UNIVERGE NEC

UNIVERGE SV9100

System Maintenance Manual

ISSUE 1.0

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Preface

Before Reading this Manual
This manual provides detailed information for diagnostic and maintenance information for the SV9100 system.

There are eight parts to this manual:

Chapter 1 – Troubleshooting IP on an SV9100 System
This chapter provides some helpful tips for troubleshooting IP on the SV9100 system.

Chapter 2 – System Maintenance
The technician can use this chapter to troubleshoot and diagnose problems during and after SV9100 system installation. The troubleshooting flow charts and general test procedures help the technician identify possible causes of the problem by defining the problem area.

Chapter 3 – Diagnostics
This chapter provides a description of the SV9100 Diagnostic Interface Module (DIM) built into the GCD-CP10 blade. The DIM can monitor the activity of the system under the control of commands entered by the engineer.

Chapter 4 – SV9100 Automatic Log File Export from the GCD-CP10
The SV9100 adds new options to generate and save Diagnostic files to the built-in memory card. These files can be exported/viewed in several ways.

Chapter 5 – Alarm Reports
System alarms are reported by the system and can be viewed by WebPro, PCPro or exported as text files or e-mail.

Chapter 6 – ISDN Layer 1 Status Display
View the connection status of the ISDN basic rate circuits, can be viewed via WebPro, PCPro or KeyTel Pro.

Chapter 7 – Keyphone Access to System Settings
Use any terminal to view the system's IP addresses, Main Software version etc.

Chapter 8 – Terminal Test Routine – DT400
Check the DT400's keys, lamps and LCD display.

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Troubleshooting IP on an SV9100 System

SECTION 1Introduction

This book provides some helpful tips for troubleshooting IP on the UNIVERGE® SV9100 system.

Chapter

1

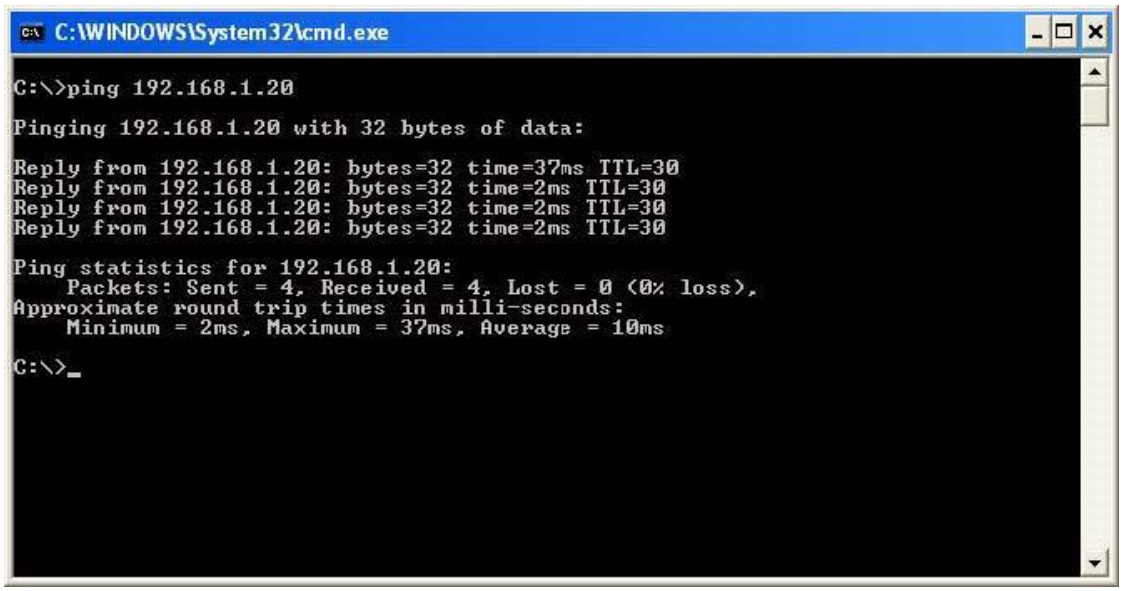
SECTION 2Ping

This is one of the most useful tools available to troubleshoot IP connectivity. PING is a standard component of Microsoft Windows® and is also implemented on the UNIVERGE SV9100 IP Phones. Ping sends a small IP packet to a specified destination and waits for a response back.

It should be possible to ping IP Phones, the GCD-CP10 (CPU), GPZ-IPL (VoIP) and any other devices on the network. Send a ping and wait for a reply. If a reply is not received, the ping response "times out". This indicates a connection problem.

Refer to Figure 1-1 Ping Traces on page 1-2 for examples of these two conditions.

Successful Ping Trace



Unsuccessful Ping Trace

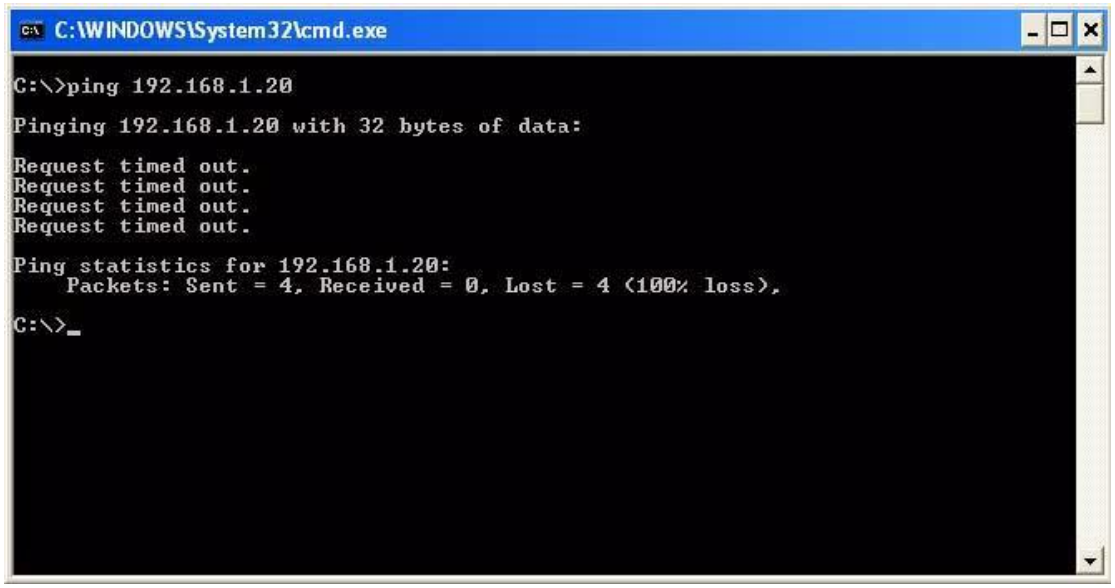


Figure 1-1 Ping Traces

If unable to ping a device, it may mean that either the source or destination device:

- is not configured correctly
- is not connected to the LAN (e.g., cable disconnected)
- has a developed a fault
- or any device in between the source or destination may be faulty (e.g., routers)

Pinging from a PC

The command syntax for ping is:
ping [-t] [-n count] [-l size] target
-t (optional) continually sends PING requests until Ctrl-C is pressed to cancel -n (optional) sends a specified number of PING requests -l (optional) sends packets of a specified size (bytes) target the destination IP address or host name

Note that there are other options available with the Microsoft Windows® implementation of ping. The most commonly used options are listed above.

Examples:
- ping 192.168.2.100 -t Continually pings 192.168.2.100 until Ctrl-C pressed
- 192.168.2.100 -n 10 -l 40 Sends ten 40-byte packets to 192.168.2.100
- ping 192.168.2.100 Sends four 32-byte packets (default) to192.168.2.100

Pinging from an UNIVERGE SV9100 IP Phone

The System IP Phone has a version of ping within the Maintenance Menu.
Hold down help button for 3 sec Press 3 (Ping)
Enter address Press OK

The following options are available:

Echo request start: Starts the ping process using the settings in options 2 and 3 below.
Destination address: The target destination IP Address
A successful ping results in: 1.OK 2.OK 3.OK 4.OK Complete
A unsuccessful ping results in: 1.NG 2.NG 3.NG 4.NG Complete

An example of ping usage:

A UNIVERGE SV9100 IP Phone unsuccessfully attempts to connect to the UNIVERGE SV9100 system as shown in Figure 1-2 Ping Usage Example.

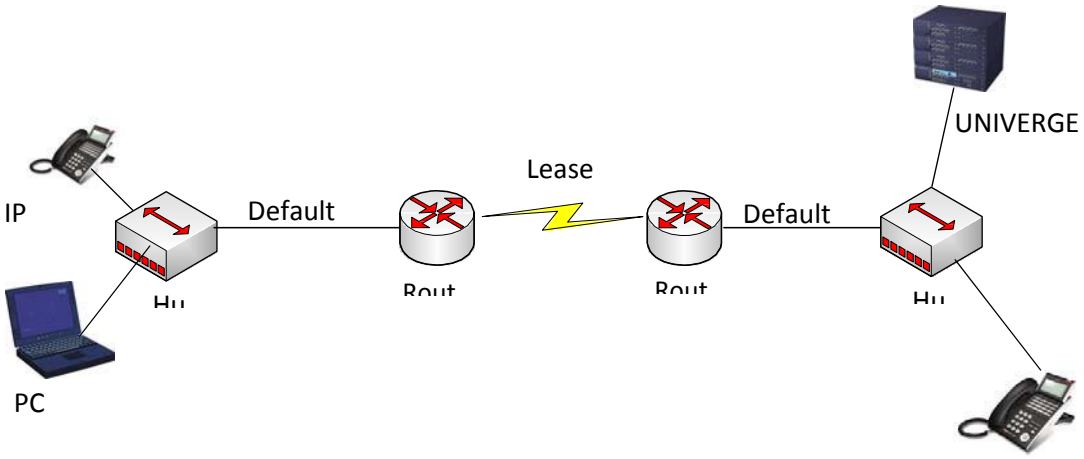


Figure 1-2 Ping Usage Example

As seen in Figure 1-2 Ping Usage Example, there are several devices that could cause a connection problem:

- UNIVERGE SV9100 IP Phone (192.168.1.100)
- Local Hub
- Local Router (192.168.1.1)
- Leased Line
- Remote Router (192.168.2.1)
- Remote Hub
- UNIVERGE SV9100

You will see that by pinging from the System IP Phone and PCs, we can work out where the problem lies by process of elimination. We start by pinging the nearest device and working outward toward the intended destination.

Examples:
The UNIVERGE SV9100 IP Phone can successfully ping all devices up to and including the local router. Anything beyond that point fails. This would suggest that the Leased Line or remote router has a problem.
O The local PC (192.l68.1.101) can ping all devices except the UNIVERGE SV9100 IP Phone. The UNIVERGE SV9100 IP Phone can not ping anywhere. This would suggest that there is a problem with the UNIVERGE SV9100 IP Phone or its connection to the switch/hub.

SECTION 3PACKET TRACES

It is possible to use a packet trace utility (also known as "Sniffers") to determine what data is being transmitted and received on an ethernet network. These can be particularly useful to determine the cause of connection issues or voice quality issues.

The packet trace utility has to be run on a PC that is connected to the same hub (not a switched hub) where the UNIVERGE SV9100 system or UNIVERGE SV9100 IP Phone is connected.

There are many utilities available that will allow packet trace to be run on a network. One such utility is Ethereal. This is a software application distributed under a GNU general public license (**www.wireshark.org**). This allows the files to be captured and saved in a standard format for analysis later.

A sample trace file is shown in Figure 1-3 Trace File Example on page 1-6.

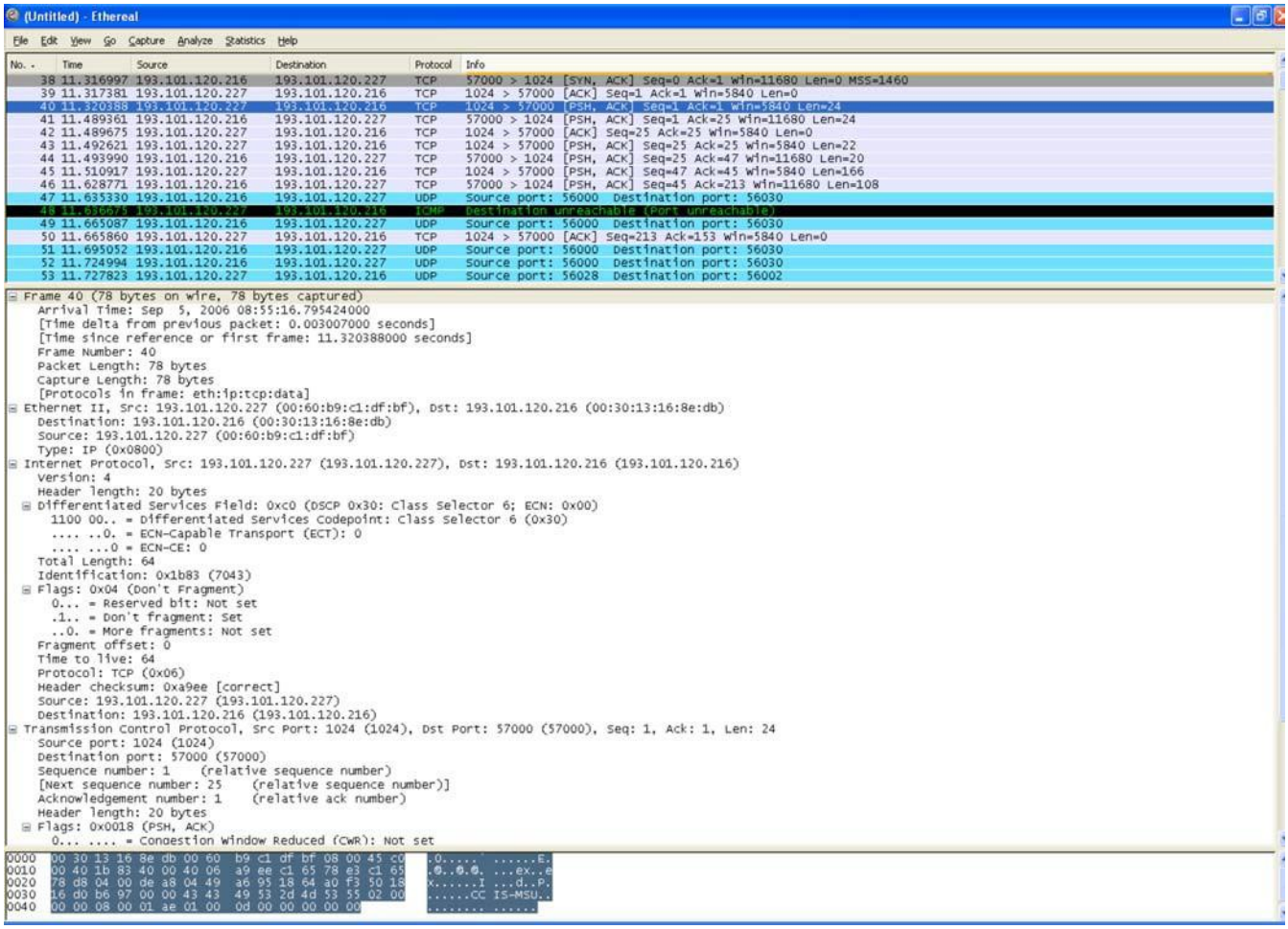


Figure 1-3 Trace File Example

System Maintenance

SECTION 1INTRODUCTION

The technician can use this book to troubleshoot and diagnose problems during and after system installation. The troubleshooting flow charts and general test procedures help the technician identify possible causes of the problem by defining the problem area.

Using the System Data Upload/Download feature, all System Programming and Speed Dial data can be stored on disk for safe keeping. After all System Programming is completed, it should be downloaded to a disk for backup. When system memory fails, this data on the disk can be uploaded and the memory restored.

Chapter

2

SECTION 2 OPERATIONAL TEST PROCEDURES

General Information

When an UNIVERGE SV9100 system is first powered up, an initialization is performed. During this process the GCD-CP10 (CPU), located in the first chassis, scans each interface slot to determine the hardware configuration used. This information is stored in the resident system program memory with the system default values. This section provides test procedures that are used before, during, and after the initialization process.

Before Initializing

The technician must follow these steps before initializing the system.
Cable Connections
All wiring for power supplies or flat cable connectors should be checked for solid connections.

Initialization Check

To determine if the system is initializing correctly, only the first chassis, GCD-CP10, one GGCD-8DLCA, and terminals should be installed on the system. After initialization, all the terminals assigned to the GGCD-8DLCA can be used for internal calls to one another. (By default, these stations are assigned station numbers 200~207).

System Initialization

Before initialization is performed and verified, the entire system should be initialized.

With power OFF, all interface and option cards can be installed in the controlling chassis. The technician can then power up the system to perform a First Initialization. After the initialization, each station display shows default time and date indications.

For example: 12-2 Fri 10:47 AM

After Initialization

Ensure that the battery is installed in CN15 on the GCD-CP10.

Check all blade slots in software to ensure the initialization process scanned the installed hardware correctly.

A general system operation check should be performed using default values prior to system programming.

After all previous steps are performed and any problems corrected, system programming is complete.

After System Programming is finished, the technician should perform a Second Initialization. Performing the First Initialization a second time causes all programming memory to be lost. Second Initialization refreshes the system RAM without losing any memory.

This completes the installation procedure for the UNIVERGE SV9100 system. The technician should check the operation of each Multiline Terminal to ensure the system is working properly.

SECTION 3 TROUBLESHOOTING

Remote Administration and Maintenance

PCPro can remotely access the UNIVERGE SV9100 system for maintenance and diagnostics. The remote PC and the system are connected using a modem on the GCD-CP10 or using IP.

Problem Solving

To find the cause, consider all problem symptoms carefully. As each aspect of the problem is considered, the technician is guided to a probable solution.

The problem must be defined as accurately as possible, so that the most efficient steps to the solution can be taken. Flowcharts in the next section help define the problem.

System Down

This term describes one of the following situations:

- No access to internal dial tone on any installed Multiline Terminal or Single Line Telephone.
- No LED or display indication on any installed Multiline Terminal.
- No system tones are generated.

Partial Operation

This term refers to any situation that cannot be completely described under the System Down conditions.

Reset

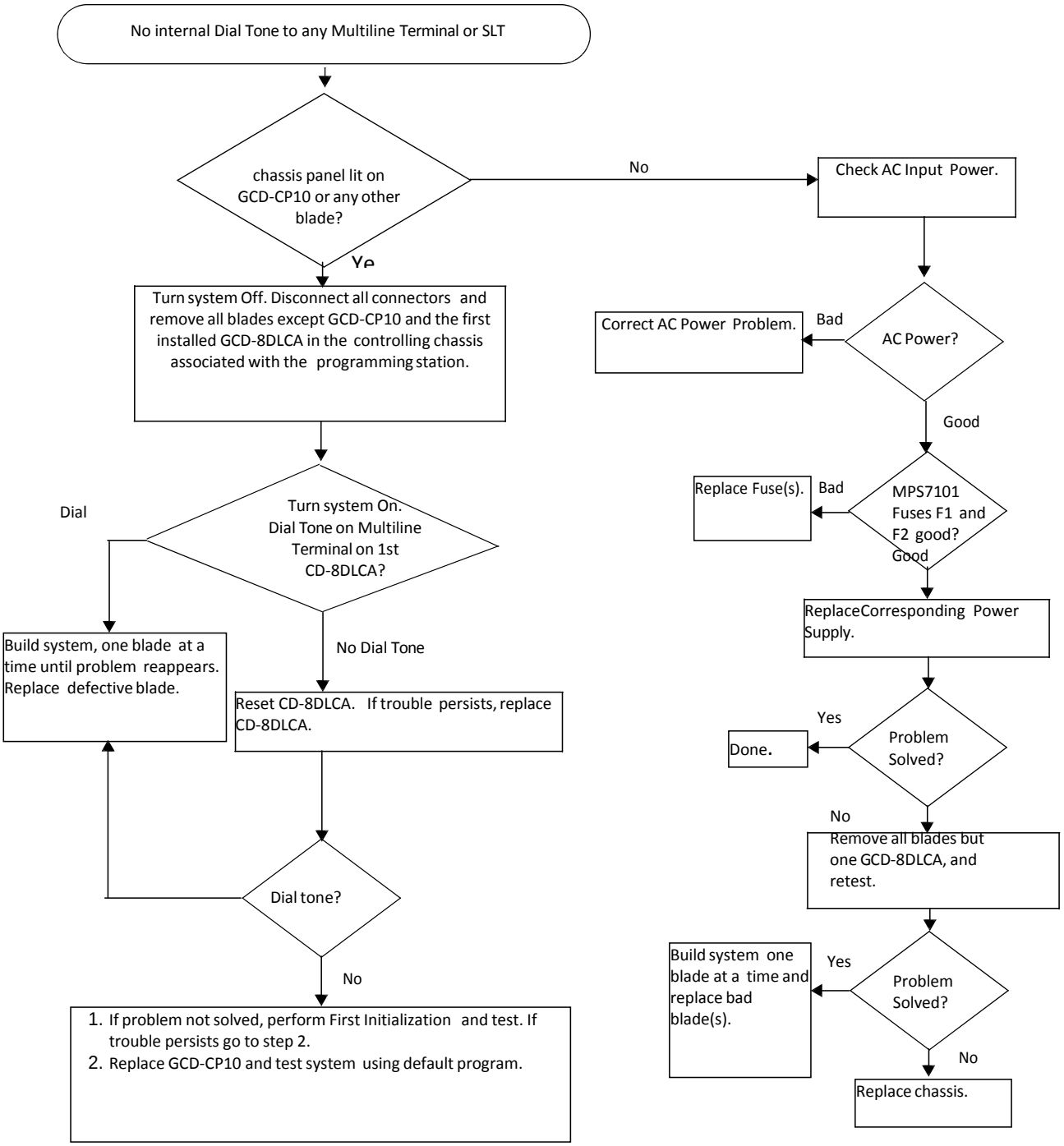
At times, the station and/or the blade must be reset. The following resets are used in the system:

- Terminal Reset – Unplug the station line cord from the station and then plug it back into the station.
- Blade Reset - Unseat the blade and reseat.

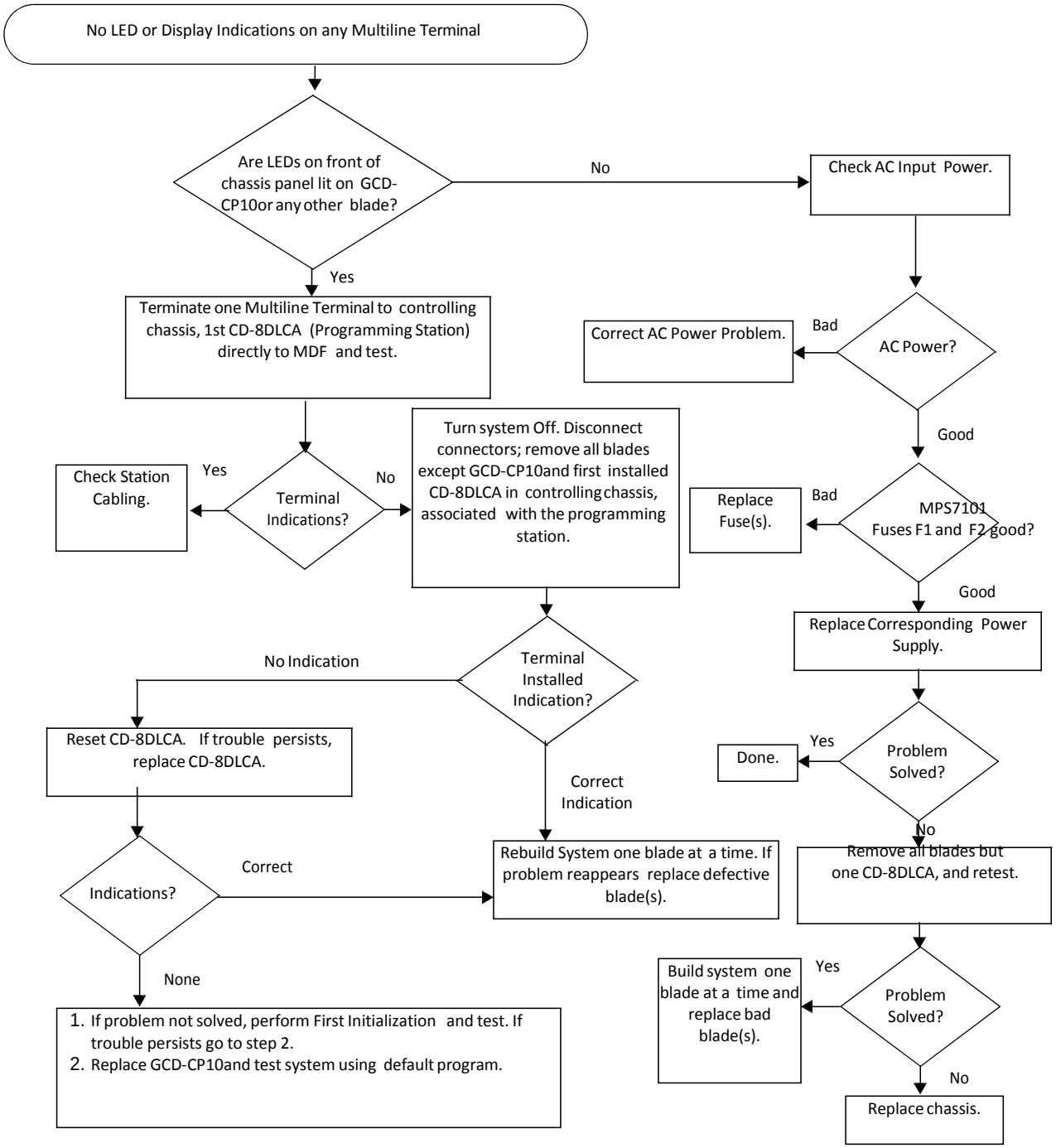
Flowcharts

Condition	Flowchart	
A. System Down		
1. No Internal Dial Tone to any Multiline Terminal or SLT	A1	
2. No LED or Display Indications on any Multiline Terminal	A2	
B. Partial Operations		
1. Frequency Interference	B1	
2. No or Intermittent CO/PBX Ring	C1	
3. Call Dropping	C2	
4. No Outside Dial Tone Access	C3	
5. CO/PBX Dialing Problem: Cannot Dial Out on CO	C4	
C. Multiline Terminal Problems		
1. Multiline Terminal Function	D1	
2. Multiline Terminal Ringing	D2	
3. Multiline Terminal Dial Tone Access	D3	
D. Single Line Telephone Problems		
1. No Dial Tone Access on SLT	E1	
2. Ringing Problem on SLT	E2	
3. No Dial Access to SLT Features	E3	
E. Low Volume Problems	F1	
F. External Paging Problems	G1	
G. SMDR Output Problems No Call Accounting System	H1	

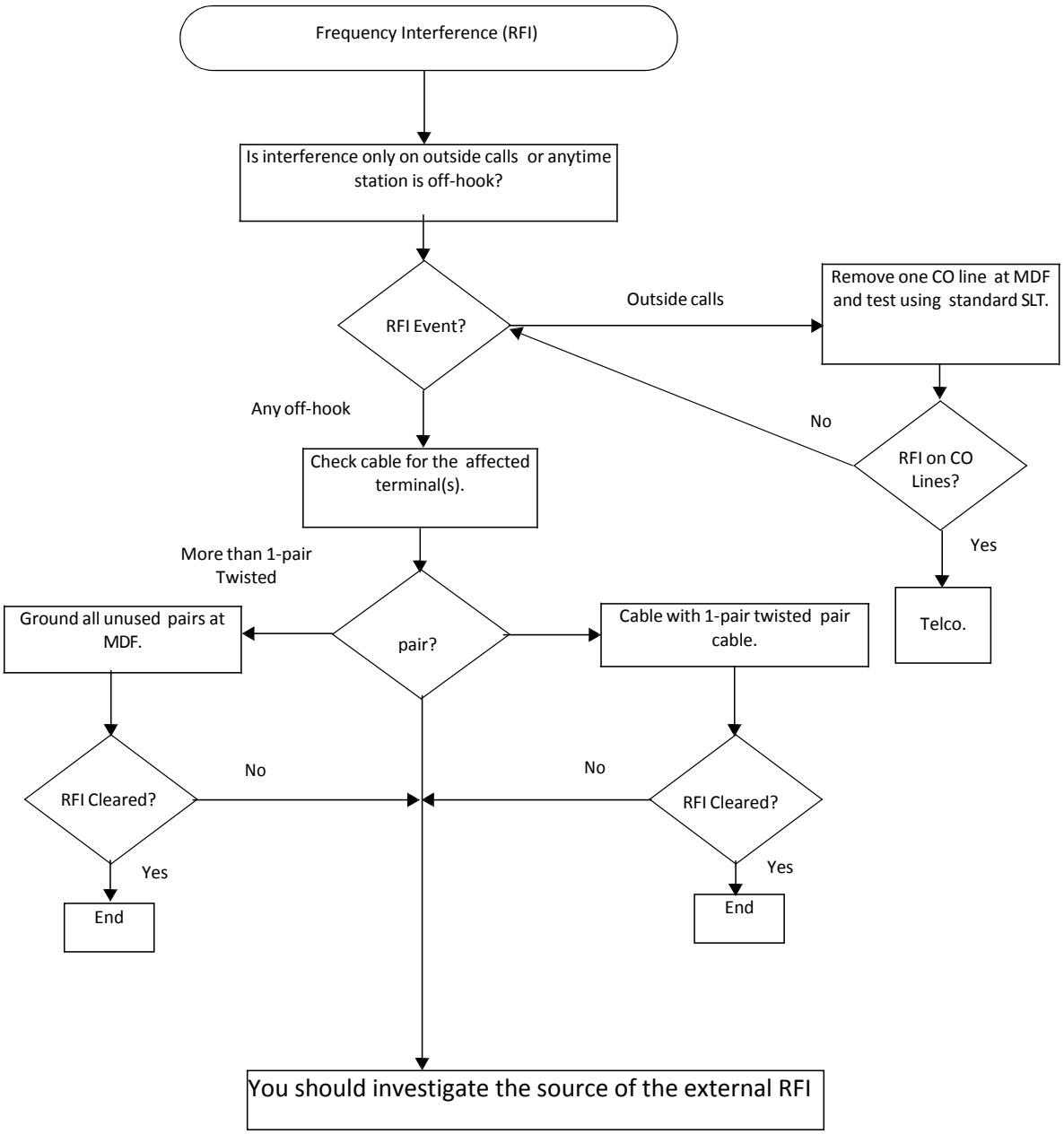
A1


No internal Dial Tone to any Multiline Terminal or SLT
chassis panel lit on GCD-CP10 or any other blade?
No
Check AC Input Power.
Ye
Turn system Off. Disconnect all connectors and remove all blades except GCD-CP10 and the first installed GCD-8DLCA in the controlling chassis associated with the programming station.
Correct AC Power Problem.
Bad
AC Power?
Good
Dial
Turn system On. Dial Tone on Multiline Terminal on 1st CD-8DLCA?
Replace Fuse(s).
Bad
MPS7101 Fuses F1 and F2 good?
Good
ReplaceCorresponding Power Supply.
Build system, one blade at a time until problem reappears. Replace defective blade.
No Dial Tone
Reset CD-8DLCA. If trouble persists, replace CD-8DLCA.
Yes
Done.
Problem Solved?
No
Remove all blades but one GCD-8DLCA, and retest.
Dial tone?
Build system one blade at a time and replace bad blade(s).
Yes
Problem Solved?
No
Replace chassis.
No
1. If problem not solved, perform First Initialization and test. If trouble persists go to step 2.
2. Replace GCD-CP10 and test system using default program.

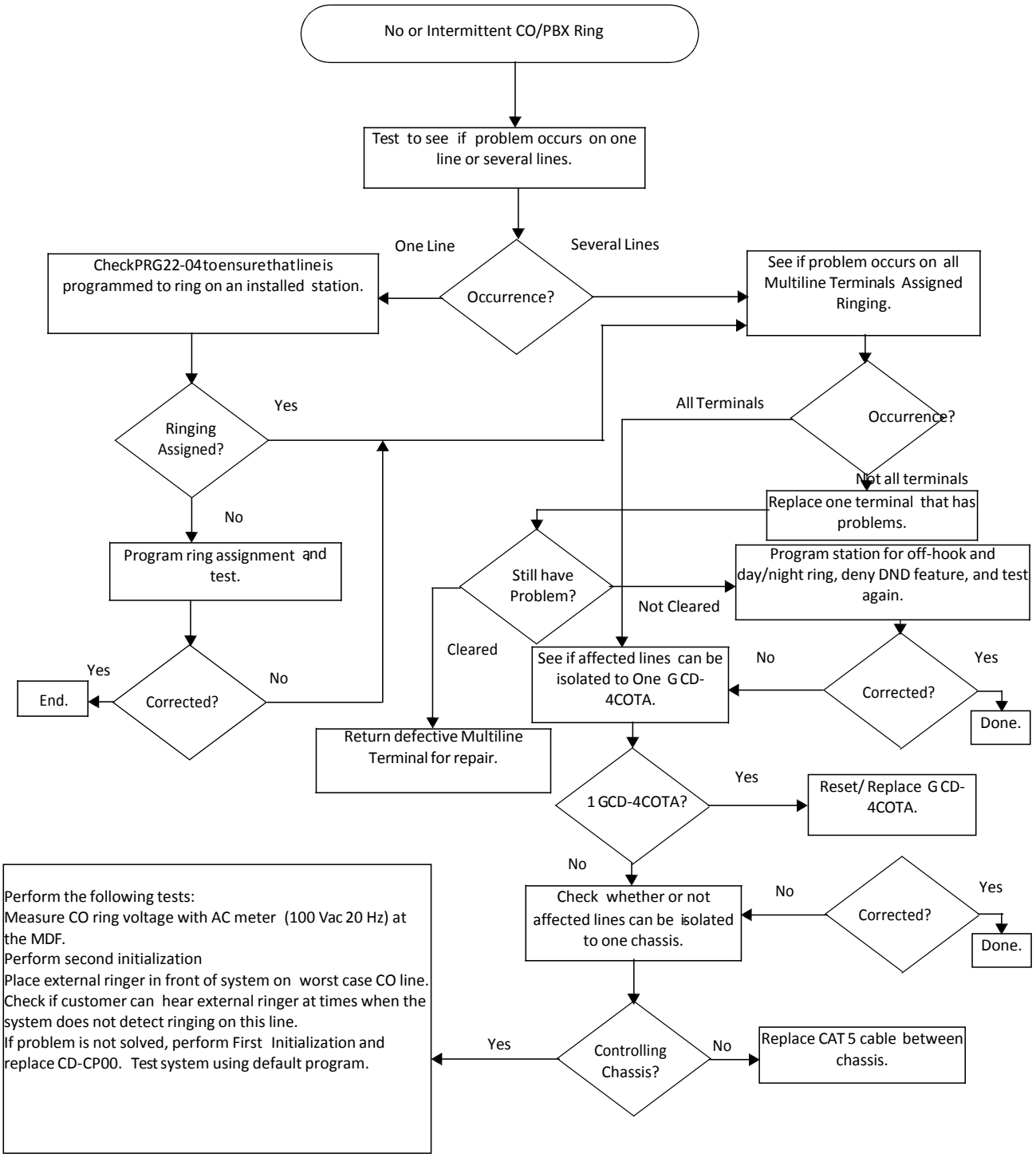
A2


No LED or Display Indications on any Multiline Terminal
Are LEDs on front of chassis panel lit on GCD-CP10or any other blade?
No
Check AC Input Power.
Yes
Terminate one Multiline Terminal to controlling chassis, 1st CD-8DLCA (Programming Station) directly to MDF and test.
Correct AC Power Problem.
Bad
AC Power?
Good
Check Station Cabling.
Yes
Terminal Indications?
No
Turn system Off. Disconnect connectors; remove all blades except GCD-CP10and first installed CD-8DLCA in controlling chassis, associated with the programming station.
Replace Fuse(s).
Bad
MPS7101 Fuses F1 and F2 good?
Good
Replace Corresponding Power Supply.
No Indication
Terminal Installed Indication?
Reset CD-8DLCA. If trouble persists, replace CD-8DLCA.
Done.
Yes
Problem Solved?
Correct Indication
No
Indications?
Correct
Rebuild System one blade at a time. If problem reappears replace defective blade(s).
Remove all blades but one CD-8DLCA, and retest.
Build system one blade at a time and replace bad blade(s).
Yes
Problem Solved?
None
1. If problem not solved, perform First Initialization and test. If trouble persists go to step 2.
2. Replace GCD-CP10and test system using default program.
No
Replace chassis.

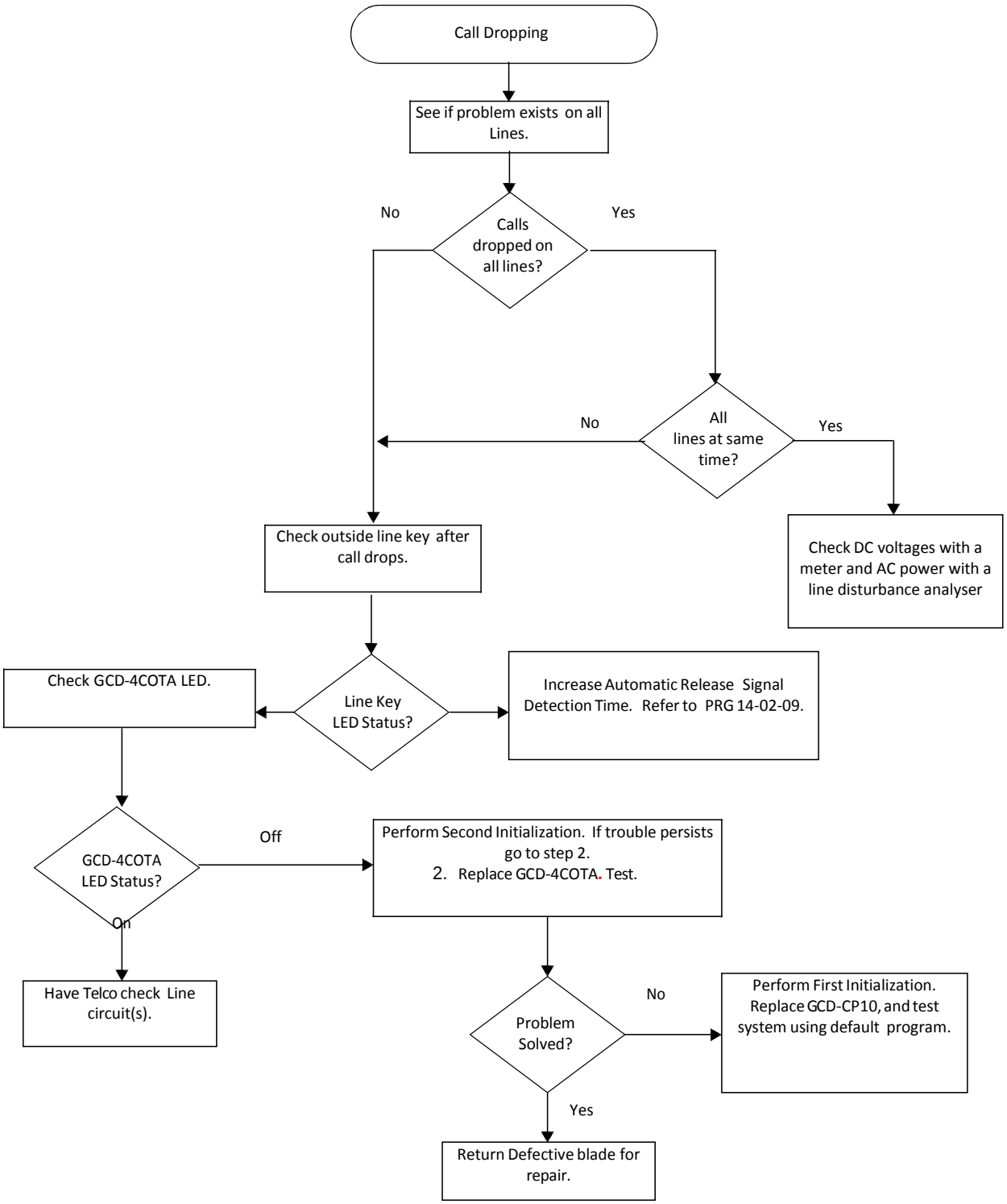
B1


Frequency Interference (RFI)
Is interference only on outside calls or anytime station is off-hook?
RFI Event?
Outside calls
Remove one CO line at MDF and test using standard SLT.
Any off-hook
No
RFI on CO Lines?
Yes
Telco.
Check cable for the affected terminal(s).
More than 1-pair Twisted
pair?
Ground all unused pairs at MDF.
Cable with 1-pair twisted pair cable.
RFI Cleared?
No
Yes
End
No
RFI Cleared?
Yes
End
You should investigate the source of the external RFI

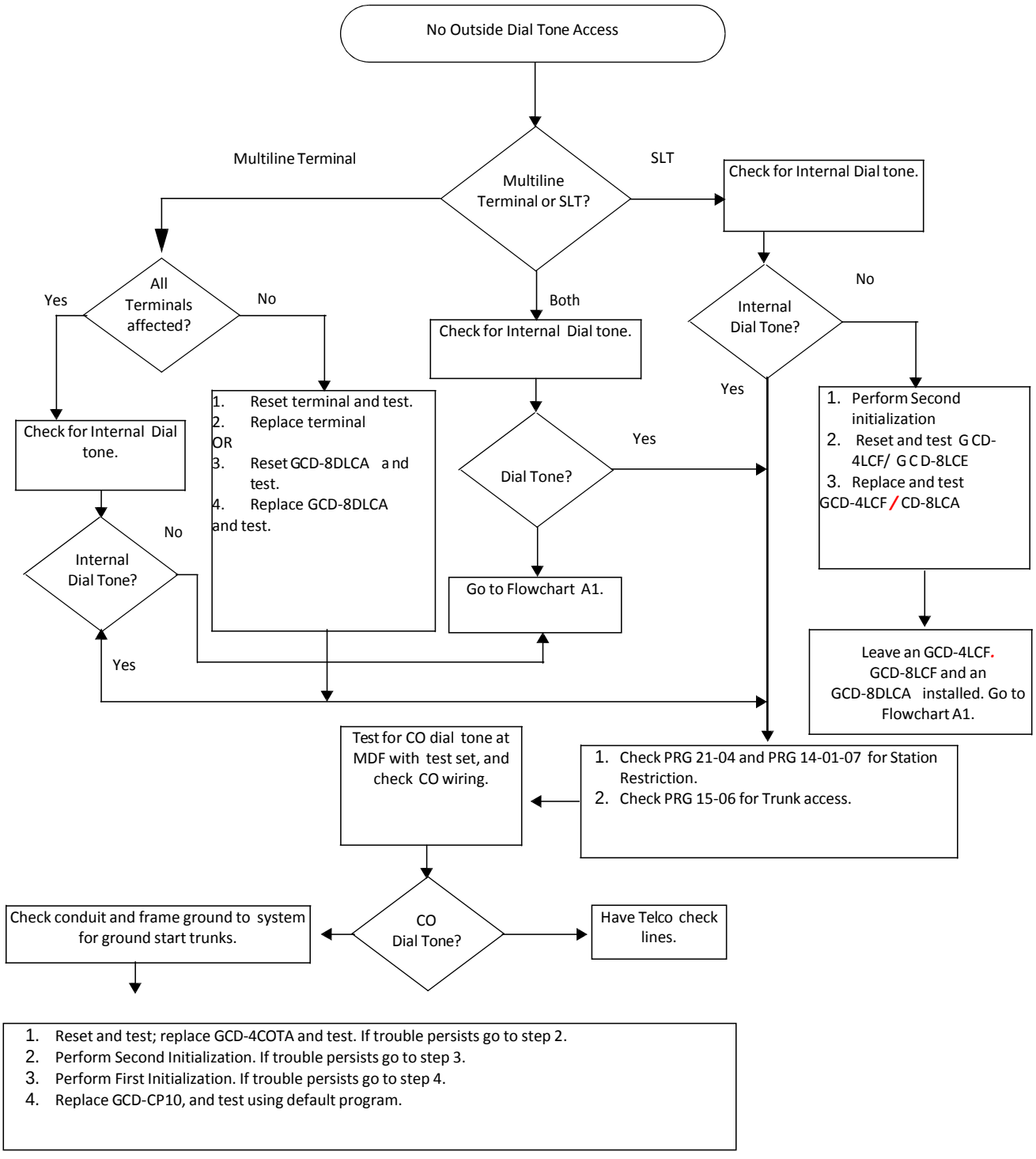
C1


No or Intermittent CO/PBX Ring
Test to see if problem occurs on one line or several lines.
One Line
Several Lines
Occurrence?
Check PRG22-04 to ensure that line is programmed to ring on an installed station.
See if problem occurs on all Multiline Terminals Assigned Ringing.
Ringing Assigned?
Yes
No
All Terminals
Occurrence?
Not all terminals
Replace one terminal that has problems.
Program ring assignment and test.
Still have Problem?
Program station for off-hook and day/night ring, deny DND feature, and test again.
Not Cleared
Cleared
Yes
End.
Corrected?
No
See if affected lines can be isolated to One GCD-4COTA.
No
Corrected?
Yes
Done.
Return defective Multiline Terminal for repair.
1 GCD-4COTA?
Yes
Reset/ Replace GCD-4COTA.
No
Check whether or not affected lines can be isolated to one chassis.
No
Corrected?
Yes
Done.
Perform the following tests:
Measure CO ring voltage with AC meter (100 Vac 20 Hz) at the MDF.
Perform second initialization
Place external ringer in front of system on worst case CO line.
Check if customer can hear external ringer at times when the system does not detect ringing on this line.
If problem is not solved, perform First Initialization and replace CD-CP00. Test system using default program.
Yes
Controlling Chassis?
No
Replace CAT 5 cable between chassis.

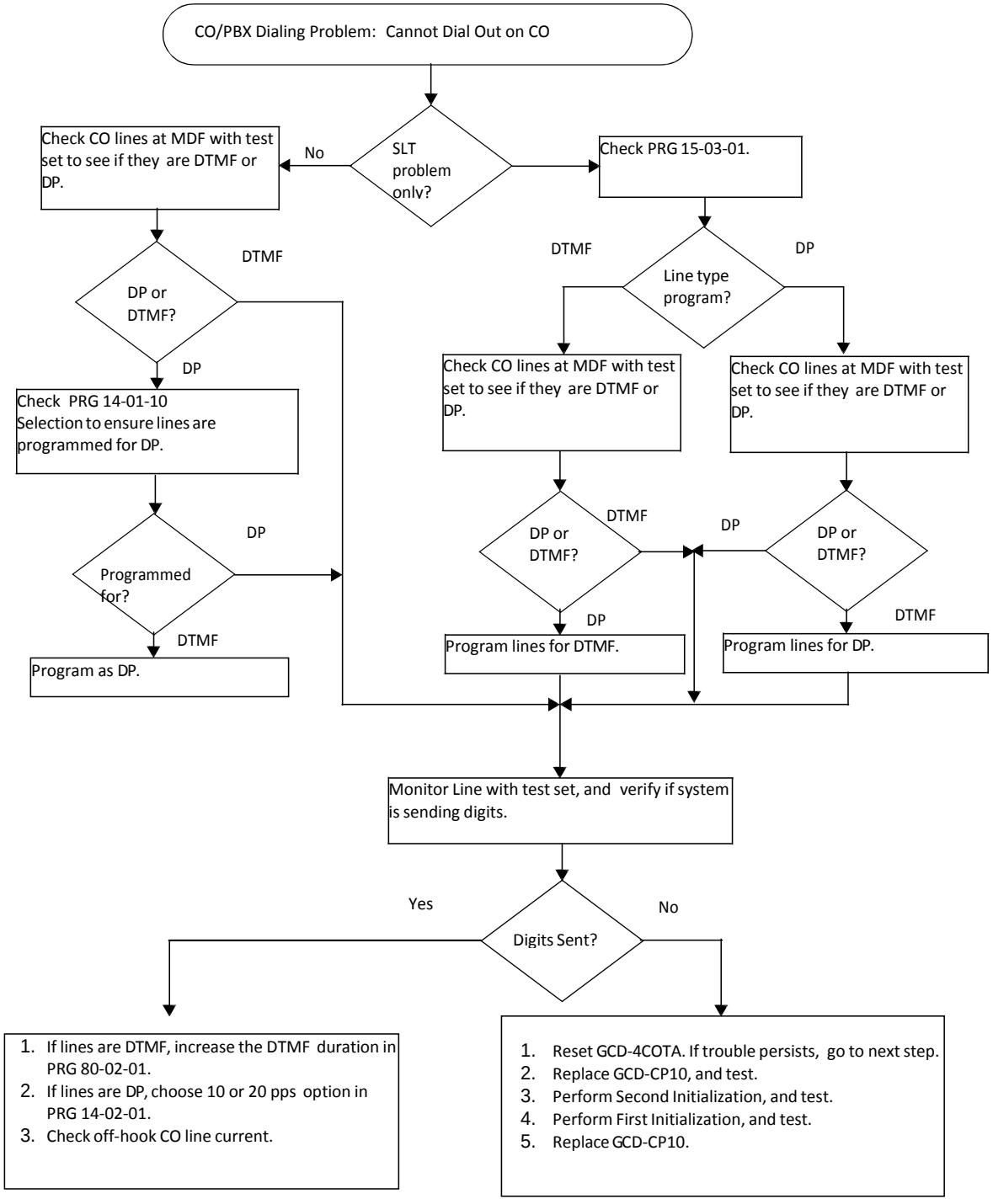
C2


Call Dropping
See if problem exists on all Lines.
Calls dropped on all lines?
No
Yes
All lines at same time?
No
Yes
Check outside line key after call drops.
Check DC voltages with a meter and AC power with a line disturbance analyser
Check GCD-4COTA LED.
Line Key LED Status?
Increase Automatic Release Signal Detection Time. Refer to PRG 14-02-09.
GCD-4COTA LED Status?
Off
On
Perform Second Initialization. If trouble persists go to step 2.
2. Replace GCD-4COTA. Test.
Have Telco check Line circuit(s).
Problem Solved?
No
Yes
Perform First Initialization. Replace GCD-CP10, and test system using default program.
Return Defective blade for repair.

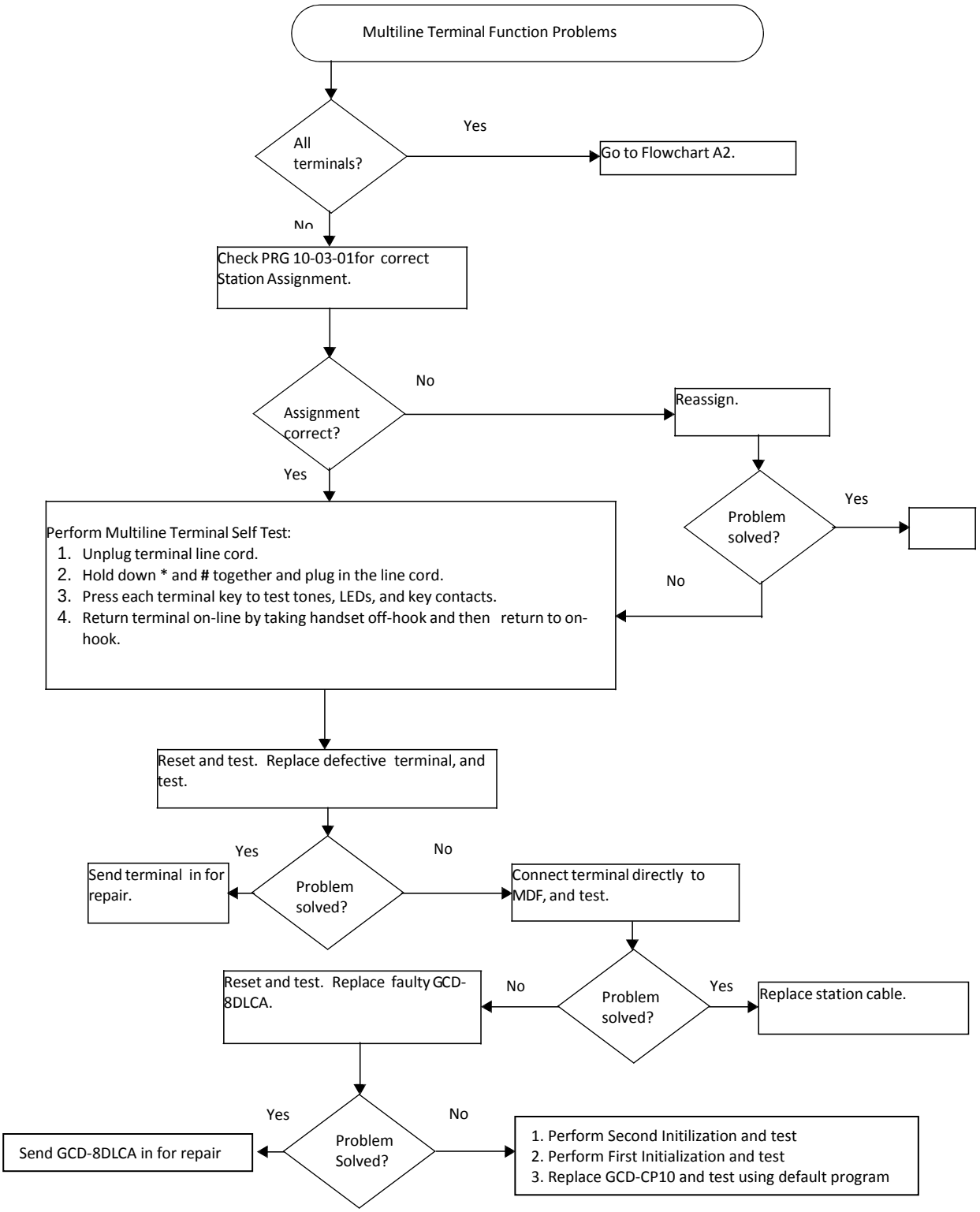
C3


No Outside Dial Tone Access
Multiline Terminal or SLT?
Multiline Terminal
SLT
Check for Internal Dial tone.
All Terminals affected?
Yes
No
Both
Internal Dial Tone?
No
Yes
Check for Internal Dial tone.
1. Reset terminal and test.
2. Replace terminal
OR
3. Reset GCD-8DLCA and test.
4. Replace GCD-8DLCA and test.
Dial Tone?
Yes
1. Perform Second initialization
2. Reset and test GCD-4LCF/ GCD-8LCE
3. Replace and test GCD-4LCF / CD-8LCA
Check for Internal Dial tone.
Internal Dial Tone?
No
Yes
Go to Flowchart A1.
Leave an GCD-4LCF. GCD-8LCF and an GCD-8DLCA installed. Go to Flowchart A1.
Test for CO dial tone at MDF with test set, and check CO wiring.
1. Check PRG 21-04 and PRG 14-01-07 for Station Restriction.
2. Check PRG 15-06 for Trunk access.
Check conduit and frame ground to system for ground start trunks.
CO Dial Tone?
Have Telco check lines.
1. Reset and test; replace GCD-4COTA and test. If trouble persists go to step 2.
2. Perform Second Initialization. If trouble persists go to step 3.
3. Perform First Initialization. If trouble persists go to step 4.
4. Replace GCD-CP10, and test using default program.

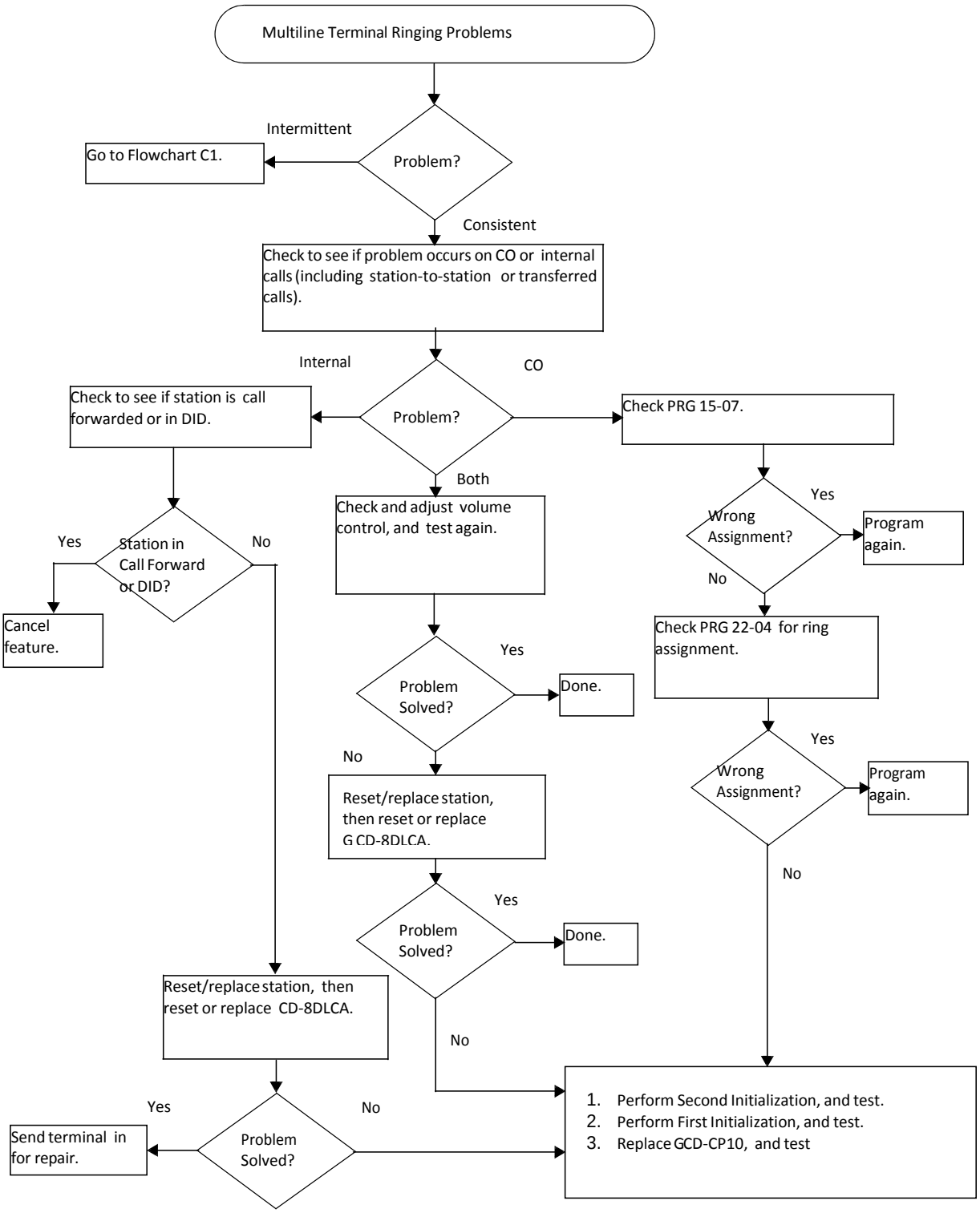
C4


CO/PBX Dialing Problem: Cannot Dial Out on CO
SLT problem only?
No
Check CO lines at MDF with test set to see if they are DTMF or DP.
Check PRG 15-03-01.
DP or DTMF?
DTMF
DP
Check PRG 14-01-10 Selection to ensure lines are programmed for DP.
Programmed for?
DP
DTMF
Program as DP.
Line type program?
DTMF
DP
Check CO lines at MDF with test set to see if they are DTMF or DP.
Check CO lines at MDF with test set to see if they are DTMF or DP.
DP or DTMF?
DTMF
DP
DP
Program lines for DTMF.
DP or DTMF?
DTMF
Program lines for DP.
Monitor Line with test set, and verify if system is sending digits.
Digits Sent?
Yes
No
1. If lines are DTMF, increase the DTMF duration in PRG 80-02-01.
2. If lines are DP, choose 10 or 20 pps option in PRG 14-02-01.
3. Check off-hook CO line current.
1. Reset GCD-4COTA. If trouble persists, go to next step.
2. Replace GCD-CP10, and test.
3. Perform Second Initialization, and test.
4. Perform First Initialization, and test.
5. Replace GCD-CP10.

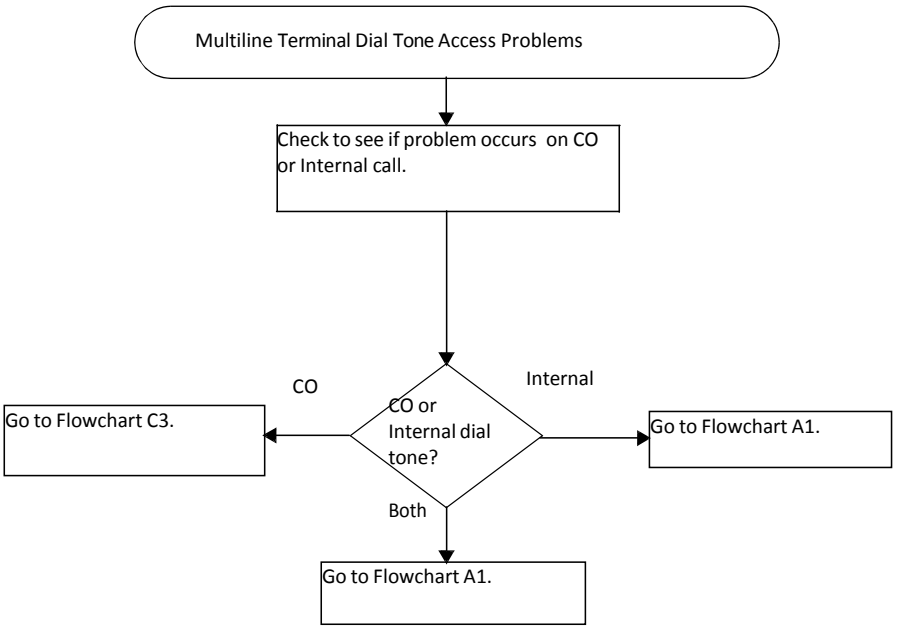
D1


Multiline Terminal Function Problems
All terminals?
Yes
Go to Flowchart A2.
No
Check PRG 10-03-01for correct Station Assignment.
Assignment correct?
No
Reassign.
Yes
Problem solved?
Yes
No
Perform Multiline Terminal Self Test:
1. Unplug terminal line cord.
2. Hold down * and # together and plug in the line cord.
3. Press each terminal key to test tones, LEDs, and key contacts.
4. Return terminal on-line by taking handset off-hook and then return to on-hook.
Reset and test. Replace defective terminal, and test.
Yes
Problem solved?
No
Send terminal in for repair.
Connect terminal directly to MDF, and test.
Reset and test. Replace faulty GCD-8DLCA.
No
Problem solved?
Yes
Replace station cable.
Yes
Problem Solved?
No
Send GCD-8DLCA in for repair
1. Perform Second Initilization and test
2. Perform First Initialization and test
3. Replace GCD-CP10 and test using default program

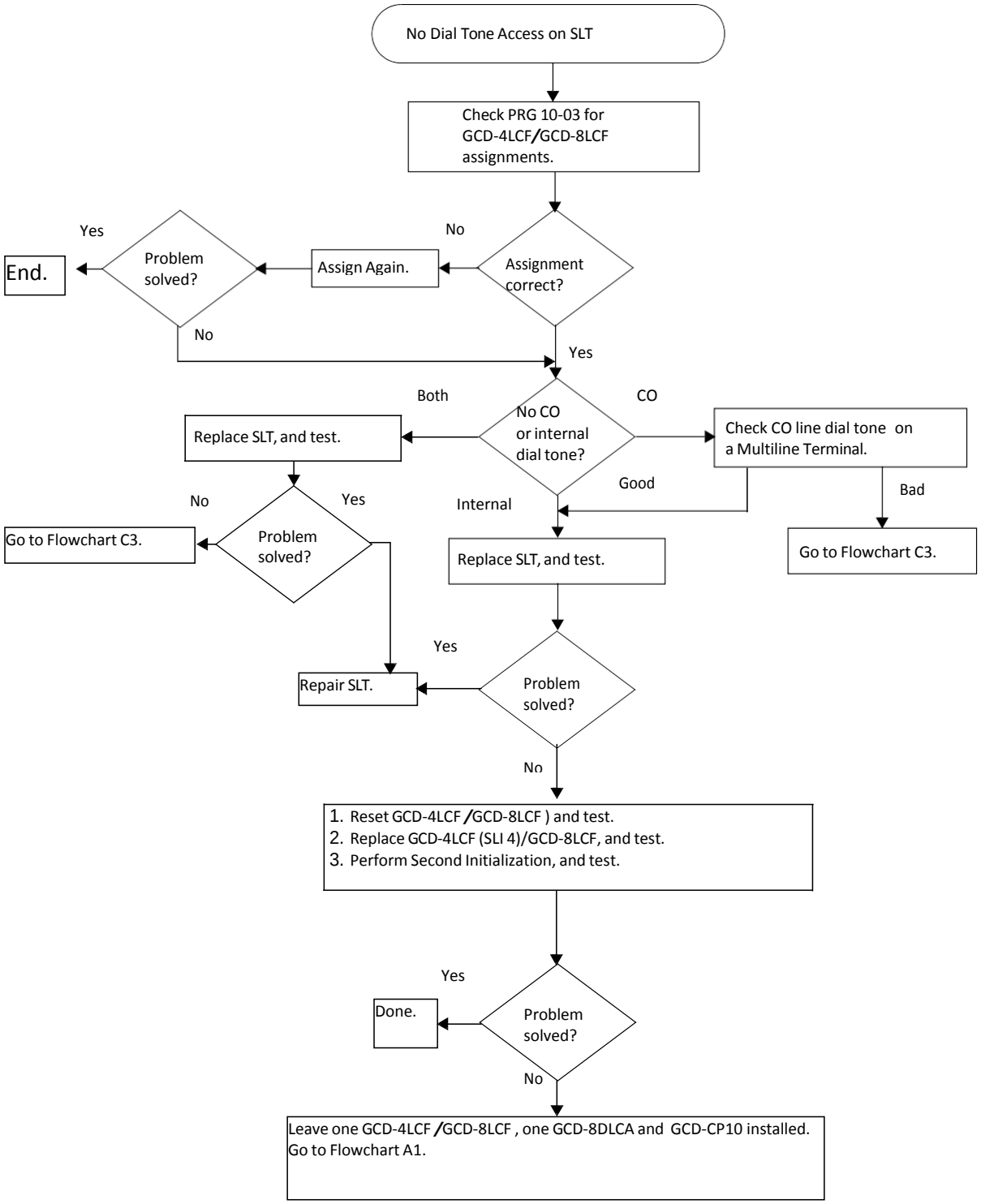
D2


Multiline Terminal Ringing Problems
Problem?
Intermittent
Go to Flowchart C1.
Consistent
Check to see if problem occurs on CO or internal calls (including station-to-station or transferred calls).
Problem?
Internal
CO
Check to see if station is call forwarded or in DID.
Check PRG 15-07.
Station in Call Forward or DID?
Yes
No
Cancel feature.
Both
Check and adjust volume control, and test again.
Wrong Assignment?
Yes
Program again.
No
Check PRG 22-04 for ring assignment.
Problem Solved?
Yes
Done.
No
Reset/replace station, then reset or replace GCD-8DLCA.
Wrong Assignment?
Yes
Program again.
No
Problem Solved?
Yes
Done.
No
Reset/replace station, then reset or replace CD-8DLCA.
Problem Solved?
Yes
No
Send terminal in for repair.
1. Perform Second Initialization, and test.
2. Perform First Initialization, and test.
3. Replace GCD-CP10, and test

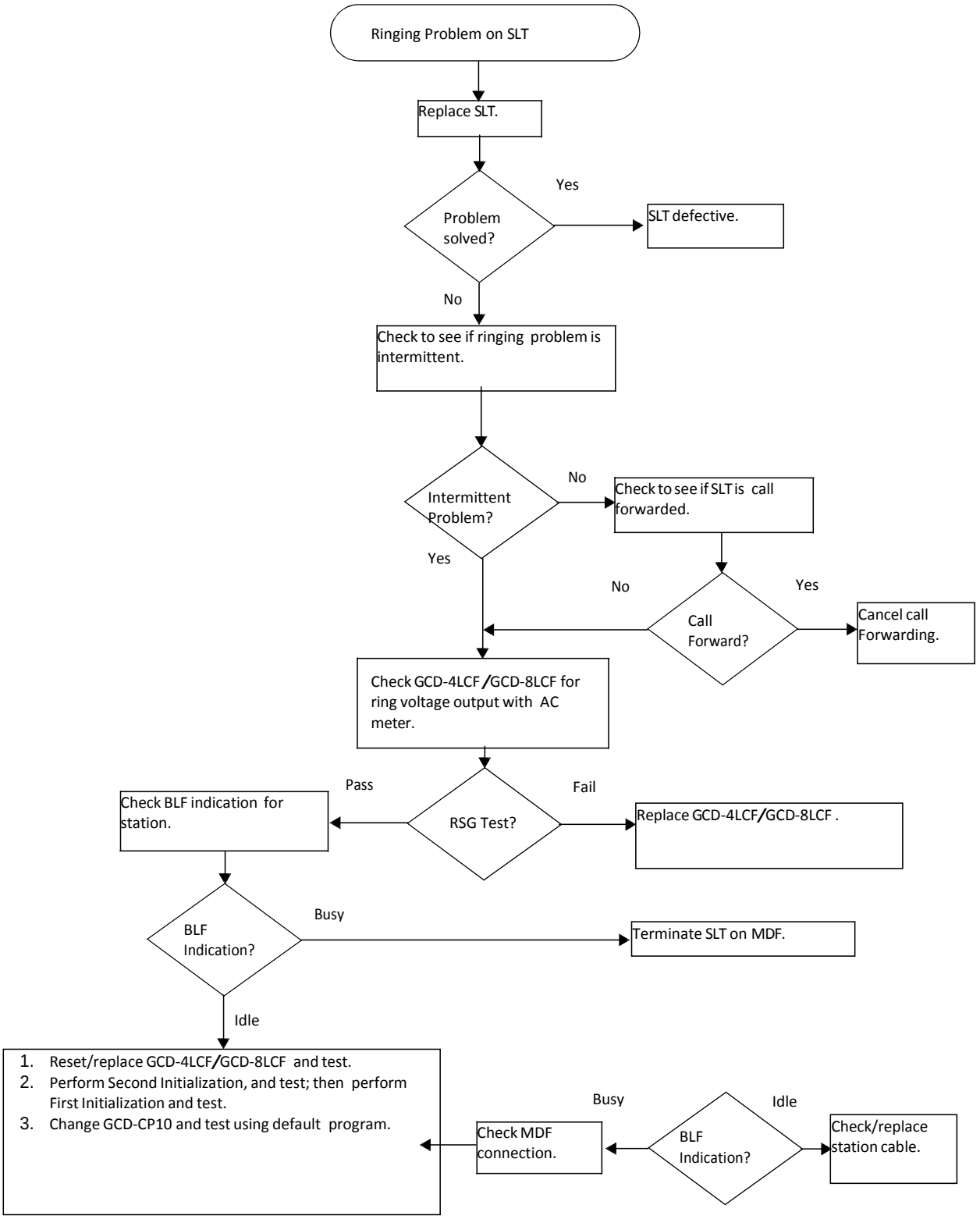
D3


Multiline Terminal Dial Tone Access Problems
Check to see if problem occurs on CO or Internal call.
CO
Internal
CO or Internal dial tone?
Go to Flowchart C3.
Go to Flowchart A1.
Both
Go to Flowchart A1.

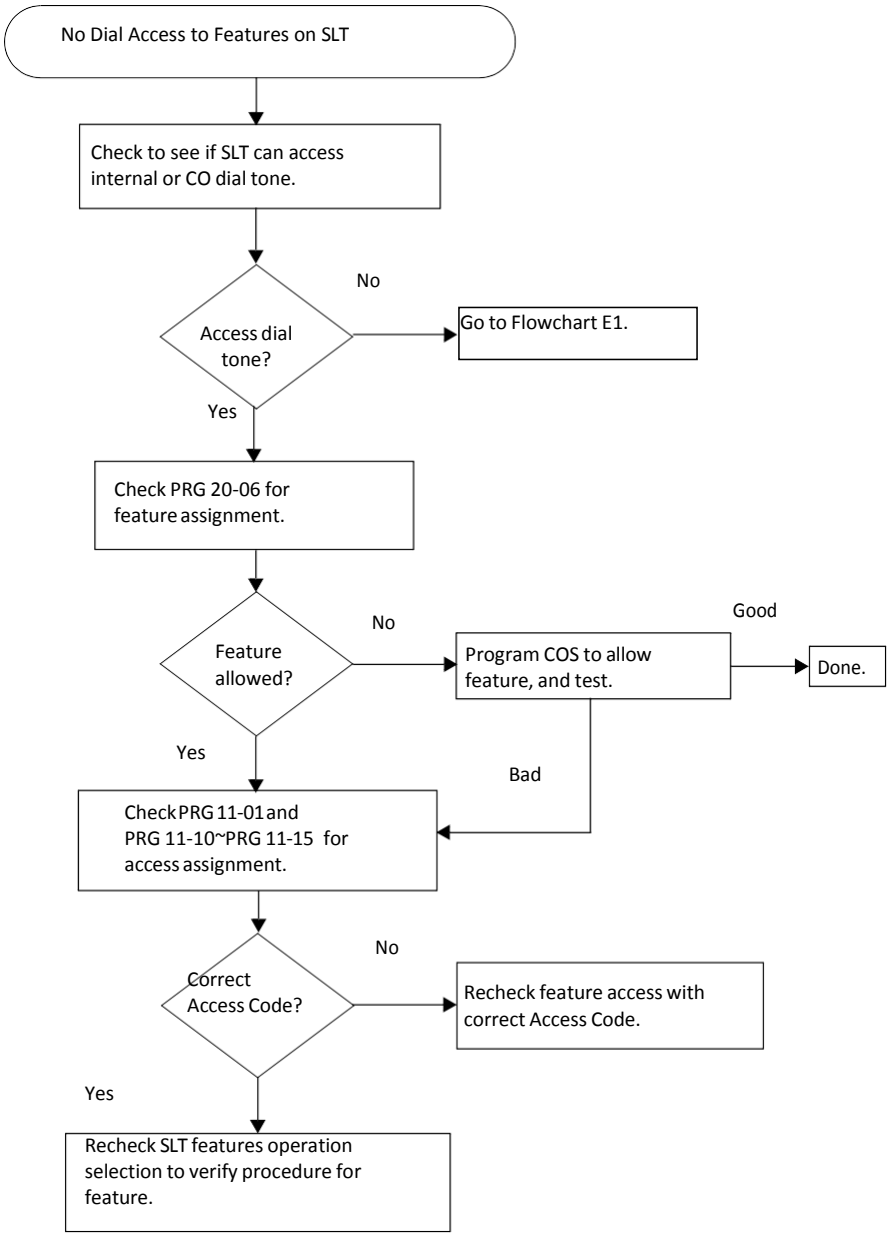
E1


No Dial Tone Access on SLT
Check PRG 10-03 for GCD-4LCF/GCD-8LCF assignments.
Assignment correct?
No
Assign Again.
Problem solved?
Yes
End.
No
Yes
No CO or internal dial tone?
Both
CO
Replace SLT, and test.
Check CO line dial tone on a Multiline Terminal.
Good
Bad
Internal
Problem solved?
No
Yes
Go to Flowchart C3.
Replace SLT, and test.
Go to Flowchart C3.
Problem solved?
Yes
Repair SLT.
No
1. Reset GCD-4LCF /GCD-8LCF) and test.
2. Replace GCD-4LCF (SLI 4)/GCD-8LCF, and test.
3. Perform Second Initialization, and test.
Problem solved?
Yes
Done.
No
Leave one GCD-4LCF /GCD-8LCF , one GCD-8DLCA and GCD-CP10 installed.
Go to Flowchart A1.

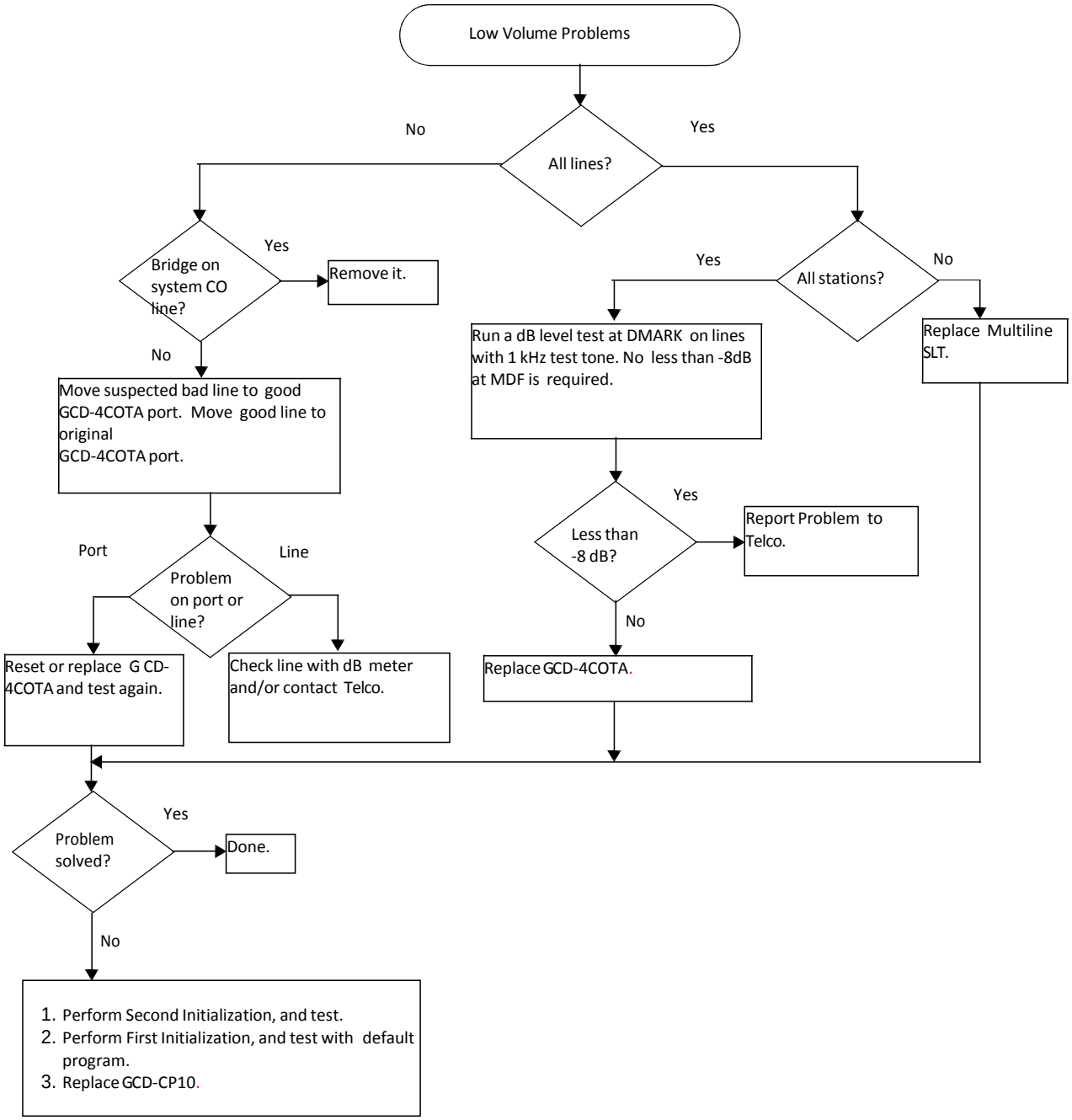
E2


Ringing Problem on SLT
Replace SLT.
Problem solved?
Yes
SLT defective.
No
Check to see if ringing problem is intermittent.
Intermittent Problem?
No
Check to see if SLT is call forwarded.
Yes
Call Forward?
No
Yes
Cancel call Forwarding.
Check GCD-4LCF/GCD-8LCF for ring voltage output with AC meter.
RSG Test?
Pass
Fail
Check BLF indication for station.
Replace GCD-4LCF/GCD-8LCF .
BLF Indication?
Busy
Terminate SLT on MDF.
Idle
1. Reset/replace GCD-4LCF/GCD-8LCF and test.
2. Perform Second Initialization, and test; then perform First Initialization and test.
3. Change GCD-CP10 and test using default program.
Check MDF connection.
Busy
BLF Indication?
Idle
Check/replace station cable.

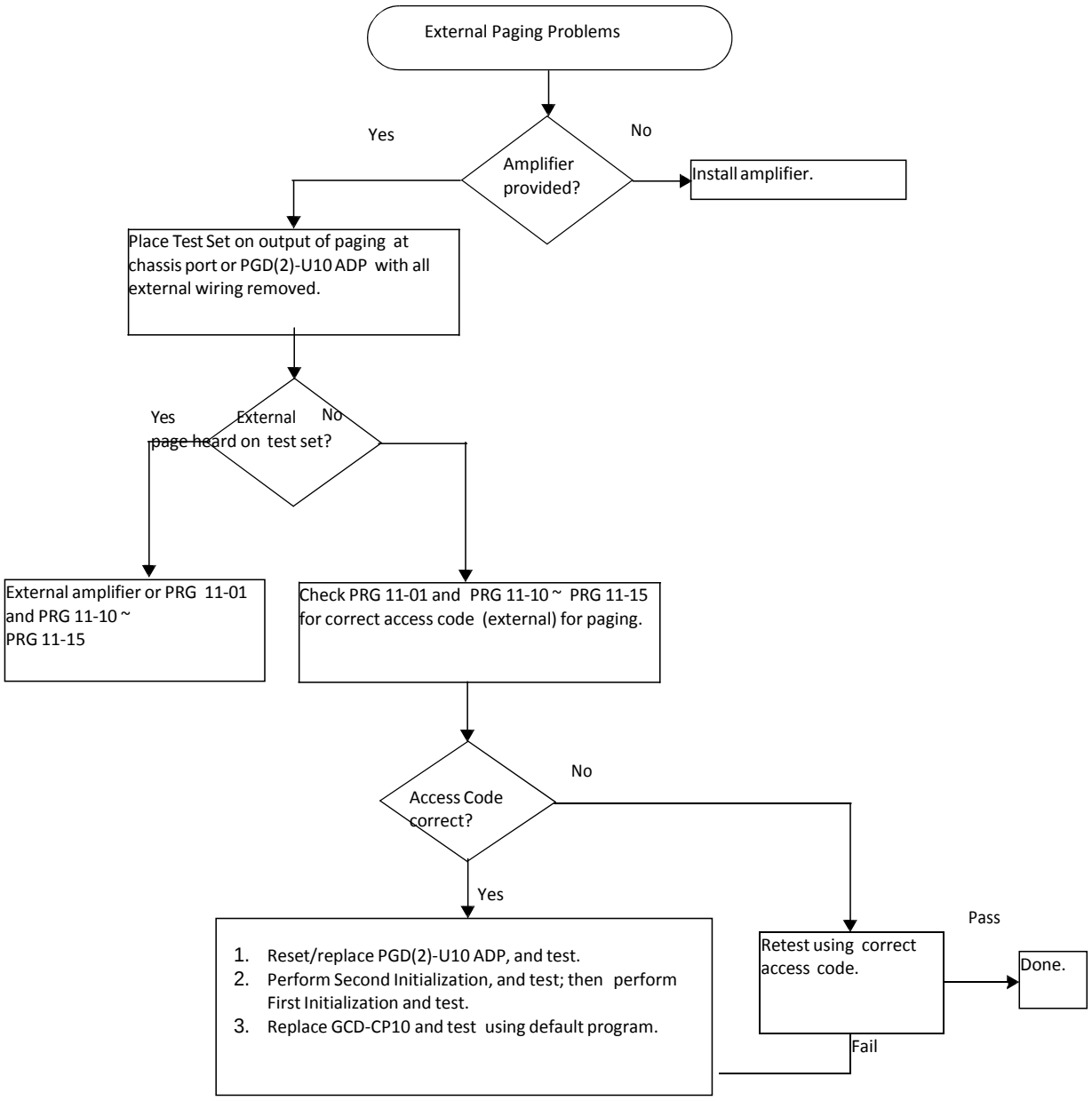
E3


No Dial Access to Features on SLT
Check to see if SLT can access internal or CO dial tone.
Access dial tone?
No
Go to Flowchart E1.
Yes
Check PRG 20-06 for feature assignment.
Feature allowed?
No
Program COS to allow feature, and test.
Good
Done.
Bad
Yes
Check PRG 11-01 and PRG 11-10~PRG 11-15 for access assignment.
Correct Access Code?
No
Recheck feature access with correct Access Code.
Yes
Recheck SLT features operation selection to verify procedure for feature.

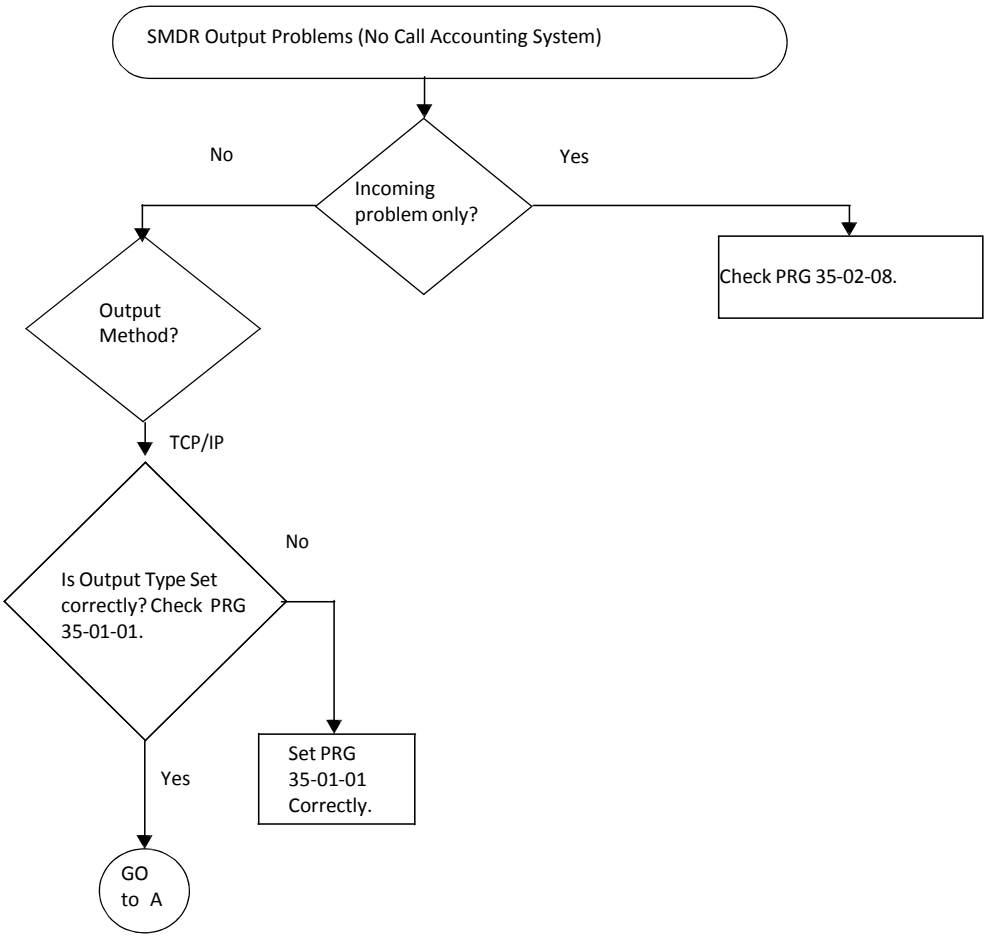
F1

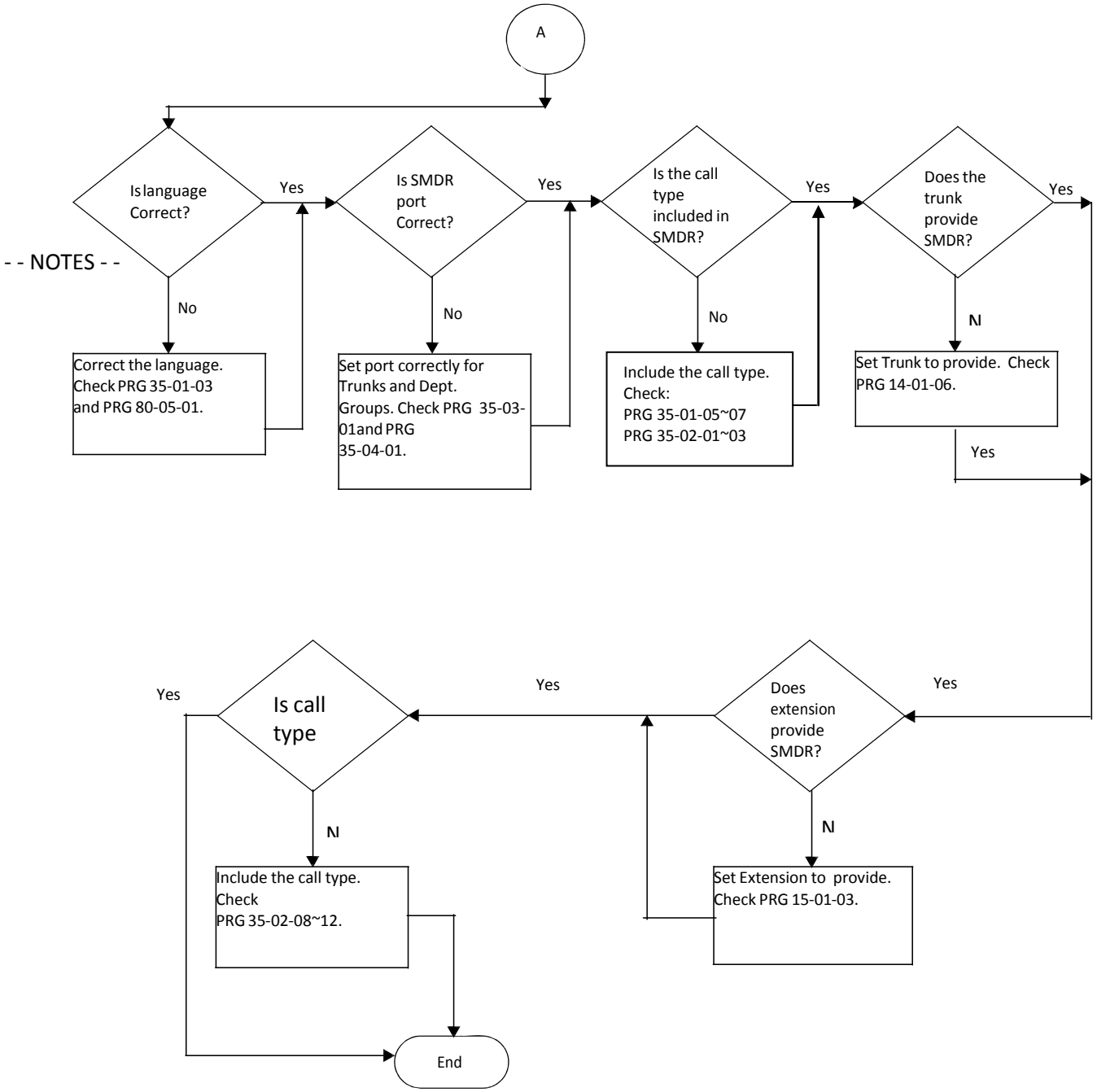

Low Volume Problems
All lines?
No
Yes
Bridge on system CO line?
Yes
Remove it.
No
Move suspected bad line to good GCD-4COTA port. Move good line to original GCD-4COTA port.
Port
Line
Problem on port or line?
Reset or replace G CD-4COTA and test again.
Check line with dB meter and/or contact Telco.
All stations?
Yes
No
Run a dB level test at DMARK on lines with 1 kHz test tone. No less than -8dB at MDF is required.
Replace Multiline SLT.
Less than -8 dB?
Yes
Report Problem to Telco.
No
Replace GCD-4COTA.
Problem solved?
Yes
Done.
No
1. Perform Second Initialization, and test.
2. Perform First Initialization, and test with default program.
3. Replace GCD-CP10.

G1


External Paging Problems
Yes
No
Amplifier provided?
Install amplifier.
Place Test Set on output of paging at chassis port or PGD(2)-U10 ADP with all external wiring removed.
Yes
External page heard on test set?
No
External amplifier or PRG 11-01 and PRG 11-10 ~ PRG 11-15
Check PRG 11-01 and PRG 11-10 ~ PRG 11-15 for correct access code (external) for paging.
Access Code correct?
No
Yes
1. Reset/replace PGD(2)-U10 ADP, and test.
2. Perform Second Initialization, and test; then perform First Initialization and test.
3. Replace GCD-CP10 and test using default program.
Retest using correct access code.
Pass
Done.
Fail

H1


SMDR Output Problems (No Call Accounting System)
Incoming problem only?
No
Yes
Check PRG 35-02-08.
Output Method?
TCP/IP
Is Output Type Set correctly? Check PRG 35-01-01.
No
Set PRG 35-01-01 Correctly.
Yes
GO to A


A
Is language Correct?
Yes
No
Correct the language. Check PRG 35-01-03 and PRG 80-05-01.
Is SMDR port Correct?
Yes
No
Set port correctly for Trunks and Dept. Groups. Check PRG 35-03-01and PRG 35-04-01.
Is the call type included in SMDR?
Yes
No
Include the call type. Check: PRG 35-01-05~07 PRG 35-02-01~03
Does the trunk provide SMDR?
Yes
No
Set Trunk to provide. Check PRG 14-01-06.
Yes
Does extension provide SMDR?
Yes
No
Set Extension to provide. Check PRG 15-01-03.
Is call type
Yes
No
Include the call type. Check PRG 35-02-08~12.
End
- - NOTES - -

Diagnostics

SECTION 1 WHAT IS AVAILABLE?

The SV9100 has a Diagnostic Interface Module (DIM) built into the GCD-CP10 (CPU) blade. The DIM can monitor the activity of the system under the control of commands entered by the engineer. The DIM is accessed via the Ethernet interface of the GCD-CP10 blade.

SECTION 2 BEFORE YOU START

As well as monitoring the system, the DIM can also be used to change the operation of the system.

For this reason **DO NOT** enter the following commands, as they will cause a system restart:

- RESET
- RESTART
- SHUTDOWN
- or any other command that looks like a reset request.

Some DIM commands give a real time output when the command is entered, others will give an output until you enter the command that turns it off. You can turn on multiple DIM outputs by entering relevant commands one after the other.

The SV9100 will continue to operate normally with the DIM is running.

The SV9100 GCD-CP10 can slow down when the DIM is running on a busy SV9100 system. This is unavoidable, as the GCD-CP10 must process all system activity and output the corresponding information to the DIM.

SECTION 3 TO LOG ON TO THE DIM

Access to the DIM has changed from the SV8100 in the following way:

- Access via port number 5963 is not available, this has been completely removed and cannot be enabled.
- User ID **monimoni** and password **hihi** are not available.
- Access must now be enabled on each system via the user access to the DIM.

User Access to the DIM
PRG Command setup
10-20-06 – DIM Output – Enter the TCP Port for DIM Access (eg **5964**)
90-31-01 – Enable DIM access
Username (default = **SV9100**)
Password (default = **12345678**)

Easy Edit
Advanced Items – Maintenance – DIM Access Password

Note - It is strongly recommended that you change the default username and password after enabling DIM access.

Connect locally via Ethernet Socket of the GCD-CP10 card.

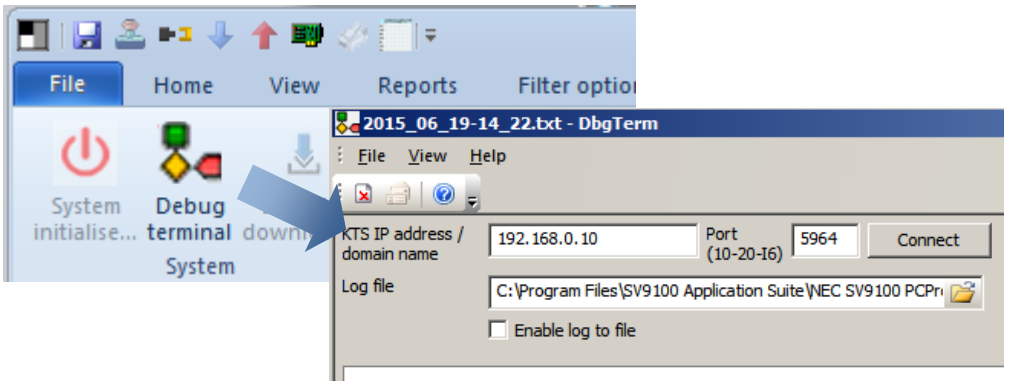
Connect to GCD-CP10 Ethernet socket using a crossover cable or via a hub. Set the IP address of your NIC card within the range of the SV9100 GCD-CP10. The default IP address of the GCD-CP10 is **192.168.0.10** (Sub Net Mask = **255.255.255.0**)

Connect Via PCPro Debug Terminal

Using SV9100 PCPro Debug Terminal or a terminal application (e.g. Hyperterminal, set the connection to TCP/Winsock).

The Host IP address is set by Program 10-12-01 on the SV9100. The default is **192.168.0.10**.

The port number is defined in CMD 10-20-06.



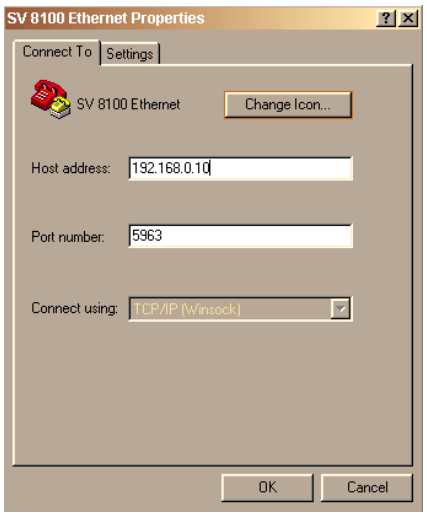


Figure 3-1 SV9100 Ethernet Properties – PCPro or Terminal Application

When the connection is made the following information is required:

User ID: defined in CMD 90-31-02 (default = SV9100)
Password: defined in CMD 90-31-03 (default = 12345678)
Connection to the DIM is made and system activity is observed. Refer to Figure 3-2 SV9100 System Activity.

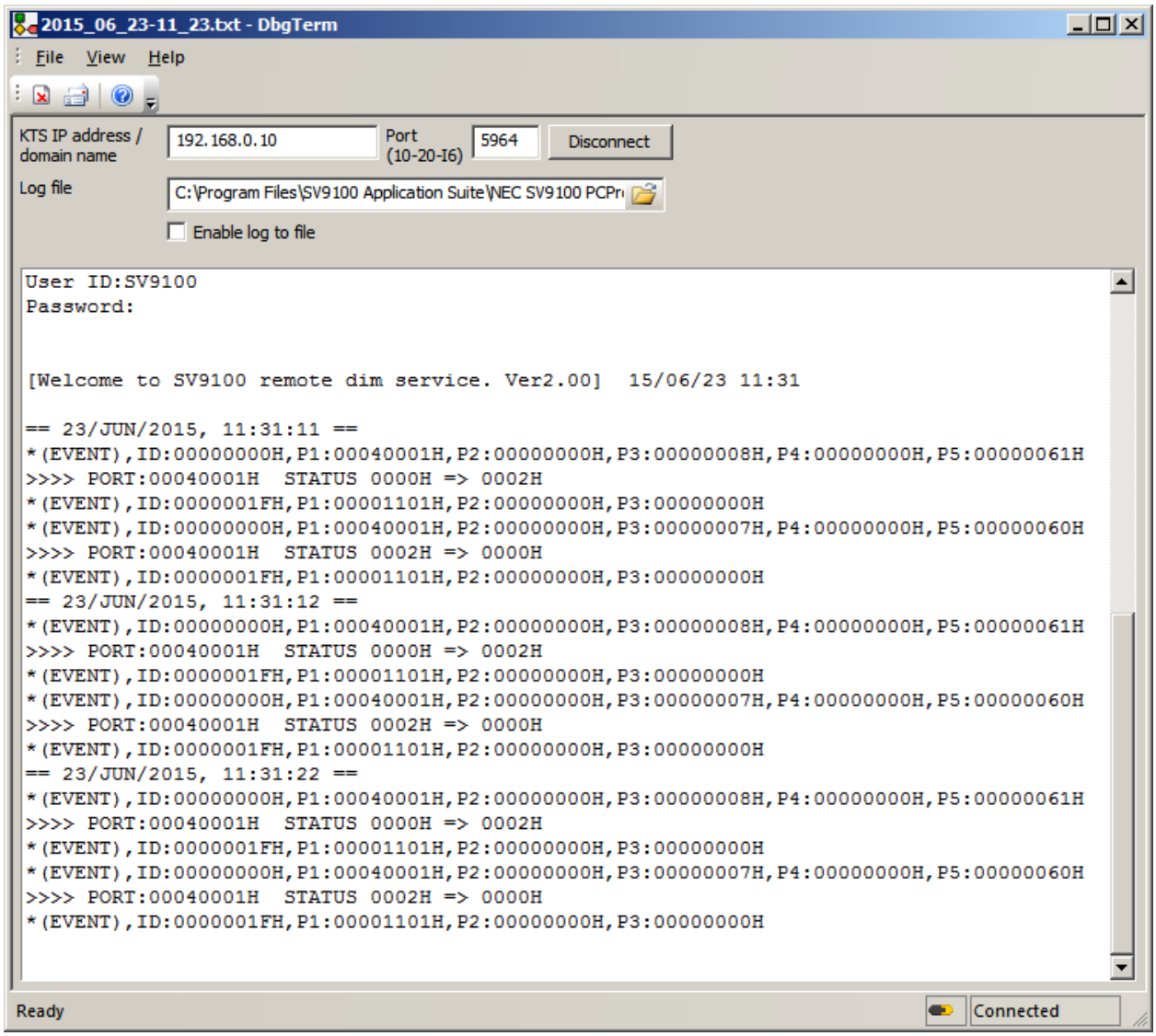


Figure 3-2 SV9100 System Activity

SECTION 4 TO DISCONNECT FROM THE DIM

Turn off any DIM commands that you have enabled. Refer to Section 5 SV9100 DIM.

Disconnect from the terminal session.

SECTION 5 SV9100 DIM COMMANDS

Once connected to the DIM, commands are entered by typing the command (with correct syntax), and pressing **Enter**.

To display the list of DIM commands available on the SV9100 type: **help**

Type Command	Displayed result
DATE	Date/Time
RB	Read 8bits
RW	Read 16bits
RD	Read 32bits
WB	Write 8bits
WW	Write 16bits
WD	Write 32bits
DUMP	Memory Dump
FILL	Memory Fill
MEMSET	Memory Fill
MEMCPY	Memory Copy
MEMCMP	Memory Compare
CMP	File Compare
RESET	Self-restart
MAIL	Post a mail
SLOT	Slot control
INFO	Informations
DEL	FILE DEL
MKDIR	CREATE DIR
RMDIR	DELETE DIR
DIR	DIR
FILEOPEN	FILE OPEN
FILECLOSE	FILE CLOSE
FILEWRITE	FILE WRITE
FILEREAD	FILE READ
TYPE	FILE DISP
COPY	FILE COPY
FDUMP	FILE DUMP(Binary)
RENAME	FILE RENAME
DSP	DSP direct r/w
POWER	Power management
CALLKEY	am::Callkey module
ESIU	ESIU control
E1IU	E1IU control
MFC	MFC control

Type Command	Displayed result
HELP	This help
SYSDT	System data
OFFLINE	OFFLINE
OFFLINESERVER	Offline Server Tracer Flag
OPMS	OPMS info
IP	IP monitor
VOIPU	VOIPU
GKDEBUG	Simple GK Debug
VOIPCCDEBUG	VoIP CC Debug
CIM	Class No Edit
TMR	ctmr:: Module
TRLOGOUT	Trillium Debug
NGTDEBUG	Ngt Debug
OPMSDEB	OPMS DEBUG
IOCSDEB	IOCS DEBUG
DTIP	DTIP DEBUG
EVNTCTRL	Event Controller
CIDTX	Caller ID sender
IPPATH	IP JITTER & SW
P2PSTS	p2pStatus[] Disp
NWINFO	Networking Informations
TRLHC	Trillium HC layer debug information
TRLRSRC	Trillium Resource Information
TRLSO	Trillium SO layer debug Information
STATUS	Show the Status
PRGINFO	PRGINFO
NDC	new/delete checker
PING	Ping Command
DETECTOR	Detector Assignment
BARGE	dump barge info
IVM	Intra VM Debug
VMUAID	IntraMail VMU Aid
REST	Restriction Debug
GAIN	Gain Trace
LOOP	Loop key Trace
PATH	Path Control Deubg
ALMINFO	System Alarm Information
DIMLOG	DIMLOG Control
BREAK	User break
TBCT	TBCT debug command
PASSWD	System password control
DTERMIP	DtermIP Log Info

Type Command	Displayed result
CIDINCOM	CallerID Incoming
CCIS	CCIS Debug command
LICENSE	License Info
REMOTECONF	Remote Conference command
GUIDE	Guidephone debug command
VLP	Virtual Loop Back Command
SIPSTA	SIP Station command
CPM	CPM command
SPI	SPI command
PKGRESET	Package Reset
BID	SHOW Board ID
CODEC	On board Codec ctl
WDT	Watch-dog timer cntrol
SIPMLT	SIP MLT Debug
CYGNET	Cygnus-Net command
VSLOT	Virtual Slot command
VOIPUIF	VOIPUIF Debug Command
DEBUG	DEBUG command for Cygnus Package
TIM	TerminalInfoModule(TIM) command
D95	Dterm95 debug command
CYGV	CygnusLink-Voice debug command
IFCONFIG	LAN CONTROLER STATICS
QMC	QMC Driver
MNT	Maintenance Control Debug command
REPINFO	Replication Debug
SEC	SecurityEngineCore Debug
NUNETINFO	Nucleus Net infomation
MODEM	MODEM Debug
MDB	mdb info
TRB	info
I2C	
NURSE	Nurce Call Debug
ACD	Acd Debug
CAPS	CAPS Debug Log on/off
Q931	Q931 Debug Log on/off
SRAM	SRAM Information Check
PNUM	PortNumberInfo
DIRDECT	IP DECT dir dialing Debug
MOBILEEX	Mobile Extension Debug(JP Only)
PORTLIMIT	Port Limitation info
CAMP	Camp-on Debug

Type Command	Displayed result
VOIPDB	VOIPDB Debug Command
IG001	iG001 Config
SIPLINK	SIP NETLINK DEBUG
DIRDIAL	Directory Dialing Debug Command
OBIPC	OBIPC Debug
KDDISMS	KDDI SMS Debug
H245IF	H245IF Debug Command
LLC	Line Load Control Debug
SMBC	SMBC Cloud Debug
LOGGING	Call Logging Debug
UC	UC Debug
MDS	Multi Device Support Debug
FILEUD	FILE USER INFO
APP	Onboard Application Debug

SECTION 6 COMMON DIM COMMANDS

Enter	Function	DIM Output
Mail in 0 0 0 0	Output of all system activity is turned on. No ISDN information output.	Enter CAPS debug mode. The activity of all extensions and lines is output.
Mail in 0 0 0 0	Output of all system activity is turned off.	Exit CAPS debug mode.

Enter	Function	DIM Output
Mail in 0 0 1 2	Output of all ISDN activity on the system is turned on.	Enter ISDN debug mode. master current bid : xxH master current line : xxH The activity of all ISDN blades will be output.
Mail in 0 0 1 2	Output of all ISDN activity on the system is turned off.	Exit ISDN debug mode.

- When the ISDN output is turned on, the DIM will output the ISDN blade slot and circuit that is currently set as the master clock for the system.
- The slot number is shown by master current bid : xxH (xx is the slot number in hexadecimal).
- The circuit of the blade is shown by master current line : xxH (xx is the circuit number in hexadecimal).

The output is shown similar to that of an ISDN Layer 3 analyzer:

SEND PORT = 4C001FH S ISDN : >>>>>>>>>>>>>>>>>>>> 11 A1 11 02 01 00 08 01 84 0D 18 01 89 1e 02 82 88	 USL (3,2) SETUP ACK REQ Callref: DES (4), SETUP ACKNOWLEDGE Channel identification [B1 channel (exclusive)] Progress indicator

Example shown above:

4C001FH

The logical port type and number of the ISDN circuit on the SV 9100. **4C** indicates S-point port type (see reading traces later in this manual) **0 0 1F** is the port number in hexadecimal
S ISDN : >>>>>>>>>>>>>>>>

The direction of the event. **S >>>** indicates Send, **R <<<** indicates Receive.

USL(3,2),

The slot and circuit number of the ISDN card that the event was sent/received on.

If you have more than one ISDN card in the system, the slot and circuit number can be identified by this information.

The first number is the slot number in decimal (**3** in this example). The second number is the circuit in decimal (**2** in this example).
The remainder of the information is appropriate to the type of message and is similar to an ISDN analyzer.

SECTION 7 SV9100 NET DIM COMMANDS

Enter	Function	DIM Output		
NWINFO	Lists the commands available	NWINFO	DEBUG	Networking Debug Information [ON|OFF]
		NWINFO	RSRC	Netport Reosurce Controller
		NWINFO	BLF	Blf Memory Dump
		NWINFO	TCPINIT	Dummy CR data send Task refresh
		NWINFO	TCPDEBUG [ON|OFF]	Networking TCP Information Debug
		NWINFO	TCPSHOW	Networking TCP Information showing
		NWINFO	CALLINFO	Networking Call Status Information
		NWINFO	KEEPALIVE	Networking KeepAlive Information
		NWINFO	SYSTEM	Networking System Information
		NWINFO	OPCHG	Networking error operation change
		NWINFO	PARKHOLD	Parkhold debug information
		NWINFO	CALLID	Networking CallID mode selection
		NWINFO	CHSHOW	Show ch condition LED on Dterm
		NWINFO	ROAMING	PHS Roaming Debug
		NWINFO	TASKINIT	NwInfoSend task initialize
		NWINFO	TASKKP	Nwsend Task Keepalive setting
		NWINFO	VMI	Remote VMI information

To display the syntax for each command – type in the command. Example:
nwinfo parkhold

NWINFO PARKHOLD DEL Deletes the specified parkhold

NWINFO PARKHOLD SHOW Shows the specified parkhold information
NWINFO PARKHOLD MODE Changes Networking Parkhold mode [RUN|STOP]
NWINFO PARKHOLD DEBUG Park Hold Trace Information [ON|OFF]
NWINFO PARKHOLD CLEAR Park Hold Clear at All of systems
NWINFO PARKHOLD DEL <park group no> <park orbit>

(The values within the brackets are the specific number related to the command, the brackets are not entered.)

In the NWINFO PARKHOLD DEL command to delete park hold orbit 04 that is within park group 01 you would enter: **nwinfo parkhold del 01 04**

nwinfo debug on should only be used in the lab (or after normal working hours at a customer site), as it causes a large amount of information to be output and can slow the SV9100.

- Date

Enter	Function	DIM Output
date	Displays the current date / time and general system information including GCD-CP10 software version and PAL type.	Current date/time : 1-1-2002 (TUE) 0:17:41 System build date : Jul 16 2004 16:56:25 [Target is North America (Electra)] Main software version : 00.1u PAL TYPE : V-PALB FPGA version : 001FH CCPU-DSP version : 7628H DSPDBU version : 0000H MAC1 Address : 00-60-B9-01- MAC2 Address : 00-60-B9-01-FD-3B C/C++ library heap 112945388Bytes free [Total=118132660Bytes, Used=5187272Bytes] Maximum intervals): Drivers : 0.11sec. H levels : 0.11sec. B levels : 0.16sec. Mail tasks : 1.01sec. Idle tasks : 5.45sec.

- Status

Enter	Function	DIM Output
status	List the status commands available.	STATUS logical_port(HEX) STATUS [STA|TRK |VRS] <start_serial_port(HEX)><end_serial_port(HEX)> STATUS SET <logical_port(HEX)> <new_status (HEX)

- To display the status of one port:

status llnnnn

Where **ll** is the logical port type and nnnn is the port number in hexadecimal. (example – to display the status of key telephone port 10 = **status 04000a)**

- To display the status of a range of ports:

status sta/trk nnnn nnnn

Where **ll** is the logical port type and nn is the port number in hexadecimal. (example – to display the status of extension ports 01 through to 16 = **status sta 0001 000f)**

```
* PORT STATUS (40001 --> 0)*
   PORT    (PHYS)        STATUS         CALL      HOLD    CONDITION
 00040001h(00000007h) :      IDLE(   0h)  00000000h  00000000h
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 00000009h(00000008h) :      IDLE(   0h)  00000000h  00000000h
 0000000Ah(00010008h) :      IDLE(   0h)  00000000h  00000000h
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
 --------h(--------h) :         (----h)  --------h  --------h   no station port is assigned
12:15:13 >>
```

- To display the status of trunk ports 1 through to 10:

status trk 0001 000a

  - Slot

Enter	Function	DIM Output	
slot	List the slot commands available.	SLOT RX	Rx simulation
		SLOT TXTx a packet (DSP,64K)	
		SLOT TXB	Tx a packet (128K)
		SLOT TXC	Tx a packet (LKTS C/0)
		SLOT TXK	Tx a packet (LKTS KTEL)
		SLOT TXS	Tx a packet (LKTS STA)
		SLOT RESET	Reset unit/slot
		SLOT INFO	Slot/Unit info
		SLOT DUMP	Dump Tx message SLOT
		KEEPALIVE	Keep alive control SLOT IF

- To display the information related to the Blade installed into a slot:

slot info nn

Where **nn** is the slot number 01 to 24 in hexadecimal (example – an ESIU in slot 1 will show the following):

slot info 01

```
Slot information) Slot ID : 1
Status  : RUNNING
Logical unit ID : ESIU
Dump down message : Disable
Number of Tx errors : 1
Slot started delay : 2.83sec.
Common unit driver information)
Slot ID : 1
```

Real unit ID : 12H
Version : 1.8 **Firmware loaded onto the Blade**
Lines / unit : 8 **Number of ports on the card (8ESIU)**
Block switch : RUN **Block switch set to RUN**
Timeslot : 000H-00FH (16)

slot info 03 Slot information)
Slot ID : 3
Status : RUNNING
Logical unit ID : BRIU
Dump down message : Disable
Number of Tx errors : 0
Slot started delay : 468.99sec.
Common unit driver information)
Slot ID : 3
Real unit ID : 60H
Version : 3.3 **Firmware loaded onto the blade**
Lines / unit : 2 **Number of ports on the card (2BRIU)**
Block switch : BLOCK **Block switch set to BLOCK**
Timeslot : 040H-043H (4) BRIU driver information)

m To reset the Blade installed in a slot:

slot reset nn
Where nn is the slot number 01 to 10 in hexadecimal.
The Blade is reset, any calls in progress at the Blade are disconnected. The Blade operates normally after the reset.
The reset has the same operation as removing and re-installing the Blade.
(example – to reset the Blade in slot 3 = **slot reset 03**)

o Detector

Enter	Function	DIM Output
Detector	List the status of the DTMF/Tone detectors on the GCD-CP10(and DSPDB if installed).	Number of Channels = 64 CPRU = 32 , DSPDBU = 32 No Type Status Target 01(1401) DTMF ACTIVE 000d 02(0000) NOT USED READY 0000 03(0000) NOT USED READY 0000 04(0000) NOT USED READY 0000 05(0000) NOT USED READY 0000 : : : :

- **Power**

Enter	Function	DIM Output
Power	List the status of the power and backup battery.	Power off request : none Power source : AC(Normal) System battery : normal Backup battery : normal No power keep requests available

- Power off request : The status of the power switch on the PSU
  none = powered on
  guarding = waiting to power off
- Power source : AC Power source
  AC(Normal) = AC power via PSU in use
  None = DC power via battery cabinet in use (if installed)
- Backup battery : GCD-CP10memory backup battery
  Normal = GCD-CP10 memory backup battery
  Alarm = GCD-CP10 memory backup battery failed

SECTION 8 IP RELATED COMMANDS

Enter	Function	DIM Output
IP INFO	Displays a list of IP information	Usage> ip info [para] [para] : 0(IP Version) : 2 (CAPS Call Info Table Dump) : 3 (IP Station Regist Table Dump) : 4 (VoIPU Reset Flag Dump) : 5 (Inter-Connection System Table Dump) : 6 (VOIPCC Current Number of Call Counter) : 7 (Trillium Alloc Backet Size Dump) : 8 (NTCPU IP Address) : 9 (VoIPU PKG IP Addres) : a (IP Trunk Registration Information) : b (IP Active Call Information) : c (IP Call Delete Command) Usage> ip info c [physicalport] : d (IP status change)

- **ip info**

IP INFO <option code>

The values within the brackets are the specific number related to the command, the brackets are not entered.

- **ip info 3 x**

This command shows a table of IP Extension registrations. The extension type will be shown as “DtermIP” for IP Keytelephones or “H.323” for H.323 extensions.

```
Enter: ip info 3 X
        Information
----------------------------------------
   IP Station Regist Table Dump
----------------------------------------
        ip info 3 X
----------------------------------------
X=1: ALL kinds of teminals
  2: Standard SIP ALL
  3: Standard SIP Active terminals
----------------------------------------
```

This table shows all extensions that are registered to the SV9100 – not those that are currently connected.

```
########## IP Phone Table ##########
--DtermIP-----------------------------------------
Extension Number = 3203 SerialPort = 257
IP Address 192.168.1.131
Voice Path Port=4000  CALL SIG   Port=3458
Terminal Type=2
-----------------------------------------
--DtermIP-----------------------------
Extension Number = 3232 SerialPort = 258
IP Address 192.168.100.200
Voice Path Port=4000  CALL SIG   Port=3458
Terminal Type=2
-----------------------------------------
--DtermIP-----------------------------
Extension Number = 3290 SerialPort = 266
IP Address 192.168.102.200
Voice Path Port=4000  CALL SIG   Port=3458
Terminal Type=2
-----------------------------------------
--H.323-------------------------------
Extension Number = 3291 SerialPort = 270
IP Address 192.168.1.193 RAS Port=56782
Call SIG Port=1720 Terminal Type=1
---------------------------------------
Total = 4 IP Terminals
#####################################
```

- **ip info 5**

This table shows H.323 trunk registrations. An entry for each H.323 endpoint will be listed, along with the IP address and E.164 (telephone number) assignment. SV9100 Net IP destinations are not listed.

```
Example:
##### IP Inter-Connection TABLE #####
--1 system--  Registered
SYSTEM IP: 192.168.1.20  E164 ADDR:1
E164 Len :1

Total : 1 system
###################################
```

- **ip info 8**

This command shows the GCD-CP10 IP Address information entered in PRG10- 12.

```
Example:
[ NTCPU IP Info ]
IP Addr : 192.168.  1. 20
Sub Net Mask   : 255.255.255.  0
Default Gatway : 192.168.  1.254  Time Zone       21
NIC       : Auto Detect
```

- **ip info 9 <slot number>**

This command shows the VoIPU IP Address information entered in PRG84-05. The slot number should be entered in hex.

```
Example:
IP INFO 9 8

[ VoIPU PKG IP Address ]
          IP Addr (FEC2) : 172. 16.  0. 10
slot08 GW[1] Addr = 172. 16.  0. 20
slot08 GW[2] Addr = 172. 16.  0. 20
slot08 GW[3] Addr = 172. 16.  0. 20
slot08 GW[4] Addr = 172. 16.  0. 20
slot08 GW[5] Addr = 172. 16.  0. 20
slot08 GW[6] Addr = 172. 16.  0. 20
slot08 GW[7] Addr = 172. 16.  0. 20
```

ip info a <slot number>

This command shows the registration status of H.323/SIP trunks. This will show as “Registered” or “not Registered”.

```
ip info a 08
-----------------------------------
 IP TRUNK REGISTRATION INFORMATION
-----------------------------------
H.323 TRUNK:
          not REGISTERED to GK (SD)
SIP TRUNK:
 [RegId0][UserId:]    not REGISTERED to SIP Server(0/0 0:0)
 [RegId1][UserId:]    not REGISTERED to SIP Server(0/0 0:0)
 [RegId2][UserId:]    not REGISTERED to SIP Server(0/0 0:0)
 [RegId3][UserId:]    not REGISTERED to SIP Server(0/0 0:0)
 [RegId4][UserId:]    not REGISTERED to SIP Server(0/0 0:0)
 [RegId5][UserId:]    not REGISTERED to SIP Server(0/0 0:0)
:
:
[RegId62][UserId:]    not REGISTERED to SIP Server(0/0 0:0)
[RegId63][UserId:]    not REGISTERED to SIP Server(0/0 0:0)
```

Enter	Function	DIM Output
IP GW	Displays the SV9100 Default Gateway (PRG10-12-03)	[Default Gateway] : 192.168.1.254
IP ARP	Displays the SV9100 ARP (Address Resolution Protocol) cache. This is a table of MAC address to IP Address mappings.	See below
IP ROUTE	Displays the SV9100 routing table. Usually this will consist of just a few entries, as the default gateway is used for any traffic destined for a different IP subnet.	See below
IP DSP INFO	This shows how many DSP channels are in use at a particular moment in time.	See below.
IP DSP INFO 1	This shows how many DSP channels are in use at a particular moment in time for all device types.	See below.
Ping <ip address>	The commonly used “ping” utility has been implemented on the GCD-CP10. This is a very useful fault finding tool.	VoIPU >ping 192.168.11.200 Pinging 192.168.11.200 with 32 bytes of data: Reply from 192.168.11.200: Reply from 192.168.11.200: Reply from 192.168.11.200: Reply from 192.168.11.200: Ping statics for 192.168.11.200: Packets: Sent = 4, Received = 4, Lost = 0

Enter	Function	DIM Output
voipccdebug 0 1 [switch on] voipccdebug 0 0 [switch off]	This displays the SIP messages that are output from the system.	

- **ip arp**

Internet Address	Physical Address	Time Information
127.000.000.001	00:00:00:00:00:00	8181
192.168.001.164	00:0A:E6:02:D4:AE	113788539
192.168.001.154	00:60:B9:C2:93:BB	113779299
192.168.100.200	00:60:B9:C4:48:11	81637340
192.168.001.254	00:30:13:16:E8:6F	113785925
192.168.001.030	00:60:B9:C1:B2:30	113749983
192.168.001.040	00:60:B9:C1:C3:BF	113749986
192.168.102.200	00:60:B9:C2:07:4F	82736183
192.168.001.131	00:60:B9:C1:71:AA	113776316
192.168.001.121	00:30:05:44:98:5D	113778849
192.168.001.144	00:30:13:B5:D2:27	441024
192.168.001.146	00:00:86:63:25:87	113800591
192.168.001.197	00:30:13:B5:E8:79	17550119

. Any NEC Infrontia device has a MAC address beginning with 00:60:b9.

- **ip route**

Network DestAddr	Netmask	Gateway	Next Hop	Metric
127.000.000.000	255.000.000.000	127.000.000.001	000.000.000.000	1
224.000.000.001	255.255.255.255	127.000.000.001	000.000.000.000	1
192.168.001.000	255.255.255.000	192.168.001.020	000.000.000.000	1
192.168.001.020	255.255.255.255	127.000.000.001	000.000.000.000	1

Default Route: 192.168.001.254

- **ip dsp info**

```
VoIPU Dsp Resource Management Table)
#Slot:01  Busy:-  -------
#Slot:02  Busy:-  -------
#Slot:03  Busy:-  -------
#Slot:04  Busy:-  -------
#Slot:05  Busy:-  -------
#Slot:06  Busy:-  -------
#Slot:07  Busy:-  -------
#Slot:08  Busy:-  -------
```

- **ip dsp info 1**

IP Station Physical Port Table

01-010] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[011-020] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[021-030] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[031-040] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[041-050] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[051-060] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[061-070] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[071-080] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[081-090] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[091-100] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[101-110] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[111-120] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[121-130] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[131-140] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[141-150] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[151-160] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[161-170] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[171-180] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[181-190] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[191-200] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
:
:
[391-400] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[401-410] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[411-420] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[421-430] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[431-440] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[441-450] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[451-460] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[461-470] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[471-480] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[481-490] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[491-500] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[501-510] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[511-520] ---- ----

IP Trunk Physical Port Table

[001-010] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[011-020] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[021-030] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[031-040] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[041-050] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[051-060] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[061-070] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[071-080] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[081-090] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[091-100] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[101-110] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[111-120] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[121-130] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[131-140] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[141-150] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[151-160] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[161-170] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[171-180] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[181-190] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----
[191-200] ---- ---- ---- ---- ---- ---- ---- ---- ---- ----

IP Networking Physical Port Table

[001-010] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[011-020] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[021-030] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[031-040] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[041-050] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[051-060] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[061-070] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[071-080] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[081-090] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[091-100] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[101-110] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[111-120] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[121-130] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[131-140] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[141-150] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[151-160] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[161-170] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[171-180] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[181-190] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[191-200] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[201-210] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[211-220] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[221-230] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[231-240] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[241-250] 0000 0000 0000 0000 0000 0000 0000 0000 0000 0000
[251-260] 0000 0000 0000 0000 0000 0000

VoIPU DSP Resource Management Table

```
#Slot:01  Busy:-  -------
#Slot:02  Busy:-  -------
#Slot:03  Busy:-  -------
#Slot:04  Busy:-  -------
#Slot:05  Busy:-  -------
#Slot:06  Busy:-  -------
#Slot:07  Busy:-  -------
#Slot:08  Busy:-  -------
#Slot:09  Busy:-  -------
#Slot:10  Busy:-  -------
#Slot:11  Busy:-  -------
#Slot:12  Busy:-  -------
#Slot:13  Busy:-  -------
#Slot:14  Busy:-  -------
#Slot:15  Busy:-  -------
#Slot:16  Busy:-  -------
```

VoIPU Active Flag Table

```
12345678901234567890123456789012
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
```

SECTION 9 InMail RELATED COMMANDS

Enter	Function	DIM Output
VMUAID	Lists InMail status and debug tools	VMU IntraMail Status. ---------- Task Status : INTRAMAIL_OPERATIONAL # of VMU Channels: 16 # of VAU Channels: 0 Prompt Version : 2.40 VMU AID/DEBUGGING TOOLS ---------- 0. Display IntraMail Status 1. Toggle debug flags 2. Simulate DSP response 3. Display state/event history 4. Display Message Notification info 5. Exit

Enter	Function	DIM Output
VMUAID 1	Enables debug options. Lists InMail debug option codes	Option code> 1. CONSTRUCTOR_DESTRUCTOR SET 2. COMMAND_FLOW CLEAR 3. STATE_MACHINE CLEAR 4. VMU_TIMERS CLEAR 5. KEY_PRESSES CLEAR 6. DISCONNECTS CLEAR 7. CPU_TO_DSP CLEAR 8. DSP_TO_CPU CLEAR 9. FEATURE_STATE_MACHINE CLEAR 10. PRINT_VOICE_MESSAGES CLEAR 11. AUTO_STOP_MESSAGES CLEAR 12. BLOCK_TIMEOUTS CLEAR 13. PRINT_DIALBUFFER CLEAR 14. MESSAGE_NOTIFICATION_AID CLEAR 15. VMU_API_AID CLEAR 16. MAILBOX_MAINTENANCE_AID CLEAR 17. PROCESS_SD_SK_AID CLEAR 18. ES_TOGGLE_DEBUG_MODE_AID CLEAR 19. ES_PRINT_WORK_QUEUE_AID 20. ES_CLEAR_WORK_QUEUE_AID 21. Exit

- SET indicates the option is enabled
- Multiple VMUAID debug options can be entered in a single line, each option separated by a [space] example: vmuaid 1 14 18
- To exit VMUAID debug ensure all are showing CLEAR and enter vmuaid 21
- To toggle any option simply type in vmuaid followed by the option number 1~20.

- **VMUAID 18 – Switch on/off InMail Debug mode**

Toggles the debug mode
Debug ON = SET
Debug off = CLEAR

```
VMUAID 18
                Enter number to toggle flag.
                -------------------------
1.  CONSTRUCTOR_DESTRUCTOR          CLEAR
2.  COMMAND_FLOW                    CLEAR
3.  STATE_MACHINE                   CLEAR
4.  VMU_TIMERS                      CLEAR
5.  KEY_PRESSES                     CLEAR
6.  DISCONNECTS                     CLEAR
7.  CPU_TO_DSP                      CLEAR
8.  DSP_TO_CPU                      CLEAR
9.  FEATURE_STATE_MACHINE           CLEAR
10. PRINT_VOICE_MESSAGES            CLEAR
11. AUTO_STOP_MESSAGES              CLEAR
12. BLOCK_TIMEOUTS                  CLEAR
13. PRINT_DIALBUFFER                CLEAR
14. MESSAGE_NOTIFICATION_AID        CLEAR
15. VMU_API_AID                     CLEAR
16. MAILBOX_MAINTENANCE_AID         CLEAR
17. PROCESS_SD_SK_AID               CLEAR
18. ES_TOGGLE_DEBUG_MODE_AID        SET
19. ES_PRINT_WORK_QUEUE_AID
20. ES_CLEAR_WORK_QUEUE_AID
21. Exit

VMUAID>15:41:43 >>
15:41:43 >>EmailService: setting debug mode on.
```

Example – Failed attempt by SV9100 to send e-mail notification.

```
EmailService: received request, request - 2, client id - 0x4e14594, transaction id 6
EmailService: sending response to client - 0x4e14594, queue_id - 0x4e14594
EmailService: request - 2, response - 1, transaction id 6
intramail_email_response_monitor: received response, request - 2, response - 1, client id - 0x4e14594,
transaction id 6
EmailService: Spawning thread for request - 2, client id - 0x4e14594, transaction id 6
EmailService: Streaming command - /usr/bin/nbsmtp - fsv9100@gmail.com -hsmtp.gmail.com -N -n -V  -p 25
Error in send_mail
Mail NOT sent.
```

= SMTP e-mail account from 47-18-08

= SMTP server name from 47-18-02

o VMUAID 19 – Print Queued e-mail Notifications

Lists the e-mail notifications waiting/queued.

```
VMUAID 19
                Enter number to toggle flag.
                ------------------------
1.  CONSTRUCTOR_DESTRUCTOR          CLEAR
2.  COMMAND_FLOW                    CLEAR
3.  STATE_MACHINE                   CLEAR
4.  VMU_TIMERS                      CLEAR
5.  KEY_PRESSES                     CLEAR
6.  DISCONNECTS                     CLEAR
7.  CPU_TO_DSP                      CLEAR
8.  DSP_TO_CPU                      CLEAR
9.  FEATURE_STATE_MACHINE           CLEAR
10. PRINT_VOICE_MESSAGES            CLEAR
11. AUTO_STOP_MESSAGES              CLEAR
12. BLOCK_TIMEOUTS                  CLEAR
13. PRINT_DIALBUFFER                CLEAR
14. MESSAGE_NOTIFICATION_AID        CLEAR
15. VMU_API_AID                     CLEAR
16. MAILBOX_MAINTENANCE_AID         CLEAR
17. PROCESS_SD_SK_AID               CLEAR
18. ES_TOGGLE_DEBUG_MODE_AID        SET
19. ES_PRINT_WORK_QUEUE_AID
20. ES_CLEAR_WORK_QUEUE_AID
21. Exit
```

Example:

VMUAID 19

```
************************************************
mtype 1
request 2
response 1
client_key 0x4e14594
transaction_id 4
recipient user201@gmail.com
sender EXT 200      <nwitts@neci.co.uk>
subject Voice Message from EXT 200      (0m 9s)
message <html><body><p style="font-family:arial;color:black;font-size:14px">Voice Message Arrived on
Wednesday, July 15 @ 12:25 PM<br>Name: EXT 200     <br>Number: 200<br>Duration: 0m
9s<br>_____<br>NEC SV9100 InMail</p></body></html>
attach_num 0
---Attach File No.0---
source_name \VM\ICM\0\0\1\M01*.IML
secondary_name
delivery_name EXT 200      07-15-15 12h25.wav
conversion_type 3
source_file_delete 0
---Attach File No.1---
source_name
secondary_name
delivery_name
```

conversion_type 0
source_file_delete 0
---Attach File No.2---
source_name
secondary_name
delivery_name
conversion_type 0
source_file_delete 0
---Attach File No.3---
source_name
secondary_name
delivery_name
conversion_type 0
source_file_delete 0
---Attach File No.4---
source_name
secondary_name
delivery_name
conversion_type 0
source_file_delete 0
----
smtp_host smtp.gmail.com
smtp_port 25
smtp_ssl 0
smtp_auth 0
smtp_username
smtp_password
pop3_host
pop3_port 110
pop3_ssl 0
pop3_username
pop3_password
interval_wait_time 900
retry_count 94
313 seconds until next service
****

= Recipient's 47-02-21 e-mail address
=sender's 47-02-21 e-mail address

o VMUAID 20 – Print Queued e-mail Notifications

Clears the list of e-mail notifications waiting/queued.
Does not effect calls.

```
VMUAID 20
                Enter number to toggle flag.
                -------------------------
1.  CONSTRUCTOR_DESTRUCTOR          CLEAR
2.  COMMAND_FLOW                    CLEAR
3.  STATE_MACHINE                   CLEAR
4.  VMU_TIMERS                      CLEAR
5.  KEY_PRESSES                     CLEAR
6.  DISCONNECTS                     CLEAR
7.  CPU_TO_DSP                      CLEAR
8.  DSP_TO_CPU                      CLEAR
9.  FEATURE_STATE_MACHINE           CLEAR
10. PRINT_VOICE_MESSAGES            CLEAR
11. AUTO_STOP_MESSAGES              CLEAR
12. BLOCK_TIMEOUTS                  CLEAR
13. PRINT_DIALBUFFER                CLEAR
14. MESSAGE_NOTIFICATION_AID        CLEAR
15. VMU_API_AID                     CLEAR
16. MAILBOX_MAINTENANCE_AID         CLEAR
17. PROCESS_SD_SK_AID               CLEAR
18. ES_TOGGLE_DEBUG_MODE_AID        SET
19. ES_PRINT_WORK_QUEUE_AID
20. ES_CLEAR_WORK_QUEUE_AID
21. Exit
```

Example:

```
VMUAID>13:05:45 >>
13:05:45 >>EmailService: received request, request - 7, client id - 0x0, transaction id 0

 NU_DELETE_ERROREmailService: work queue has been cleared.
EmailService: Read error getting md5 data from work queue file.
===== << 07/15, 13:06 >> =====
```

o VMUAID 14 – Print Message Notifications

Prints the notification details when a new message is recorded in any mailbox.

```
VMUAID 14
                Enter number to toggle flag.
                -------------------------
1.  CONSTRUCTOR_DESTRUCTOR          CLEAR
2.  COMMAND_FLOW                    CLEAR
3.  STATE_MACHINE                   CLEAR
4.  VMU_TIMERS                      CLEAR
5.  KEY_PRESSES                     CLEAR
6.  DISCONNECTS                     CLEAR
7.  CPU_TO_DSP                      CLEAR
8.  DSP_TO_CPU                      CLEAR
9.  FEATURE_STATE_MACHINE           CLEAR
10. PRINT_VOICE_MESSAGES            CLEAR
11. AUTO_STOP_MESSAGES              CLEAR
12. BLOCK_TIMEOUTS                  CLEAR
13. PRINT_DIALBUFFER                CLEAR
14. MESSAGE_NOTIFICATION_AID        SET
15. VMU_API_AID                     CLEAR
16. MAILBOX_MAINTENANCE_AID         CLEAR
17. PROCESS_SD_SK_AID               CLEAR
18. ES_TOGGLE_DEBUG_MODE_AID        SET
19. ES_PRINT_WORK_QUEUE_AID
20. ES_CLEAR_WORK_QUEUE_AID
21. Exit
```

Example

```
Vmuaid
VmPort:00:SendEmailNotification - Email message notification sent for mailbox 1
```

SECTION 10 READING SV9100 DIM TRACES

The DIM trace can be partly decoded by the engineer but only NEC Infrontia Japan can decode the full trace.

This section describes the basic decode to enable the engineer to identify the extension and trunk port number.

- **Extensions**

Each extension type has a unique logical port type as shown below.

Type	Logical ID
Key telephone	0004
SLIU	0000
S-Point	004c
DECT	00e9

The port number is identified by the four digits (in hexadecimal) following the logical port type. The four digits are 0000 to ffff hexadecimal (00 to 65535 in decimal).

(example: keytelephone port 1 will be 00040001 as shown below.)

>>>> PORT : 0401H STATUS 0000H => 0002H

- **Trunks**

Each trunk type has a unique logical port type as shown below.

Type	Logical ID
COIU	000c
ISDN	0034

The port number is identified by the four digits (in hexadecimal) following the logical port type. The four digits are 0000 to ffff hexadecimal (00 to 65535 in decimal).

(example: ISDN port 17 will be 00340011 as shown below.)

>>>> PORT : 00340011H STATUS 00D0H => 00B1H

- **SV9100Net**

Each trunk type has a unique logical port type as shown below.

Type	Logical ID
ISDN	007c
IP	007c

The port number is identified by the four digits (in hexadecimal) following the logical port type. The four digits are 0000 to ffff hexadecimal (00 to 65535 in decimal).

(example: AspireNet port 01 is 007c0001 as shown below.)

*(INTER),ID:007C0001H,P1:00040001H,P2:00000000H,P3:00080002H,P4:00000000H,P5:00000000H

SECTION 11 ISDN LAYER 3 TRACE (MAIL IN 0 0 1 2)

A typical ISDN Layer 3 trace is shown:

```
9:56:48 >>
9:56:48 >>mail in 0 0 1 2
9:56:53 >>
Enter ISDN debug mode  master current bid  : 08H  master current line : 00H
ACD Data Size error. or socket close...caps_service():Returns NORMAL  caps_service():Returns NORMAL
ITR_NULL_P_STA: DES_ANSWER_FLAG CLEAR!  ITR_NULL_P_STA: TM_DES_ANSWER_WAIT_L SET!

ACD Data Size error. or socket close...** CLR_ISDN_FLAG IS CALLED **
** LPORT_W = 00340015H **2  SET_CALL_REF CALLED!  PHYSICAL_W
=0108HSET_CALL_REF: PRI =8003H
*** set_call_ref resource# : 1H ***
<<< prgrd1501.cpp(38) read_s_sta_clip_enable >>> port : 0, data : 1

SISDN:>>>>>>>>>>>>>>>>
F4 A1 04 01 01 00          USL(8,1),SETUP REQ
08 02 00 03 05  Callref:ORG(3),SETUP
04 03 80 90 A3  Bearer capability [speech]
18 03 A9 83 81  Channel identification
6C 02 00 81       Calling party number
7C 03 80 90 A3  Low layer compatibility
7D 02 91 81       High layer compatibility

R ISDN : <<<<<<<<<<<<<<<<
15 0B A1 0F 01 01 00      USL(8,1),MORE INFO IN
08 02 80 03 0D  Callref:DES(3),SETUP  ACKNOWLEDGE
18 03 A9 83 81  Channel identification
1E 02 82 88       Progress indicator  PHYSICAL_W =0108H itr_cint_mrifind called

S ISDN : >>>>>>>>>>>>>>>>
F4 A1 0E 01 01 00          USL(8,1),INFO REQ
08 02 00 03 7B  Callref:ORG(3),INFORMATION
70 02 81 32       Called party number [2]

S ISDN : >>>>>>>>>>>>>>>>
F4 A1 0E 01 01 00          USL(8,1),INFO REQ
08 02 00 03 7B  Callref:ORG(3),INFORMATION
70 02 81 30       Called party number [0]

S ISDN : >>>>>>>>>>>>>>>>
F4 A1 0E 01 01 00          USL(8,1),INFO REQ
08 02 00 03 7B  Callref:ORG(3),INFORMATION
70 02 81 30       Called party number [0
```

Enter ISDN Debug Mode

ISDN trunk port 21

ISDN Setup Sent
Blade in Slot 8, CCT 1 used Call Ref = 3
Speech call
No calling party number

Network returns Setup Acknowledge
Use the Call Ref to follow the call

User dials 200

```
R ISDN : <<<<<<<<<<<<<<<<<
11 0B A1 02 01 01 00     USL(8,1),CALL PROCEEDING IND
08 02 80 03 02  Callref:DES(3),CALL PROCEEDING
18 03 A9 83 81  Channel identification
```

Network returns Call Proceeding.

```
PHYSICAL_W =0108HR ISDN : <<<<<<<<<<<<<<<<<
15 0B A1 01 01 01 00     USL(8,1),ALERTING IND
08 02 80 03 01  Callref:DES(3),ALERTING
18 03 A9 83 81  Channel identification
1E 02 81 81       Progress indicator
```

Network returns Alerting.
Called party is now ringing.

```
PHYSICAL_W =0108HR ISDN : <<<<<<<<<<<<<<<<<
13 0B A1 30 01 01 00     USL(8,1),SETUP CONF
08 02 80 03 07  Callref:DES(3),CONNECT
29 05 04 08 02 09 39     Date/Time [04. 8. 2  9:57]
ITR_CINT_STUPCNF: DES_ANSWER_FLAG SET!
ITR_CINT_STUPCNF: TM_DES_ANSWER_WAIT_L CANCEL!
```

Network returns Connect when called party answers.
This may also include the date/time.

```
ACD Data Size error. or socket close...  9:57:07 >>
R ISDN : <<<<<<<<<<<<<<<<<
14 0B A1 09 01 01 00     USL(8,1),DISCONNECT IND
08 02 80 03 45
Callref:DES(3),DISCONNECT
08 02 80 90       Cause (16)
1E 02 81 88       Progress indicator T305 TIMER CLEAR !!!
ACD Data Size error. or socket close..
HP_LCD_REQ(00040001,00000001,00000000,00000000,00000000).
ACD Data Size error. or socket close...
```

Network returns Disconnect when called party hangs up.
Cause 16 is 'Normal call clearing'.

```
S ISDN : >>>>>>>>>>>>>>>>>
F4 A1 0C 01 01 00         USL(8,1),RELEASE REQ
08 02 00 03 4D  Callref:ORG(3),RELEASE
08 02 80 90       Cause (16)
```

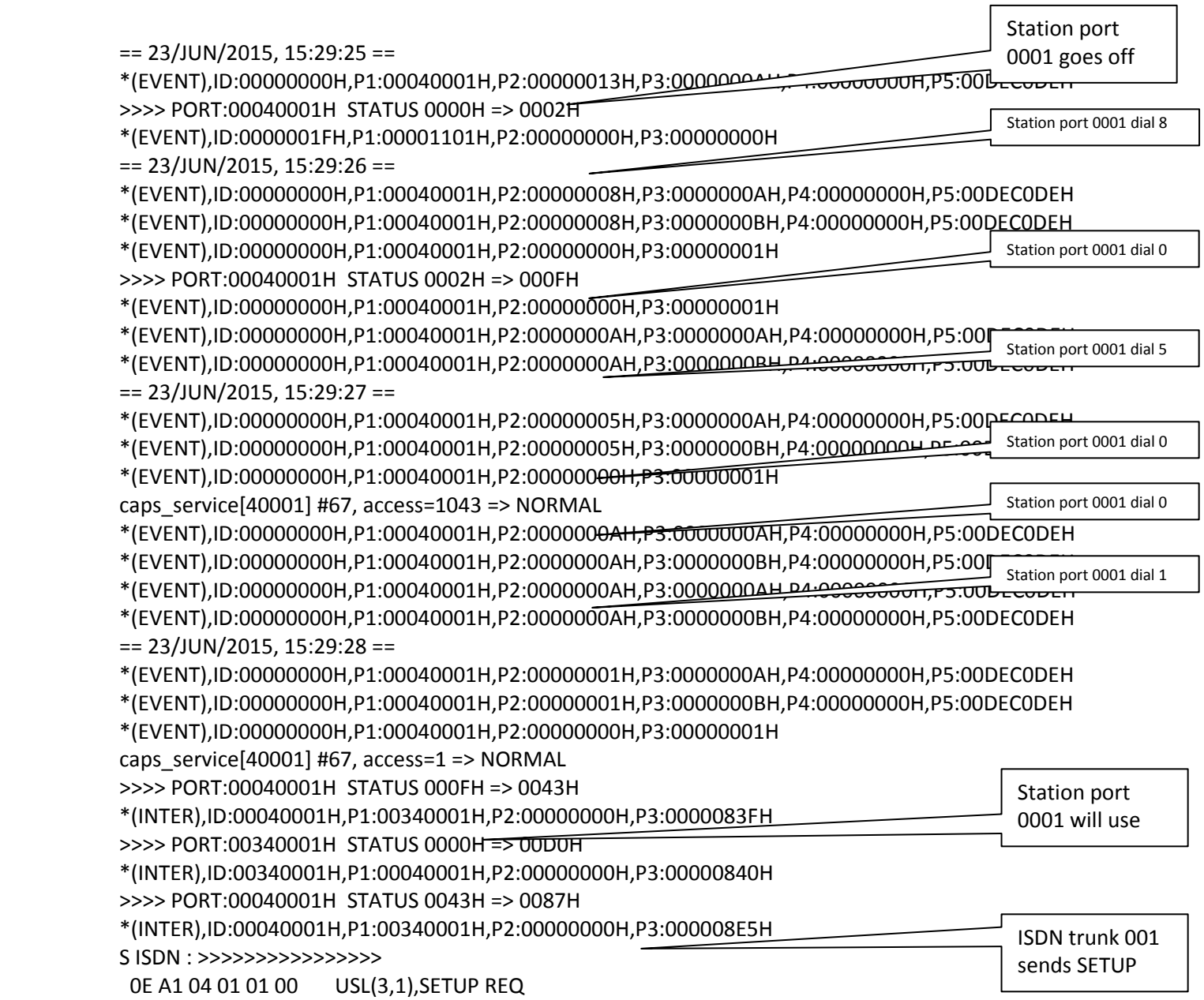
SV9100 sends release to indicate
channel can be released.

```
R ISDN : <<<<<<<<<<<<<<<<<
0C 0B A1 33 01 01 00     USL(8,1),RELEASE CONF
08 02 80 03 5A  Callref:DES(3),RELEASE COMPLETE
305 TIMER CLEAR !!!
t310_timer_cancel() hunt_que_del_allstg des_w[3415]
Tone information for port 000C0015H
Timeslot : 0138H
Level    : Tx=20H, Rx=20H
Current  : 00F2H Level=20H
Sender   : Not opened
ACD Data Size error. or socket close...
```

Network returns Release Complete.
Channel is now free.

SECTION 12 ISDN LAYER 3 TRACE (MAIL IN 0 0 1 2) WITH SV9100 MAIN ACTIVITY (MAIL IN 0 0 0 0)

If the same call is traced with both ISDN debug (mail in 0 0 1 2) and SV 9100 Main Activity (mail in 0 0 0 0) switched on the trace will be as shown below.
Call shows Station port 01 dialling 805001 to seize ISDN trunk port 001, this is looped back to ISDN BRI S0 port 13.




```
== 23/JUN/2015, 15:29:25 ==
*(EVENT),ID:00000000H,P1:00040001H,P2:00000013H,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
>>>> PORT:00040001H  STATUS 0000H => 0002H
*(EVENT),ID:0000001FH,P1:00001101H,P2:00000000H,P3:00000000H
== 23/JUN/2015, 15:29:26 ==
*(EVENT),ID:00000000H,P1:00040001H,P2:00000008H,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000008H,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000000H,P3:00000001H
>>>> PORT:00040001H  STATUS 0002H => 000FH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000000H,P3:00000001H
*(EVENT),ID:00000000H,P1:00040001H,P2:0000000AH,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:0000000AH,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
== 23/JUN/2015, 15:29:27 ==
*(EVENT),ID:00000000H,P1:00040001H,P2:00000005H,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000005H,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000000H,P3:00000001H
caps_service[40001] #67, access=1043 => NORMAL
*(EVENT),ID:00000000H,P1:00040001H,P2:0000000AH,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:0000000AH,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:0000000AH,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:0000000AH,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
== 23/JUN/2015, 15:29:28 ==
*(EVENT),ID:00000000H,P1:00040001H,P2:00000001H,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000001H,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000000H,P3:00000001H
caps_service[40001] #67, access=1 => NORMAL
>>>> PORT:00040001H  STATUS 000FH => 0043H
*(INTER),ID:00040001H,P1:00340001H,P2:00000000H,P3:0000083FH
>>>> PORT:00340001H  STATUS 0000H => 00D0H
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:00000840H
>>>> PORT:00040001H  STATUS 0043H => 0087H
*(INTER),ID:00040001H,P1:00340001H,P2:00000000H,P3:000008E5H
S ISDN : >>>>>>>>>>>>>>>>
  0E A1 04 01 01 00      USL(3,1),SETUP REQ
  08 01 03 05          Callref:ORG(3),SETUP
  04 03 80 90 A3       Bearer capability [speech]
  18 01 89           Channel identification [B1 channel(exclusive)]
  6C 02 00 81          Calling party number
  7C 03 80 90 A3       Low layer compatibility
```

```
  7D 02 91 81          High layer compatibility
>>>> PORT:00340001H  STATUS 00D0H => 00B1H
*(EVENT),ID:00000000H,P1:00340001H,P2:00000001H,P3:000009E9H
*(EVENT),ID:00000007H,P1:00030022H,P2:00000000H,P3:0ED8C1A8H
R ISDN : <<<<<<<<<<<<<<<<
  20 02 A1 04 02 01 00   USL(3,2),SETUP IND
  08 01 03 05          Callref:ORG(3),SETUP
  04 03 80 90 A3         Bearer capability [speech]
  18 01 89             Channel identification [B1 channel(exclusive)]
  6C 02 00 81          Calling party number
  7C 03 80 90 A3         Low layer compatibility
  7D 02 91 81          High layer compatibility
..... 004C000D(0000-0000) 0983
<!> WARNING <!>
 SETUP message from So has no calling number. DXV2 can not identify as logical port...
S ISDN : >>>>>>>>>>>>>>>>
  11 A1 11 02 01 00      USL(3,2),SETUP ACK REQ
  08 01 83 0D          Callref:DES(3),SETUP ACKNOWLEDGE
  18 01 89             Channel identification [B1 channel(exclusive)]
  1E 02 82 88          Progress indicator
>>>> PORT:004C000DH  STATUS 0000H => 00D0H
*(EVENT),ID:00000004H,P1:00030021H,P2:00000000H,P3:0ED6E3F0H
R ISDN : <<<<<<<<<<<<<<<<
  12 01 A1 0F 01 01 00   USL(3,1),MORE INFO IND
  08 01 83 0D          Callref:DES(3),SETUP ACKNOWLEDGE
  18 01 89             Channel identification [B1 channel(exclusive)]
  1E 02 82 88          Progress indicator
..... 00340001(00B1-40001) 098E
 itr_cint_mrifind called
>>>> PORT:00340001H  STATUS 00B1H => 00B2H
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:000008EAH
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:000008EBH
== 23/JUN/2015, 15:29:36 ==
*(EVENT),ID:00000000H,P1:00040001H,P2:00000001H,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000001H,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000000H,P3:000008E6H
*(EVENT),ID:00000000H,P1:00340001H,P2:00000000H,P3:0000097FH
S ISDN : >>>>>>>>>>>>>>>>
  0E A1 0E 01 01 00      USL(3,1),INFO REQ
  08 01 03 7B          Callref:ORG(3),INFORMATION
  70 02 81 31          Called party number [1]
*(EVENT),ID:00000007H,P1:00030022H,P2:00000000H,P3:0ED6E420H
R ISDN : <<<<<<<<<<<<<<<<
  0F 02 A1 0C 02 01 00   USL(3,2),INFORMATION IND
  08 01 03 7B          Callref:ORG(3),INFORMATION
  70 02 81 31          Called party number [1]
..... 004C000D(00D0-0000) 098B
*(EVENT),ID:00000000H,P1:004C000DH,P2:00000000H,P3:00000001H
*(EVENT),ID:00000000H,P1:004C000DH,P2:00000000H,P3:00000001H
== 23/JUN/2015, 15:29:37 ==
```

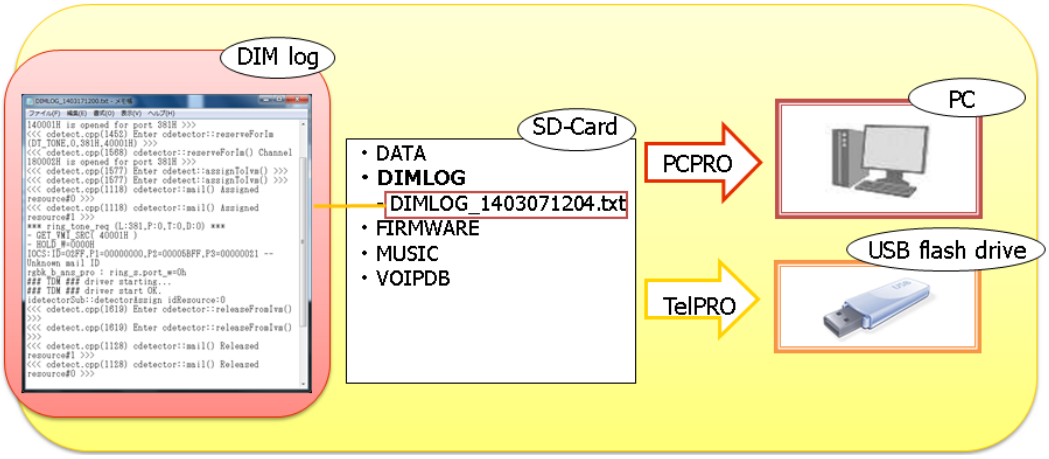
ISDN S0 port 13 (004C000DH) receives SETUP message to

```
*(EVENT),ID:00000000H,P1:00040001H,P2:00000002H,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000002H,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00340001H,P2:00000000H,P3:0000097FH
S ISDN : >>>>>>>>>>>>>>>>
  0E A1 0E 01 01 00      USL(3,1),INFO REQ
  08 01 03 7B            Callref:ORG(3),INFORMATION
  70 02 81 32            Called party number [2]
*(EVENT),ID:00000007H,P1:00030022H,P2:00000000H,P3:0ED8901CH
R ISDN : <<<<<<<<<<<<<<<<
  0F 02 A1 0C 02 01 00   USL(3,2),INFORMATION IND
  08 01 03 7B            Callref:ORG(3),INFORMATION
  70 02 81 32            Called party number [2]
..... 004C000D(00D0-0000) 098B
*(EVENT),ID:00000000H,P1:00040001H,P2:00000003H,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00040001H,P2:00000003H,P3:0000000BH,P4:00000000H,P5:00DEC0DEH
*(EVENT),ID:00000000H,P1:00340001H,P2:00000000H,P3:0000097FH
S ISDN : >>>>>>>>>>>>>>>>
  0E A1 0E 01 01 00      USL(3,1),INFO REQ
  08 01 03 7B            Callref:ORG(3),INFORMATION
  70 02 81 33            Called party number [3]
*(EVENT),ID:00000007H,P1:00030022H,P2:00000000H,P3:0ED8C998H
R ISDN : <<<<<<<<<<<<<<<<
  0F 02 A1 0C 02 01 00   USL(3,2),INFORMATION IND
  08 01 03 7B            Callref:ORG(3),INFORMATION
  70 02 81 33            Called party number [3]
..... 004C000D(00D0-0000) 098B
*(EVENT),ID:00000000H,P1:004C000DH,P2:00000000H,P3:00000001H
S ISDN : >>>>>>>>>>>>>>>>
  0D A1 02 02 01 00      USL(3,2),PROCEEDING REQ
  08 01 83 02            Callref:DES(3),CALL PROCEEDING
  18 01 89              Channel identification [B1 channel(exclusive)]
S ISDN : >>>>>>>>>>>>>>>>
  12 A1 0B 02 01 00      USL(3,2),DISCONNECT REQ
  08 01 83 45            Callref:DES(3),DISCONNECT
  08 02 80 81            Cause (1)
  1E 02 81 88            Progress indicator
>>>> PORT:004C000DH  STATUS 00D0H => 00BCH
*(EVENT),ID:00000004H,P1:00030021H,P2:00000000H,P3:0ED8C998H
R ISDN : <<<<<<<<<<<<<<<<
  0E 01 A1 02 01 01 00   USL(3,1),CALL PROCEEDING IND
  08 01 83 02            Callref:DES(3),CALL PROCEEDING
  18 01 89              Channel identification [B1 channel(exclusive)]
..... 00340001(00B2-40001) 0981
>>>> PORT:00340001H  STATUS 00B2H => 00B3H
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:000008EAH
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:000008F1H
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:000008EAH
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:000008EBH
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:000008FCH
*(EVENT),ID:0000001FH,P1:00001102H,P2:00000000H,P3:00000000H
```

```
*(EVENT),ID:00000004H,P1:00030021H,P2:00000000H,P3:0ED6E4D4H
R ISDN : <<<<<<<<<<<<<<<<
  13 01 A1 09 01 01 00    USL(3,1),DISCONNECT IND
  08 01 83 45             Callref:DES(3),DISCONNECT
  08 02 80 81             Cause (1)
  1E 02 81 88             Progress indicator
..... 00340001(00B3-40001) 0988
>>>> PORT:00340001H  STATUS 00B3H => 00BCH
*(INTER),ID:00340001H,P1:00040001H,P2:00000000H,P3:000008BBH
>>>> PORT:00040001H  STATUS 0087H => 0088H
== 23/JUN/2015, 15:29:39 ==
*(EVENT),ID:00000000H,P1:00040001H,P2:00000013H,P3:0000000AH,P4:00000000H,P5:00DEC0DEH
>>>> PORT:00040001H  STATUS 0088H => 0000H
*(INTER),ID:00040001H,P1:00340001H,P2:00000000H,P3:00000804H
S ISDN : >>>>>>>>>>>>>>>>
  0E A1 0C 01 01 00       USL(3,1),RELEASE REQ
  08 01 03 4D             Callref:ORG(3),RELEASE
  08 02 80 90             Cause (16)
>>>> PORT:00340001H  STATUS 00BCH => 00C3H
*(EVENT),ID:0000001FH,P1:00001101H,P2:00000000H,P3:00000000H
*(EVENT),ID:00000007H,P1:00030022H,P2:00000000H,P3:0ED6E3F0H
R ISDN : <<<<<<<<<<<<<<<<
  0F 02 A1 0A 02 01 00    USL(3,2),RELEASE IND
  08 01 03 4D             Callref:ORG(3),RELEASE
  08 02 80 90             Cause (16)
..... 004C000D(00BC-0000) 0989
>>>> PORT:004C000DH  STATUS 00BCH => 0000H
*(EVENT),ID:00000004H,P1:00030021H,P2:00000000H,P3:0ED6E3F0H
R ISDN : <<<<<<<<<<<<<<<<
  0B 01 A1 33 01 01 00    USL(3,1),RELEASE CONF
  08 01 83 5A             Callref:DES(3),RELEASE COMPLETE
..... 00340001(00C3-40001) 0994
>>>> PORT:00340001H  STATUS 00C3H => 0025H
*(EVENT),ID:0000001FH,P1:00001401H,P2:00000000H,P3:00000000H
== 23/JUN/2015, 15:29:40 ==
*(EVENT),ID:00000000H,P1:00340001H,P2:GUARD    ,P3:00000002H
>>>> PORT:00340001H  STATUS 0025H => 0000H
*(EVENT),ID:00000000H,P1:00340001H,P2:00000000H,P3:000009F9H
```

SV9100 Automatic DIM Log File Export from the GCD-CP10

A new facility has been made available to make diagnostics simpler.
For advanced analysis NEC engineers often ask for a Diagnostic (DIM) log.
On the SV8100 this would be gained by taking a PC to site to connect to the SV8100 and record these.
On the SV9100 the DIM log is automatically saved as text data to SD-Card on CPU, removing the need for an external PC.
The saved DIM log can be extracted to USB flash drive or can be saved to PC via PC programming.



DIM Files are created automatically by the SV9100 System
Up to 100MB can be stored to the SD card installed to the GCD-CP00 card.
These files cannot be deleted from the SD card; new files will automatically overwrite older files as necessary.
The function doesn't need any license.
As for Debug command of DIM, commands below are "ON" in the initial state.

- mail in 0 0 0 0 (caps)
- mail in 0 0 1 2 (isdn)

Debug commands can be changed to ON/OFF via Web programming

DIMLOG

System Log file.
Used by NEC Japan to show detailed system information. New file created when the system is reset.
File name format is an incrementing value (DIMLAST1.txt)

DIMLAST

Historical system activity.
Saves the system activity into 4MB files, a new file is created when current file reaches 4MB or when the system is reset.
File name format is the date and time the file was created (DIMLOG_YYMMDDhhmm.txt)
The detail of the DIMLAST is determined by the setting of the DIM commands as shown in this document, eg to enable ISDN Debug use 'mail in 0 0 1 2'.

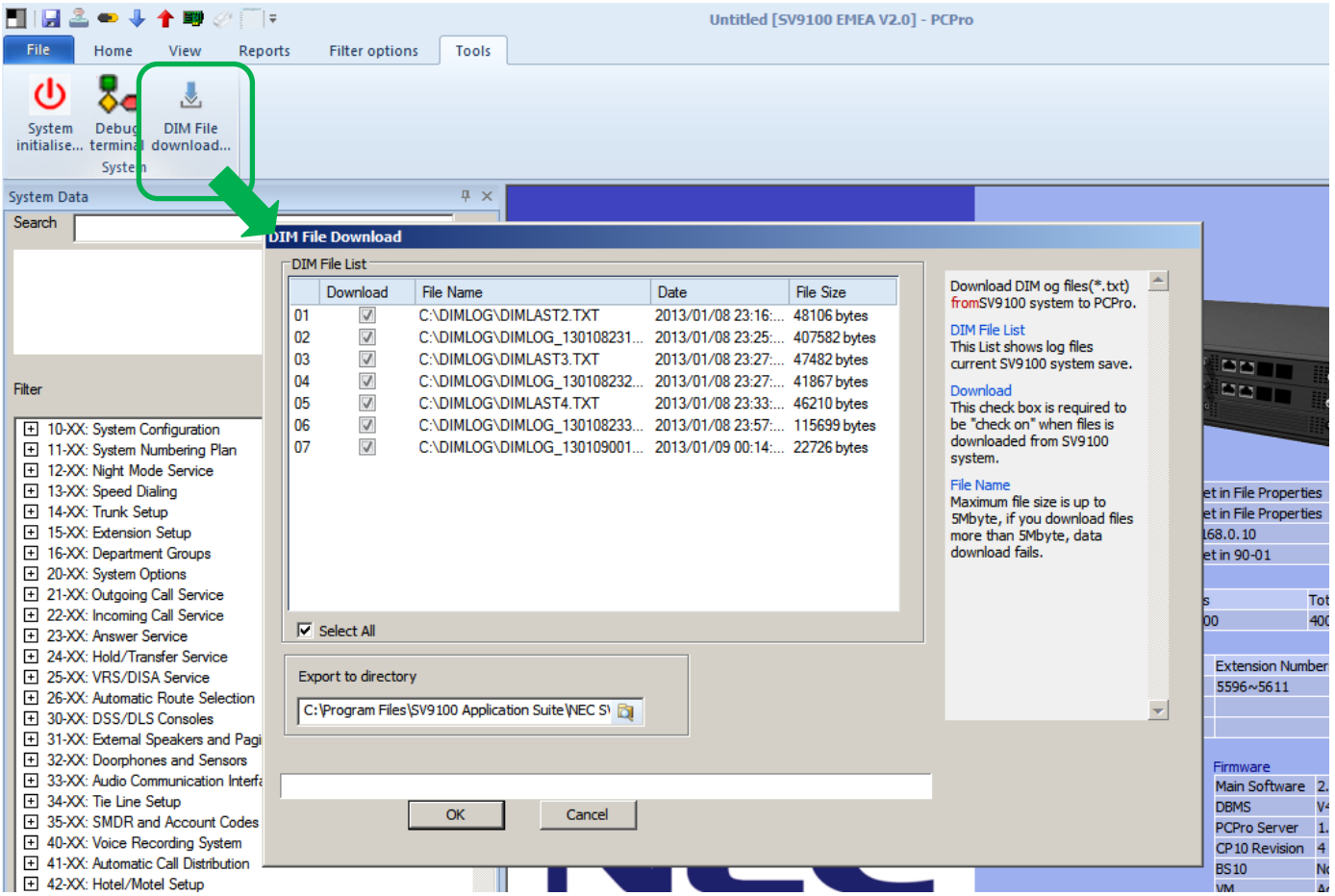
Record Live System Activity to USB

System Activity can also be saved live to the USB using the Maintenance Service Code (CMD 10-11-42).

Technical Information

Saving DIMLOG and DIMLAST files using PCPro

1. Connect to the system via PCPro
2. Go to Tools tab and select DIM File Download
3. In the pop-up screen choose the destination to export the files to
4. Select the files to download, or click Select All
5. Click OK
6. The files will be saved as text files .txt



Saving DIMLOG and DIMLAST files using KeyTelPro

Copies the files from the SD card installed in GCD-CP10 card to the USB memory stick plugged into the USB socket of the GCD-CP10 card

1. Ensure a USB Memory stick is installed to the USB of the GCD-CP10 card
2. Enter system programming via KeyTelPro
3. Enter CMD 90-03-02

```
90-03-02
DIM log Save YES:1 _1
 <                    >
```

4. Enter 1 and press Transfer key

Saving DIM log will be displayed for a few seconds

```
Saving DIM log
```

5. Then display will step to the next CMD when the save is complete

```
90-04-      M'tenance
Load Data          01
 Back          Select
```

If the save fails the display will show

```
Fail to write
```

Fail to write can occur if the USB is in use for any other function, eg DIM saving to USB via Maintenance Service Code

Record Live System Activity to USB Memory

The live system activity will be saved to the USB stick; start and stop the recording using the Maintenance Service code.

To Start the Recording

Ensure a USB Memory stick is installed to the USB drive of the GCD-CP10 card
Ensure you assign a Service Code to the Maintenance code in CMD 11-10-42 (default = none assigned)
From a Keytelephone go off hook and dial the Maintenance Service Code

```
MAINTENANCE
FUNCTION NO(1-3) ?
```

Enter 3 on the keypad

```
SYSTEM LOG SAVE TO USB
1:START  0:END ?
```

Enter 1 to begin recording to the USB
A new file will be created on the USB stick in folder DIMLOG, filename DIMLOG_YYMMDDhhmm.txt

```
SYSTEM LOG SAVE TO USB
SAVE START
```

Go on hook
The system activity will continue to be recorded to the USB stick

To stop recording

From a Keytelephone go off hook and dial the Maintenance Service Code

```
MAINTENANCE
FUNCTION NO(1-3) ?
```

Enter 3 on the keypad

```
SYSTEM LOG SAVE TO USB
1:START  0:END ?
```

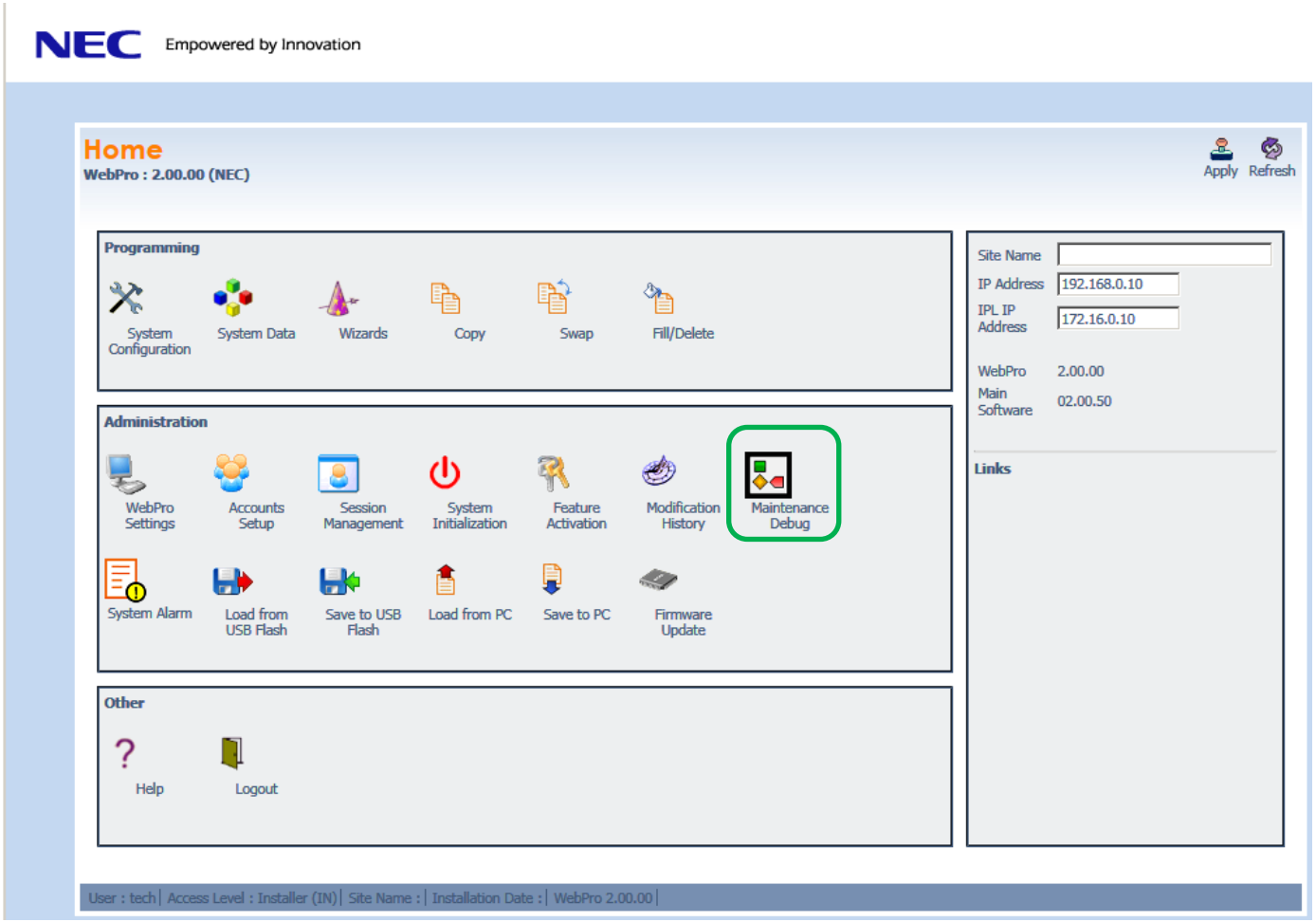
Enter 0 to stop recording to the USB

```
SYSTEM LOG SAVE TO USB
SAVE END
```

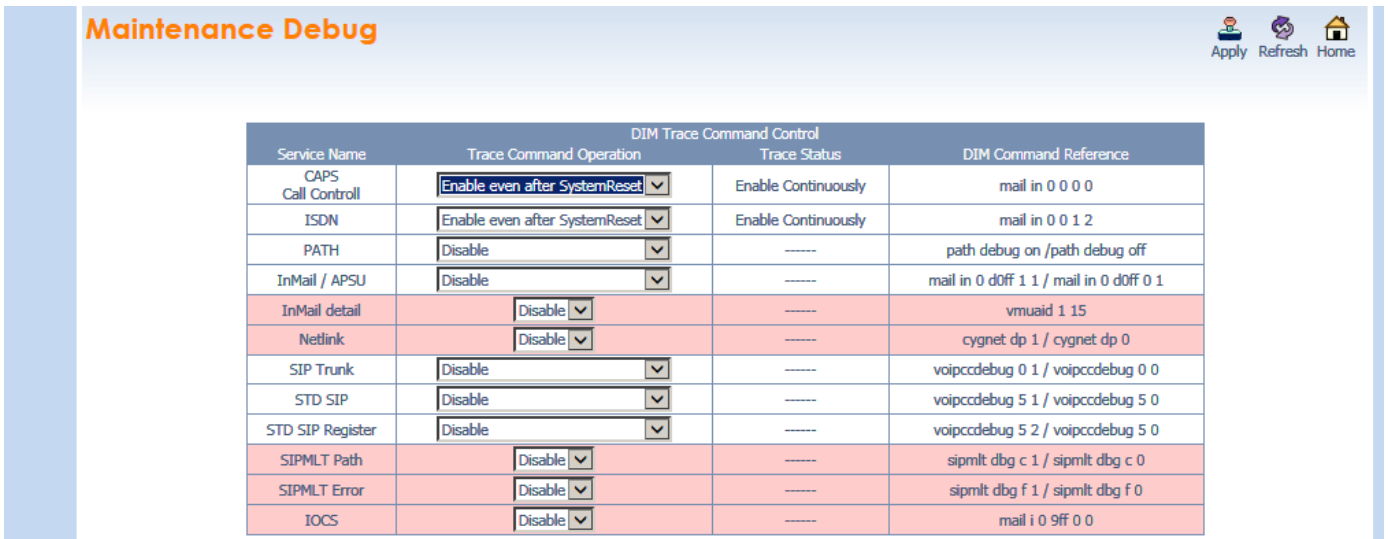
Go on hook

Selecting DIM Items via WebPro

To set the items you wish the DIM to log, use Webpro, select the Maintenance Debug:



Items can be selected, NEC will generally instruct you on which of these items to select:

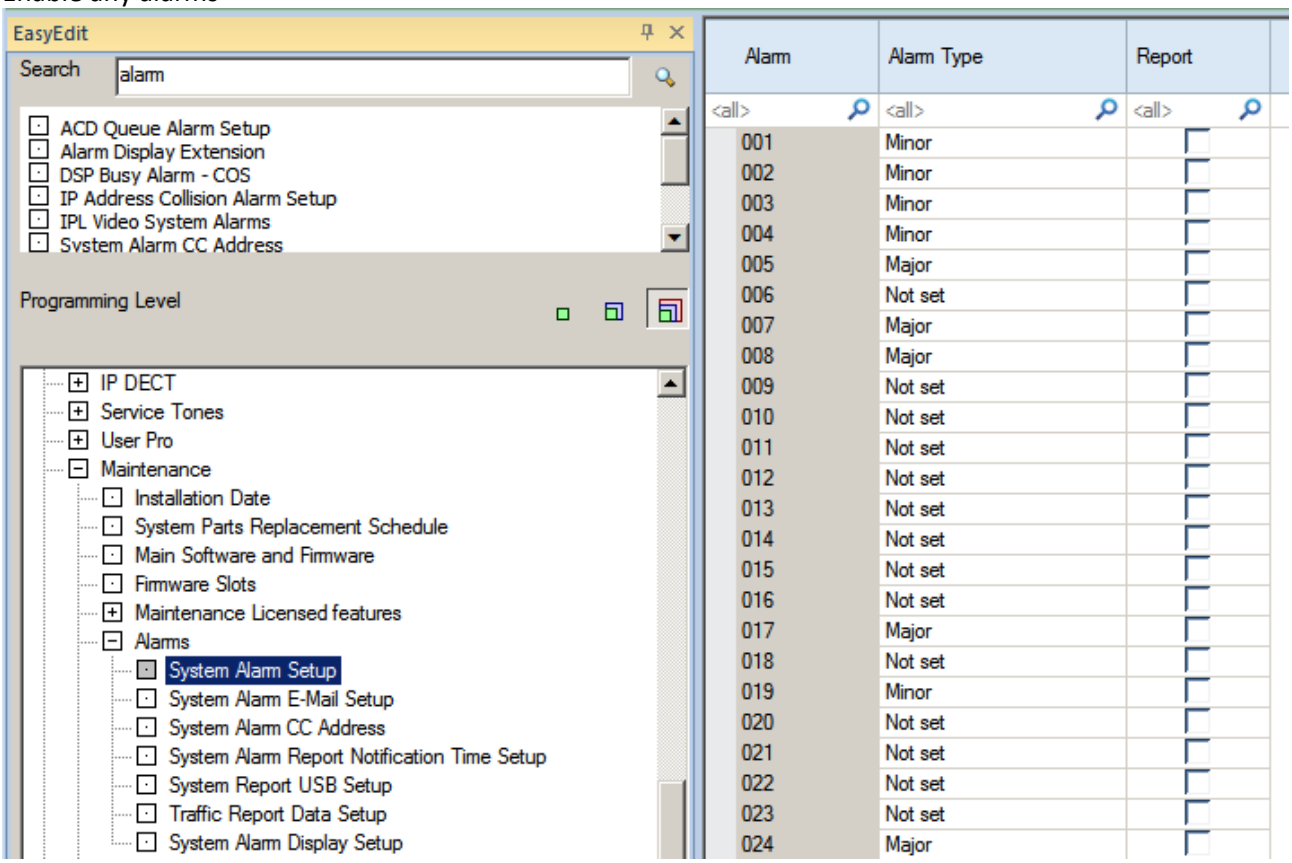


Alarm Reports

Further details can be found in the Alarm Reports section within the SV9100 Features & Specifications manual.

The SV9100 system monitors and records fault conditions on the system and selected devices, these alarms can be viewed either by the customer or the maintainer.

Use PCPro to setup system alarm reporting within Easy Edit: Maintenance-Alarms.
Enable any alarms



Overview of Alarm Reporting Options

System alarm conditions can be reported via the following methods:

- The system can indicate several errors on the multiline telephone display
- Viewed via WebPro
- Downloaded in PCPro.
- Output to a USB stick on the GCD-CP10
- Report data can also be sent via email.

Summary of SV9100 Alarms

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
1	**Minor**	PKG Initialize Error.	1. The PKG failed to initialize. 2. The PKG did not start normally.	1. PKG not inserted firmly. 2. PKG was removed, but not reinserted firmly. 3. Old PKG data still reported due to no initialization.	1. Insert PKG firmly. 2. Insert PKG firmly. 3. Delete slot information in PRG 90-05 and reinsert the PKG.	Upon initialization, the PKG is recognized.
2	**Minor**	PKG Mounting Error	The unit did not step on a regular procedure and it was pulled out. Or, it is not normally inserted.	1. The package is half. 2. The package is out of order.	1. Please insert the package firmly. 2. Please try again after initializing the system data once when LED doesn't blink normally. 3. Exchange of packages.	When the unit is reconfirmed, the error is recovered.
3	**Minor**	Communication fault between CD-CP00 and other PKGs.	The error occurred when communicating with the package. When the package is broken, it recognizes it as a communication fault.	1.The unit is half. Minor.The power-supply voltage of the system is outside ratings. 3.The equipment that generates the noise in the same power supply system as the power supply origin of the system is connected, and it malfunctions because of the power supply noise. 4.The equipment to which it is adjacent to of a main device, and has put out the radiation noise exists, and it malfunctions because of the radiation noise. 5.The chassis is not properly grounded.	1.Please insert the unit firmly. Minor.The power-supply voltage must use another power supply when is in the range of ratings or measuring with the voltmeter, and deviating from the rated range. 3.Please use the power supply besides the equipment with the possibility of the noise source. 4.Please separate as much as possible and use a main device from the equipment by which you seem may generate the radiation noise. 5.Please ground the chassis correctly.	When the unit is reconfirmed, the error is recovered.

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
4	**Minor**	PKG S/W Download Error	The unit program was not able to be downloaded normally. The unit was not able to be started normally.	The package software is not stored in the downloaded USB memory. The stored package software is illegal. Package information that had been installed before remains.	Delete slot information that corresponds by PRG90-05-01 to delete package information that had been installed before. There is a possibility that the unit program is broken though an external factor of the noise etc. is thought. Please load into the USB memory and try again when you back up the unit program. Please inquire of the manufacturer when not restoring it.	Please exchange units, though it is likely to restore by mounting the unit again. When the unit program is normally downloaded, the error is recovered.
5	**Major**	Cooling fan error	The cooling fan does not work normally.	The cooling fan has stopped working. The cooling fan has come off.	Confirm that the cooling fan is turning. Verify the mounting of the cooling fan.	Replace the cooling fan if it is defective.
6	**Not set**	Blocking	The link of terminals connected with the ESI package came off.	• Breakdown of terminal. • Faulty wiring and wiring determination. • External noise. • Breakdown of ESI package.	Confirm the terminal connected with same ESI. If they work normally, confirm the breakdown or the wiring for the terminal. Exchange the terminal that doesn't work and the working terminal, and confirm it's working. An external factor of the noise etc. is thought. Please reconfirm wiring and the installation,etc. Please inquire of the manufacturer when the problem occurs after it confirms it.	The error is recovered when reconnecting or exchanging it.

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
7	**Major**	Power failure	The supply of the commercial power stopped.	• The power cable came off. • Power failure • The power supply unit broke down.	Confirm the power supply outlet when the commercial power has not stopped. Please inquire of the manufacturer when the problem occurs.	When the commercial power is restored, the error is recovered.
8	**Major**	RAM Backup Battery Error	RAM backup battery on the CD-CP00-US blade is unplugged or defective.		Check the battery connector. If it is connected correctly, replace the battery.	The error is recovered once the battery is replaced.
9	**Not set**	--- **Reserved** ---				
10	**Not set**	ISDN Link Error	Layer1 link of ISDN lines came off.	• Connected determination of main device and ISDN line • Breakdown of DSU • The setting of PRG10-03 is not corresponding to an actual line.	Confirm the data of PRG10-03. Reconfirm wiring and the installation of DSU. Please inquire of the manufacturer when the problem occurs after it confirms it.	When the connection returns normally, the error is recover.
11	**Not set**	CTI Link Error	The link with the CTI server came off.	• LAN cable defective. • Connected HUB broken. • The CTI server doesn't start normally.	Please reconfirm the CTI server, wiring, and the connection. Please inquire of the manufacturer when the problem occurs after it confirms it.	When the connection returns normally, the error is recover.
12	**Not set**	ACD MIS Link Error	The link with ACD MIS client PC came off.	• LAN cable defective. • Connected HUB broken. • The CTI server doesn't start normally.	Please confirm ACD MIS client PC and connected part. Please inquire of the manufacturer when the problem occurs after it confirms it.	When the connection returns normally, the error is recover.

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
13	**Not set**	Charge Management Link Error	The link with the charge management device came off.	1. Problem of wiring to connect main device with charge management device. Minor. Problem of PC.	1. It is confirmed that there is no problem in wiring to connect a main device with the charge management device. (Whether ping passes for LAN connection is confirmed.) Minor. Restart the charge management software. 3. Reboot PC, and start the charge management software.	When the connection returns normally, the error is recover.
14	**Not set**	LAN Link Error	The link with LAN on CD-CP00 came off.	• LAN cable defective. • Connected HUB broken. • Defect of CD-CP00	Confirm the operation of LAN connector, LAN cable, and HUB again.	When the connection returns normally, the error is recover.
15	**Not set**	Network Keep Alive	1. The network connection has been cut. Minor. Network Keep Alive restoration.3. Response notification on network Keep Alive.	• LAN cable is defective. • Net side trouble. • Packet block by firewall. • Repetition of IP address.	Confirm whether the defect is on the Network side. Confirm the settings of HUB and the router, etc.	When the connection returns normally, the error is recovered.
16	**Not set**	SMDR Link				
17~18	**Not set**	--- **Reserved** ---				
19	**Not set**	Charge Management Buffer full	The temporary buffer for the charge management in main device was overflowed, and a part of unoutput charge data disappeared because it was not able to output the charge management data.	1. The charge data is printed and not deleted at the simple charge management. Minor. The charge data is not output to PC for the charge management software.	1. Please print and delete the charge data at the simple charge management. Minor. Please connect the charge management software for the charge management software and output the charge data.	When the output is restarted, the error is recovered. However, the charge management data after the error occurs is not recorded.
30	**Minor**	SMDR Buffer full	The temporary buffer for SMDR in main device was overflowed, and a part of unoutput SMDR data disappeared because it was not able to output SMDR data.	1. Problem of wiring to connect main device with PC. Minor. Problem of PC.	1. Please confirm whether there is problem in wiring to connect a main device with PC. Minor. Please execute the reactivation of PC.	When the output is restarted, the error is recovered. However, the SMDR data after the error occurs is not recorded.
31~34	**Not set**	--- **Reserved** ---				

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
35	**Not set**	CS Blocking	The link of the CSIU and CS came off.	1. Outgoing noise. Minor. Method of setting up CS. 3. Wiring to connect CSIU unit with CS. 4. Hard defect of CS. 5. Hard defect of CSIU.	Please confirm the following matter when happening frequently when operating it. 1. Please confirm CS is normally connected. Minor. Please confirm the wiring between CSIU-CS is normal. 3. Please exchange CS. 4. Please exchange CSIU.	The error is recovered when reconnecting or exchanging it.
36	**Not set**	CS error notification 1	CS detected the problem occurring in the air synchronous signal between CS-CSIU, BBIC reset was executed, and it was restored automatically.	1. Outgoing noise. Minor. Method of setting up CS. 3. Wiring to connect CSIU unit with CS. 4. Hard defect of CS. 5. Hard defect of CSIU.	Please confirm the following matter when happening frequently when operating it. 1. Please confirm CS is normally connected. Minor. Please confirm the wiring between CSIU-CS is normal. 3. Please exchange CS. 4. Please exchange CSIU.	This error has been recovered when it is notified.
37	**Not set**	CS transmission error.	Because CS had not returned the response to the control signal from a main device longer than the fixed time, it was restored automatically specifying reset to concerned CS with a main device.	1. Outgoing noise. Minor. Method of setting up CS. 3. Wiring to connect CSIU unit with CS. 4. Hard defect of CS. 5. Hard defect of CSIU.	Please confirm the following matter when happening frequently when operating it. 1. Please confirm CS is normally connected. Minor. Please confirm the wiring between CSIU-CS is normal. 3. Please exchange CS. 4. Please exchange CSIU.	This error has been recovered when it is notified.

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
38	**Not set**	CSIU Dch Error×	It was restored automatically specifying reset to concerned CS with a main device because a main device had detected the control signal from a main device not normally reaching CS.	1. Outgoing noise. Minor. Method of setting up CS. 3. Wiring to connect CSIU unit with CS. 4. Hard defect of CS. 5. Hard defect of CSIU.	Please confirm the following matter when happening frequently when operating it. 1. Please confirm CS is normally connected. Minor. Please confirm the wiring between CSIU-CS is normal. 3. Please exchange CS. 4. Please exchange CSIU.	This error has been recovered when it is notified.
39	**Not set**	CSIU transmission error.	This alarm is integrated into "Communication fault between the CD-CP00 and other PKG", and it is not used in SV9100.			
40	**Not set**	CS error notification Minor.	CS detected the factor that the noise is generated between CS-PS, BBIC reset was executed, and it was restored automatically.	1. Outgoing noise. Minor. Method of setting up CS. 3. Wiring to connect CSIU unit with CS. 4. Hard defect of CS. 5. Hard defect of CSIU.	Please confirm the following matter when happening frequently when operating it. 1. Please confirm CS is normally connected. Minor. Please confirm the wiring between CSIU-CS is normal. 3. Please exchange CS. 4. Please exchange CSIU.	This error has been recovered when it is notified.
41~49	**Not set**	--- **Reserved** ---				
50	Major	System Start Notification	The system started.	The system was started.	No action needed.	
51	**Not set**	System Data change	CD-CP00 Upgrade is performed or Programming change is made.		No action needed.	
50	**Not set**	--- **Reserved** ---				
53	**Not set**	--- **Reserved** ---				
54	**Minor**	License Management Table Full	A new TCP/IP terminal and the DSP board were not able to be added to the application license management table. • The license management table is registering full.	Maximum 51Minor license information on the TCP/IP terminal is registered, and a new terminal cannot be registered.	Please delete license information on an unnecessary TCP/IP terminal with PRG 90-44.	

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
55	**Minor**	Regular maintenance exchange notification.	The regular maintenance exchange day has passed.	• The regular maintenance exchange day that had been set with PRG 90-51 exceeded it.	Please do the maintenance exchanges of pertinent parts, and set the next regular maintenance exchange day with PRG 90-51.	The excess on the regular maintenance exchange day is canceled by changing PRG 90-51 or when the function is invalidated, the error is recovered.
56	**Not set**	--- **Reserved** ---				
57	**Minor**	IP Address Collision	1.Collision(01) Minor.Collision(0Minor) 3.Collision(03) 4.Collision(04) 5.Collision(05) 6.Collision(06) 7.Collision(07) 8.Collision(08) 9.Collision(09) 10.Collision(10)	Collision with PRG10-1Minor-01 Collision with PRG10-1Minor-09 Collision with PRG84-Minor6-01 GW1 Collision with PRG84-Minor6-01 GWMinor Collision with PRG84-Minor6-01 GW3 Collision with PRG84-Minor6-01 GW4 Collision with PRG84-Minor6-01 GW5 Collision with PRG84-Minor6-01 GW6 Collision with PRG84-Minor6-01 GW7 Collision with PRG84-Minor6-01 GW8	1.Change collided address Minor.Change collided address 3.Change collided address 4.Change collided address 5.Change collided address 6.Change collided address 7.Change collided address 8.Change collided address 9.Change collided address 10.Change collided address	The error is recovered when collision is corrected
58~59	**Not set**	--- **Reserved** ---				
60	**Minor**	SIP Registration Error Notification.	1.The registration of the SIP trunk to the SIP server failed. Minor.The registration of the SIP trunk to the SIP server failed in the authentication. 3.There is no response from the SIP server to the SIP registration request.	• The setting of the system data is wrong. • The setting of the router is wrong. • It is an error to the link of LAN. • Net side trouble.	1. Reconfirm the following system data setting -- PRG 10-1Minor, 10-Minor8, 10-Minor9, 10-30, and 10-36. Minor.Confirm the setting of routers. 3.Confirm whether abnormality occurs on the net side. 4.Reconfirm the authentication system data setting. 5.Reconfirm wiring and the system data setting. Please inquire an uncertain point of the maker.	The error is recovered when normally connecting it.

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
61	**Not set**	SIP extension trouble information.	It failed in the registration of the SIP extension terminal. The SIP extension terminal was not able to acquire DSP. • At Regist to SV9100 of the SIP extension terminal. • When you cannot acquire the DSP resource when it sends it.	• The registered port is used by other extension. • The license is insufficient. • DSP of VoIPDB was not able to be acquired.	Reconfirm wiring and the system data setting. Confirm whether each equipment such as access points works normally.	
62	**Not set**	DtermIP trouble information.	The error occurred by the DtermIP relation. • When the error occurs while communicating with VoIPU or DtermIP. • When it becomes impossible to do the communication between SV9100 and DtermIP • When failing in the acquisition of DSP.	• The packet loss occurred on the network or the wiring cutting occurred. • DSP of VoIP was not able to be acquired.	Confirm whether each equipment such as wirings and HUB is normal.	
63	**Not set**	SIP-MLT trouble information.	The trouble occurred by the SIP-MLT relation. • The DSP resource was not able to be acquired at incoming/outgoing. • The negotiation with VoIPDB failed.	• The packet loss occurred on the network or the wiring cutting occurred. • DSP of VoIP was not able to be acquired.	Confirm whether each equipment such as wirings and HUB is normal.	
64	**Major**	VoIPDB LAN Link Error.	The link of LAN of VoIPDB came off.	• LAN cable is defective. • Connected HUB broke. • Defect in CD-CP00.	Confirm LAN connector and wiring. Please inquire an uncertain point of the maker.	When the connection returns normally, the error is recovered.

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
65	**Not set**	VoIPDB trouble information.	When DSP of VoIPDB notifies Error.	• Defect of PZ-3MinorIPL.	There is a defective possibility of hardware. Please inquire an uncertain point of the maker.	
66	**Minor**	SIP extension License Error.	More than the number of licenses to which the SIP extension terminal was turned on at REGISTER.	• Lack of number of licenses.	Confirm the number of licenses of SIP extension terminals. Please inquire an uncertain point of the maker.	When the number of registration of SIP extension terminals falls below the number of licenses.
67~79	**Not set**	--- **Reserved** ---				
80	**Major**	NetLink start error.	The error occurred when NetLink started.	• Defect on CD-CP00.	There is a defective possibility of hardware. Please inquire of the maker.	
81	**Minor**	NetLink call trouble information.	The trouble occurred by the NetLink relation. • The DSP resource was not able to be acquired at incoming/outgoing.	• DSP of PZ-3MinorIPL was not able to be acquired.	Reconfirm wiring and the system data setting. Please inquire an uncertain point of the maker.	
82	**Minor**	NetLink Virtual Slot accommod. error.	The trouble occurred by virtual Slot relation. • It exceeded it to the slot accommodation upper bound. • It failed in making a virtual slot.	• It exceeds it to the number of slot accommodation in the entire system of NetLink.	Confirm whether to exceed the slot number upper bound. Please inquire an uncertain point of the maker.	
83	**Minor**	NetLink Communication Error.	The communication error occurred by NetLink. • The checksum error occurred. • The index error occurred.	• The setting of the router is wrong. • It is an error to the link of LAN. • Net side trouble.	Reconfirm LAN connector and wiring. Please inquire an uncertain point of the maker.	

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
84	**Minor**	NetLink License Error	The error related to the license occurred by NetLink. • The expiration date of the license approaches. • The license was nullified.	• The expiration date of a temporary license approaches. • A temporary license was nullified.	Confirm license information. Please inquire an uncertain point of the maker.	
85	**Minor**	NetLink node connection refusal.	The connection of Secondary was refused in NetLink. • SystemID overlaps. • SystemID is illegal. • The license is insufficient. • It is memory shortage.	• Repetition setting of SystemID. • SystemID is illegal. • The number of licenses is lack. • The system memory is insufficient.	Confirm the setting and license information on SystemID. Please inquire an uncertain point of the maker.	
86	**Minor**	Data base replication fail.	Because the versions of DB is different, replication cannot be executed between Primary and Secondary.	• The versions of data bases between Primary and Secondary is different.	Confirm the versions of data bases of Primary and Secondary by PC PRO. Please inquire an uncertain point of the maker.	
87	**Minor**	Data base replication fail.	Because the error occurred in the communication between Primary and Secondary, replication cannot be executed.	The link of LAN between Primary and Secondary was disconnected.	Confirm the link of LAN between Primary and Secondary.	
88	**Minor**	NetLink phase shift.	Operation began as Primary.	• Operation began as Primary.	No action is necessary.	
89	**Minor**	NetLink phase shift.	Operation began as Secondary.	• Operation began as Secondary.	No action is necessary.	
90	**Minor**	NetLink phase shift.	It shifted to the node search mode.	• It shifted to the node search mode.	No action is necessary.	
91	**Minor**	Primary auto-integration.	Primary auto-integration function operated.	• Primary auto-integration function operated.	No action is necessary.	
92	**Minor**	Primary compulsion specification.	The Primary compulsion specification function was executed.	• The Primary compulsion specification function was executed.	No action is necessary.	
93	**Minor**	NetLink node connection detection.	The connection of the node was detected with Primary of NetLink.	• The connection of the node was detected with Primary of NetLink.	No action is necessary.	
94	**Minor**	NetLink node secession detection.	The secession of the node was detected with Primary of NetLink.	• The secession of the node was detected with Primary of NetLink.	No action is necessary.	

Alarm No.	Type	Name	Content of Alarm	Cause	Action	Recovery
95	**Minor**	Data Base replication fail.	Because Secondary is in programming mode, the replication of DB cannot be executed.	• It is possible to be logging it in with Secondary in the Web Pro or the PC Pro as the cause.	Log out from the programming mode with Secondary.	
96	**Major**	Data base recovery fail.	Error happened when DataBase recovery operation. Backup/Restore	Lack of resource Memory, protected area, recovery data file corruption maybe reason of this.	Delete unnecessary file and keep open area to restore, then operation again.	
97	**Minor**	DB recovery operation start.	Start Data base recovery operation. Backup/Restore/Delete	Start Data base recovery operation.	No action is necessary.	
98	**Minor**	DB recovery operation finish.	Finish DataBase recovery operation. Backup/Restore/Delete	Finish Data base recovery operation.	No action is necessary.	
99~100	**Not set**	--- **Reserved** ---				

Alarm Reporting via Keytelephone

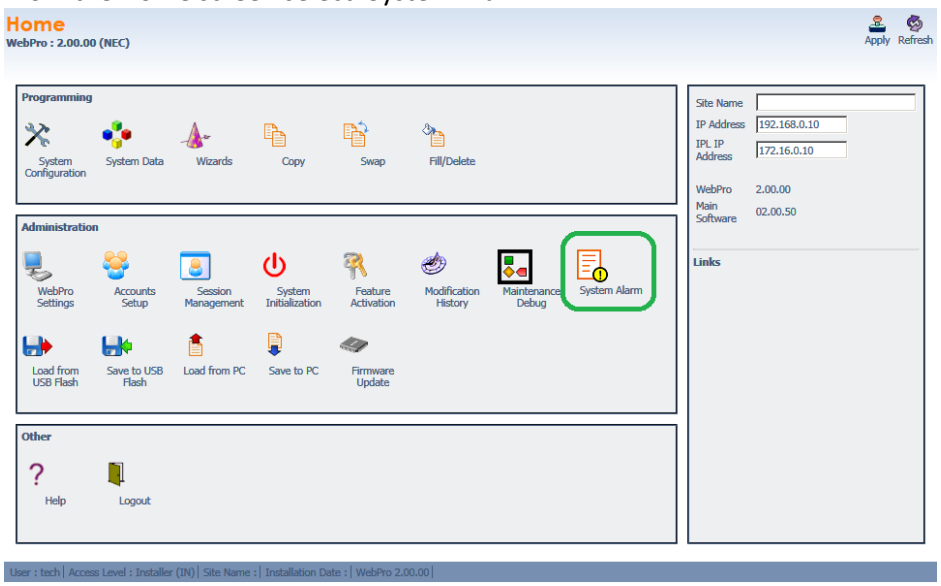
Define the terminal(s) to receive the alarms with CMD90-50.
Selected alarms are displayed:
5: Cooling fan error
14: GCD-CP10 LAN link error
30: SMDR Buffer full

```
    1-9  WED  2:39   2:41AM
5:COOLING FAN ERROR      0
 List      Dir      ICM      Prog
```

The cause of the alarm must be cleared to remove the report from the display.

Alarm Reporting via WebPro

System alarms can be viewed via WebPro.
From the Home screen select 'System Alarm'



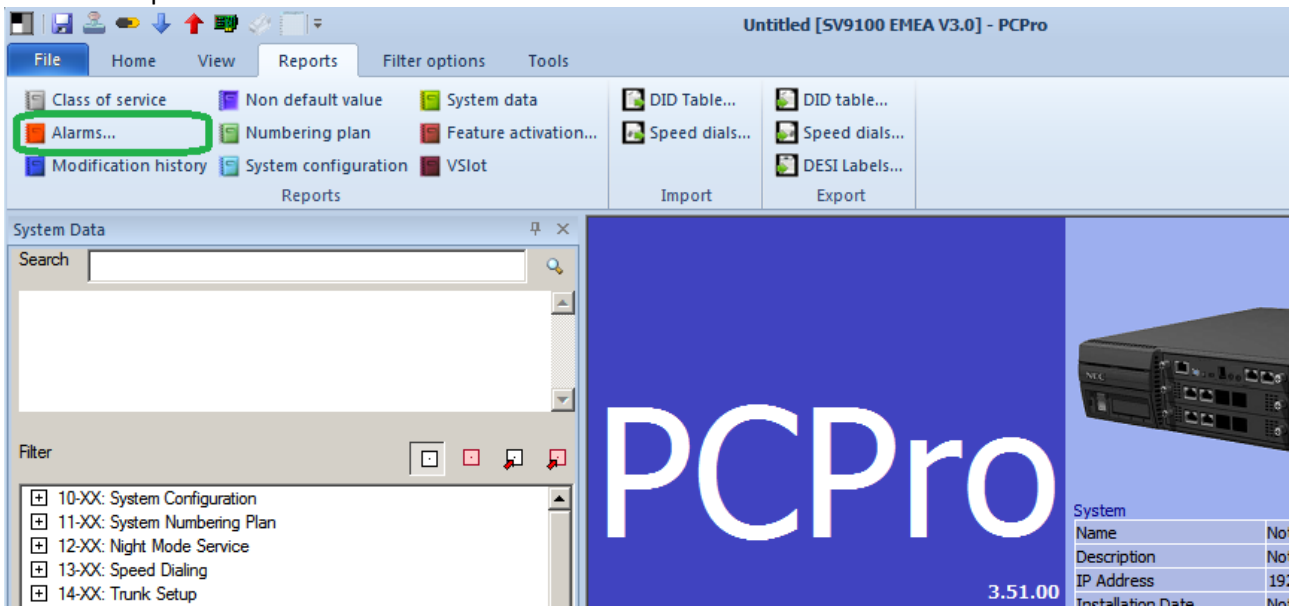
The Alarms are displayed.

LEVEL	No.	STATUS	DATE	TIME	ITEM	UNIT	SLOT	PRT	PARAMETER
MAJ	0008	ERR	08/01/13	22:51	Memory Backup Bat.	-none-	00	00	
MAJ	0050	WAR	08/01/13	22:51	System Start Up	-none-	00	00	
MAJ	0008	ERR	08/07/15	12:07	Memory Backup Bat.	-none-	00	00	
MAJ	0050	WAR	08/07/15	12:07	System Start Up	-none-	00	00	
MAJ	0005	ERR	08/07/15	12:07	Cooling Fan	-none-	--	--	
MIN	0002	ERR	08/07/15	12:09	PKG Installation	BRIU	03	00	
MIN	0002	REC	08/07/15	12:09	PKG Installation	BRIU	03	00	
MAJ	0050	WAR	08/07/15	12:12	System Start Up	-none-	00	00	
MAJ	0005	ERR	08/07/15	12:12	Cooling Fan	-none-	--	--	
MIN	0002	ERR	08/07/15	12:18	PKG Installation	ESIU	02	00	
MIN	0002	ERR	08/07/15	12:18	PKG Installation	SLIU	02	00	
MIN	0002	ERR	08/07/15	12:18	PKG Installation	082U	02	00	
MIN	0002	ERR	08/07/15	12:18	PKG Installation	BRIU	03	00	
MIN	0002	REC	08/07/15	12:18	PKG Installation	ESIU	02	00	
MIN	0002	REC	08/07/15	12:18	PKG Installation	SLIU	02	00	
MIN	0002	REC	08/07/15	12:18	PKG Installation	BRIU	03	00	

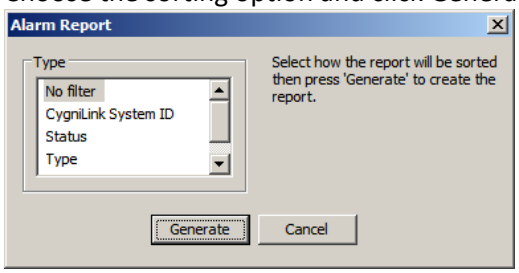
Alarm Reporting via PCPro

System alarms can be viewed via PCPro.

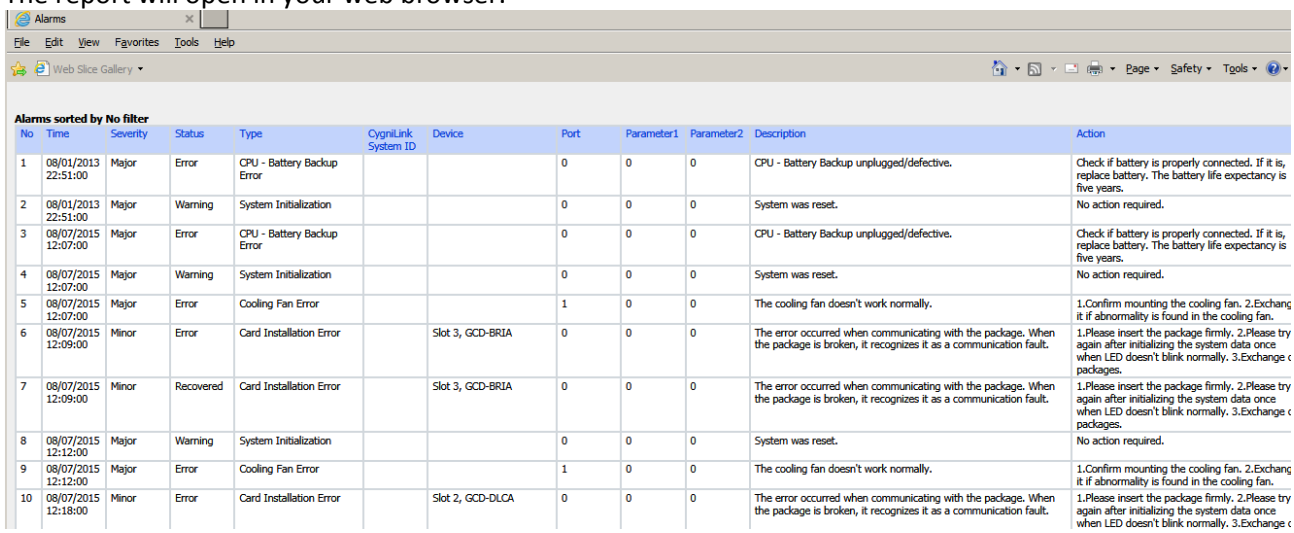
From the Reports toolbar select ‘Alarms…’



Choose the sorting option and click Generate.



The report will open in your web browser.



Alarms sorted by No filter

No	Time	Severity	Status	Type	CygniLink System ID	Device	Port	Parameter1	Parameter2	Description	Action
1	08/01/2013 22:51:00	Major	Error	CPU - Battery Backup Error			0	0	0	CPU - Battery Backup unplugged/defective.	Check if battery is properly connected. If it is, replace battery. The battery life expectancy is five years.
2	08/01/2013 22:51:00	Major	Warning	System Initialization			0	0	0	System was reset.	No action required.
3	08/07/2015 12:07:00	Major	Error	CPU - Battery Backup Error			0	0	0	CPU - Battery Backup unplugged/defective.	Check if battery is properly connected. If it is, replace battery. The battery life expectancy is five years.
4	08/07/2015 12:07:00	Major	Warning	System Initialization			0	0	0	System was reset.	No action required.
5	08/07/2015 12:07:00	Major	Error	Cooling Fan Error			1	0	0	The cooling fan doesn't work normally.	1.Confirm mounting the cooling fan. 2.Exchang it if abnormality is found in the cooling fan.
6	08/07/2015 12:09:00	Minor	Error	Card Installation Error		Slot 3, GCD-BRIA	0	0	0	The error occurred when communicating with the package. When the package is broken, it recognizes it as a communication fault.	1.Please insert the package firmly. 2.Please try again after initializing the system data once when LED doesn't blink normally. 3.Exchange packages.
7	08/07/2015 12:09:00	Minor	Recovered	Card Installation Error		Slot 3, GCD-BRIA	0	0	0	The error occurred when communicating with the package. When the package is broken, it recognizes it as a communication fault.	1.Please insert the package firmly. 2.Please try again after initializing the system data once when LED doesn't blink normally. 3.Exchange packages.
8	08/07/2015 12:12:00	Major	Warning	System Initialization			0	0	0	System was reset.	No action required.
9	08/07/2015 12:12:00	Major	Error	Cooling Fan Error			1	0	0	The cooling fan doesn't work normally.	1.Confirm mounting the cooling fan. 2.Exchang it if abnormality is found in the cooling fan.
10	08/07/2015 12:18:00	Minor	Error	Card Installation Error		Slot 2, GCD-DLCA	0	0	0	The error occurred when communicating with the package. When the package is broken, it recognizes it as a communication fault.	1.Please insert the package firmly. 2.Please try again after initializing the system data once when LED doesn't blink normally. 3.Exchange

Output the Alarm Report to a USB stick

The alarm report can be output to the memory stick installed into the USB socket of the GCD-CP10 card.
The report is generated via the Maintenance Service code.
Ensure you assign a Service Code to the Maintenance code in CMD 11-10-42 (default = none assigned).

To Output the report

Ensure a USB Memory stick is installed to the USB drive of the GCD-CP10 card
Ensure you assign a Service Code to the Maintenance code in CMD 11-10-42 (default = none assigned)
From a Keytelephone go off hook and dial the Maintenance Service Code

```
MAINTENANCE
FUNCTION NO(1-3) ?
```

Enter 2 on the keypad

```
ALMRPT SAVE TO USB
#: NEW  *:ALL
```

Enter # on the keypad to output new alarms since??
Or enter * on the keypad to output all alarms
While saving the display shows

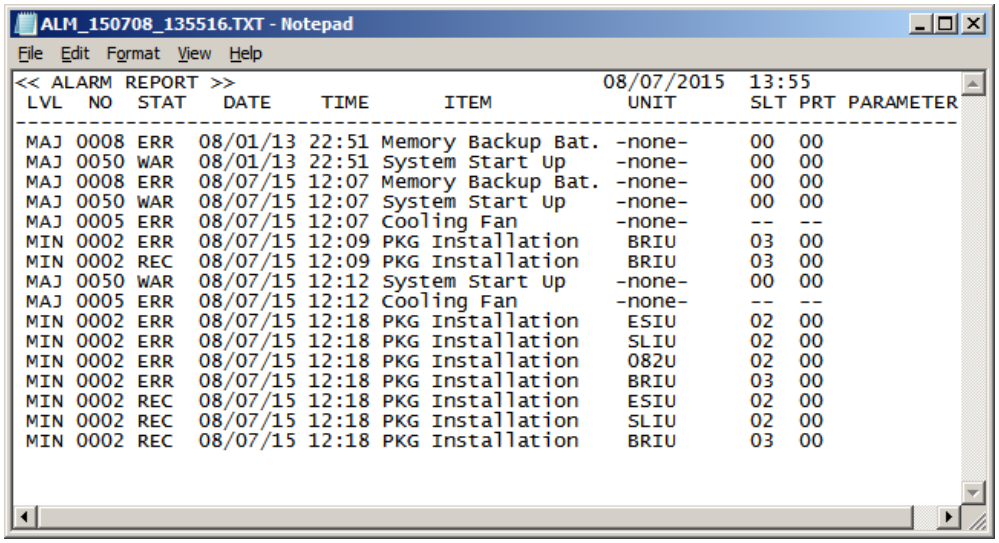
```
ALMRPT SAVE TO USB
START SAVE
```

When complete the display shows

```
ALMRPT SAVE TO USB
SAVE COMPLETE
```

Press SPK or go on hook to end

The alarm report is saved as a text file.
The filename is ALM_YYMMDD_HHMMSS.txt



Alarm Report via e-mail

Refer to the SV9100 Features and Specifications Manual for details of Alarm Reports via e-mail.

The following SV9100 system setup is copied from the SV9100 Features and Specifications Manual.

Program Number	Program Name/Description	Input Data	Default
10-12-01	**GCD-CP10 Network Setup – IP Address** Assign the IP Address.	0.0.0.0 ~ 126.255.255.254 128.0.0.1 ~ 191.254.255.254 192.0.0.1 ~ 223.255.255.254	192.168.0.10
10-12-02	**GCD-CP10 Network Setup – Subnet Mask** **The setting of Subnet Mask is invalid when all Host Addresses are 0.**	128.0.0.0 | 192.0.0.0 | 224.0.0.0 |240.0.0.0 | 248.0.0.0 | 252.0.0.0 |254.0.0.0 | 255.0.0.0	255.255.255.0
10-12-03	**GCD-CP10 Network Setup – Default Gateway** **Assign the default gateway IP address for the GCD-CP10.**	0.0.0.0 ~ 126.255.255.254 128.0.0.1 ~ 191.254.255.254 192.0.0.1 ~ 223.255.255.254	0.0.0.0
90-10-02	**System Alarm Setup – Report** **When enabled the system will provide notification of events for each of the enabled reports. This does not have to be set for DIMLast/DIMDump files to be sent.**	0 = No Report (no autodial) 1 = Report (autodial)	0
90-11-02	**System Alarm Report – Report Method** **When Alarm Reports are to be emailed, set this option to 1. Email address set in Program**	0 = No Report 1 = Email Address	0
90-11-06	**System Alarm Report – SMTP Host Name** **When Alarm Reports are to be emailed, set the SMTP name (for example, smtp.yourisp.com). Contact your ISP (Internet Service Provider) for the correct entry if needed.**	Maximum of 255 characters	No Setting

90-11-07	**System Alarm Report – SMTP Host Port Number** **When Alarm Reports are to be emailed, set the SMTP host port number. Contact your ISP (Internet Service Provider) for the correct entry if needed.**	0 ~ 65535	25
90-11-08	**System Alarm Report – To E-mail Address** **When Alarm Reports are to be emailed, set this email address to where the report should be sent.**	Maximum of 255 characters	No Setting
90-11-09	**System Alarm Report – Reply Address** **When Alarm Reports are to be emailed, set the email address where replies should be emailed.**	Maximum of 255 characters	No Setting
90-11-10	**System Alarm Report – From Address** When Alarm Reports are to be emailed, set this email address for the station sending the report.	Maximum of 255 characters	No Setting
90-11-11	**System Alarm Report – DNS Primary Address** When Alarm Reports are to be emailed, set the DNS primary address.	0.0.0.0 ~ 255.255.255.255	0.0.0.0
90-11-12	**System Alarm Report – DNS Secondary Address** When Alarm Reports are to be emailed, set the DNS secondary address.	0.0.0.0 ~ 255.255.255.255	0.0.0.0
90-11-13	**System Alarm Report – Customer Name** When Alarm Reports are to be emailed, enter a name to identify the particular system.	Maximum of 255 characters.	No Setting
90-25-01	**System Alarm Report CC Mail Setup – CC Mail Address** Define the mail address to receive the system alarm report CC Mail setup.	Maximum of 255 characters	No Setting
90-50-01	**System Alarm Display Setup – System Alarm Display Telephone** Define the extension number that Alarm Reports are displayed on.	Maximum of eight digits	No Setting

InMail SMTP Setup:

Program Number	Program Name/Description	Input Data	Default
47-18-01	**InMail Setup – SMTP Enabled** Enables the SMTP forwarding feature for the system.	0 = No 1 = Yes	0
47-18-02	**InMail Setup – Server Name** Sets the SMTP server name. If the DNS server setting is not assigned in Program 90-11-11, the IP Address must be used instead of the name.	Maximum of 48 characters	No Setting
47-18-03	**InMail Setup – SMTP Port** Sets the SMTP server port.	0 ~ 65535	25
47-18-04	**InMail Setup – Encryption** Enable SSL Encryption.	0 = No 1 = Yes	0
47-18-05	**InMail Setup – Authentication** Enables authentication, when set to 2 (POP3) refer to Programs 47-19-xx.	0 = No 1 = Yes 3 = POP3	0
47-18-06	**InMail Setup – User Name** Set the user name for SMTP authentication.	Maximum of 48 characters	No Setting
47-18-07	**InMail Setup – Password** **Set the password for SMTP authentication.**	Maximum of 48 characters	No Setting
47-18-08	**InMail Setup – E-mail Address** **Set the email address for the system. This is the "from address" for outgoing emails.**	Maximum of 48 characters	No Setting
47-18-09	**InMail Setup – Reply to Address** **Set the email address for replies to outgoing emails. This email account is not monitored by the system and must be checked**	Maximum of 48 characters	No Setting

InMail POP3 Setup:

Program Number	Program Name/Description	Input Data	Default
47-19-01	**InMail POP3 Setup – Server Name** Set the POP3 server name. If the DNS server setting is not assigned in Program 90-11-11 the IP Address must be used instead of the name.	Maximum of 48 characters	No Setting
47-19-02	**InMail POP3 Setup – POP3 Port** Set the POP3 server port.	0 ~ 65535	110
47-19-03	**InMail POP3 Setup – SSL Encryption** Enable SSL encryption.	0 = No 1 = Yes	0
47-19-04	**InMail POP3 Setup – User Name** Set the user name for POP3 authentication.	Maximum of 48 characters	No Setting
47-19-05	**InMail POP3 Setup – Password** Set the password for POP3 authentication.	Maximum of 48 characters	No Setting

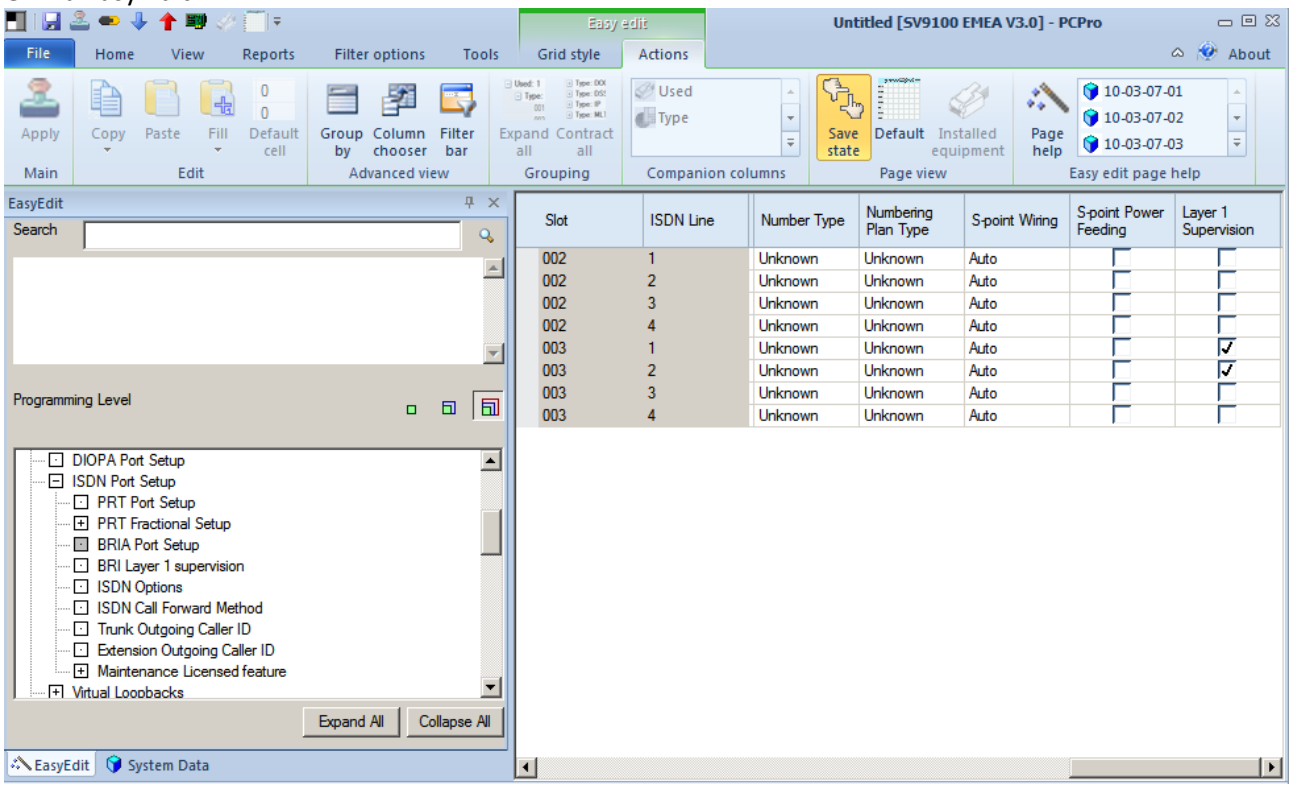
ISDN Layer 1 Status Display

Depending on the local operation of the ISDN BRI lines it may be useful to view the status of the lines. Layer 1 operation of ISDN can vary based on functionality, territory or exchange connected to:

Layer 1 always ON – layer 1is always provided, and any dip in this indicates loss of link. In this case an alarm is required and the ability to take the associated lines out of service on the SV9100.
Layer 1 Off on IDLE– layer 1 is off when idle, therefore it should not raise an alarm or take the associated lines out of service.

Layer 1 Disconnect Supervision is set per Trunk using the following CMD:
PRG CMD 10-03-25 Layer 1 Supervision (Default Off)

Or Via Easy Edit:



Layer 1 Supervision is disabled by setting it to 0:"Off" (default)
When Layer 1 is deactivated or goes down due to a fault (plug disconnected), no alarm #10 shall be issued. The circuit shall be considered to be usable.
When Layer 1 is activated again, no recover #10 shall be issued.
When the circuit is a trunk or leased line or network circuit, the associated ports shall stay in IDLE state.

Layer 1 Supervision is enabled by setting it to 1:"On"
When Layer 1 is deactivated or goes down due to a fault, immediately an alarm #10 shall be raised.
The trunk ports associated with this ISDN circuit shall then be skipped in trunk selection, therefore selecting the next available trunk.
When Layer 1 is activated, a #10 recover message shall immediately be issued. The associated ports (trunk/station) shall then go to state IDLE.

To view the status of the ISDN circuit

Status can be viewed via:
KeyTel Pro – CMD 90-60-01 (real time)
PCPro – 90-60 (Download to update status)
WebPro – 90-60 (Refresh to update status)

KeyTel Pro – CMD 90-60-01 (real time)

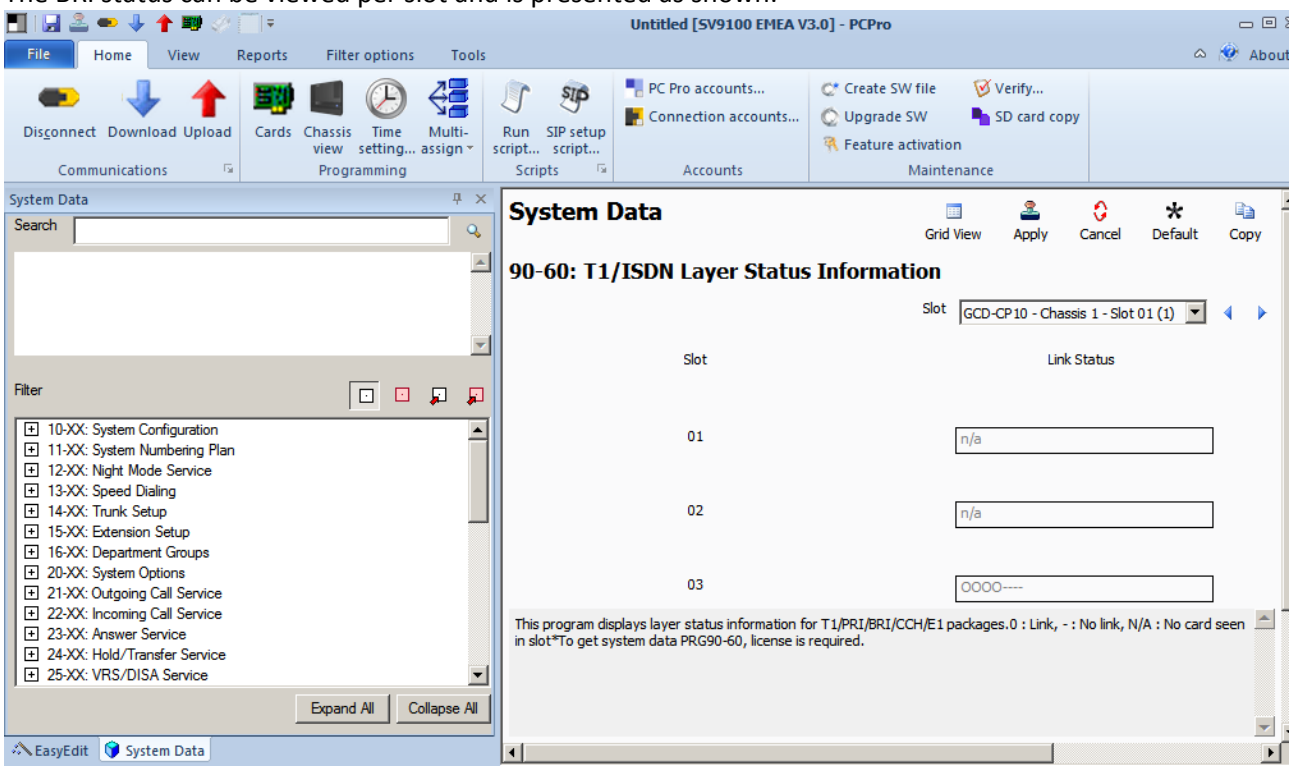
Press the Soft key – or + to select the slot number

```
90-60-01   Slot No 3
Link Status      0000----
  <-    -     +     ->
```

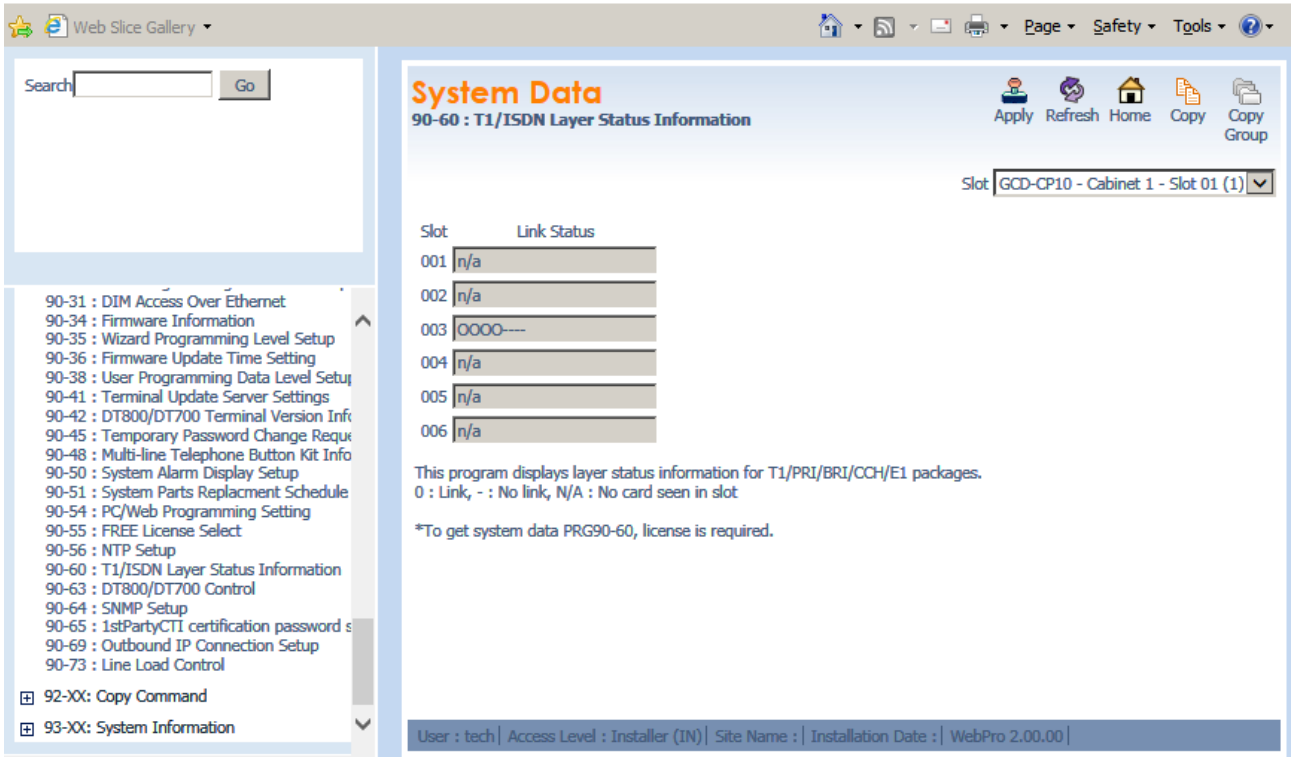
Link Status shows n/a if no ISDN BRI card is installed into the selected slot.

PCPro – 90-60 (Download to update status)

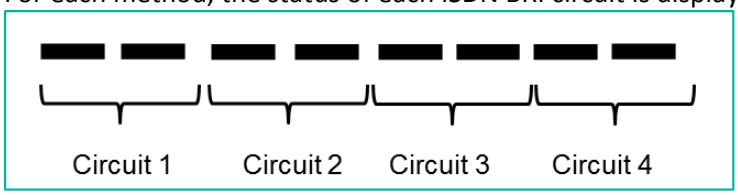
The BRI status can be viewed per slot and is presented as shown:



WebPro – 90-60 (Refresh to update status)



For each method, the status of each ISDN BRI circuit is displayed as follows:



O Circuit connected / in service

▬ Circuit disconnected / out of service

Keytelephone Access to System Settings

Various system details can be displayed at any display terminal.

System Properties

At the idle terminal:
Press **Feature** and then keypad digit **3**

VERSION:	2.00.50
MAC:	xx-xx-xx-xx-xx-xx
HKEY:	nnnn-nnnn-nnnn

Version = Main Software version level installed onto the GCD-CP10
MAC = MAC address of the GCD-CP10
HKEY = Hardware Key of the GCD-CP10

VIOPDB

At the idle terminal:
Press **Feature** and then keypad digit **4**

VoIP-E1 Slot 1	256
MAC:	xx-xx-xx-xx-xx-xx
DSP:	000/000/256:0/0/0:0/0/0

VoIP = IPL Type Slot1 = GCD-CP10 256 = resources available
MAC = MAC address of the IPLE card
DSP =

If the IPLE card is not installed the display will show:

VoIPDB:	Not Installed
MAC:	xx-xx-xx-xx-xx-xx
DSP:	000/000/000:0/0/0:0/0/0

IP Address

At the idle terminal:
Press **Feature** and then keypad digit **6**

IP Address Information	
System:	192.168. 0. 10
VoIPDB:	172. 16. 0. 10

System = IP Address of the GCD-CP10
VoIPDB = IP Address of the IPLE card

This information is also available within the M=Navigation Key menu
System – Menu 820
VOIPDB – Menu 830
IP Address – Menu 840

Terminal Test Routine – DT400

The following procedure will help you determine if a problem being experienced is due to the telephone or the system.
Testing the operation of a system phone allows you to check the lamping of each key, the display, and tones.
Follow the procedure below to determine if the phone is operating correctly.

Key Matrix and LED Test

1. Unplug the phone from the socket/line cord
2. While holding down dial pad digits 1, 2 and 3, plug the phone back in.
3. Hold down the 1, 2 and 3 digits for approximately 10 seconds then release them.

If the phone doesn't show "Initialize" on the display, then repeat Steps 1-3 and hold the keys down a few seconds longer.
Press any key and its Logical Name should be displayed.

Note – each terminal model will have different display layout and keys available to test.

```
Test   PUSH=Kxx       L12+B  0
Main V1.60   LCD  V2.30
SIDE       [    NO CONNECT  ]
Bottom  [    NO CONNECT  ]
```

PUSH=Kxx = the key you have pressed, refer to the table below
Main = Terminal firmware version
LCD = Terminal LCD revision

Pressing each key will display the Key number to confirm the physical contact is good.
Certain keys will turn on red/green lamps to confirm all lamps are good
Certain keys will set the LCD display to test all pixels are good
Certain keys will cause the speaker to sound

Key	Test Result (K =xx)	Other test
Exit	1	
Soft key 1	2	
Soft key 2	3	
Soft key 3	4	
Soft key 4	5	
Help	6	
Programmable keys 1~xx	7~xx	Key 1~3 will sound ring tones from the speaker
Keypad 1~#	D = 1~#	
HOLD	31	
Transfer	32	
Speaker	33	
Recall	37	
Feature	38	
Answer	39	
Mic	40	
Menu	42	
Left navigation	46	
Center Navigation	47	
Right navigation	48	
Up Navigation	NA	LCD displays all black to check pixels
Down Navigation	NA	Repeat press shows Contrast ~ all off Also turns all lamps Off-Green-Red

Lift handset to exit test mode.

SV9100

System Maintenance Manual

NEC Unified Solutions Issue 1.0