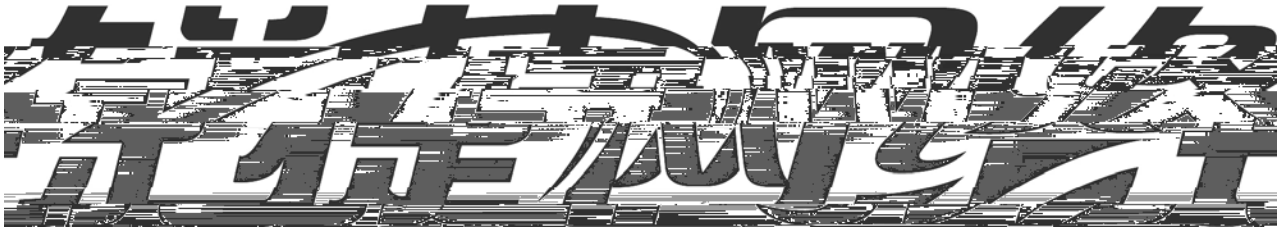


http://www.ruijie.com.cn

	24 10Base-T/100Base-TX RJ45 (MDI/MDIX) 2 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*

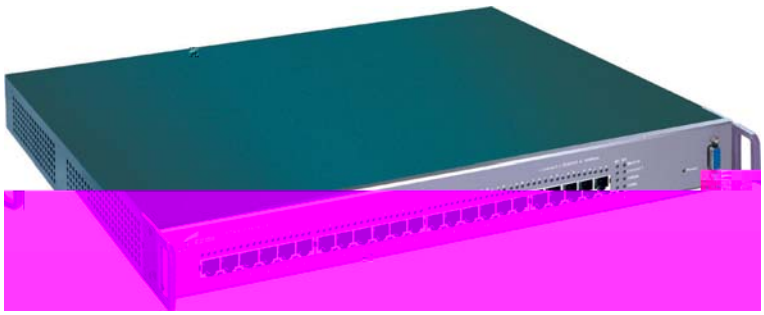
Web Server Web Web-Server

Web WBM

7. *S1926F+*

S1926F+

2.1



S1926F+ 1 2 M2101-X

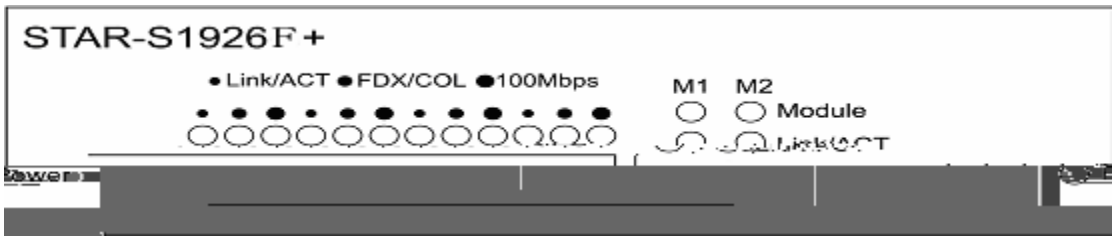
2

M2101F	100Base-FX	SC	MMF	1310nm	2km (62.5μm MMF)
M2101F-S	100Base-FX	SC	SMF	1310nm	30km (SMF)
M2101T	100Base-T	RJ45	5 UTP STP		100m

2

LED

LED LED 2



2-4 LED

LED					
10BASE-T/100BASE-TX RJ45	LED (POWER)			1) 2)	

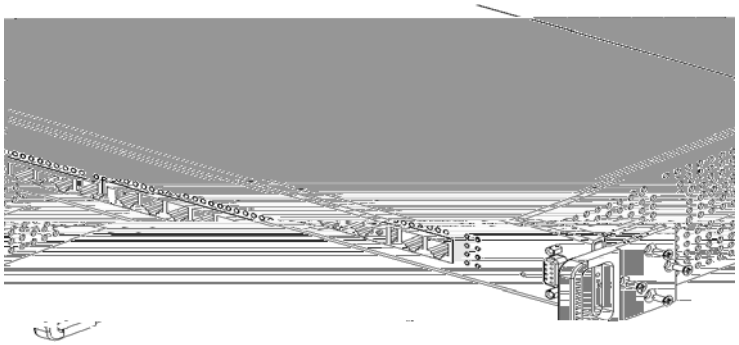
/ 1)
LED 2)
Link/ACT 3)
4)

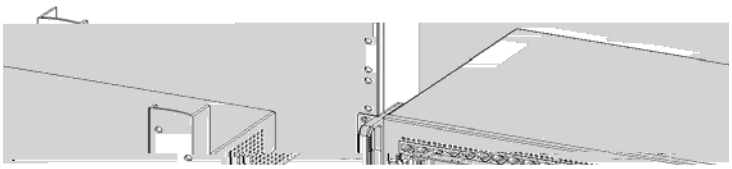
	LED (Full duplex)	LED			
	100Mbps LED (100Mbps)	LED	100Mbps	RJ45 10Mbps	
	LED Module				

/
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

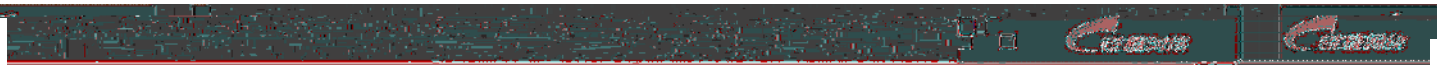
2 100Base-TX 5 UTP STP

3 UTP STP 100P

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 VLAN2

Port 3 VID 1 Port 4 VID 2

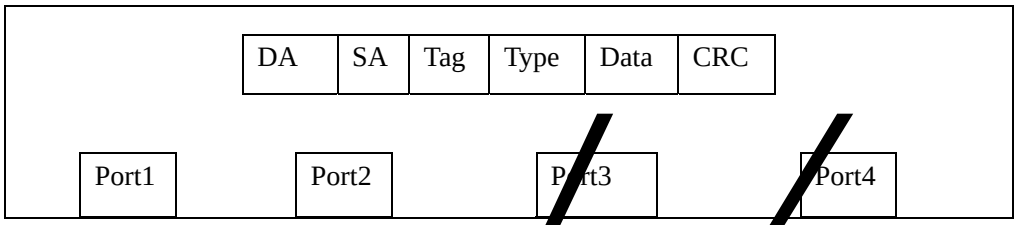
VLAN 1 VID 1 Port 1 Port 2 Port 3 Port 4

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



Trunk

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

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

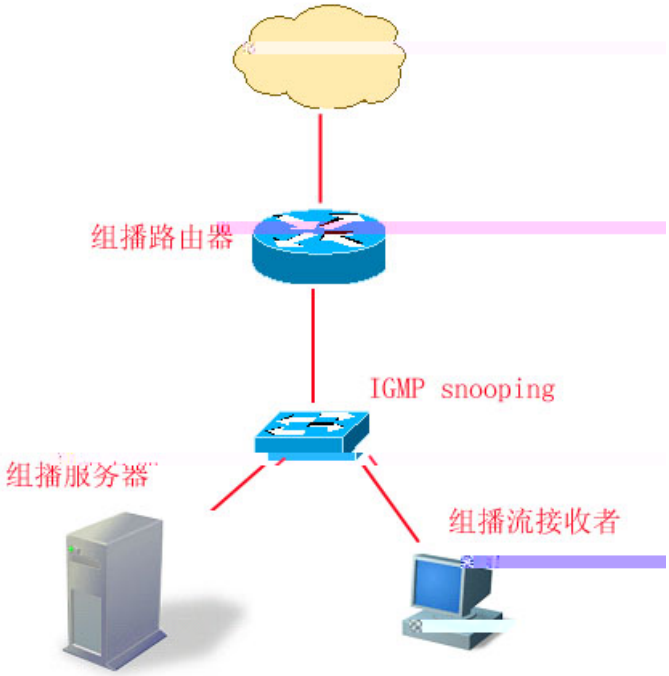
- Trunk Trunk Trunk VLAN
  Tr

==========

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

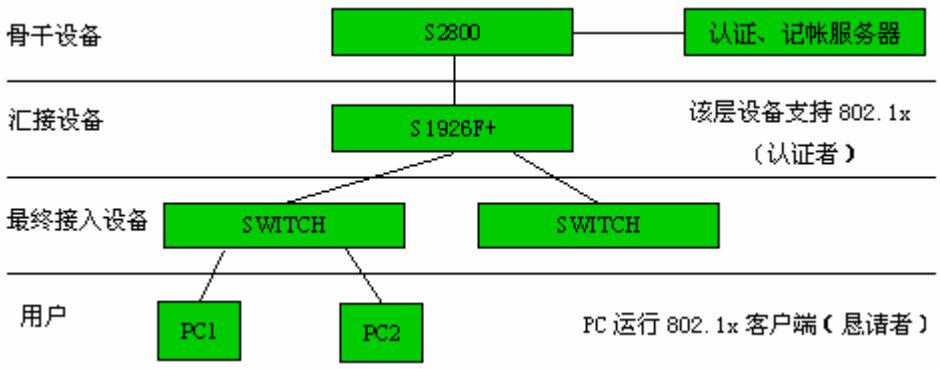
S1926F+ DHCP IP DHCP
IP ѕ DHCP DHCP
Server IP ѕ DHCP
DHCP 003
IP ž

==========

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

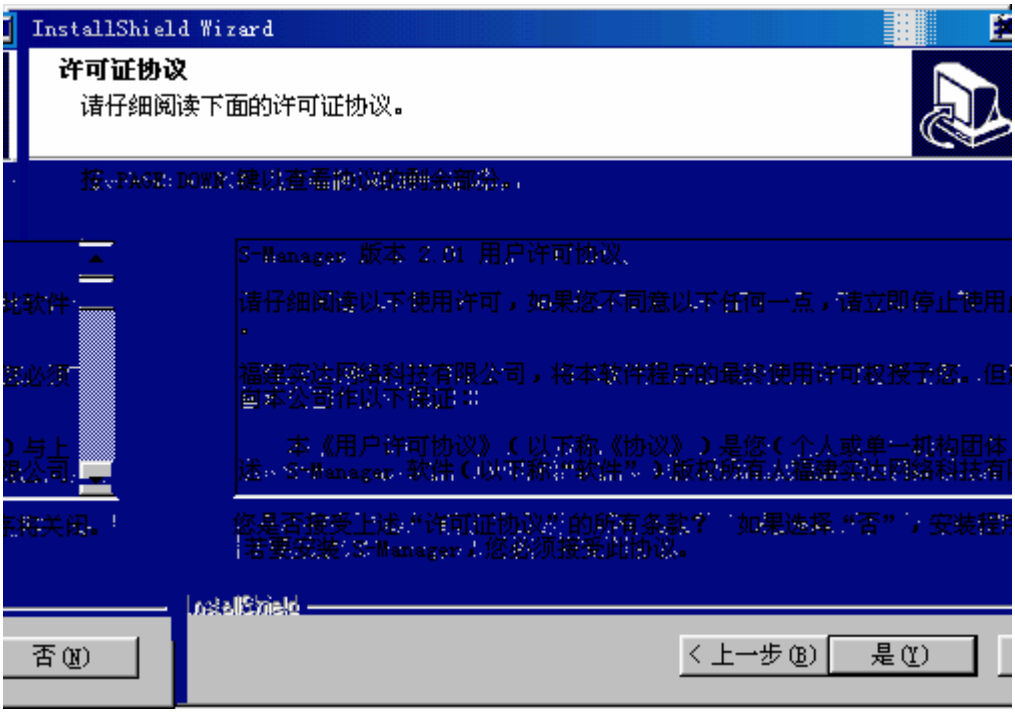
IEEE802.1x IP
IP

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

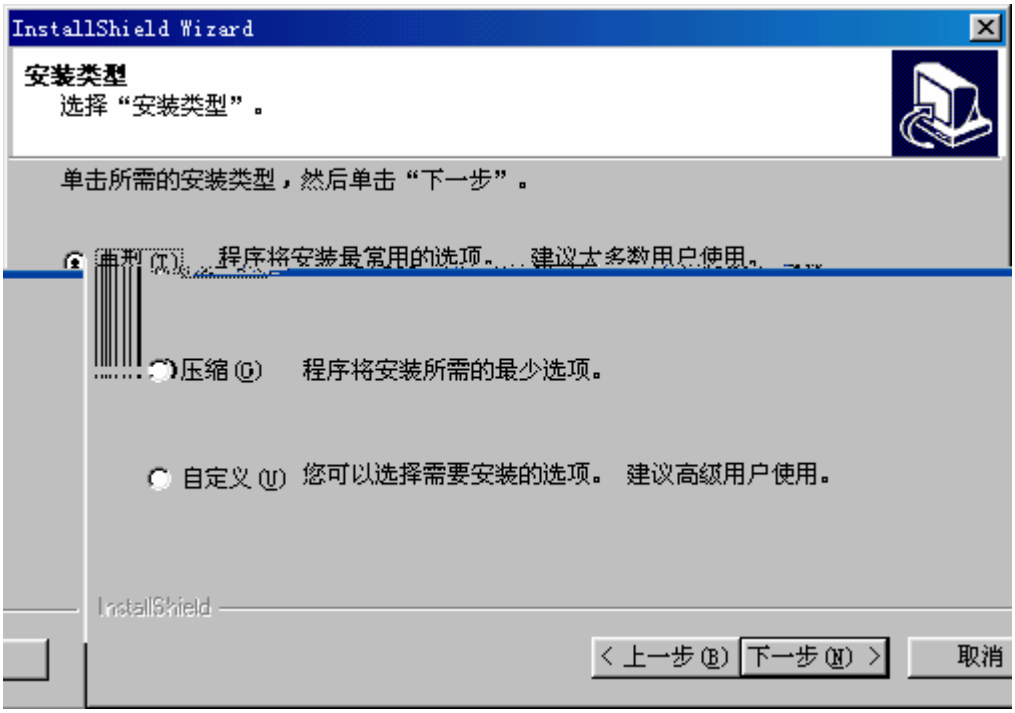
“ ” 4-3

“ ”

4-3 S-Manager 2.01

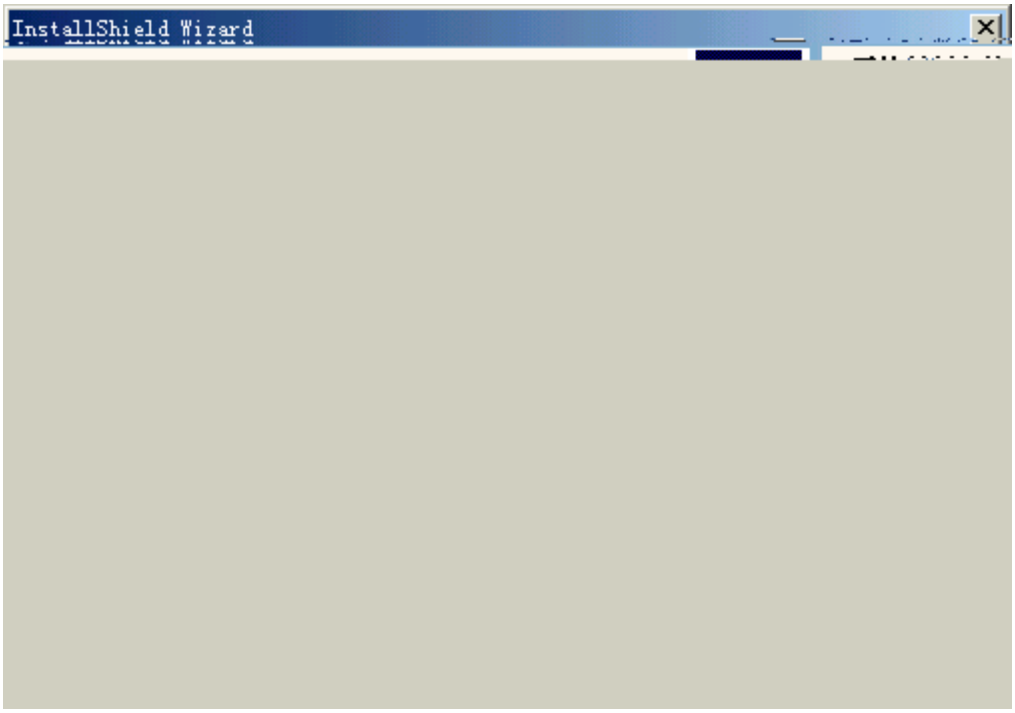
“ ” 4-4 ——

S-Manager MFC ODBC ——



4-4 S-Manager 2.01

“ ” 4-5



4-6 S-Manager 2.01

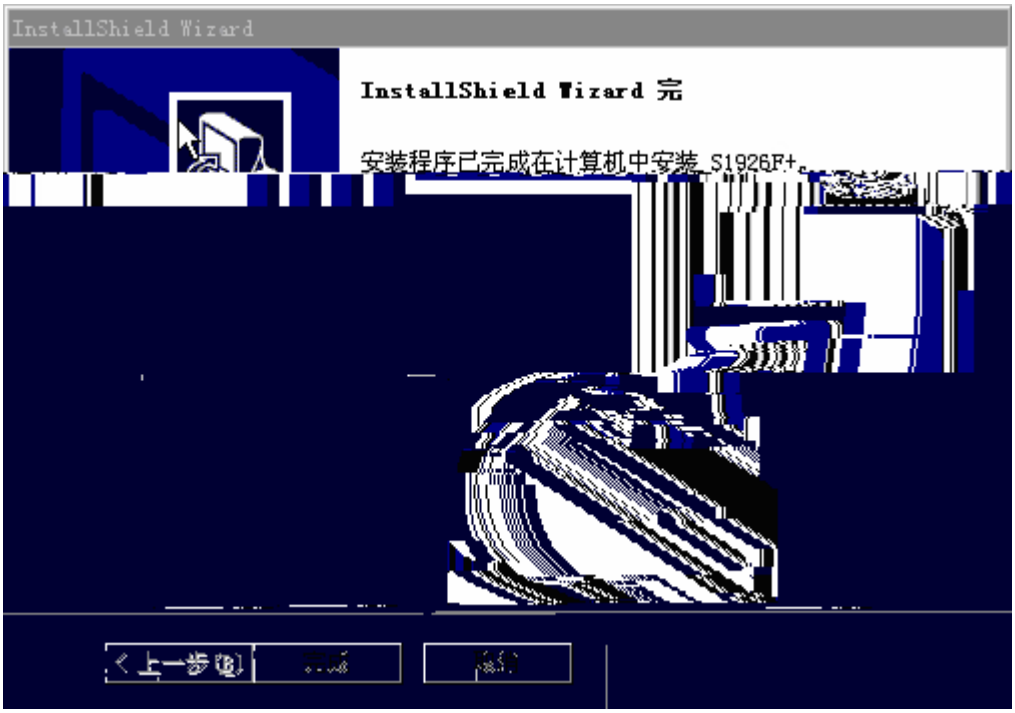
“ ” 4-7

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 3.01 S1926F+

Install

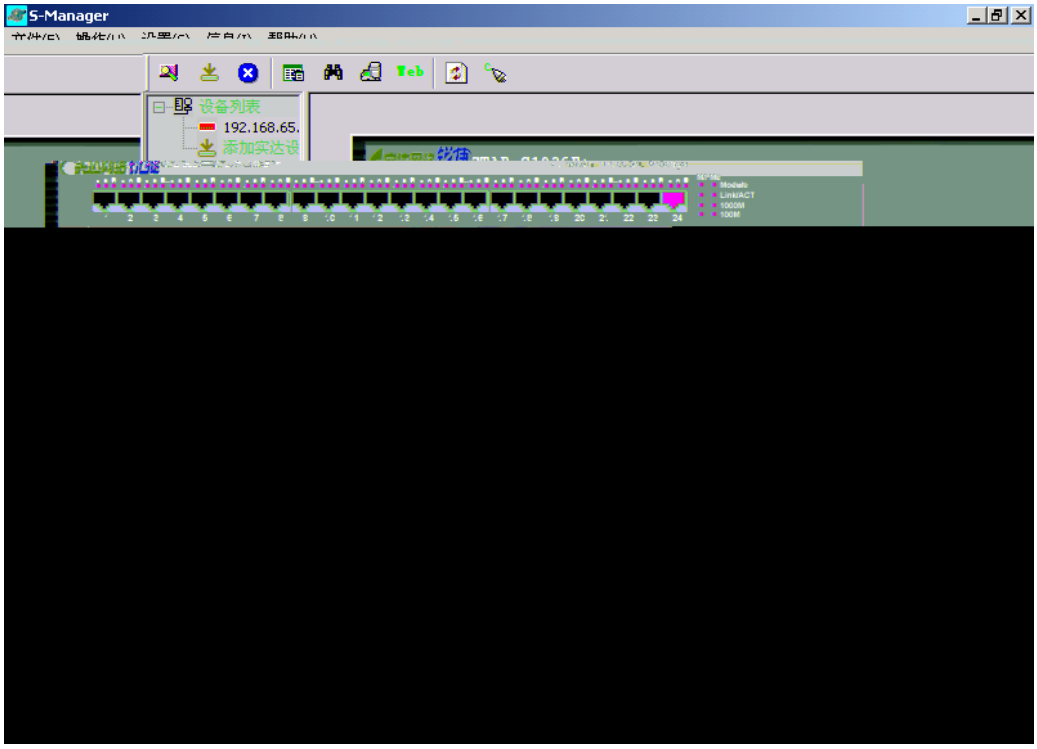
S-Manager IP SNMP IP

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 1009 211789939 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

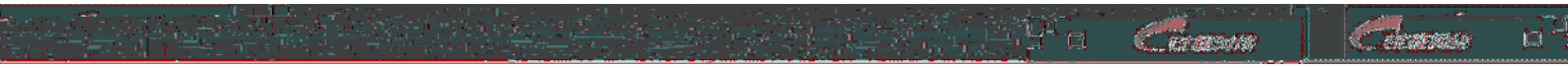
2 **Trap** Trap

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

Tag VLAN 4-20

4-20 Tag VLAN

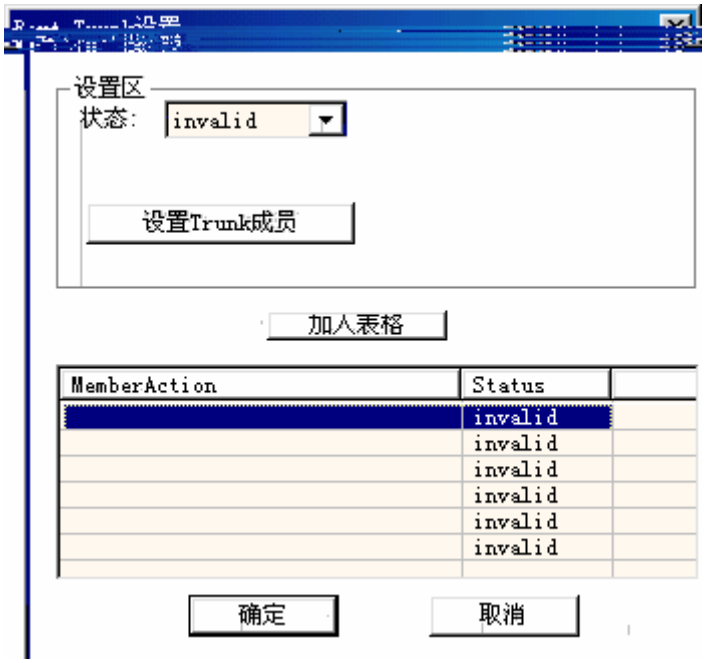
Tag VLAN

1 Tag VLAN

2

3 valid

4



4-18 Trunk

Trunk

1 Trunk

2 valid

3 “ Trunk ” Trunk Trunk
“ ”

4 “ ”

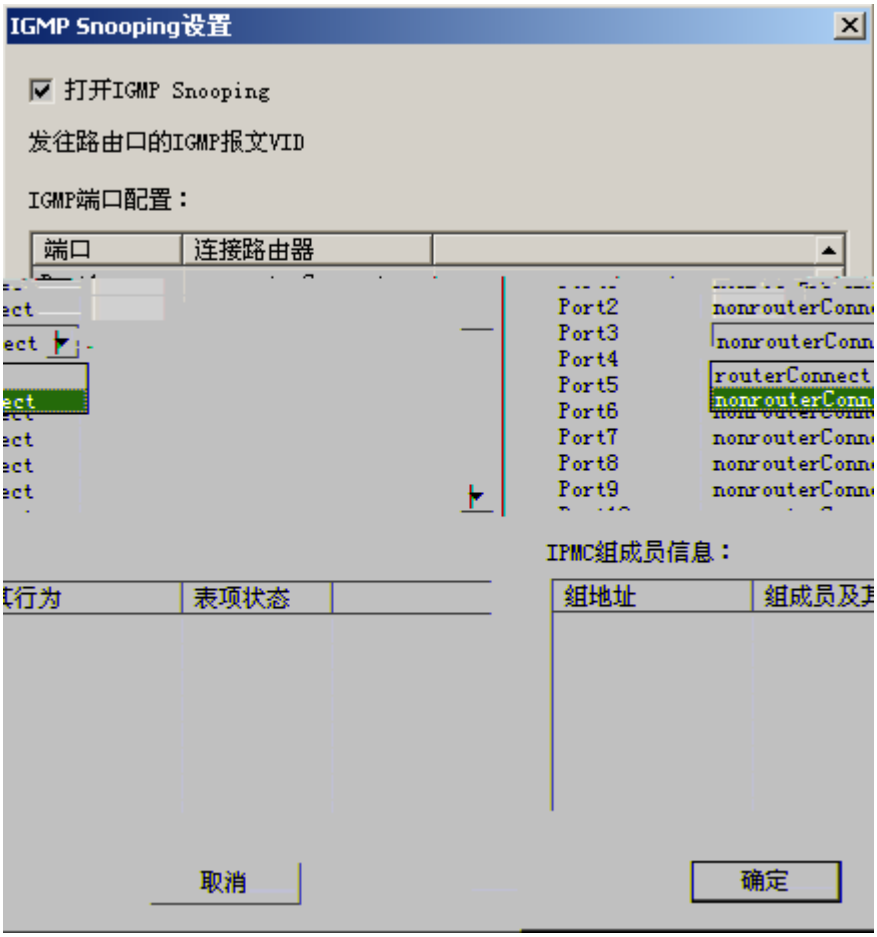
5 “ ” Trunk

Trunk

valid Trunk

invalid Port VLAN Trunk , Trunk

IGMP Snooping **4-19**



4-19 IGMP Snooping

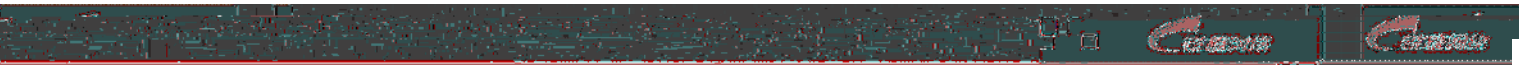
IGMP Snooping

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

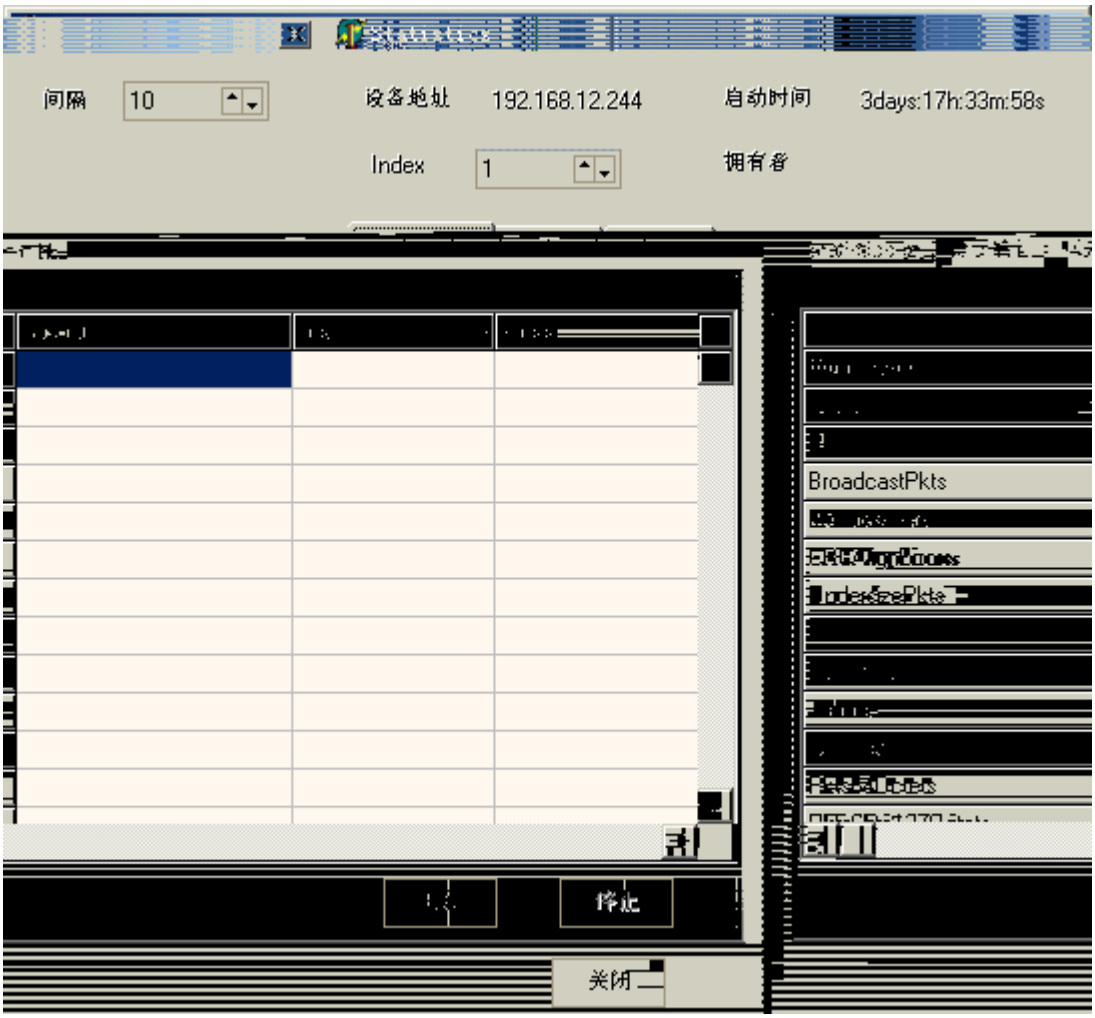
7

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

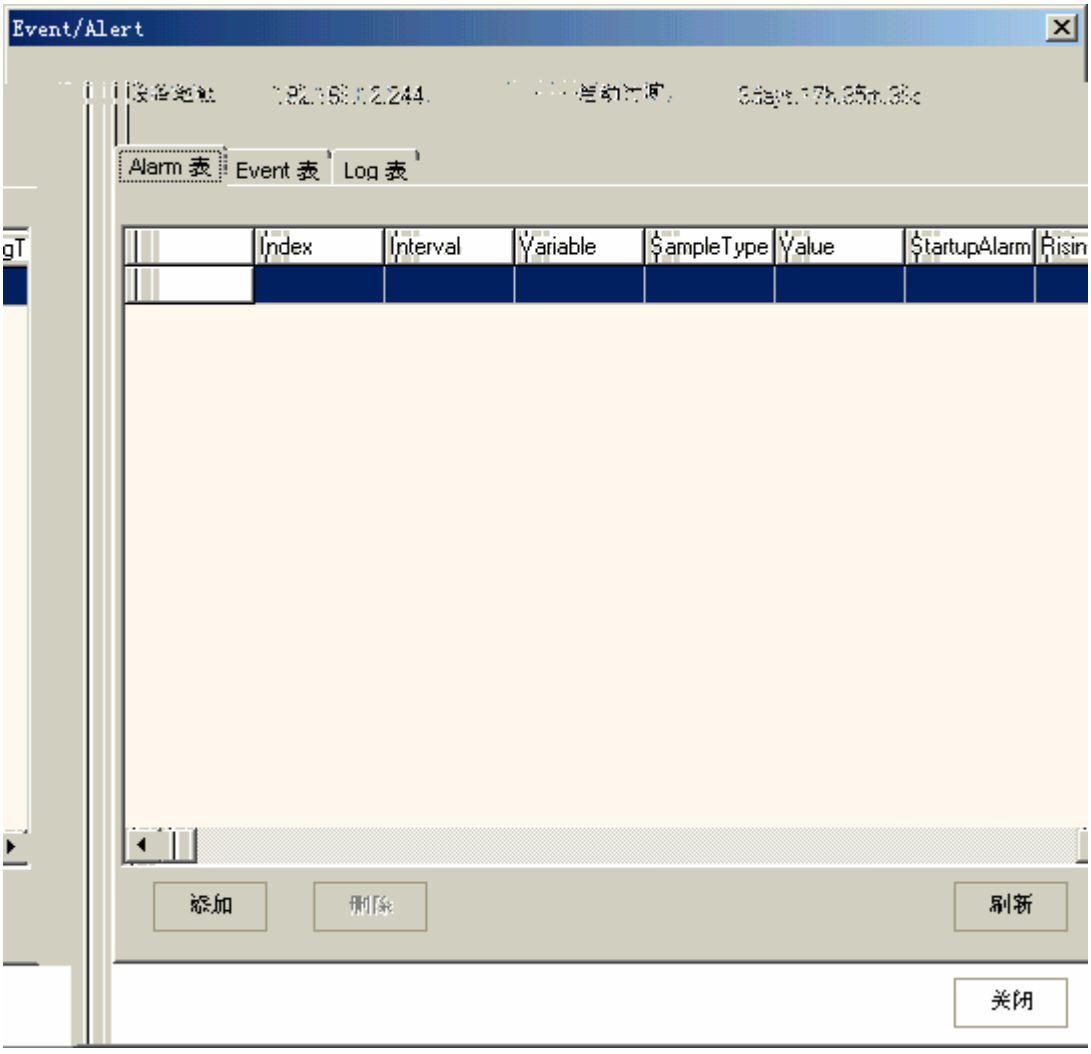
1 “ ”

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) **(**

“ 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' ,'ESC'

MAC

1

“ S ”

24

2

“

“ 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

—

——

==========

(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**		

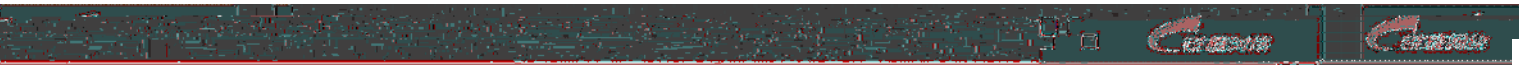
****

****

(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 ٭ ٦ ¾

[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 ' '

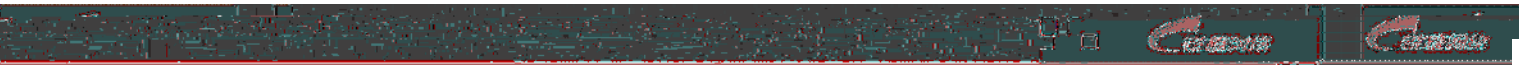
9 11 12 9 12 VLAN

VLAN VID

VLAN VID

- VLAN id TAG VLAN VLAN id?

- (/):y



- 5 7-9

1

----

(1) Tag

(2) Untag

(1-2, 2):

==========

S1926F Tag VLAN

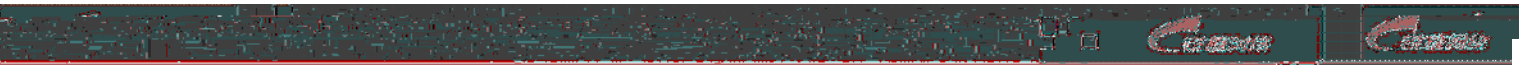
1 VLAN VLAN VLAN 1 VLAN id 1

VLAN Untag

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

6

3 VLAN 256 Tag VLAN ⅃

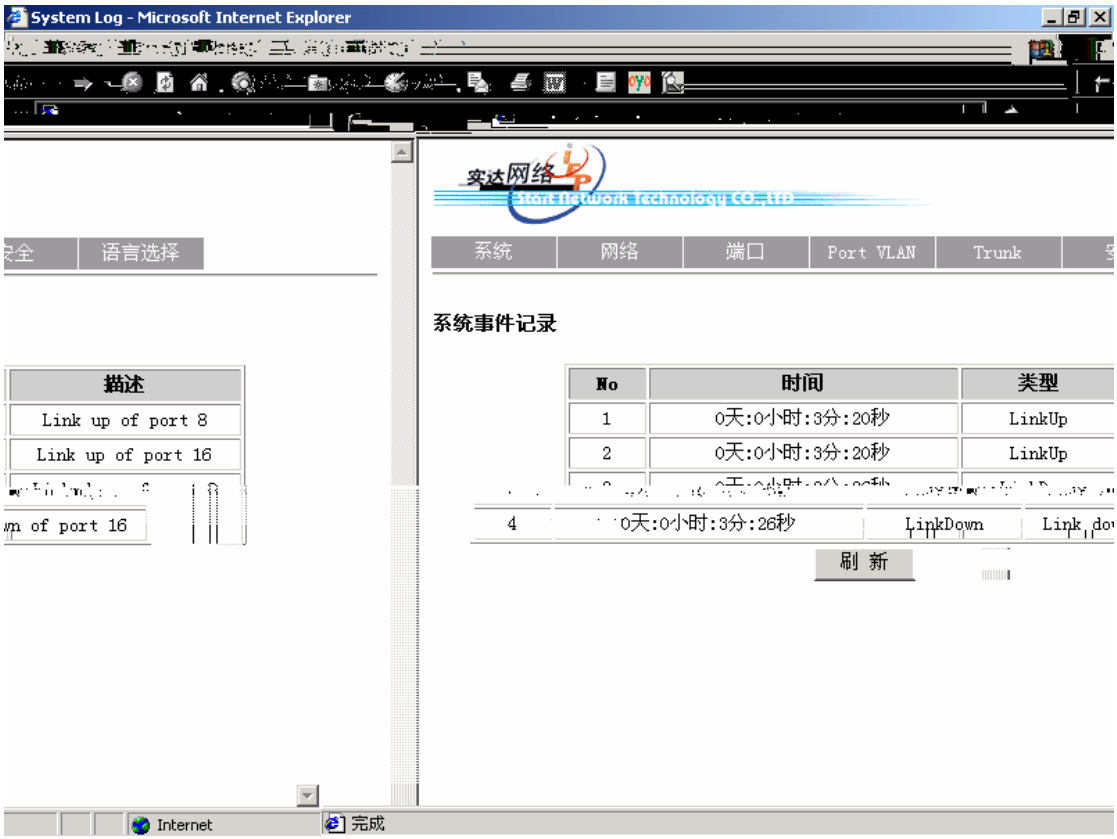


6-3 Port VLAN

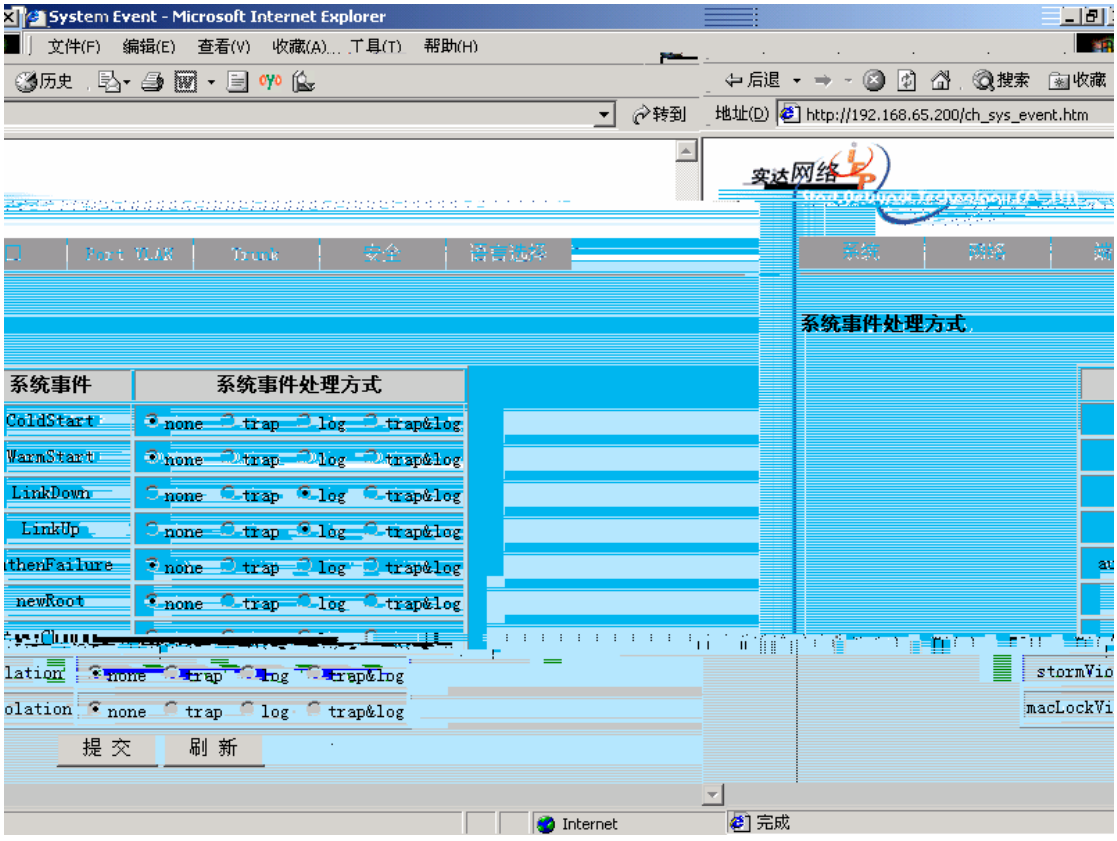
6-4 Tag VLAN

6-3 6-4 Supervisor Admin Monitor

Port VLAN VLAN



6-6



6-7

6-7

4 , “ ”

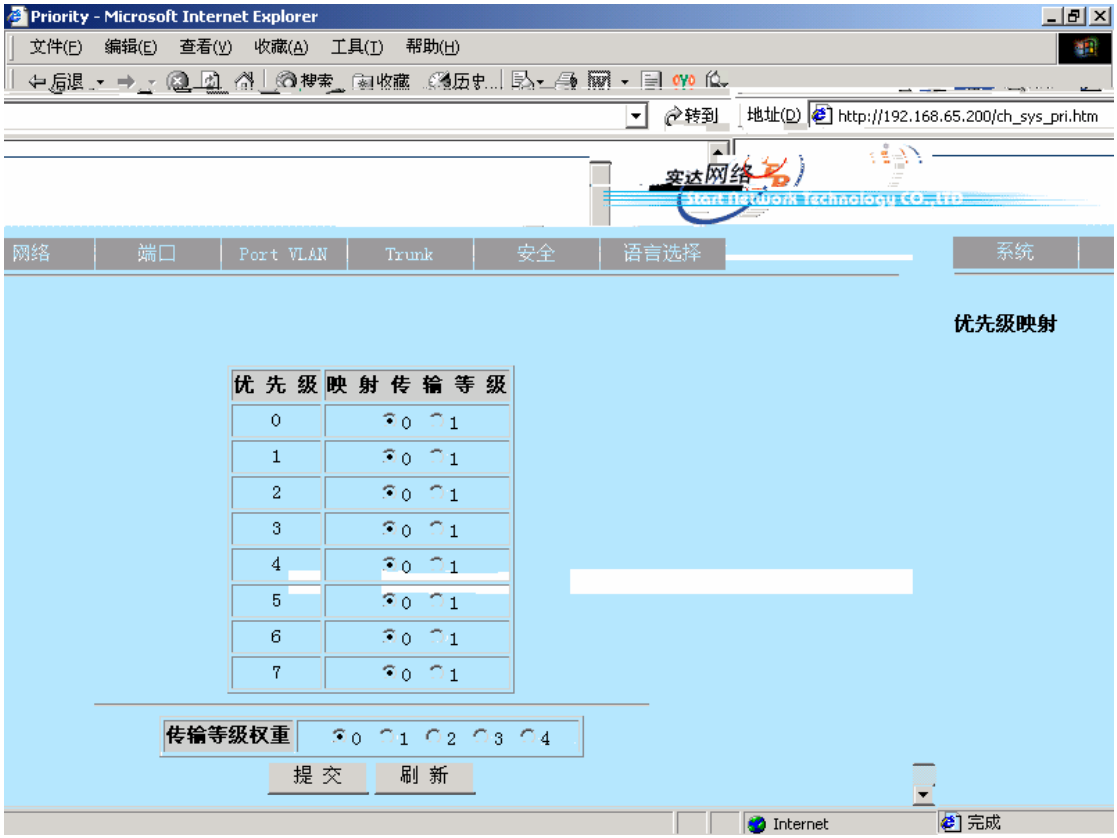
1 none trap log

2 trap trap

3 log log

4 trap&log trap log

6-8



6-8

6-9

1

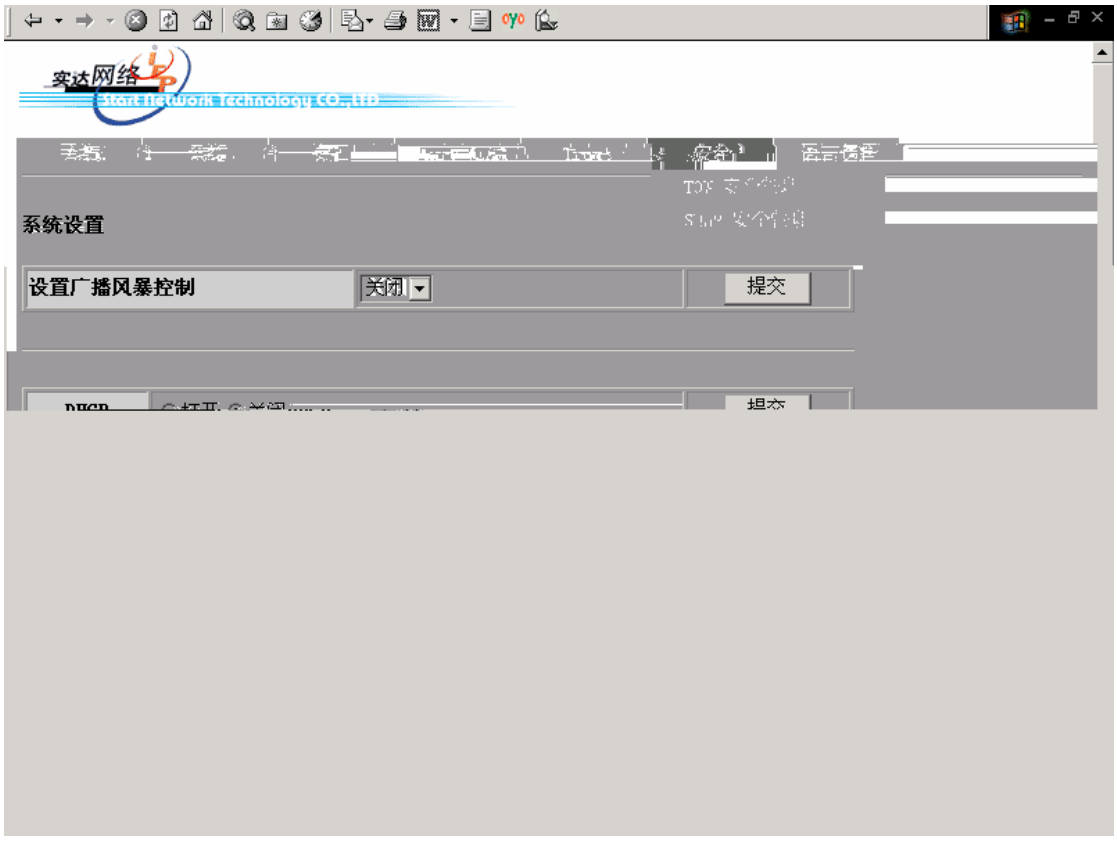
2

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

“ ”

“ ”

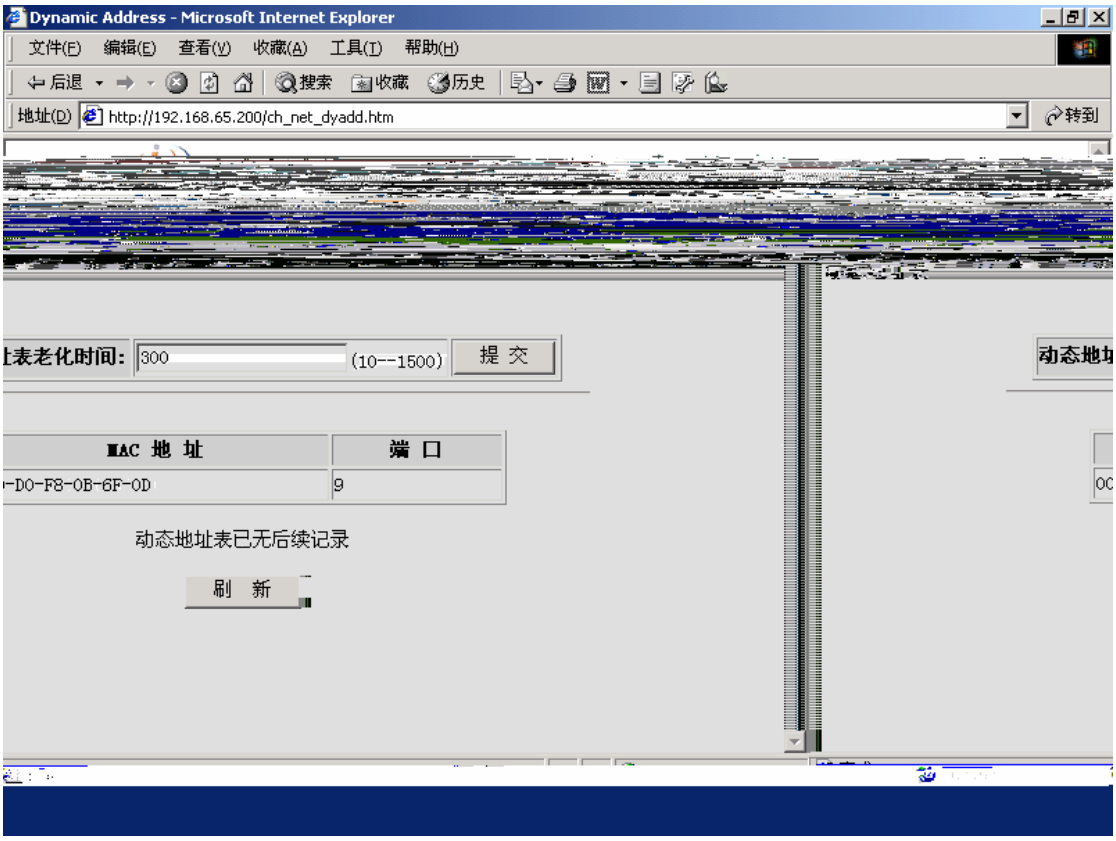
- 6-14

- **STP** STP / STP STP

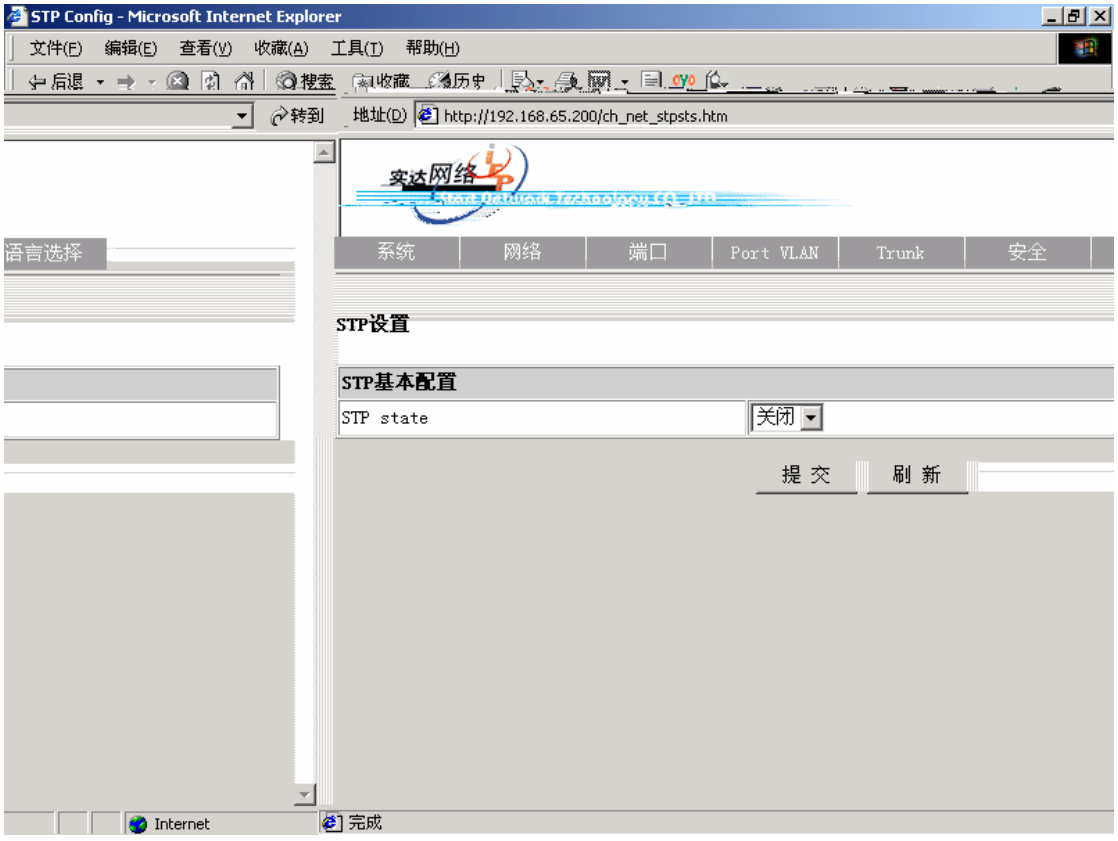
1 STP / 6-15 STP STP

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

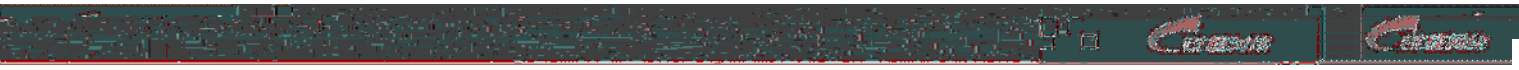
3 STP 6-17 STP


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
表老化时间: 300 (10--1500) 提 交
MAC 地 址
端 口
-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
实达网络
语言选择
系统
网络
端口
Port VLAN
Trunk
安全
STP设置
STP基本配置
STP state
关闭
提 交
刷 新
Internet
完成

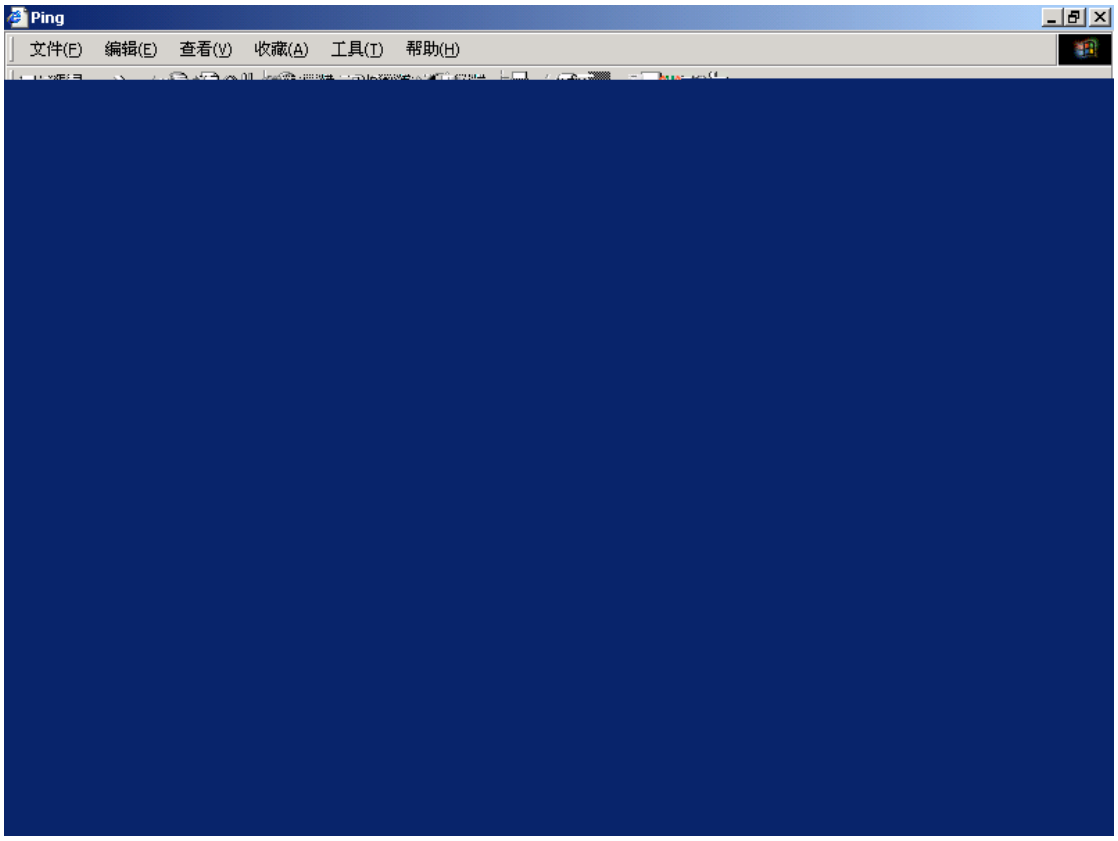
6-15 STP



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

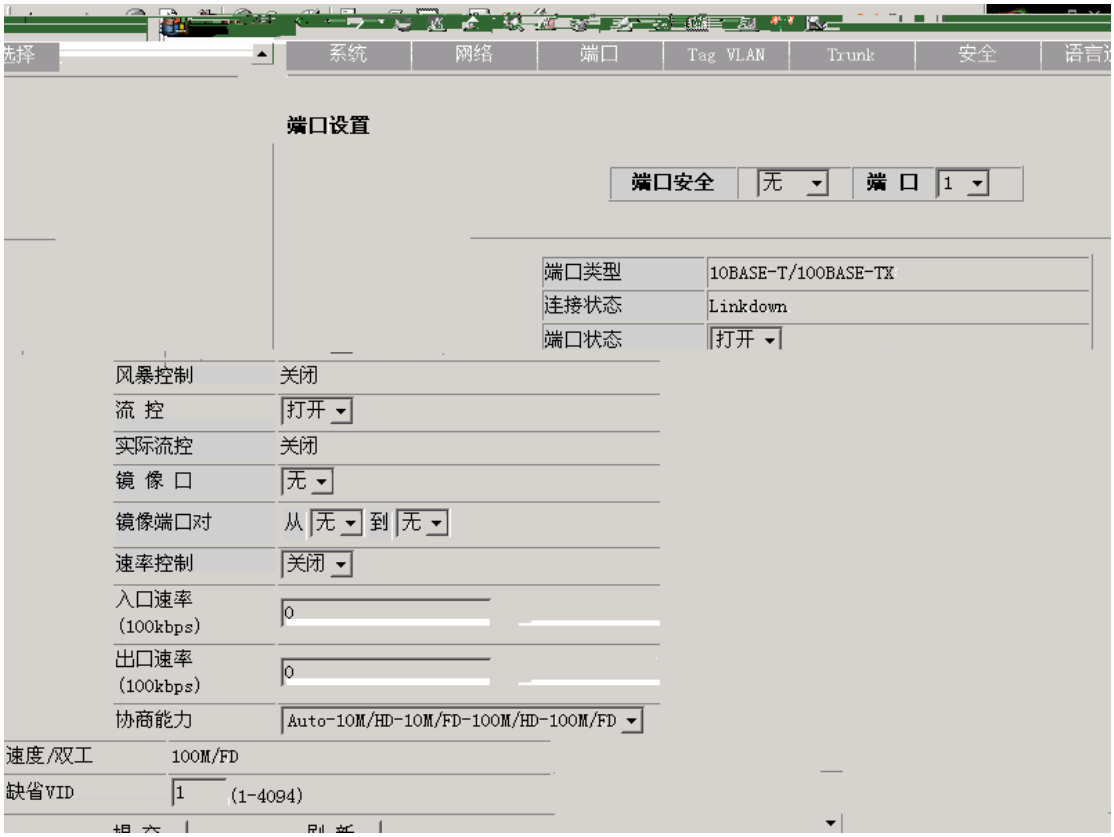
14 A B “ P ”

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 “ ”

==========

S1926F+ Port VLAN

1 VLAN VLAN VLAN 1 VLAN

2 Port VLAN Port VLAN

3 VLAN

4 VLAN Trunk

==========

6-26 Trunk

- ***Tag VLAN***

Tag VLAN VID VLAN tag VID VLAN VLAN

1 VLAN tag tag VID VID VLAN VID VLAN

2

==========

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

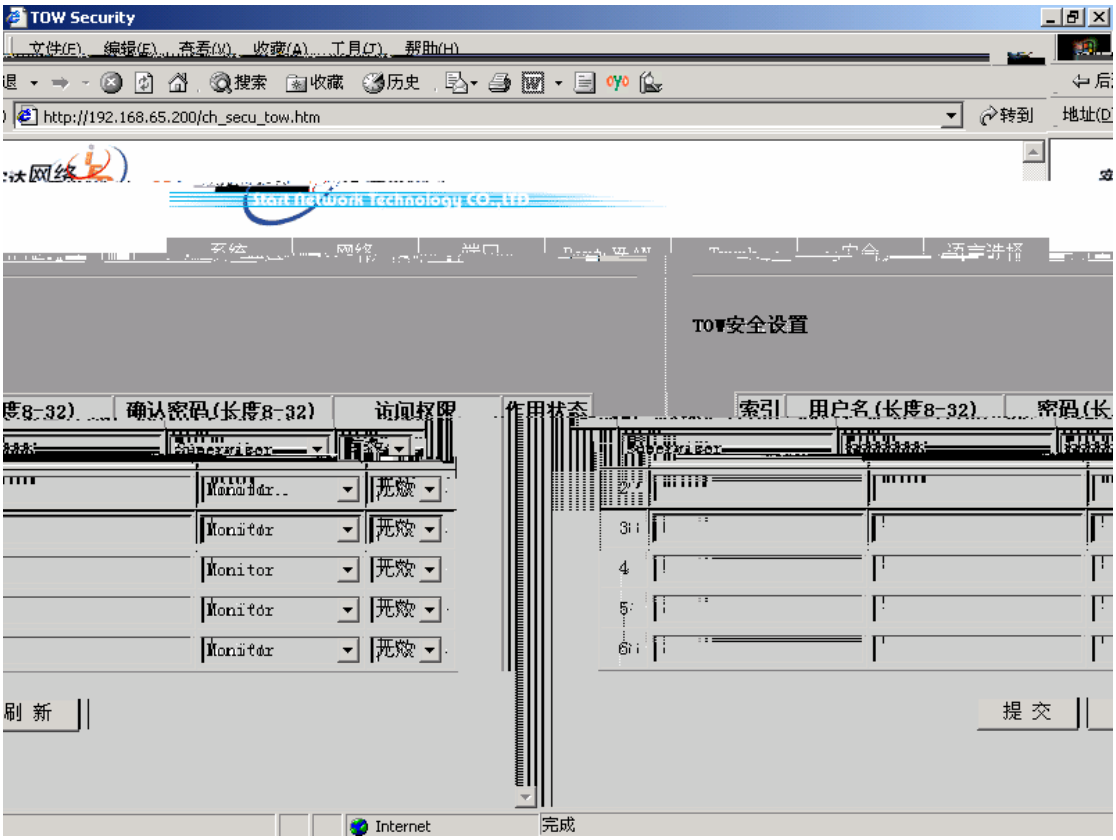
==========

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



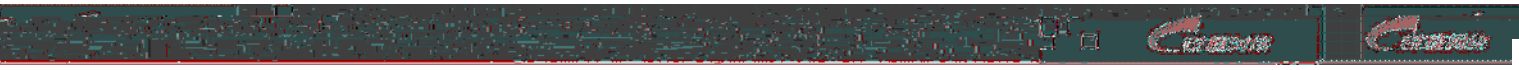
6-28 TOW

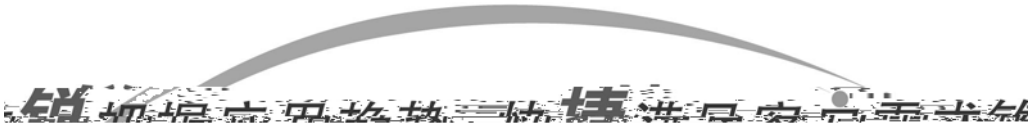
- **SNMP** 6-29 SNMP SNMP

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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