**3 IPMC**

IGMP

**********

**IPMC**

**27-33 Trunk1 7**

**T tag U untag P pass**

**********

**********

**229.55.150.208 13U;**

**235.80.68.83 5U; 13U;**

---

**IPMC**

**-**

- **STP**

“ T ” STP

**********

**Spanning tree**

**********

**(T) / STP**

**(B) STP**

**(P) STP**

**(R) STP**

**********

**'Esc'**

**********

**:**

1 **/ STP**

STP “ T ” / Spanning Tree Protocol

2 **STP**

STP “ B ” STP

**STP**

**********

**(-)STP : IEEE8021d**

**(-)Last topo change(1/100Sec): 335511**

**(-)Topology changes: 2**

**(-)Designated root: 80-00-00-D0-F8-08-FF-F4**

**(-)Root cost 16**

**(-)Root port: 9**

**(-)STP max age(1/100Sec): 2000**

**(-)STP hello time(1/100Sec): 200**

**(-)STP hold time(1/100Sec): 100**

**(-)STP forward delay(1/100Sec): 1500**

**(P)STP priority:**

(O)Bridge hello time(1/100Sec): 200
(F)Bridge forward delay(1/100Sec):1500
*******************************************************************************
'Esc'
*******************************************************************************
:

STP
STP priority Bridge max age Bridge hello time Bridge forward delay

3 **STP**

STP " P " STP

*******************************************************************************
**STP**
*******************************************************************************
: 1
(P) Port priority: 128
(C) Path cost: 100
(T) STP :
(-) Port state: Blocking
(-) Designated root: 80-00-00-D0-F8-08-FF-F4
(-) Designated cost: 16
(-) Designated bridge: 80-00-00-D0-F8-90-0F-FF
(-) Designated port: 80-01
(-) Forward transitions:0
*********************************************************************************
'TAB' 'Esc'
*********************************************************************************

STP
Port priority Path cost STP STP
STP STP Forwarding

4 **STP**

STP STP " R "

**SNMP trap**

" A " SNMP trap Trap
Trap IP UDP Trap

***************************************************************************************************
**Trap**
***************************************************************************************************

| (N)ID (I) | IP | (P)UDP | (C) | (S) |
|---|---|---|---|---|
| 1 | 192.168.12.65 | 162 | private | |
| 2 | 0.0.0.0 | 162 | public | |
| 3 | 0.0.0.0 | 162 | public | |
| 4 | 0.0.0.0 | 162 | public | |
| 5 | 0.0.0.0 | 162 | public | |

“ F ”

1-

2-

5

6

7

“ M ”

8 **MAC**

“ C ”

**MAC**

**********************************************************************************

**(1)**

**(2)**

**********************************************************************************

**MAC** **(1-2):**

MAC 2

—

——

===========================================================

ĩ

10C

**(17) -10M/HD-100M/HD-100M/FD**

**(18) -10M/FD-100M/HD-100M/FD**

**(19) -10M/HD-10M/FD-100M/HD-100M/FD**

4 / 15

11 **/**

/ Linkdown “

”

12

A B “ P ”

13

14

100kbps

15

100kbps

“ M ” /

**********

**********

**- : 1**

| | | | |
|---|---|---|---|
| **(-)** | **: 0** | **(-)** | **: 0** |
| **(-)** | **: 0** | **(-)** | **: 0** |
| **(-)** | **: 0** | **(-)** | **: 0** |
| **(-)** | **: 0** | | |
| **(-)** | **: 0** | **(-)** | **: 0** |
| **(-)** | **: 0** | **(-)** | **: 0** |
| **(-)** | **: 0** | | |
| **(-)** | **: 0** | | |

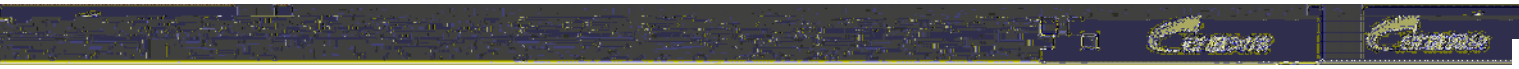
**********

**********

**( 3S )**

“ Esc ”

א



- **Trunk**

Trunk “ D ” Trunk

- **Trunk**

Trunk 1 Trunk

Trunk “ A ” Trunk Trunk

- **Trunk ID(1 - 6):**

Trunk Trunk

**(N)Trunk : 10M/HD-10M/FD-100M/HD-100M/FD-**

**(-)Trunk / :**

**********

**'Esc'**

**********

**:**

1 **Trunk**

Trunk “ N ” Trunk

2 **Trunk /**

Trunk / Trunk

Linkdown “ ”

Trunk

## AAA

**********

**AAA**

**********

**(E) / 802.1X**

**(C) /**

**(S)**

**(A)**

**(P)**

**(R)**

**(V)VLAN**

**(-) :0**

**(-) :0**

**********

**'Esc'**

**********

**:**

802.1x **/ 802.1X**

**802.1x**

AAA ”E” 802.1x

IP 802.1x

- EAP Response frames received : 0
- EAP Req/Id frames transmitt 1 1 9 1 9 2 3 0 8 0 5 9 1 I f

**(I) IP : 0.0.0.0**

**(P) IP :**

**(S) :**

**********

**'Esc'**

**********

**:**

SNMP

1

SNMP 6

2

SNMP SNMP “ C ”

3

SNMP SNMP “ A ” SNMP TOW

Supervisor Admin Monitor 3 TOW

4 **IP**

SNMP IP SNMP “ I ” IP

5 **IP**

IP SNMP “ P ” IP

SNMP IP

SNMP

6

SNMP

**[O]** **RADIUS**

“ W ”

**********

**********

**-- 0-4 0 ,**

**-- :0**

**********

**(0-4),'Esc' :**

0 4

“ L ”

**********

**(1)**

**(2)**

**********

**:**

## *Tag VLAN*

Tag VLAN Port VLAN

1 IGMP Snooping VID

2 VID

3 Tag VLAN Port VLAN

Port VLAN Port VLAN

## *Tag VLAN*

*IGMP Snooping* *IGMP VID*

### IGMP Snooping

“ G ” IGMP Snooping

**(T)IGMP snooping : (R) IGMP VID:**

**(P)IGMP (M)IPMC**

**********

**********

| | | |
|---|---|---|
| **1** | **2** | **3** |
| **4** | **5** | **6** |
| **7** | **8** | **9** |
| **10** | **11** | **12** |
| **13** | **14** | **15** |
| **16** | **17** | **18** |
| **19** | **20** | **21** |
| **22** | **23** | **24** |

**********

**'Tab' 'Esc'**

**********

IGMP Snooping

4 **IGMP snooping**

IGMP Snooping / IGMP Snooping “ T ”

5 **IGMP VID**

IGMP tag VID IGMP Snooping “ R ”

0 tag IGMP snooping

6 **IGMP**

IGMP IGMP Snooping 'Tab'

“ P ” IGMP snooping

IGMP 2

IGMP

IGMP

7 **IPMC**

IGMP

**********

**IPMC**

**27-33 Trunk1 7**

**T tag U untag P pass**

**********

**********

**********

**Tag VLAN**

**********

**VLAN No:1**

**VLAN id:1**

**********

| | | | | | |
|---|---|---|---|---|---|
| **1** | **Untag** | **2** | **Untag** | **3** | **Untag** |
| **4** | **Untag** | **5** | **Untag** | **6** | **Untag** |
| **7** | **Untag** | **8** | **Untag** | **9** | **Untag** |
| **10** | **Untag** | **11** | **Untag** | **12** | **Untag** |
| **13** | **Untag** | **14** | **Untag** | **15** | **Untag** |
| **16** | **Untag** | **17** | **Untag** | **18** | **Untag** |
| **19** | **Untag** | **20** | **Untag** | **21** | **Untag** |
| **22** | **Untag** | **23** | **Untag** | **24** | **Untag** |

**********

**VLAN VLAN 'Esc'**

**- TAG VLAN:**

**1,81**

**- TAG VLAN (1 - 256):**

VLAN VLAN VLAN Trunk Trkn n trunk VLAN M1,M2 25(M1) 26(M2)

- **Tag VLAN**

Tag VLAN " N " Tag VLAN VLAN 1 256

**- Tag VLAN (1 - 256):**

VLAN id

**- VLAN id(1- 4094):**

VLAN

**********

**VLAN**

**1,2,3-10**

**25 - 30 Trunk1 Trunk6**

**********

**9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25**

**- TAG VLAN :**

VLAN VLAN ' '

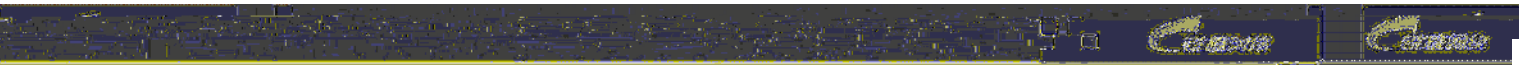
9 11 12 9 12 VLAN

VLAN VID

VLAN VID

**- VLAN id TAG VLAN VLAN id?**

**- ( / ):y**



**- 5 7-9**

**1**

**----------**

**(1) Tag**

**(2) Untag**

**----------**

**(1-2, 2):**

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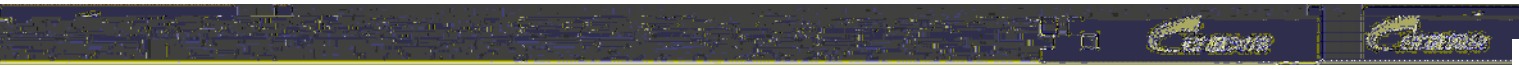
S1926F Tag VLAN

1 VLAN VLAN VLAN 1 VLAN id 1 VLAN Untag

2 VLAN L2 Trunk VLAN Port 25-Port 30 Trunk 1-Trunk 6

3 VLAN 256 Tag VLAN ⅃

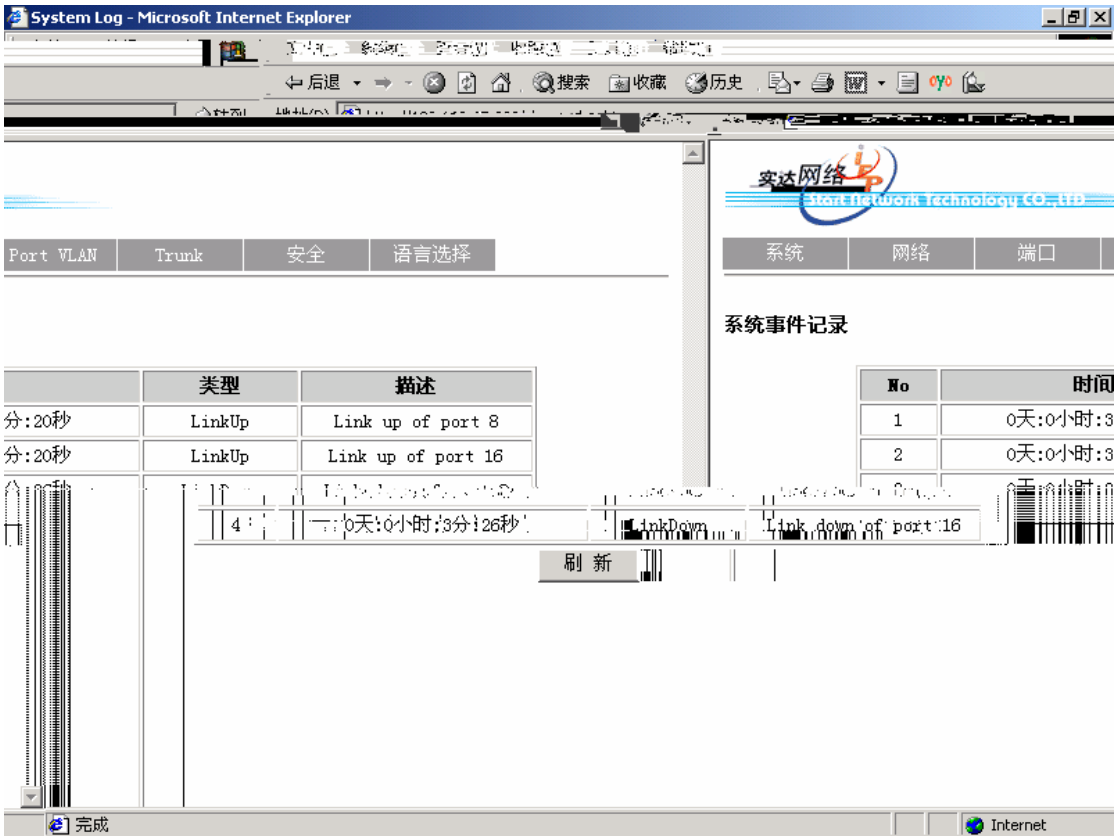


6-3 Port VLAN

6-4 Tag VLAN

6-3 6-4 Supervisor Admin Monitor

Port VLAN VLAN




6-6

6-7

6-7

4 , “ ”

1 none trap log

2 trap trap

3 log log

4 trap&log trap log

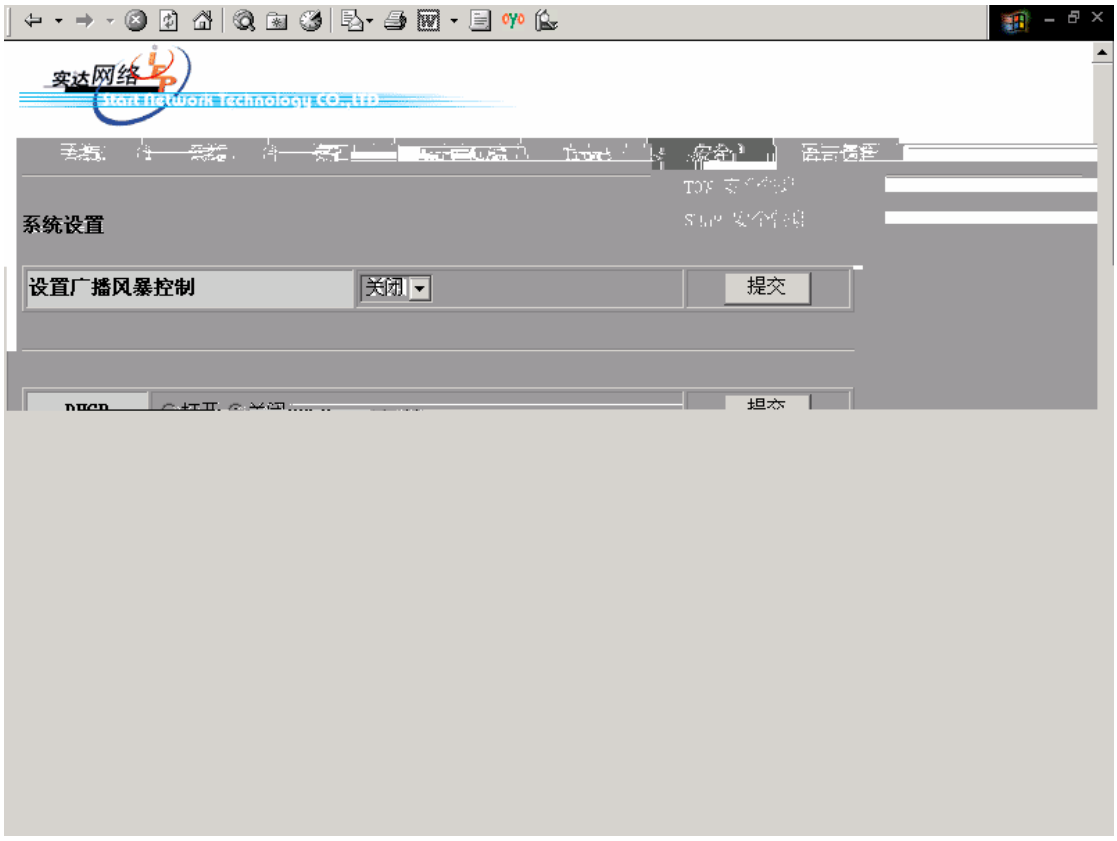
- 6-8

6-8

- 6-9

1
2
3 Port VLAN Tag VLAN
4 “ “
5 DHCP / DHCP DHCP IP
“ ”

-




6-9



6-10

IP IGMP Snooping Tag VLAN STP Trap Ping

- **IP** 6-11 IP ARP IP TTL

6-11 IP

- 2

“ ”

“ ”

- 3

“ ”

“ ”

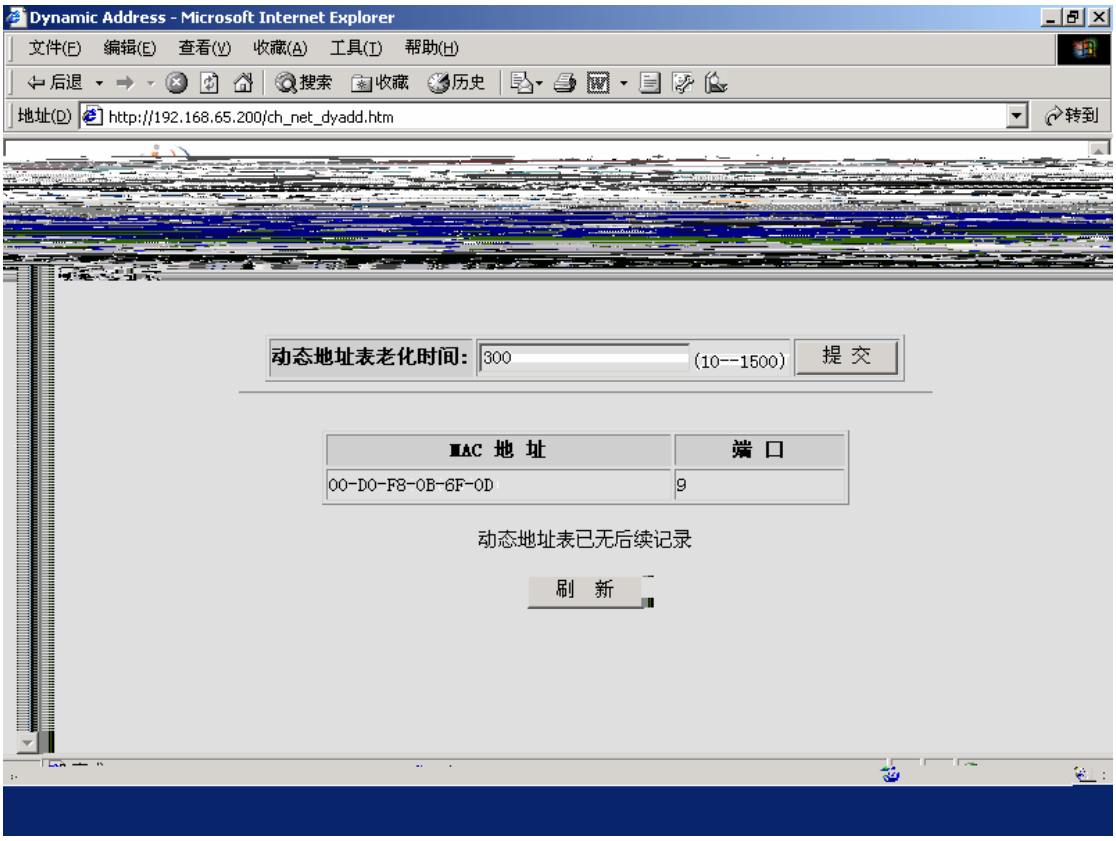
- 6-14

- **STP** STP / STP STP

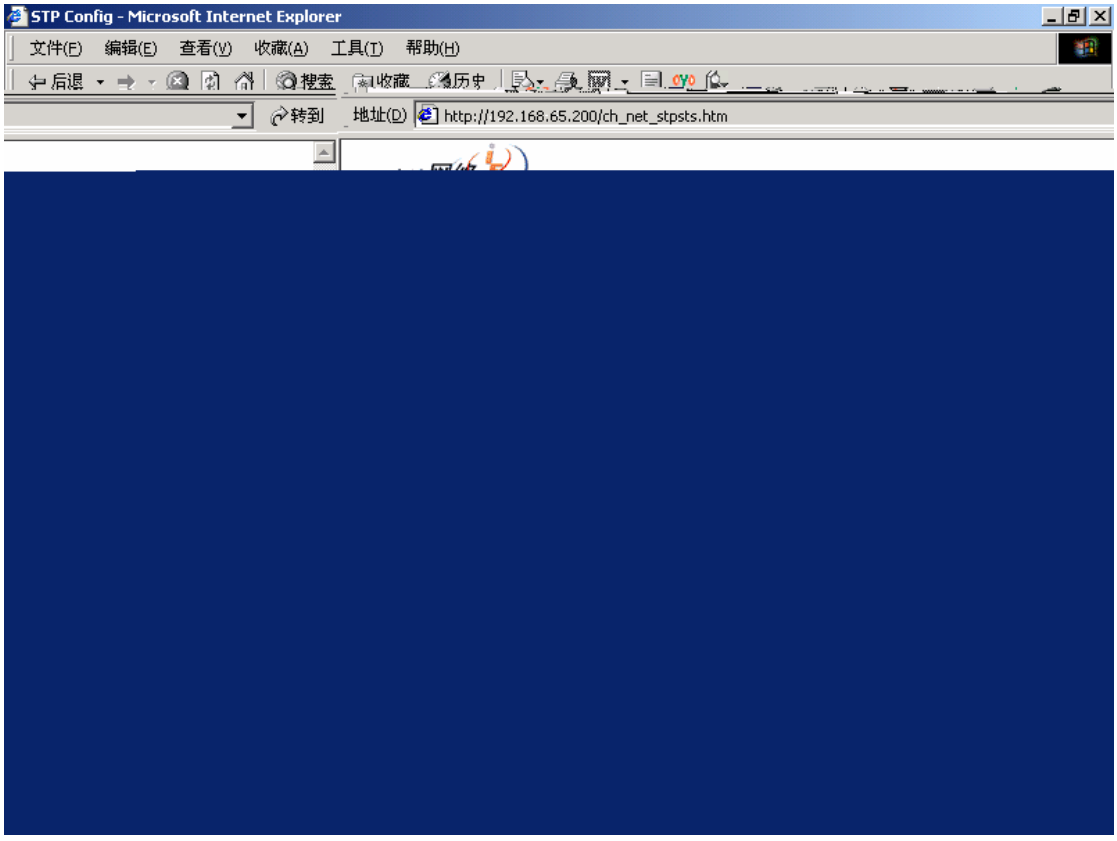
1 STP / 6-15 STP STP

2 STP 6-16 STP Priority Hello Time Max Age Forward Delay

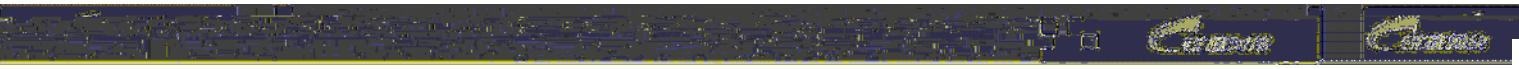
3 STP 6-17 STP


Dynamic Address - Microsoft Internet Explorer
文件(F) 编辑(E) 查看(V) 收藏(A) 工具(T) 帮助(H)
后退 搜索 收藏 历史
地址(D) http://192.168.65.200/ch_net_dyadd.htm
转到
动态地址表老化时间: 300 (10--1500) 提 交
MAC 地 址
端 口
00-D0-F8-0B-6F-0D
9
动态地址表已无后续记录
刷 新

6-14


STP Config - Microsoft Internet Explorer
文件(F) 编辑(E) 查看(V) 收藏(A) 工具(T) 帮助(H)
后退 搜索 收藏 历史
转到 地址(D) http://192.168.65.200/ch_net_stpsts.htm

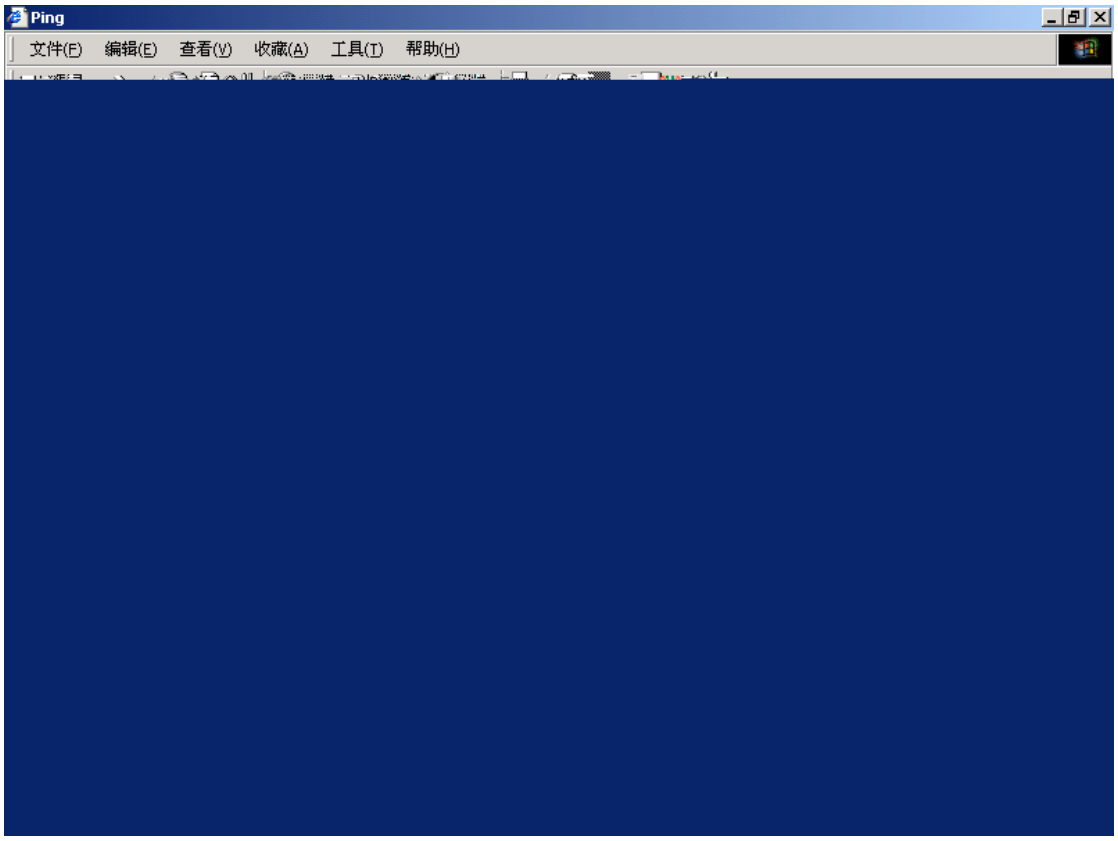
6-15 STP



6-18 Trap

- **Trap** 6-18 Trap Trap IP UDP 10 Trap Trap UDP 162 10000

- **Ping** 6-19 ping IP ping “ ” ping




6-19 Ping

- **IGMP Snooping** 6-20

6-20 IGMP Snooping

6-21

6-22

1 3

MAC

MAC

“ MAC ”

**2**

**3** 10Base-T 100Base-TX

**4** LinkUp LinkDown

**5**

**6**

**7**

Trunk Trunk

**8**

**9** ( ) /

Trunk

**10** MAC MAC

Trunk

**11** Trunk

**12** / /

Linkdown “ ” Trunk

**13** VID Port VLAN tag

VLAN (Untagged ) VID VLAN

Trunk

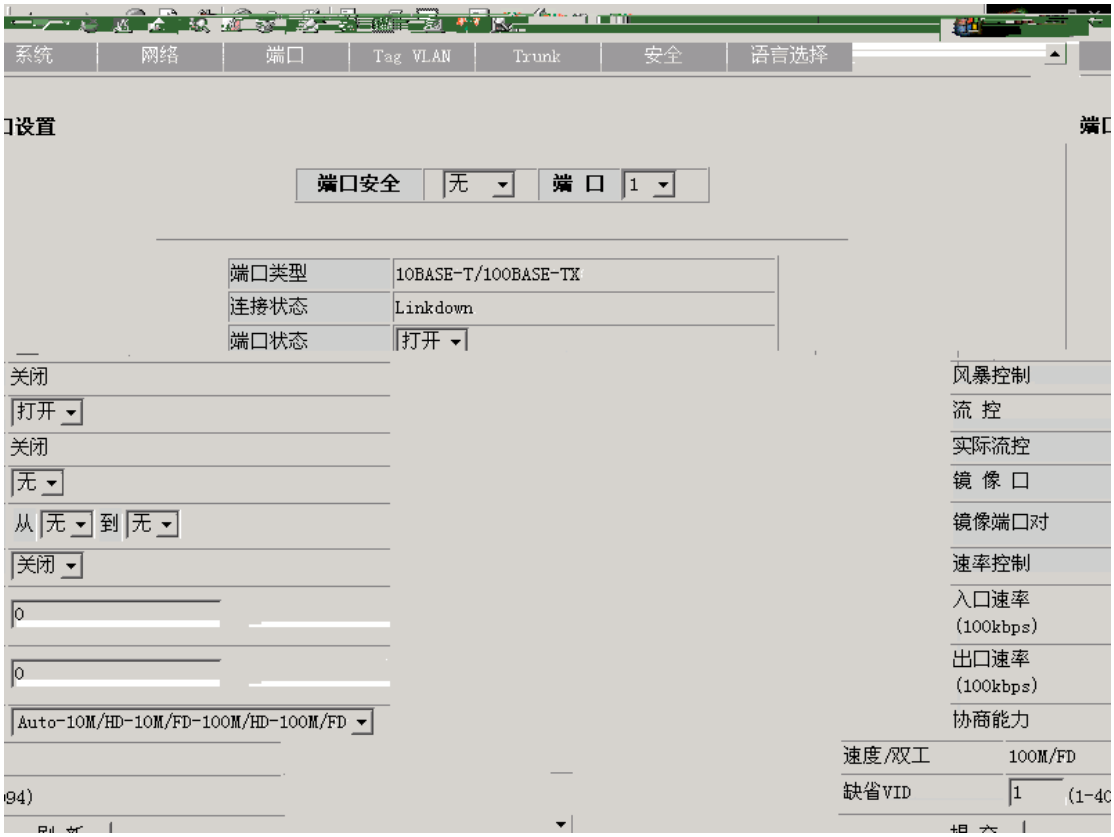
**14** A B “ P ”

15

16 100kbps

17 100kbps

http://www.ruijie.com.cn http://www.ruijie.com.cn




6-22

### *Port VLAN*

Port VLAN VLAN Port VLAN

- **VLAN** 6-23 VLAN Trunk Trunk VLAN Trunk

- **VLAN** 6-24 VLAN VLAN “ ”

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S1926F+ Port VLAN

1 VLAN VLAN VLAN 1 VLAN

2 Port VLAN Port VLAN

3 VLAN

4 VLAN Trunk

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- ***Tag VLAN***

*Tag VLAN* VID VLAN tag VID VLAN VLAN

1 VLAN tag tag VID VID VLAN VID VLAN

2 VLAN

==========

S1926F+ Tag VLAN

1 VLAN VLAN VLAN 1 VLAN ID 1
VLAN Unchange

2 VLAN L2 Trunk VLAN Trunk Trunk

3 VLAN 256 Tag VLAN VLAN VLAN

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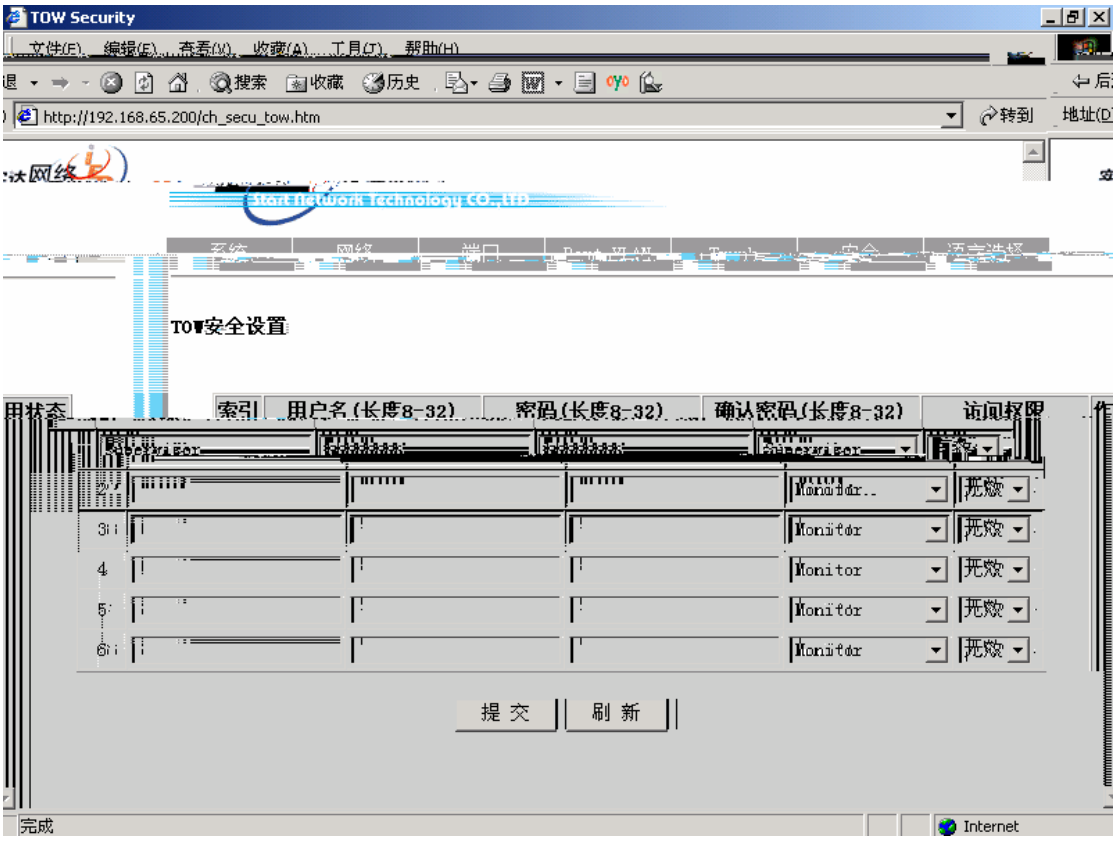
Superivsor TOW SNMP TOW Telnet
Web SNMP

- **TOW** 6-28 TOW 6
  1 TOW 8-32
  2 TOW 8-32
  3 TOW
  4 TOW TOW 3

Supervisor
Admin Supervisor
*
* TFTP /
*

Monitor Admin
5 TOW



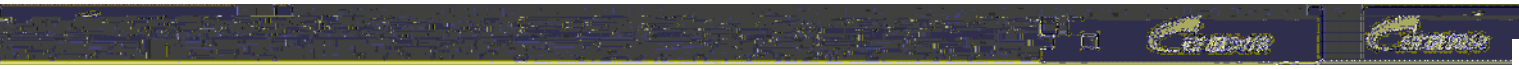

6-28 TOW

- **SNMP** 6-29 SNMP SNMP

1 SNMP SNMP SNMP SNMP
SNMP

2 SNMP 6
SNMP 1-32
SNMP SNMP TOW
Supervisor Admin Monitor 3 TOW
IP SNMP IP
IP IP IP
SNMP IP
SNMP
SNMP

# S1926F+



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