

DAG Troubleshooting



Foreword

- This course is mainly:
 - Guide Solutions for Call Voice Related Issues
 - Guide Problems & Solutions for Calling
 - Guide Problems & Solutions for Register

Course Objective



How To Solve The Problem Of Registration Failure



How To Solve The Problem Of Call Failure



How To Solve Call Voice Related Issues

Through this course
you will be able to

Contents

- 1 Chapter One Solution to Registration Failure
- 2 Chapter Two Solution to Call Failure
- 3 Chapter Three Solution to Call Voice Related Issues
- 4 Chapter Four Solution for Login Failure

Chapter One

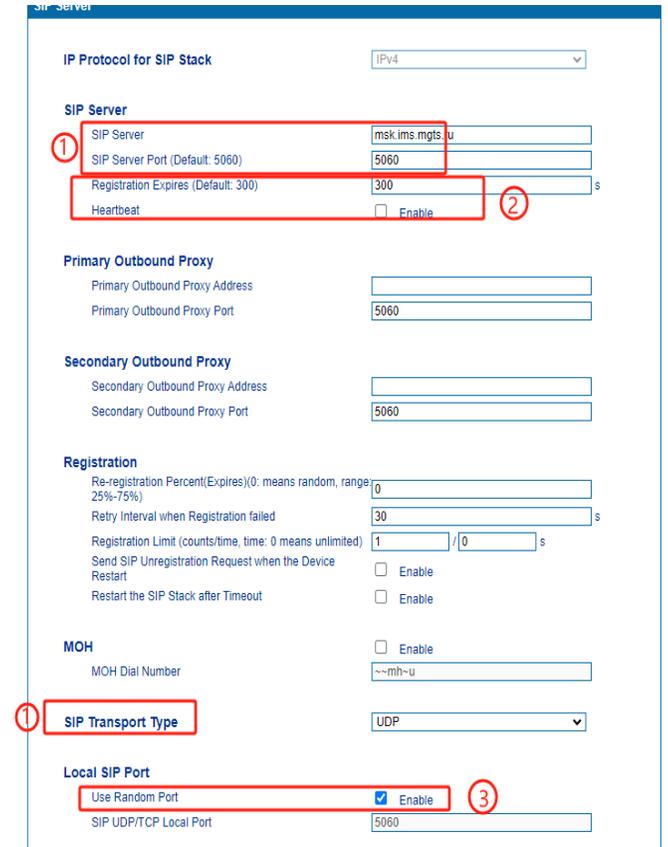
Solution to Registration Failure

01

Solution to Registration Failure

- View Configuration

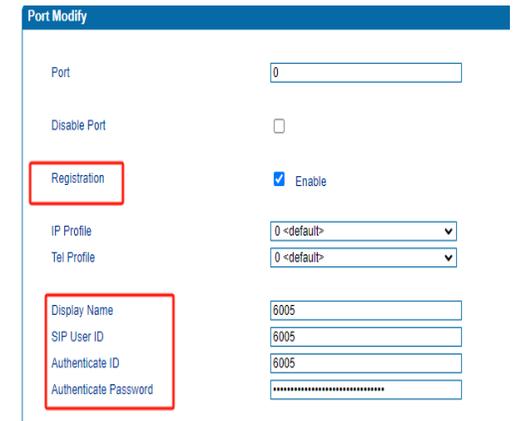
1. Click **SIP Server**
2. Check if the IP, port, and protocol of the server are correct
3. Try to turn on or off heartbeat, reduce registration expires
4. The SIP server is on the public network, you can try opening a random port



Solution to Registration Failure

- View Configuration

5. Click **Port**, Check if the registered account and password are correct, and if registration is enabled



Solution to Registration Failure

- PING

Click **Tools->Ping Test**, enter the address of the server and check if it can be pinged

The screenshot displays the Dinstar web interface. On the left is a navigation menu with the following items: Status & Statistics, Quick Setup Wizard, Network, SIP Server, IP Profile, Tel Profile, Port, Advanced, Call & Routing, Manipulation, Management, Security, Tools, Firmware Upload, Data Backup, Data Restore, Outward Test, Ping Test (highlighted with a red box), Tracer Test, Network Capture, Factory Reset, and Device Restart. The main content area is titled 'Ping Test' and contains a form with the following fields: Destination (172.19.211.135, highlighted with a red box), Number of Ping(1-100) (4), and Packet Size(56-1024 bytes) (56). Below the form are 'Start' and 'Stop' buttons. An arrow points from the 'Start' button to the 'Information' section below. The 'Information' section displays the following text: 'Pinging 172.19.211.135 with 56 bytes of data: Reply seq=0 from 172.19.211.135: bytes=56 time=40ms TTL=61 Reply seq=1 from 172.19.211.135: bytes=56 time=70ms TTL=61 Reply seq=2 from 172.19.211.135: bytes=56 time=50ms TTL=61 Reply seq=3 from 172.19.211.135: bytes=56 time=60ms TTL=61 Ping statistics for 172.19.211.135 Packets: Sent = 4, Received = 4, Lost = 0 (0% loss) RTT Minimum = 40ms, Maximum = 70ms, Average = 55ms'.

Solution to Registration Failure

- Check for errors

1. Click on **Status & Statistics ->Port Status**
2. Check the error codes carried by unregistered user status and analyze possible causes

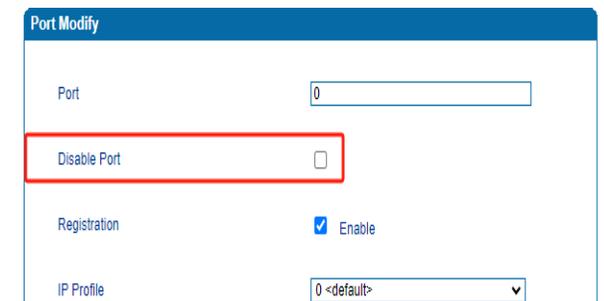
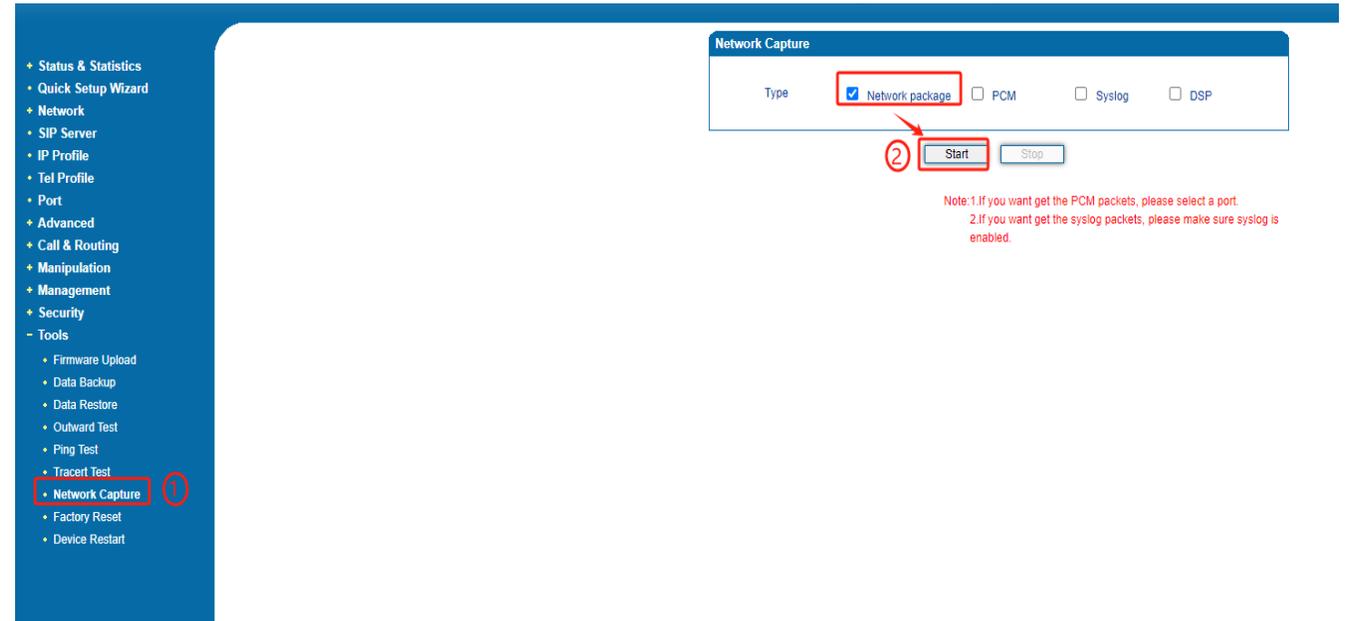


Port								
Port No.	Type	SIP User ID	User Status	Port Status	Voltage	Current	Call Status	Operate
0	FXS	6005	Unregistered(403)	OnHook	47V	0mA	Idle	---
1	FXS	---	---	OnHook	47V	0mA	Idle	---
2	FXS	---	---	OnHook	47V	0mA	Idle	---
3	FXS	---	---	OnHook	47V	0mA	Idle	---
4	FXS	---	---	OnHook	47V	0mA	Idle	---
5	FXS	---	---	OnHook	47V	0mA	Idle	---
6	FXS	---	---	OnHook	47V	0mA	Idle	---
7	FXS	---	---	OnHook	47V	0mA	Idle	---
8	FXS	---	---	OnHook	47V	0mA	Idle	---
9	FXS	---	---	OnHook	47V	0mA	Idle	---
10	FXS	---	---	OnHook	47V	0mA	Idle	---
11	FXS	---	---	OnHook	47V	0mA	Idle	---
12	FXS	---	---	OnHook	47V	0mA	Idle	---
13	FXS	---	---	OnHook	47V	0mA	Idle	---
14	FXS	---	---	OnHook	47V	0mA	Idle	---
15	FXS	---	---	OnHook	47V	0mA	Idle	---

Solution to Registration Failure

- Network Capture

1. Click **Tools -> Network Capture**
2. By default, network packet are selected.
Click on start
3. Wait a few minutes or disable , enable the port to cause DAG to registration
4. Click to stop, download network packet to view



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Chapter Two

Solution to Call Failure

02

Solution for Call Failure of FXS

- View Status

1. Click **Status & Statistics -> System Information**, check the network mode configuration and verify if the network and DSP status are normal
2. Click **Status & Statistics ->Port Status**, check if the registration status and port status are normal
3. Check if the phone is functioning properly

- Status & Statistics
 - System Information
 - Port Status
 - Current Call
 - RTP Session
 - CDR
 - Record Statistics
 - VPN State
- Quick Setup Wizard
- Network
 - SIP Server
 - IP Profile
 - Tel Profile
 - Port
- Advanced
- Call & Routing
- Manipulation
- Management
- Security
- Tools

Please update the default password to a 8 characters minimum with numbers and uppercase/lowercase letters

System Information			
Device ID	da52-0612-7015-1084		
MAC Address	F8-A0-56-34-99-44		
IP Address	172.27.10.5	255.255.0.0	Static
	172.27.1.1		
DNS Server	8.8.8.8	4.4.4.4	
Cloud Register Status	Not Registered		
NMS Register Status	Not Registered		
System Uptime	30 h 58 m 22 s		
System Time	2025-7-24 14:37:38		
Traffic Statistics	Received 72801008 bytes	Sent 20166305 bytes	
Usage of Flash	93 %(7417956 / 7929856) bytes		
Usage of Backup Flash	37 %(5459968 / 14680064) bytes		
Usage of RAM in Linux	42 %(25665536 / 60108800) bytes		
Usage of RAM in AOS	79 %(13389824 / 16769024) bytes		
Current Software Version	DAG2000-16S 2.83.13.05 PCB 1 LOGIC 0 BIOS 1, 2025-05-15 16:00:15		
Backup Software Version	DAG2000-16S 2.83.13.05 PCB 1 LOGIC 0 BIOS 1, 2025-05-15 16:00:15		
DSP Version	ARM_32_13 Jan 13 2022 17:39:22		
U-BOOT Version	25		
Kernel Version	30		
Root FS Version	25		
FS Version	24		
Hint Language	English		

- Status & Statistics
 - System Information
 - Port Status
 - Current Call
 - RTP Session
 - CDR
 - Record Statistics
 - VPN State
- Quick Setup Wizard
- Network
 - SIP Server
 - IP Profile
 - Tel Profile
 - Port
- Advanced
- Call & Routing
- Manipulation
- Management
- Security
- Tools

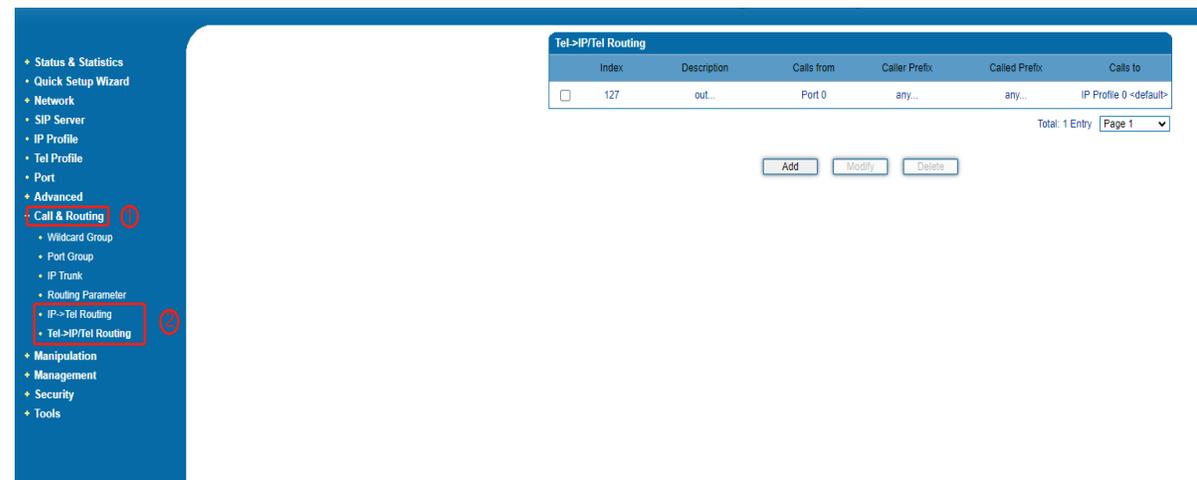
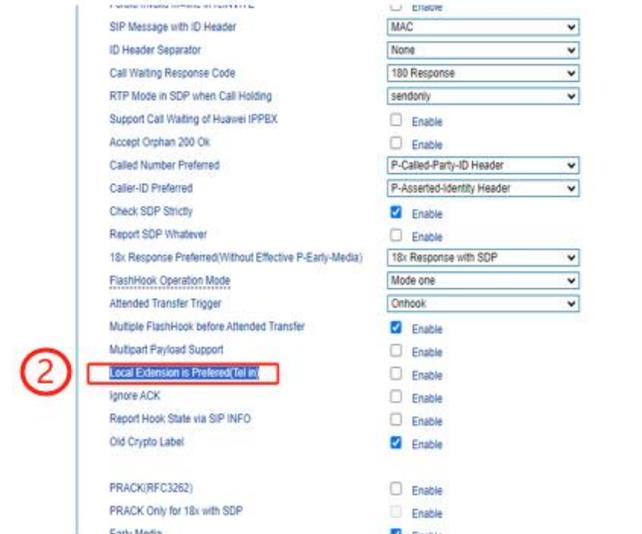
Port								
Port No.	Type	SIP User ID	User Status	Port Status	Voltage	Current	Call Status	Operate
0	FXS	6005	Registered	OnHook	47V	0mA	Idle	---
1	FXS	---	---	OnHook	47V	0mA	Idle	---
2	FXS	---	---	OnHook	47V	0mA	Idle	---
3	FXS	---	---	OnHook	47V	0mA	Idle	---
4	FXS	---	---	OnHook	47V	0mA	Idle	---
5	FXS	---	---	OnHook	47V	0mA	Idle	---
6	FXS	---	---	OnHook	47V	0mA	Idle	---
7	FXS	---	---	OnHook	47V	0mA	Idle	---
8	FXS	---	---	OnHook	47V	0mA	Idle	---
9	FXS	---	---	OnHook	47V	0mA	Idle	---
10	FXS	---	---	OnHook	47V	0mA	Idle	---
11	FXS	---	---	OnHook	47V	0mA	Idle	---
12	FXS	---	---	OnHook	47V	0mA	Idle	---
13	FXS	---	---	OnHook	47V	0mA	Idle	---
14	FXS	---	---	OnHook	47V	0mA	Idle	---
15	FXS	---	---	OnHook	47V	0mA	Idle	---

Port Group			
Group	Port	SIP User ID	User Status
---	---	---	---

Solution for Call Failure of FXS

- View Configuration

1. Click **Advanced->SIP Compatibility** , select the Local Extension is Preferred (Tel in) when the extensions on a DAG/FXS cannot call each other
2. Click **Call & Routing**, check if the routing is correct when DAG/FXS and SIP server using SIP trunk mode



Solution for Call Failure of FXS

- View CDR

Click **Status & Statistics** -> **CDR**, View the reason for call failure



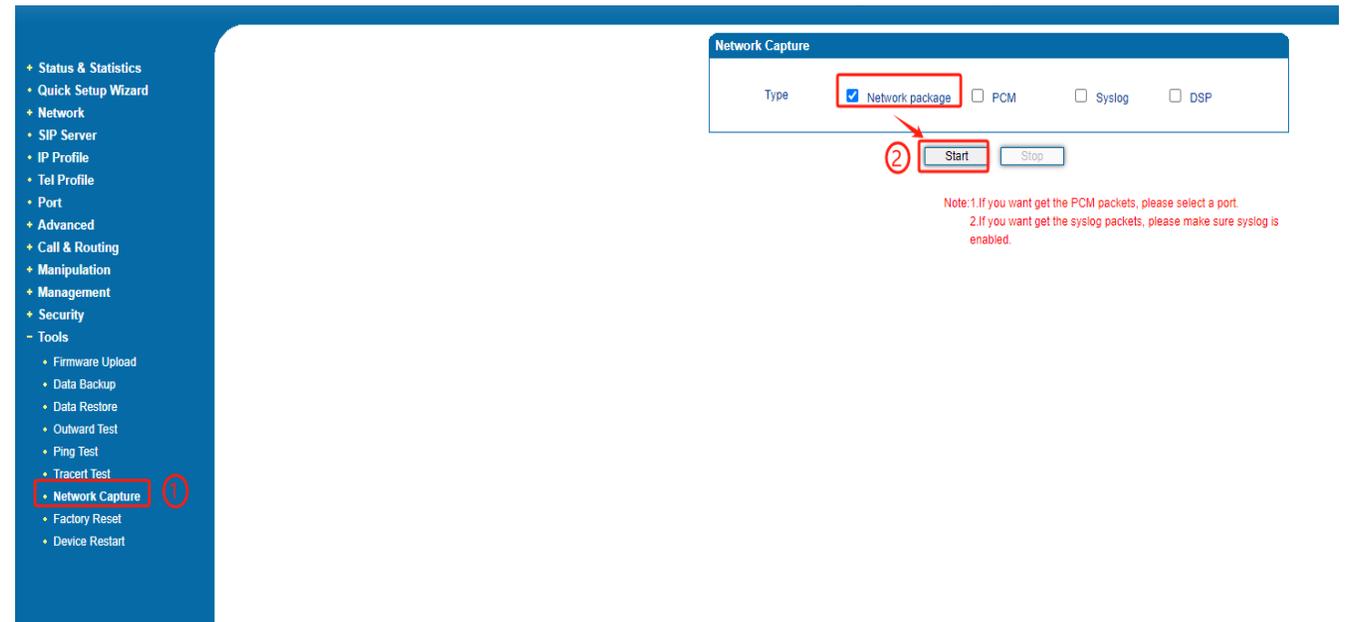
A screenshot of the CDR configuration page. At the top, there are controls for 'Enable CDR' (set to Yes), 'Start Date' (2025/7/24), 'End Date' (2025/7/24), 'Port' (All), 'Call State' (All), 'Source', and 'Destination'. Below these are 'Export', 'filter', and 'Clear' buttons. The 'Enable Advanced Option' is set to No. Below the configuration is a table with 4 entries. The 'Reason' column is highlighted with a red box and a red circle with the number 2.

Port	Start Time	Answer Time	Direction	Source	Destination	PeerIP	Codec	Reason	Duration (s)
1	2025/07/24 01:39:29	2025/07/24 01:39:32	TEL->IP	10008	10007	172.28.8.24	PCMA	Recv BYE	0
0	2025/07/24 01:39:30	2025/07/24 01:39:32	IP->TEL	10008	10007	172.28.8.24	PCMA	Onhook	1
0	2025/07/24 01:39:22	2025/07/24 01:39:24	TEL->IP	10007	10008	172.28.8.24	PCMA	Recv BYE	2
1	2025/07/24 01:39:22	2025/07/24 01:39:24	IP->TEL	10007	10008	172.28.8.24	PCMA	Onhook	2

Solution for Call Failure of FXS

- Network Capture

1. Click **Tools - Network Capture**
2. By default, network packet are selected.
Click on start
3. Reproduce call failure issue
4. Click to stop, download network packet to view



Solution for Call Failure of FXO

- View Status

1. Click **Status & Statistics -> System Information**, check the network mode configuration and verify if the network and DSP status are normal
2. Click **Status & Statistics ->Port Status**, check if the registration status is normal and if the port is wired
3. Click **Status & Statistics ->Port Status**, observe whether the port status is idle during a call

System Information

Device ID	da51-0107-1069-0034		
MAC Address	F8-A0-3D-21-4E-E1		
Network Mode	Bridge		
IP Address	172.27.10.9	255.255.0.0	Static
	172.27.1.1		
DNS Server	8.8.8.8	4.4.4.4	
Cloud Register Status	Not Registered		
System Uptime	341 h 21 m 50 s		
NTP Status	Succeed		
System Time	2025-7-24 15:46:34		
Traffic Statistics	Received 834902666 bytes	Sent 57217559 bytes	
Usage of Flash	58 %(6393856 / 11010048) bytes		
Usage of RAM in Linux	31 %(69963776 / 222306304) bytes		
Usage of RAM in AOS	19 %(12791808 / 67100672) bytes		
Current Software Version	DAG1000-4S40 2.81.10.18 PCB 3 LOGIC 0 BIOS 1, 2022-11-25 18:12:02		
DSP Version	ARM_32_9 Dec 29 2018 17:01:36		
U-BOOT Version	5		
Kernel Version	15		
FS Version	8		
Hint Language	Chinese		

Port

Port No.	Type	SIP User ID	User Status	Port Status	Call Status
0	FXS	6001	Registered	OnHook	Idle
1	FXS	---	---	OnHook	Idle
2	FXS	---	---	OnHook	Idle
3	FXS	---	---	OnHook	Idle
4	FXO	---	---	Offline	Idle
5	FXO	---	---	Offline	Idle
6	FXO	---	---	Offline	Idle
7	FXO	---	---	Offline	Idle

Port Group

Group	Port	SIP User ID	User Status
7 <6005>	4,5,...	6005...	Registered

Refresh

Solution for Call Failure of FXO

- View Status

4. Click **Status & Statistics -> Call Limit Info**, check if there are call limit
5. Connect the line on the FXO device to the phone to test if it can make a call

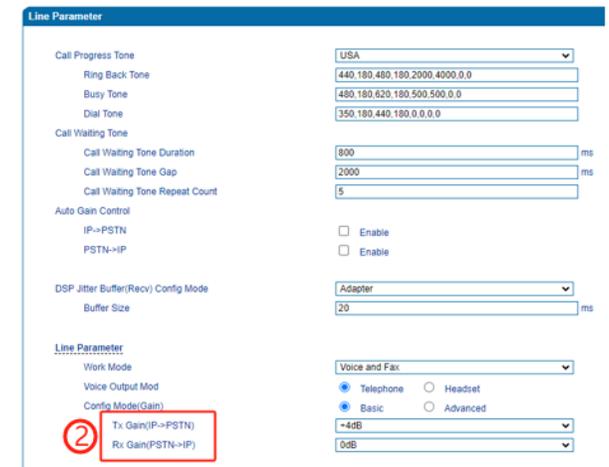
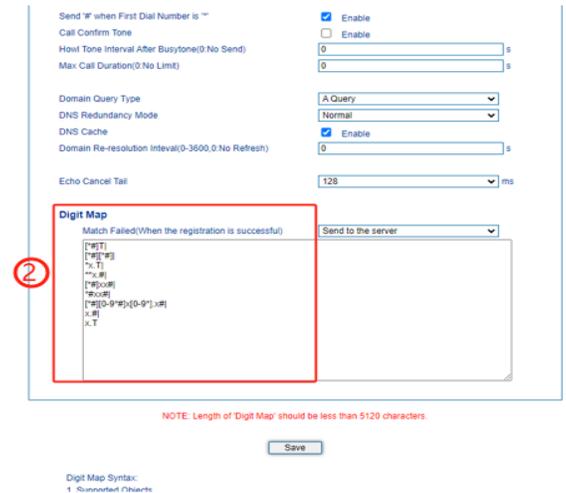


Call Limit Info						
Port No	Daily Duration Remain	Month Duration Remain	Daily Calls Remain	Minute Calls Remain	Daily Connected Remain	Minute Connected Remain
0	60	600	10	3	--	--
1	--	--	--	--	--	--
2	--	--	--	--	--	--
3	--	--	--	--	--	--
4	--	--	--	--	--	--
5	--	--	--	--	--	--
6	--	--	--	--	--	--
7	--	--	--	--	--	--

Solution for Call Failure of FXO

- View Configuration

1. Click **Advanced-> Service Parameter**, check if the called number complies with dialing rules
2. Click **Advanced-> Line Parameter**, check if the inability to call is caused by the gain being too large or too small



Solution for Call Failure of FXO

- View Configuration

3. Click **Advanced** -> **FXO Parameter**,

Check if one stage dialing is selected

4. Click **Advanced** -> **FXO Parameter**, Verify

with the operator if there is a Polarity

Reversal on the line, If there is, Polarity

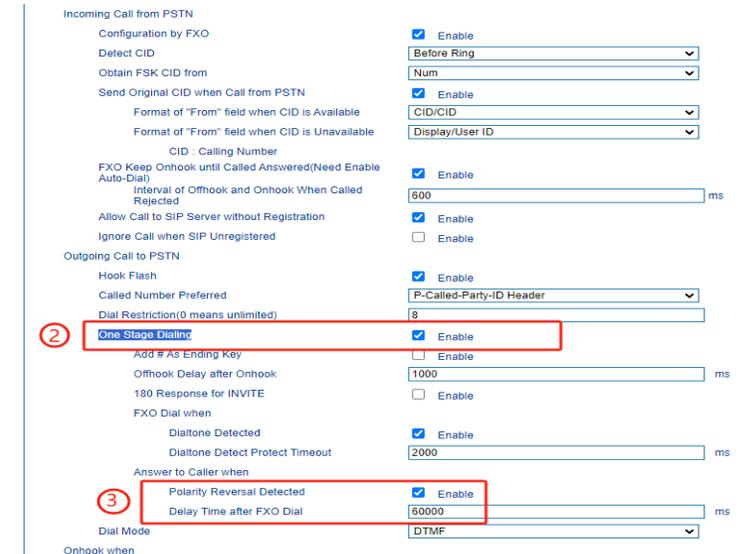
Reversal detection needs to be enabled, and

the delay time needs to be changed to

60000ms

5. Click **Call & Routing**, check if the routing is

correct



Index	Description	Calls from	Caller Prefix	Called Prefix	Calls to
127	out...	Any	any...	any...	Port 0

Total: 1 Entry Page 1

Buttons: Add, Modify, Delete, BatchAdd, FileImport

Solution for Call Failure of FXO

- View CDR

Click **Status & Statistics** -> **CDR**, check if the call port and calling/called numbers are correct, and what is the reason for the failure

- Status & Statistics
 - System Information
 - Port Status
 - Current Call
 - RTP Session
 - CDR
 - Record Statistics
 - Call Limit Info
 - VPN State
 - O-port information statistics
- Quick Setup Wizard
- + Network
 - SIP Server
 - IP Profile
 - Tel Profile
 - Port
 - + Advanced

CDR

Enable CDR No Yes

Start Date 2025 7 24 End Date 2025 7 24

Port All Call State All Source Destination

CDR Oper

Enable Advanced Option No Yes

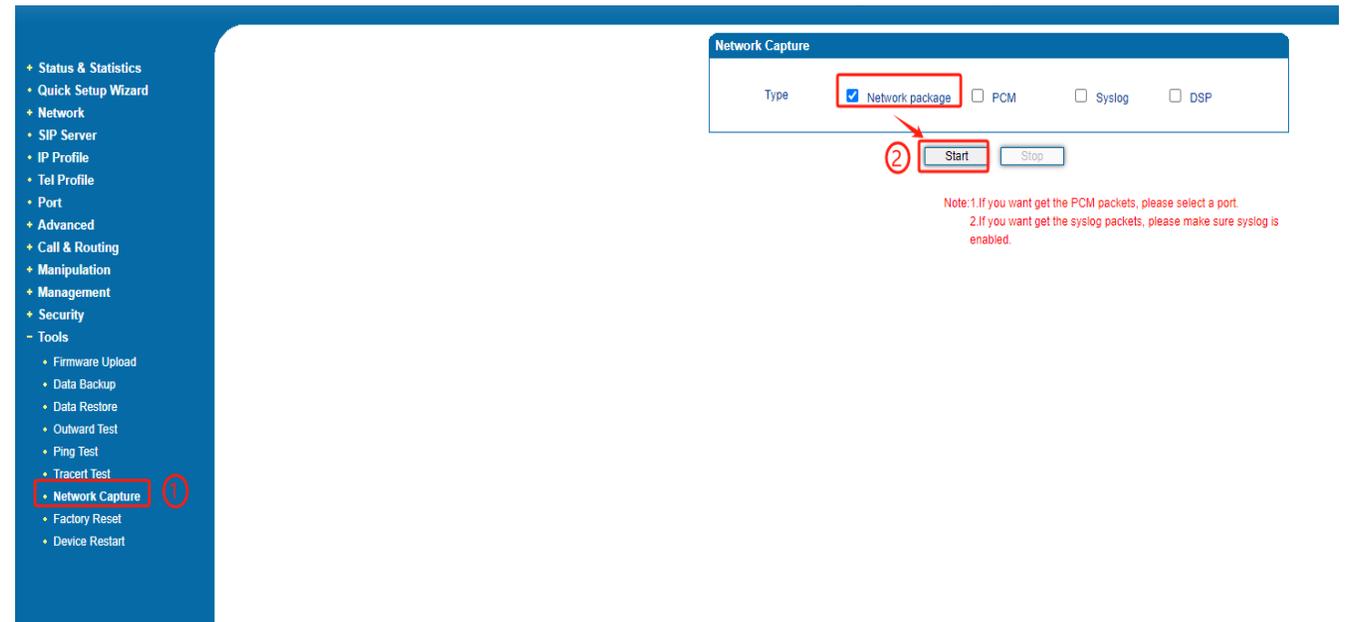
Total : 2 Entry - 50 Entry/Page - 1/1

Port	Start Time	Answer Time	Direction	Source	Destination	PeerIP	Codec	Reason	Duration (s)
NOT_FOUND	2025/07/24 02:47:50	--	IP->TEL	6005	12310086	Unknown	--	Busy Here	0
NOT_FOUND	2025/07/24 02:47:14	--	IP->TEL	6005	10086	Unknown	--	Busy Here	0

Solution for Call Failure of FXO

- Network Capture

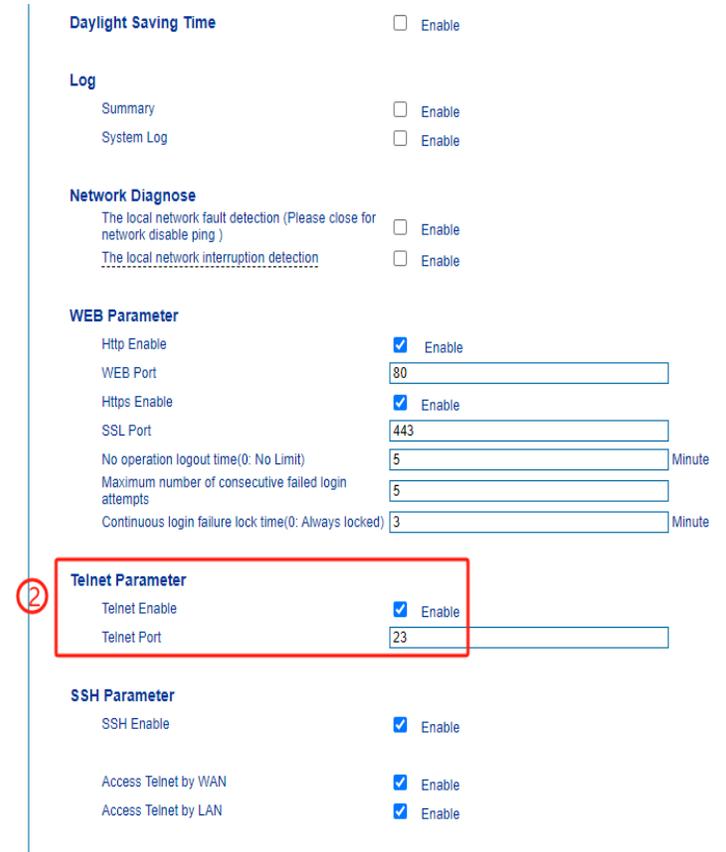
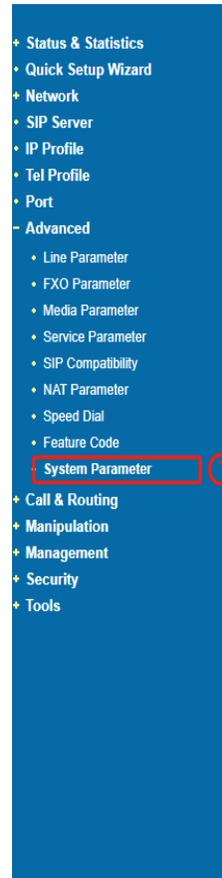
1. Click **Tools - Network Capture**
2. By default, network packet are selected.
Click on start
3. Reproduce call failure issue
4. Click to stop, download network packet to view



Solution for Call Failure of FXO

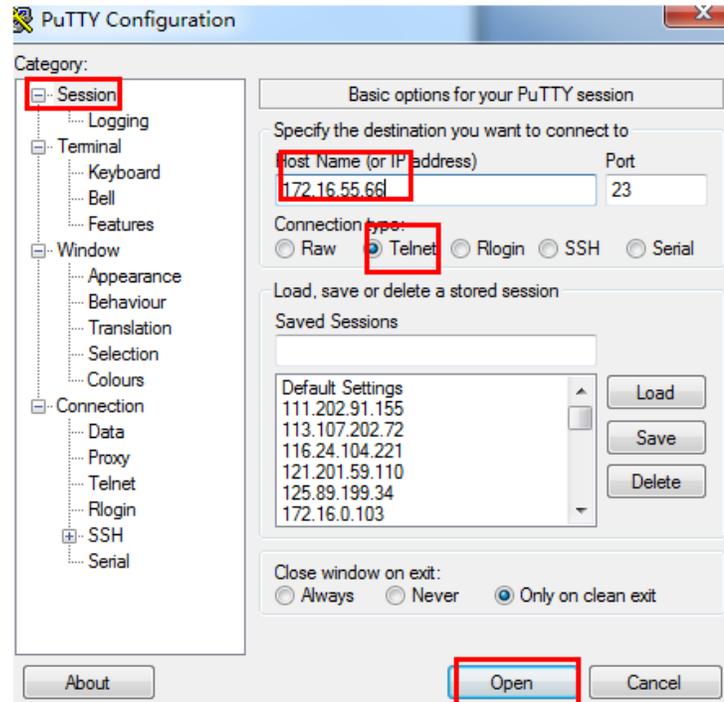
- Call trace

1. Click **Advanced-> Service Parameter**
2. Enable Telnet permission



Solution for Call Failure of FXO

- Call trace
3. Using the Telnet tool on devices
 4. Enter commands based on the image
 5. Reproduce the problem and check the call log



```
Username:admin↵  
Password:*****↵  
ROS>cn↵  
ROS#↵  
ROS#↵  
ROS#^config↵  
sip config sipdebug 9↵  
deb sip stack all on↵  
ROS#^ada↵  
ROS(ada)#ADA CONNECTED ...,WELCOME!↵  
ROS(ada)#turnon 53↵  
ROS(ada)#turnon 84↵
```

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Chapter Three

Solution to Call Voice Related Issues

03

Call Without Sound

- NAT

1. SIP server and DAG are on the same intranet, disable NAT testing
2. SIP server is on the public network, try to modify NAT mode for testing

The screenshot displays the Dinstar web interface for configuring NAT parameters. On the left sidebar, the 'NAT Parameter' menu item is highlighted with a red box and a red circle containing the number '2'. The main content area shows the 'NAT Parameter' configuration page. The 'NAT Traversal' section is highlighted with a red box and a red circle containing the number '2'. Below this, there are fields for 'Via of Message', 'Contact of Message', and 'SDP of Message'. A dropdown menu is open, showing options: 'Dynamic NAT', 'Disable', 'STUN', 'Static NAT', 'Dynamic NAT', and 'DTR'. The 'Dynamic NAT' option is selected. A 'Save' button is located below the dropdown. Below the screenshot, there are three notes in red text:

Note.1.The device must restart to take effect.
2.Dynamic NAT only effect about Message of Sip!
3.Please make sure that all SIP server are the public network server

Call Without Sound

- Network Capture

1. Click **Tools - Network Capture**
2. Select PCM and network packet. click on start
3. Reproduce call issue
4. Click to stop, download the packet to view

The screenshot displays the Dinstar web interface. On the left is a blue sidebar menu with the following items: Status & Statistics, Quick Setup Wizard, Network, SIP Server, IP Profile, Tel Profile, Port, Advanced, Call & Routing, Manipulation, Management, Security, Tools, Firmware Upload, Data Backup, Data Restore, FXO Test, Ping Test, Tracert Test, Network Capture (highlighted with a red box and a circled '1'), Factory Reset, and Device Restart. The main content area shows the 'Network Capture' configuration window. This window has a title bar 'Network Capture' and contains the following elements: a 'Type' field with a red box around it containing 'Network package' (checked) and 'PCM' (checked); a 'Port' dropdown menu with 'Port 0' selected; and checkboxes for 'Syslog' and 'DSP'. Below the configuration fields are 'Start' and 'Stop' buttons. A red circled '2' is placed to the left of the configuration area. Below the window, a red note reads: 'Note: 1. If you want get the PCM packets, please select a port. 2. If you want get the syslog packets, please make sure syslog is enabled.'

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Chapter Four

Solution for Login Failure

04

Forget IP/ password

- FXS

1. Connect the phone to the FXS port,
dial * **158** # to check the LAN port IP,
dial * **159** # to check the WAN port IP,
dial * **165*000000** # to Restore factory IP
address(192.168.11.1) and password (admin)
dial * **166*000000** # to restore all device configurations
to factory settings
2. Press the RST button to restore the default IP address
and password within 3 to 6 seconds

- FXO

1. When the FXO port is **not configured with Offhook
Auto-Dial**, the phone dials the external line number on
the FXO port and hears the prompt tone to dial the
extension number, the operation is:
dial * 158 # to check the LAN port IP,
dial * 159 # to check the WAN port IP,
2. Press the RST button to restore the default IP address
and password within 3 to 6 seconds

Unable to log in with the correct IP

1. Check if the run light is flashing and if the pwr light is constantly on
2. Connect the computer to the network port of the DAG device, change the computer IP to a network segment, and test if it can log in
3. Press the RST button 7-10s to restore all device configurations to factory settings and test if the factory IP can log in



THANKS



sales@dinstar.com



www.dinstar.com



+86 755 6191 9966