MTG Troubleshooting

Foreword

- This course is mainly:
  - Guide Ringback Tone Problems & Solutions
  - Guide Problems & Solutions for Calling
  - Guide Problems & Solutions for Login

Course Objective

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Through this course you will be able to

- How To Solve The Problem Of No Ringing Tone
- How To Solve The Problem Of Not Being Able To Call
- How To Solve Login Failure

Contents

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Chapter One
Ringback Tone Problems & Solutions

01

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Ringback Tone Problems & Solutions

- View Configuration

IP Grouping Config - IP Profile View Ringback tone Source and Early Media Configuration

Ringback Tone to PSTN Originated from:

Local-- MTG playback

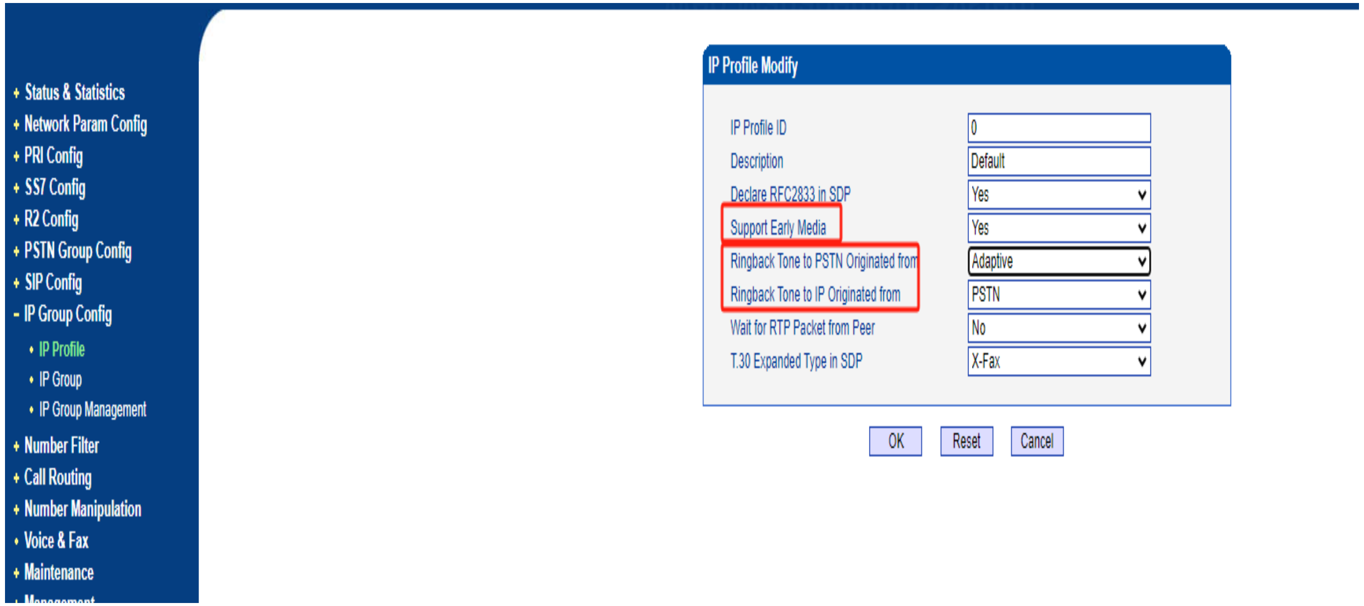
IP--SIP server side playback

Adaptive-- determine the playback side based on negotiation

Ringback Tone to IP Originated from:

Local-- MTG playback

PSTN-- PSTN side playback



Ringback Tone Problems & Solutions

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- View Log

1.Verify whether the device has received a ringback signal from the E1 line

2.whether the device has played a ringback tone or transmitted a ringback tone

```
: <924,Sip-t,0,31786201,in_proc> <<== SIP_CALL_RING, Local:018748807233@ims.sh.chinamobile.com, Peer:+862131786201@ims.sh.chinamobile.co
: <924,Sip-t,0,31786201,in_proc> called dev no:0, called term type:4, call type:2, IpProfileId:0, pem:none.
: <924,Sip-t,0,31786201,in_proc> Is need send local ringback tone to caller(ip->ip):yes, call type:2(ims)
: <924,Sip-t,0,31786201,in_proc> st_set_conn_param, local:255__, remote:255__
: <924,Sip-t,0,31786201,in_proc> transcode crcx_called, connid:33, chan:97, localIp:20.20.75.46, peerIp:20.20.75.46, port:6339, AlgoType
: <924,Sip-t,0,31786201,in_proc> transcode crcx_calling, connid:33, chan:33, localIp:10.10.60.122, peerIp:10.10.60.103, port:17900, Algo
: <924,Sip-t,0,31786201,in_proc> transcode_crcx success! CCBNo:924, connectId:33
: <924,Sip-t,0,31786201,in_proc> sst send ringback tone to net(5)!
: <924,Sip-t,0,31786201,in_proc> ==>> CC_ST_ALERTING, ccb:924, calling:31786201
: <924,Sip-t,0,31786201,in_proc> ==>> CC_ST_ALERTING, std sdp:, priv sdp:
: <924,Sip-t,7,65535,,wait ack> <<== CC_ST_ALERTING, std sdp:, priv sdp:
: <924,Sip-t,7,65535,,wait ack> get bill alter time:15-26-46
: <924,Sip-t,7,65535,,wait ack> cc (ccb:924) alerting crypt cfg 4 Method:0,Type:0,Key:0,ulIP:255.255.255.255,usPort:65535
: <924,Sip-t,7,65535,,wait ack> ==>> CC_ST_ALERTING
: <924,Sip-t,7,65535,,wait ack> ==>> CC_ST_ALERTING, std sdp:v=0
```

Ringback Tone Problems & Solutions

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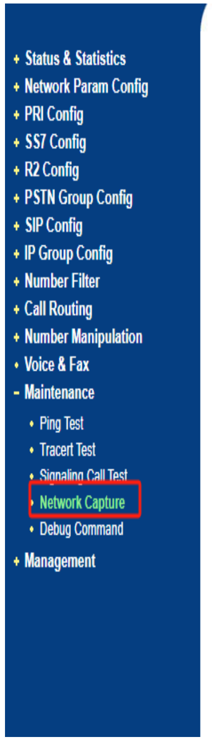
- RTP Capture

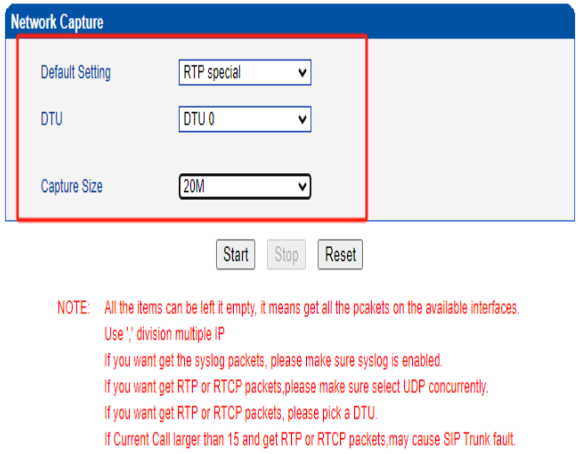
Retrieve RTP packets between SIP server and MTG

Call direction: IP-PSTN, capture to check if a ringback tone is sent to the SIP server

Call direction: PSTN-IP, capture to check if SIP server's ringback is received

Call direction IP-IP, capture packets to check for transparent transmission or local ringback tone





Ringback Tone Problems & Solutions

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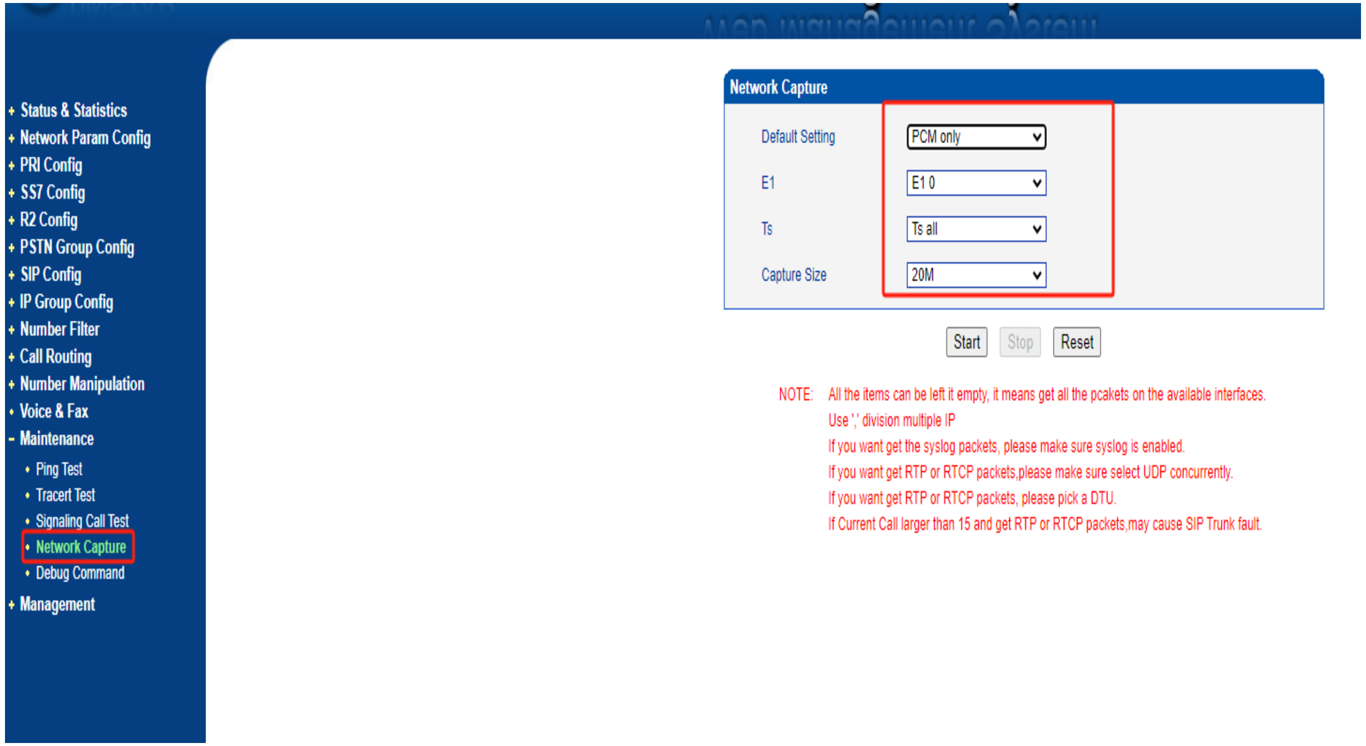
- ## PCM Capture

Obtain PCM Capture between MTG and E1 lines

Call direction: IP-PSTN, capture packets to check if line ringback is received

Call direction: PSTN-IP, capture packets to check if a ringback tone is sent to the line



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Chapter Two

Problems & Solutions for Calling

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Failed to register IMS account

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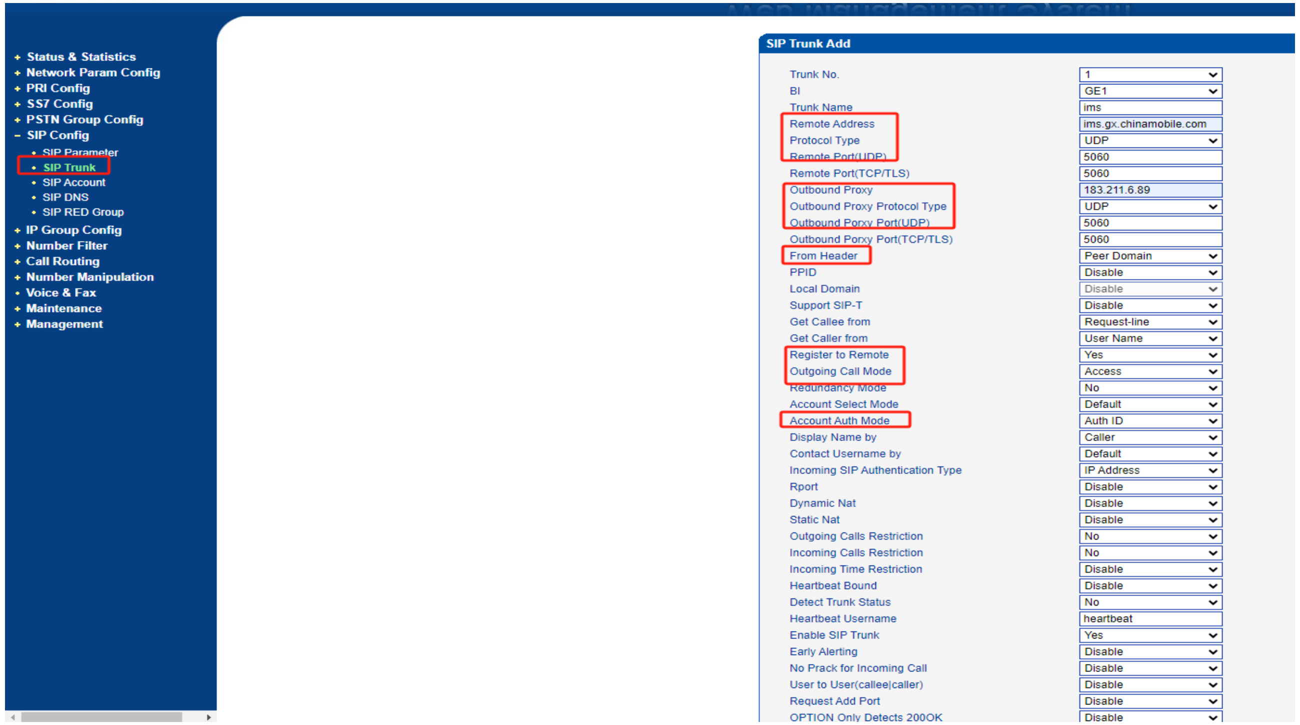
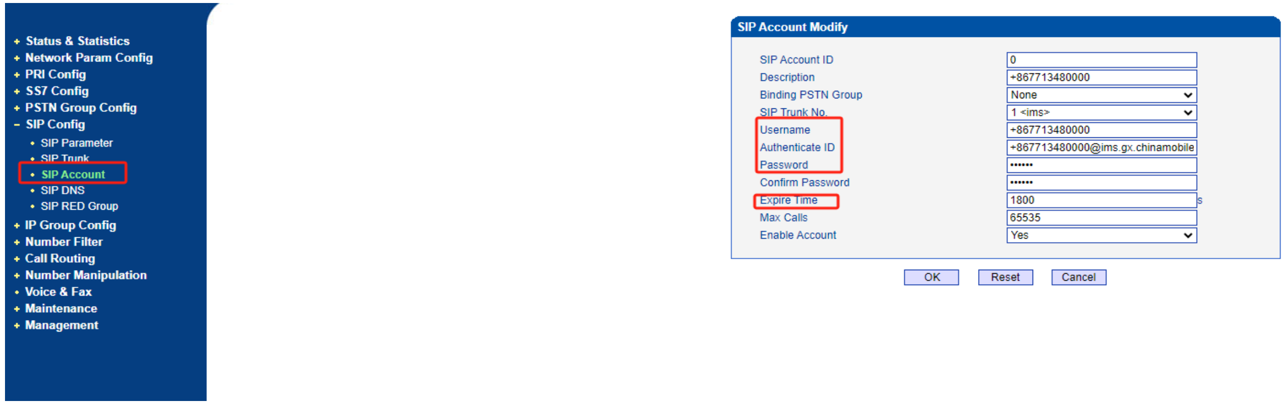
- View Configuration

1. **SIP Trunk**: Check if the configuration of the remote address, outbound proxy address, from header, outgoing call mode, and account auth mode is correct
2. **SIP account**: check if the username, authentication ID, and password are correct, with expire time of 1800s or 3600s
3. **Ping& Tracert**: check if the outbound Proxy IP can be pinged and static IP routing is correct

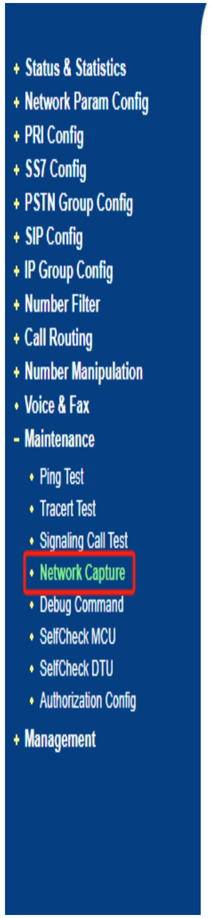


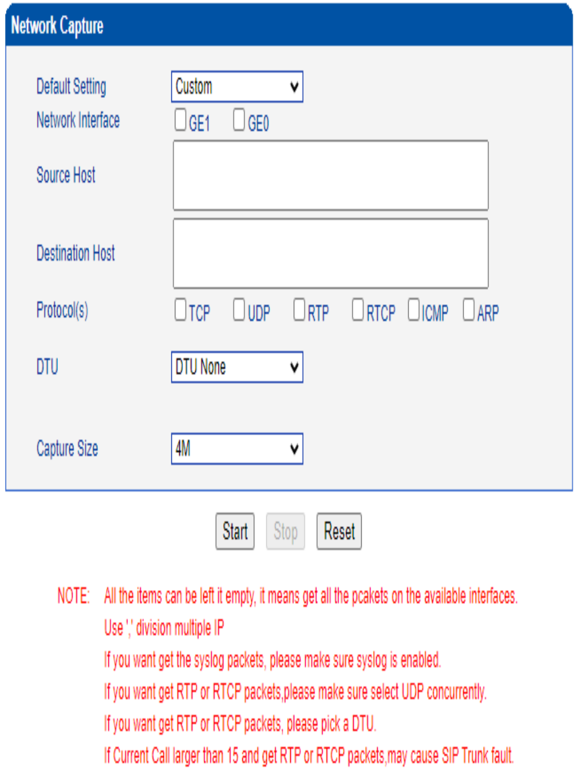


Failed to register IMS account

- Packet capture

1. Click on **maintenance - network capture**
2. Default configuration, click start
3. Reproduce the problem, the expire time is relatively long, you can disable the account first and then enable it again
4. Click to stop





E1 port light is not on or flashing

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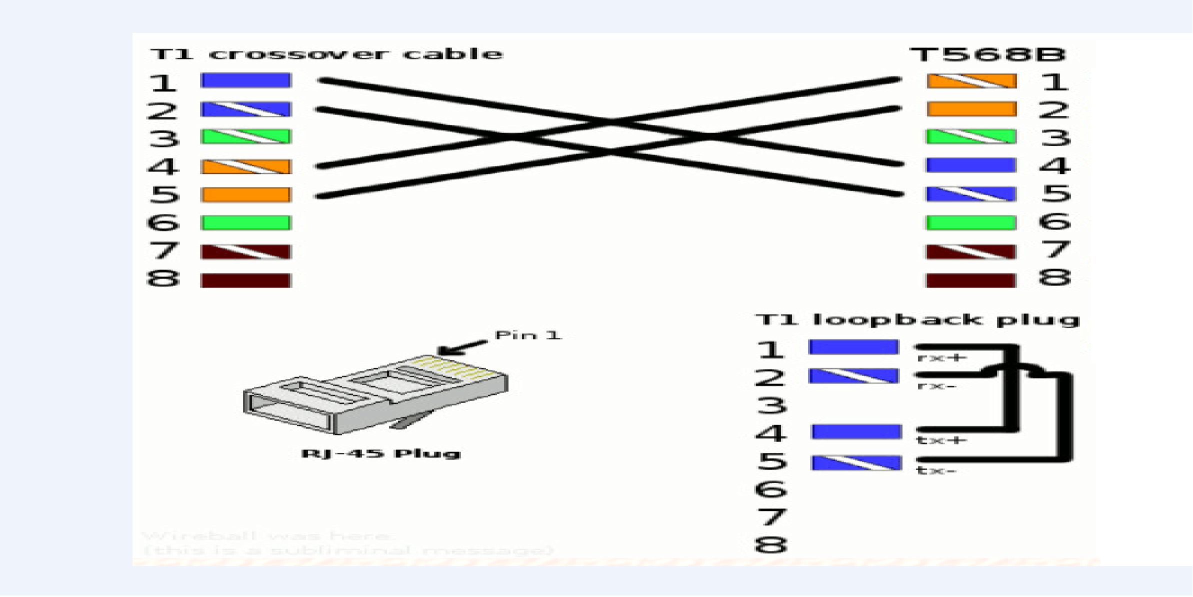
- Troubleshooting steps

If the E1 indicator light on the MTG is not on or flashing, it indicates that there is a fault in the connection between the MTG and the switch. You can follow the following steps to troubleshoot

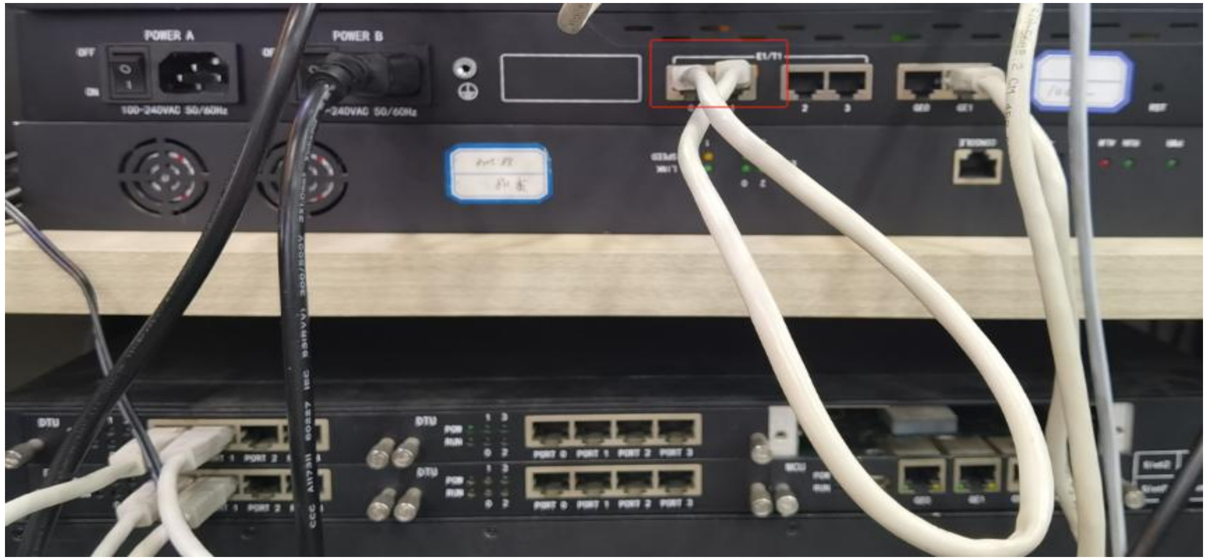
1. Check if the E1 connector is in good contact
2. Exchange the receiving and sending ends of the MTG side E1 interface
3. Check the E1 line sequence
4. Self loop test

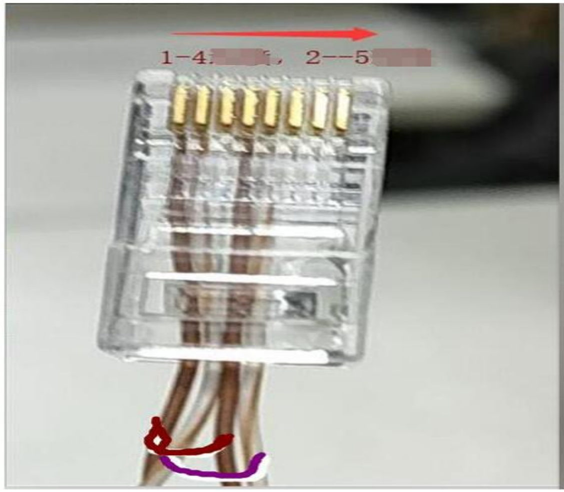


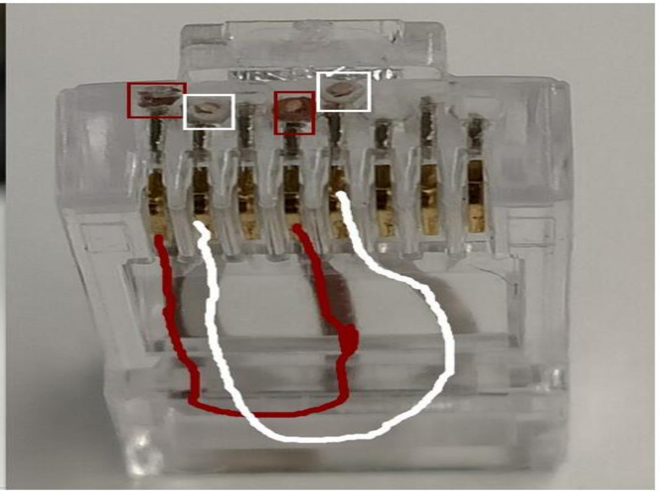
E1 port light is not on or flashing

- Self loop test

1. **The number of e1 ports>1**:use the E1 cable in the accessory to connect the two E1 ports
2. **The number of e1 ports=1:** Use a crystal head to connect 1-4 and 2-5, create an E1 self ring head, and insert it into the corresponding E1 port







PRI link failure

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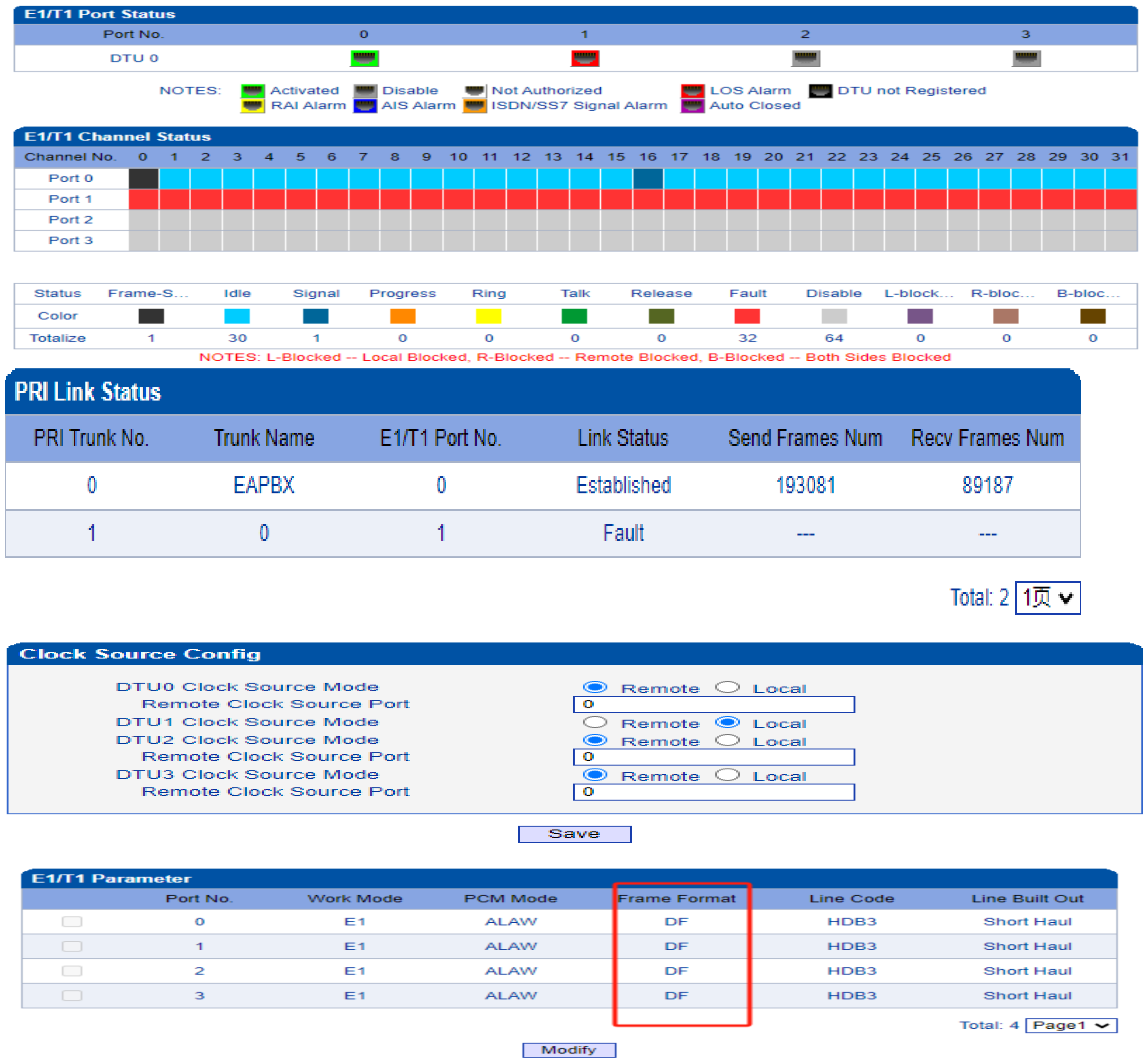
- ## Status & Statistics- E1/T1 status view

1."LOS Alarm" : indicates that the E1 line is physically disconnected. It could be an issue with the E1 line, BNC adapter box, or a reverse connection of the BNC transmission and reception lines

2. **"RAI Alarm" :** indicates that the underlying E1 port of the device cannot receive data from the other party. It may be an issue with the E1 line, BNC adapter box, or the other party's interface

3."AIS Alarm" : This type of alarm is usually caused by the other party not activating business data

4. **"ISDN/SS7 signal alarm"** : indicates that the PRI trunk link has not been successfully established. Check if the E1 line sequence, BNC adapter box, and PSTN trunk status are receiving and transmitting, and attempt to modify frame format and clock source



SS7 link failure

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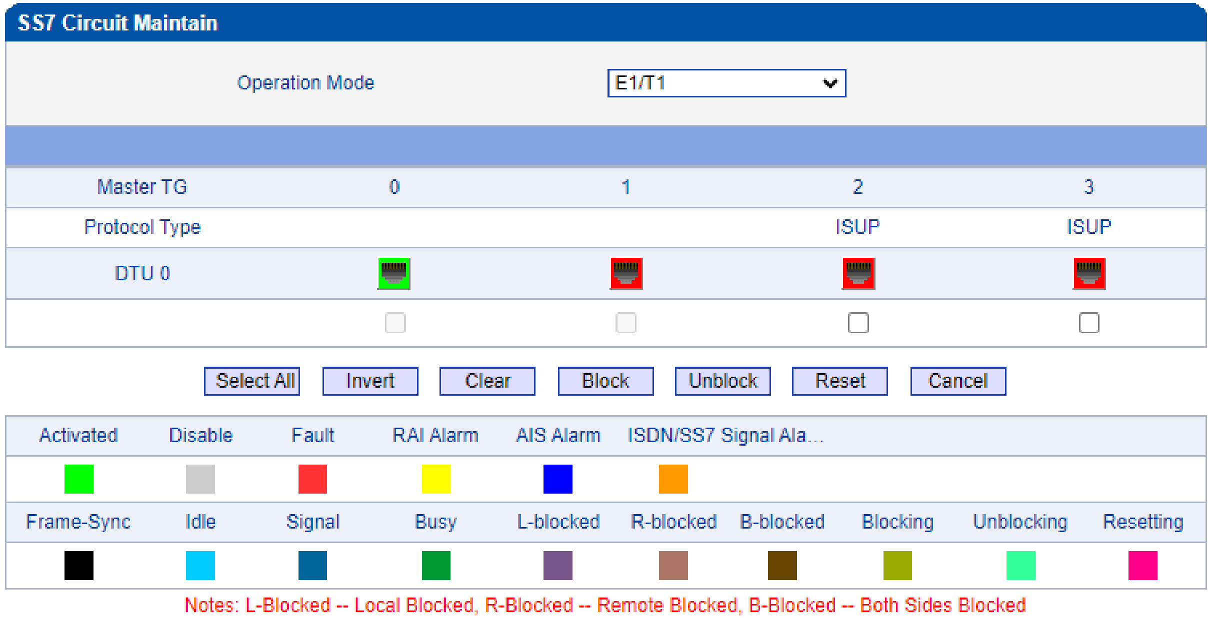
- SS7 Config-SS7 Circuit Maintain

1.“Fault" : indicates that the E1 line is physically disconnected. It could be an issue with the E1 line, BNC adapter box, or a reverse connection of the BNC transmission and reception lines

2. "RAI Alarm" : indicates that the underlying E1 port of the device cannot receive data from the other party. It may be an issue with the E1 line, BNC adapter box, or the other party's interface

3."AIS Alarm" : This type of alarm is usually caused by the other party not activating business data

4. **"ISDN/SS7 signal alarm"** : indicates that the SS7 trunk link has not been successfully established. Check PSTN trunk status, SS7 trunk, SS7 MTP link, and ss7 cic configurations are consistent with the data provided by the other end, and attempt to modify the frame format and clock source



Call failed

- ## Signaling Call Test—IP Trunk

Test purpose:

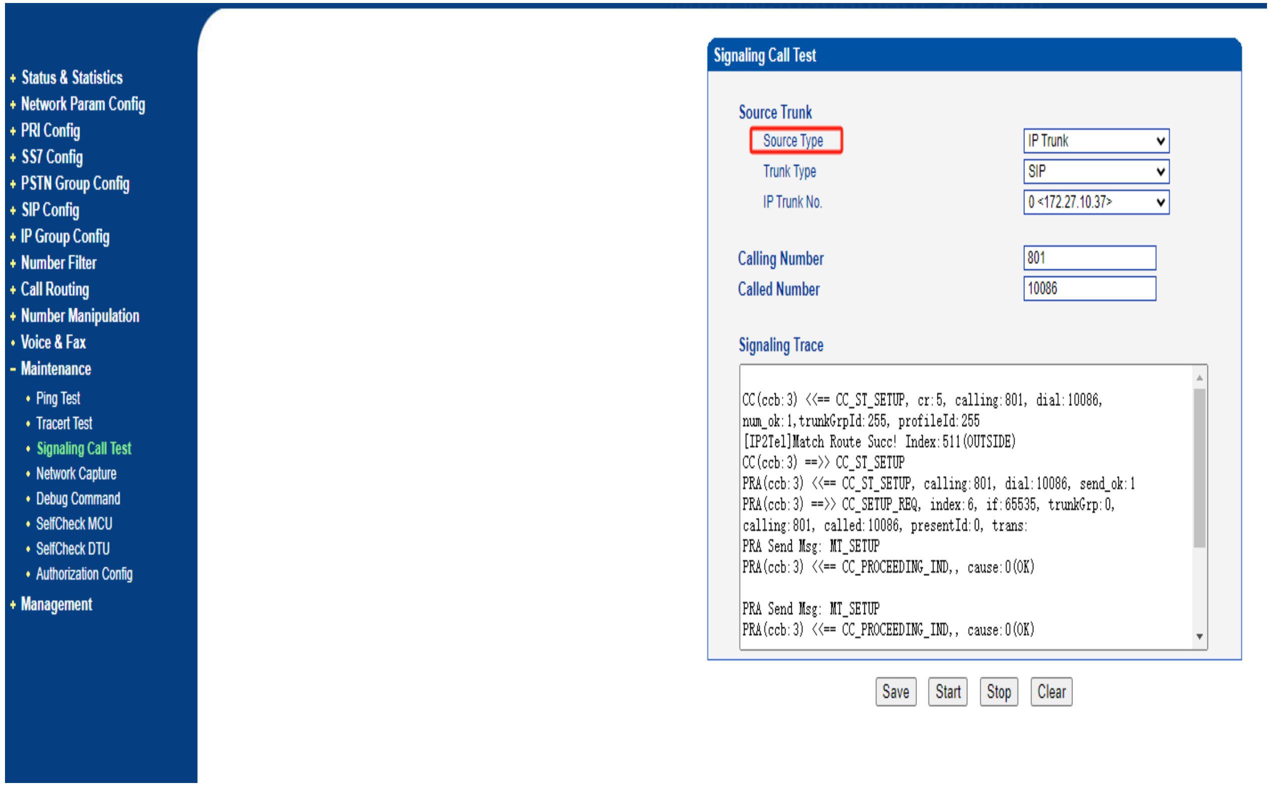
To test IP-PSTN directional calls and verify whether the connected SS7/PRI trunk lines can make normal calls

Testing method:

1. Click **maintenance- signaling call testing**
2. Source type: select “IP trunk” 、 Trunk type: select "SIP"
3. calling number: the line number assigned by the operator
4. called number :the test phone number

Test success phenomenon:

Click 'Save' and select 'Start'. The dialed phone will ring and you can pick it up



Call failed

- SS7 call process

SS7 Send Msg: ISUP_IAM. /* SS7 call requests sent by MTG*/
SS7 Got Msg: ISUP_ACM. /* The MTG receives a ringing signal from the line back */
SS7 Got Msg: ISUP_ANM. /* The MTG has received a communication command to connect the line back */
SS7 Got Msg: ISUP_REL. /* The MTG receives a signal to disconnect the line */

```
CC(ccb:20) <<== CC_ST_SETUP, cr:38, calling:888888, longNum:888888, dial:15112272039, num_ok:1,trunkGrpId:255, profileId:255
[IP2Tel]Match Route Succ! Index:511(888888□□□□)
CC(ccb:20) ==>> CC_ST_SETUP
SS7(ccb:20) <<== CC_ST_SETUP, calling: 888888, long: 888888, dial:15112272039, send_ok:1
SS7(ccb:20) ==>> CC_SETUP_REQ, index:39, if:65535, trunkGrp:0, calling:888888, called:15112272039, presentId:0, trans:
SS7 Send Msg:ISUP_IAM.
SS7(ccb:20) <<== CC_PROCEEDING_IND,, cause:0(OK)

SS7 Got Msg: ISUP_ACM.
SS7(ccb:20) <<== CC_ALERTING_IND,, cause:0(OK)
CC(ccb:20) <<== CC_ST_SETUP_ACK
CC(ccb:20) <<== CC_ST_ALERTING

SS7 Got Msg: ISUP_ANM.
SS7(ccb:20) <<== CC_SETUP_CFM,, cause:0(OK)
CC(ccb:20) <<== CC_ST_CONNECT
CC(ccb:20) <<== CC_ST_CONNECT_ACK

SS7 Got Msg: ISUP_REL.
SS7 Send Msg:ISUP_RLC.
SS7(ccb:20) <<== CC_DISCONNECT_IND,, cause:16(Normal call clearing)
SS7(ccb:20) <<== CC_RELEASE_CFM,, cause:16(Normal call clearing)
CC(ccb:20) <<== CC_ST_REL_COMP, cause:1(CCS_NORM_CLEAR)), state:7
CC(ccb:20) <<== CC_ST_REL_COMP, cause:0(CCS_NONE)), state:9
```

Call failed

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- PRI call process

PRA Send Msg: MT_SETUP /* PRI call requests sent by MTG */

PRA Got Msg: MT_CALL_PROCEEDING /* The other end has received the call request and is currently processing it */

PRA Got Msg: MT_ALERTING /* Received ringing signal returned by the line */

PRA Got Msg: MT_CONNECT /* Received communication command for line return connection */

PRA Got Msg: MT_DISCONNECT /* Received the disconnection of the line, the reason value is below */

```
CC(ccb:29) <<== CC_ST_SETUP, cr:53, calling:888888, longNum:888888, dial:15112272039, num_ok:1,trunkGrpId:255, profileId:255
[IP2Tel]Match Route Succ! Index:511(888888����) /* Call direction, index routing number */
CC(ccb:29) ==>> CC_ST_SETUP
PRA(ccb:29) <<== CC_ST_SETUP, calling: 888888, long: 888888, dial:15112272039, send_ok:1
PRA(ccb:29) ==>> CC_SETUP_REQ, index:54, if:65535, trunkGrp:0, calling: 888888, called:15112272039, presentId:0, trans: /* The final calling and called numbers sent by the device */
PRA Send Msg: MT_SETUP
PRA(ccb:29) <<== CC_PROCEEDING_IND,, cause:0(OK)

PRA Got Msg: MT_CALL_PROCEEDING
PRA(ccb:29) <<== CC_PROCEEDING_IND,, cause:0(OK)
CC(ccb:29) <<== CC_ST_SETUP_ACK
PRA Got Msg: MT_ALERTING
PRA(ccb:29) <<== CC_ALERTING_IND,, cause:0(OK)
CC(ccb:29) <<== CC_ST_ALERTING

PRA Got Msg: MT_CONNECT
PRA Send Msg: MT_CONNECT_ACKNOWLEDGE
PRA(ccb:29) <<== CC_SETUP_CFM,, cause:0(OK)
CC(ccb:29) <<== CC_ST_CONNECT
CC(ccb:29) <<== CC_ST_CONNECT_ACK

PRA Got Msg: MT_DISCONNECT
PRA(ccb:29) <<== CC_DISCONNECT_IND,, cause:144(Normal call clearing)
PRA Send Msg: MT_RELEASE
PRA Got Msg: MT_RELEASE_COMPLETE
PRA(ccb:29) <<== CC_RELEASE_CFM,, cause:0(OK)
CC(ccb:29) <<== CC_ST_REL_COMP, cause:1(CCS_NORM_CLEAR)), state:7
CC(ccb:29) <<== CC_ST_REL_COMP, cause:0(CCS_NONE)), state:9
```

Call failed

- ## Signaling Call Test—PSTN Trunk

Test purpose:

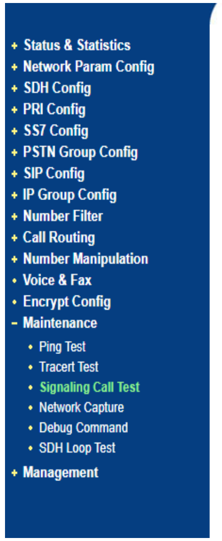
Test PSTN-IP directional calls and verify if the connected SIP trunk line can make normal calls

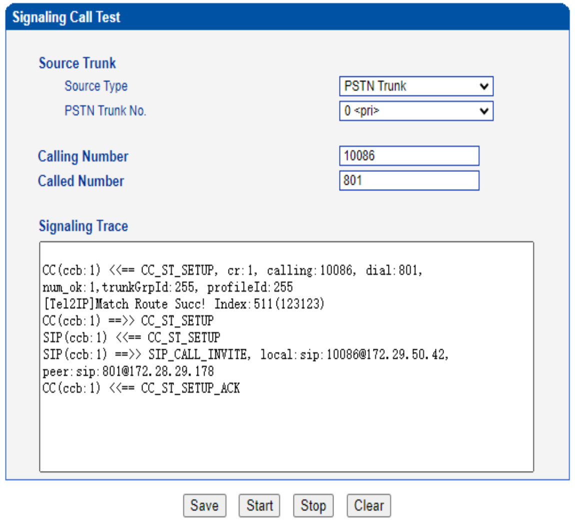
Testing method:

1. Click **maintenance- signaling call testing**
2. Source type: select “PSTN trunk”
3. calling number: any number, and if the route has requirements for the calling, fill in according to the requirements
4. called number :the test line number

Test success phenomenon:

Click 'Save' and select 'Start'. The corresponding extension is ringing and can be connected





Call failed

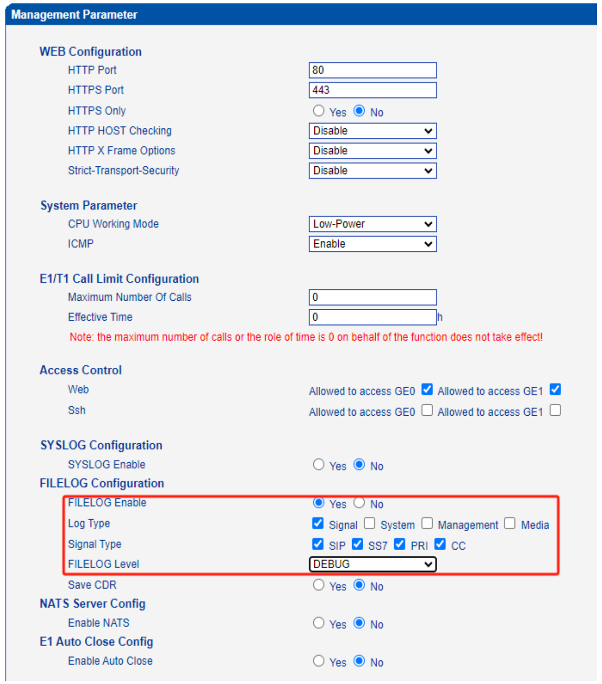
- ## FILELOG

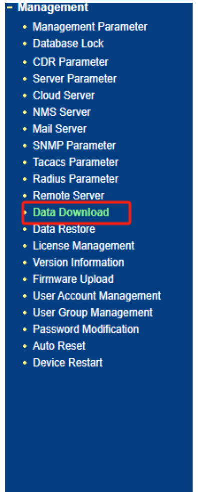
Test purpose:

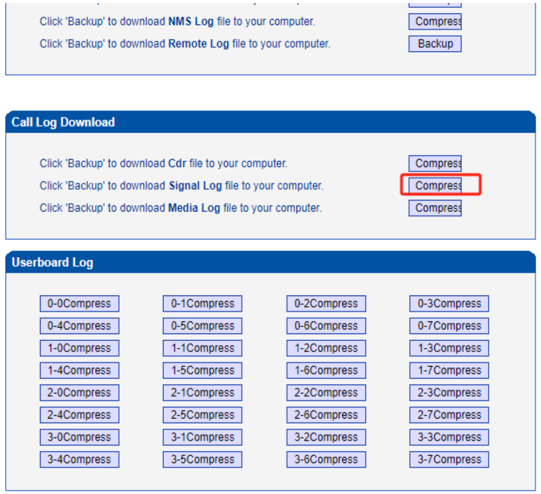
When combining SIP and PRI/SS7 messages for analysis, filelog can be enabled

Testing method:

1. Click **management- management parameter**
2. Enable Filelog and check the box as shown in the diagram
3. Reproduce the problem
4. Click **management- Date Download,** download signaling logs







Contents

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Chapter Three

problems & solutions for login

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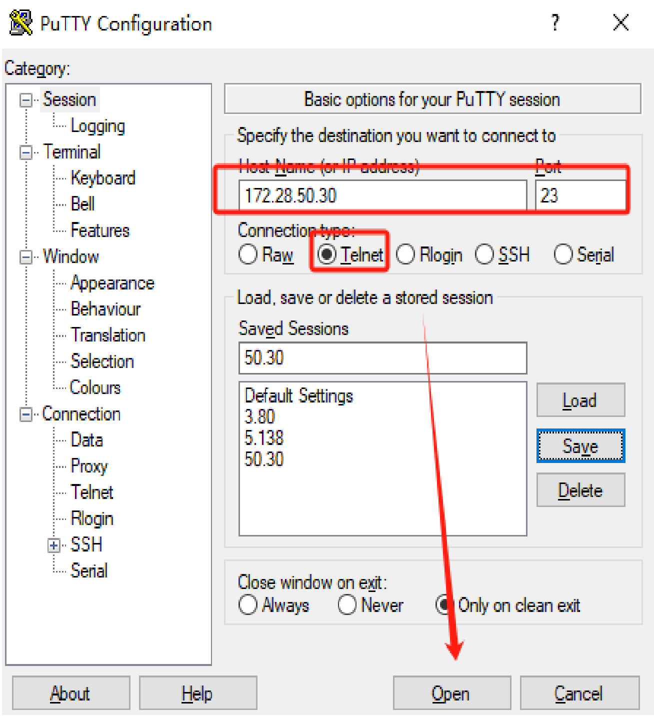
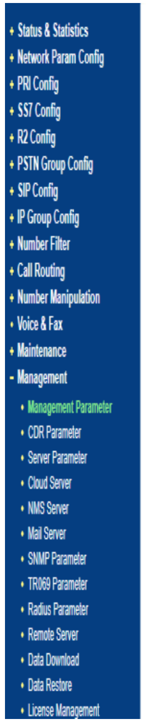
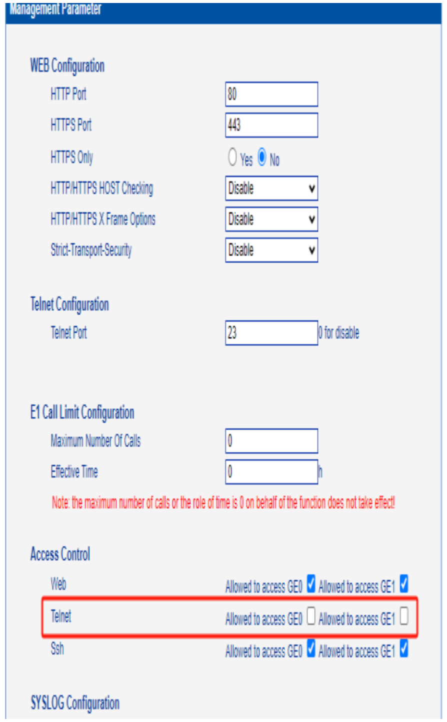
Unable to log in with correct IP and password

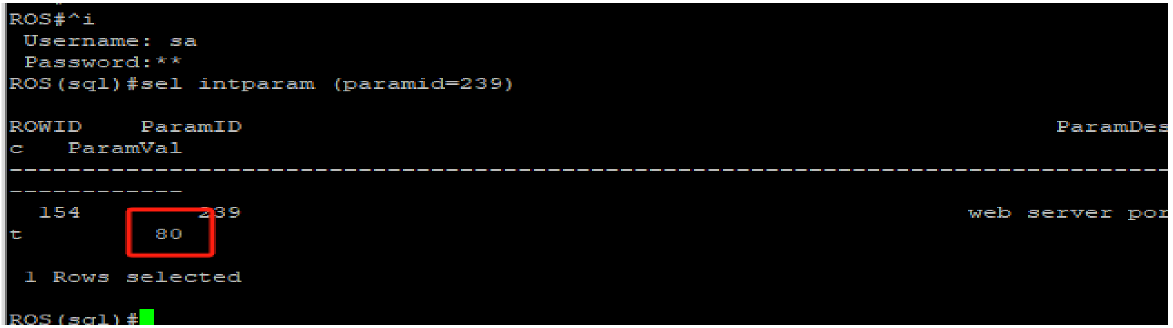
- Check if the web port is correct

1. Click **Management-Management Parameter** ,Enable Telent permission
2. Enter the MTG device IP and log in via telnet
3. Enter the MTG login username and password, enter the commands in sequence according to the picture and query the web port
4. http://ip: Port attempts to log in to device









Unable to log in with correct IP and password

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- Telnet View ACL

Enter the MTG device IP and log in via telnet

1. **acl set**: check if the corresponding network port web access permission is enabled
2. **acl show** : check if the device has restrictions on IP addresses for web login and telnet access
3. **acl black show** :View Access Blacklist

```
Welcome to Command Shell!
Username:admin
Password:********
ROS>en
ROS#^config
ROS(config)#acl set
Enable GE1 Web Access(y/n): y
Enable GE0 Web Access(y/n): y
Enable GE1 Telnet Access(y/n): y
Enable GE0 Telnet Access(y/n): y
Enable GE1 SSH Access(y/n): y
Enable GE0 SSH Access(y/n): y
Enable GE1 SNMP Access(y/n): y
Enable GE0 SNMP Access(y/n): y
Enable GE1 radius Access(y/n): y
Enable GE0 radius Access(y/n): y
Enable GE1 smtp Access(y/n): y
Enable GE0 smtp Access(y/n): y
Enable GE1 drp Access(y/n): y
Enable GE0 drp Access(y/n): y
Enable GE1 cloud Access(y/n): y
Enable GE0 cloud Access(y/n): y
Enable GE1 syslog Access(y/n): y
```

```
ROS(config)#
ROS(config)#acl black show
All Login Fobiden is Off!
Index     ip
```

```
ROS(config)#acl show
Type            status

GE0 Web Access  :Allowed
GE1 Web Access  :Allowed
GE0 Telnet Access       :Allowed
GE1 Telnet Access       :Allowed
GE0 Ssh Access  :Allowed
GE1 Ssh Access  :Allowed

GE0 Snmp Access :Allowed
GE1 Snmp Access :Allowed

GE0 Radius Access       :Allowed
GE1 Radius Access       :Allowed

GE0 Smtp Access :Allowed
GE1 Smtp Access :Allowed

GE0 Drp Access  :Allowed
GE1 Drp Access  :Allowed

GE0 Cloud Access        :Allowed
GE1 Cloud Access        :Allowed

GE0 Syslog Access       :Allowed
GE1 Syslog Access       :Allowed

GE0 Nats Access :Allowed
GE1 Nats Access :Allowed

White list      status

SIP Trunk       :Disable
H323 Trunk      :Disable
Telnet Login    :Disable
Web Login       :Disable

RowID   Address                                         AccessType
0       172.28.7.49                                     | Telnet Login |
```

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THANKS

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