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VisuaLink 128/384

Engineering Guide

JANUARY, 1999

NEC America, Inc.

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FCC REQUIREMENTS

NEC America, Inc.
VisuaLink 128/VisuaLink 384

TYPE OF SERVICE

The VisuaLink 128 and the VisuaLink 384 are stand-alone devices that allow multimedia conferencing by transmitting video, audio and data to remote locations over the ISDN Basic Rate interface. The VisuaLink 128 and VisuaLink 384 connect to the ISDN digital network through separately-registered NTI equipment. They provide POTS ports which allow a customer-provided 2500-type telephone access to the digital network.

This equipment complies with Part 68 of the FCC Rules. The equipment label will appear on the rear exterior panel of the unit and will provide the FCC Registration Number, NEC trade name, model number, serial number or date of manufacture and the country of origin.

TELEPHONE COMPANY PROCEDURES

The goal of the telephone company is to provide you with the best service it can. In order to do this, it may occasionally be necessary for them to make changes in their equipment, operations, or procedures. If these changes might affect your service or the operation of your equipment, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service.

If you have any questions about your telephone line, such as how many pieces of equipment you can connect to it, the telephone company will give you notice, in writing, to allow you to make any changes necessary to maintain uninterrupted service.

In certain circumstances, it may be necessary for the telephone company to request from you concerning the equipment which you have connected to your telephone line. Upon request of the telephone company, provide the FCC registration number and the ringer equivalence number (REN) of the equipment which is connected to your line; both of these items are listed on the equipment label. The sum of all of the REN's on your telephone lines should be less than five in order to assure proper service from the telephone company. In some cases, a sum of five may not be usable on a given line.

IF PROBLEMS ARISE

If any of your telephone equipment is not operating properly, you should immediately remove it from your telephone lines, as it may cause harm to the telephone network. If the telephone company notes a problem, they may temporarily discontinue service. When practical, they will notify you in advance of this disconnection. If advance notice is not feasible, you will be notified as soon as possible. When you are notified, you will be given the opportunity to correct the problem and informed of your right to file a complaint with the FCC.

In the event repairs are ever needed on your Visualink 128 or VisuaLink 384, they should be performed by NEC America, Inc. or an authorized representative of NEC America, Inc. For information contact:

NEC America, Inc.
1555 W. Walnut Hill Lane
Irving, Texas 75038-3797
USA
972-751-7000

FCC REQUIREMENTS FOR CONNECTION OF TELEPHONE SYSTEMS

In order to connect this system to the telephone network, provide the telephone company with:

- the quantities and USOC numbers of the required jacks (shown below);
- the sequence in which the trunks are to be connected;
- the facility interface codes by position; and
- the ringer equivalence number or service code, as applicable, by position

MFG's Port ID	USOC Jack Connector	REN/Service Code	Facility Interface Code	# CO Ports	# Stations	Registration #
VisuaLink 128	N/A	6.0P	02IS5	1	1	AY5JPN-32617-XD-N
VisuaLink 384	N/A	6.0P	02IS5	3	1	AY5JPN-32617-XD-N

CSA Requirement

To ensure that certified equipment is attached correctly, and only to the networks of participating carriers, the following statement shall accompany each unit of certified equipment offered for sale. This statement must be included conspicuously in written or electronic format, at or near the front of each copy of the operating manual, or accompany other technical information, or be included as a separate sheet. The required statement is:

CP-01, Issue 8, Part I
Section 14.1

NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection

MODEL	CERTIFICATE NUMBER	CERTIFICATION NUMBER
VisuaLink 128	19318	140 9004A
VisuaLink 384	19603	140 9104A



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Chapter 1: VisuaLink Command Fundamentals

Preface

Thank you very much for purchasing the VisuaLink 128 or VisuaLink 384.

VisuaLink is suitable for a conference with one to three people on a site, and it is a device to realize a multimedia communication of video, voice, and graphic information by connecting to an ISDN line.

This document explains the external console of the VisuaLink from a console such as a personal computer.

NEC Corporation

Notes to Remember:

- (1) It is prohibited to copy a part of or the whole of the contents of this document without permission.
- (2) The contents of this document may be modified without notice.
- (3) We did our best in creation of this document; however, if you notice any problems, errors, and omissions, please let us know.
- (4) We are not responsible for the result of any operation of the device regardless of the above note.
- (5) Please prepare countermeasures such as recovery and backup for possible failures on a system side when you use this device in a system in which a superior reliability is expected.

1.1 Summary

VisuaLink is equipped with a serial external control port that enables a control from a console such as a personal computer.

The VisuaLink executes a command and returns a response based on the inputting of a command that consist of 4 characters or one character and three numbers.

1.2 Communication Outline

Communication protocol between the VisuaLink and a console are consisted of the following:

- [1] Command: A protocol issued by a console executes a process on VisuaLink.
- [2] Response: A protocol that issues a result for a command to a console. It is always issued at a command reception. Responses are normal ending response and error response.
- [3] Report: When a status is changed inside VisuaLink, a change notice such as an alarm is issued to a console. Message protocol is issued independently from a command.

1.3 Physical/Electrical Interface

The external control port is at the back of the VisuaLink and uses DIN8 pin connectors. The maximum length of the control cable shall be no more than 20 ft. (6.1 meter) due to electric characteristics. Connector pin positions are as follows:

NO	Name	Direction	Features
1	RS	OUT	Request to Send
2	CS	IN	Clear to Send
3	SD	OUT	Send Data
4	GND	-	Signal Ground
5	RD	IN	Receive Data
6			
7	DTK	OUT	Data Terminal Ready
8	DSR	IN	Data Set Ready

Note: Directions of signals are output from VisuaLink.

1.4 Communication Format

Communication between a console and VisuaLink 128/384 is done in a start-stop synchronization of the following format.

Data Format

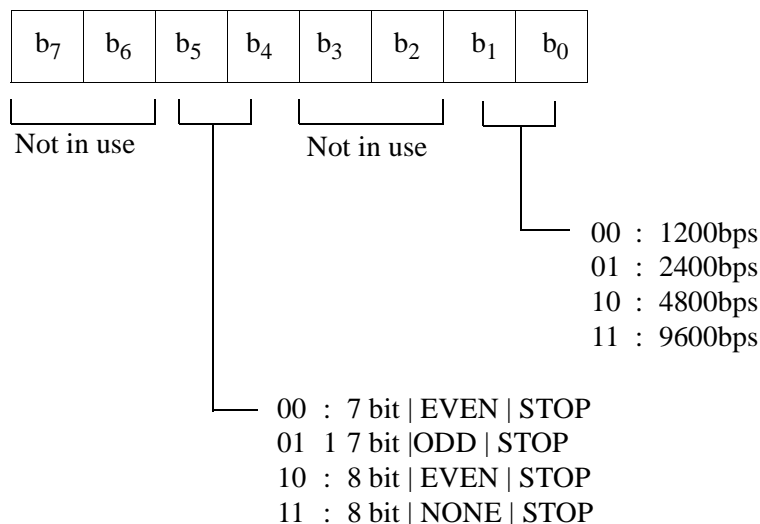


Data Length: 7, 8 bit ASCII code
 Stop Bit: 1 bit
 Parity: Even, Odd, NONE parity
 Baud: 1200, 2400, 4800, 9600bps

Note: Default setting for VisuaLink is 9600, 8, none, 1.

To change the default setting use the SSPR command.

- A: Connect terminal to VisuaLink Serial 2
- B: Set terminal application to:
 - Baud: 9600
 - Parity: Even
 - Bit: 8
 - Stopbit: 1
- C: Calculate the Baud, Parity, and Bit



- D: Set system parameter command for the appropriate setting
 - Example: `SSPR□168=21`
 - Means: Your VL in now set up for 2400, 8, EVEN, 1
- E: Reset the VL.

Command Format

Command Name	Space	Parameter	CR+LF
--------------	-------	-----------	-------

Command: Transmit 4-character commands (only upper case can be used)

Space: More than one space is transmitted between a command and a parameter

Parameter: If a command requires a parameter, a parameter is assigned. (Only upper case can be used)

However, if parameters are more than one, more than one space is transmitted between parameters.

CR: Transmit **Carriage Return Code** (ODH).

LF: Transmit **Line Field** (OAH)

Response Format

When the VisuaLink 128/384 is provisioned and controlled with a console, VisuaLink 128/384 always sends a response. Responses are normal response and error response. When sending a command from a console, please transmit the next command after checking a response. A response is transmitted in the following format.

Normal Ending

Response Parameter (when required)	OK	CR+LF
------------------------------------	----	-------

Parameter: If a command is inquiring a provisioned value, a response parameter is returned. If there is no parameter, it is omitted. However, if parameters are more than one, more than one space is transmitted between parameters.

Space: More than one space is transmitted between a command and a parameter.

CR: Transmit **Carriage Return Code** (ODH).

LF: Transmit **Line Field** (OAH)

Error Ending

ERRxx	CR+LF
-------	-------

ERRxx: Three-character **ERR** and a 2-digit error number are transmitted indicating a failure.

CR: Transmit **Carriage Return Code** (ODH).

LF: Transmit **Line Field** (OAH)

Report Format

Command Name	Space	Parameter	CR+LF
--------------	-------	-----------	-------

Command: Transmit 4-character reports Command (only upper case can be used)

Space: More than one space is transmitted between a command and a parameter

Parameter: If a command requires a parameter, a parameter is assigned. (Only upper case can be used)

However, if parameters are more than one, more than one space is transmitted between parameters.

CR: Transmit **Carriage Return Code** (ODH).

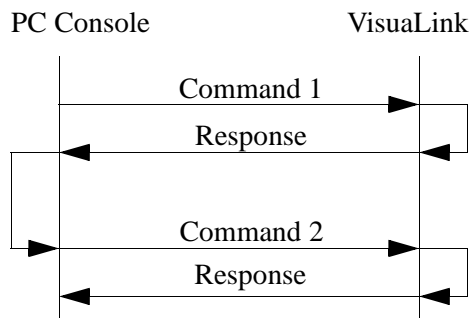
LF: Transmit **Line Field** (OAH)

1.5 Communication Procedure

There is no procedure for communication between a console and VisuaLink as a rule. Therefore, a communication line is presumed to be error-free. When it is remotely operated with a modem, efficient operation may not be expected when a line error occurs. Because of this, in a remote control, a modem with error correction feature shall be used, or VisuaLink shall be checked for operation.

Command/Response Procedure

VisuaLink transmits a confirmation on whether a command is received and the process is completed. After sending a command, please always analyze the transmitted response before issuing a next command. If the next command is issued before a response, an error response such as "currently processing" may be returned.

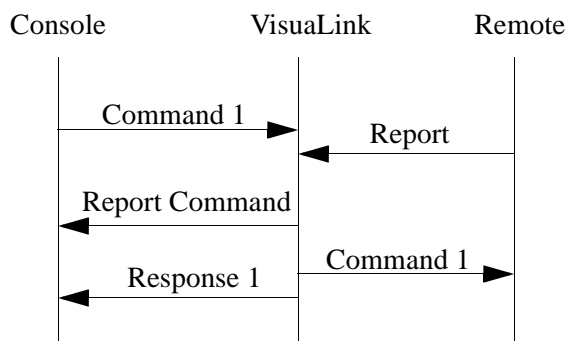


- (1) Command 1 is issued using the external control port rather than a personal computer.
- (2) Analysis of a received command (parameter error, etc.) is implemented.
- (3) After an analysis, if it is normal, a normal response is transmitted to a personal computer after transmitting to the remote in communication. However, if it is error response, the error shall be analyzed, and a command shall be either suspended or re-issued.
- (4) After verifying that Response 1 is normal, issue Command 2.

Note: After issuing a command from a console, if an alarm emits in VisuaLink, an alarm report may be transmitted before a response to the command.

Abnormal Handshake Procedure

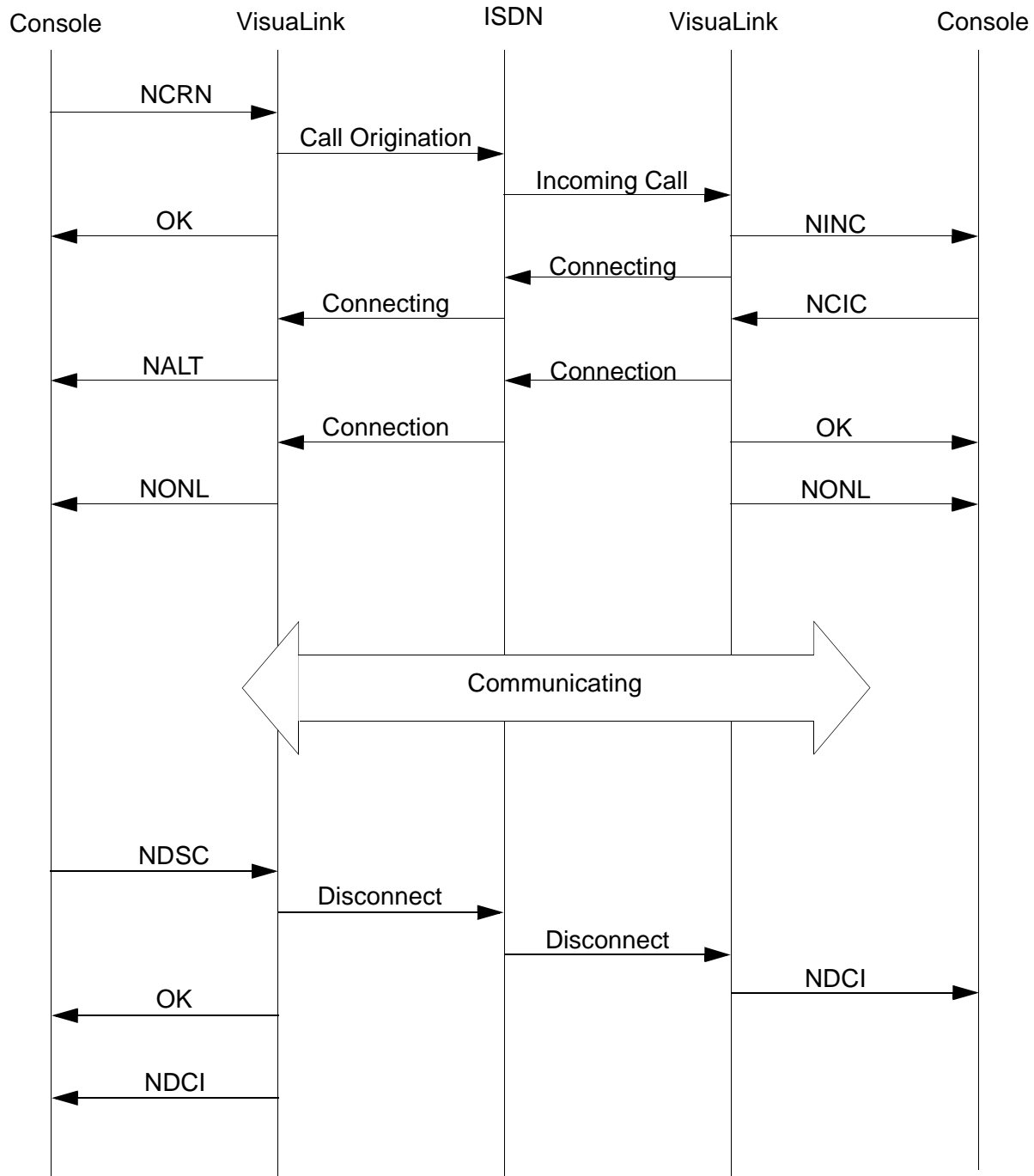
When the VisuaLink receives a report command from a remote unit at a time the VisuaLink is sending a command to the remote unit in communication, the VisuaLink transmits an indication to a PC using the external control port and then transmits a command to the remote unit.



- (1) Command 1 is issued using the external control port rather than a personal computer.
- (2) If a report is received from the remote unit before a transmission of Command 1, it transmits a report to a PC and then transmits Command 1 to the remote unit. It transmits Response 1 to the PC after the transmission. However, in parameter error and etc., it immediately transmits an error response. When an error response is received, it analyzes the error contents and suspends the command issuance or reissues a command.

1.6 Connecting and Incoming Call Control Basic Sequence

Connecting and incoming call control basic sequence (when the incoming call mode of the VisuaLink receiving a call is set to the manual incoming call setting) is shown in the following.



Note 1: Detailed sequence in a network is omitted in this description.

Note 2: Parameters of each command is omitted in this description.

This page is for your notes.

Chapter 2: Console Command List

Table 1: VIDEO Command

NO	Feature	Command Name	Process
1-1	Setting Video Format	SVFM	Setting
1-2	Checking Video Format Setting	RVFM	Status
1-3	Setting Picture-in-Picture	SPIP	Setting
1-4	Checking Picture-in-Picture Setting	RPIP	Status
1-5	Setting Video Input Switch	SNDS	Setting
1-6	Checking Video Input Setting	RSND	Status
1-7	Setting Monitor Output Video	SDSP	Setting
1-8	Checking Monitor Output Video Setting	RDSP	Status
1-9	Setting/Checking PIP Display Format	SPDP	Setting/Status
1-10	Setting/Checking PIP During Snapshot	SPSW	Setting/Status
1-11	Setting/Checking Video Priority	SCPI	Setting/Status
1-12	Setting H.263	S263	Setting
1-13	Checking H263 Setting	R263	Setting

Table 2: AUDIO Command

NO	Feature	Command Name	Process
2-1	Setting Audio Mode	SAMD	Setting
2-2	Checking Audio Mode Setting	RAMD	Status
2-3	Setting Audio Delay	SADL	Setting
2-4	Checking Audio Delay Setting	RADL	Status
2-5	Setting MIC On/Off	SMIC	Setting
2-6	Checking MIC On/Off Setting	RMIC	Status
2-7	Setting Volume	SVOL	Setting
2-8	Checking Volume Setting	RVOL	Status
2-9	Setting Audio Input/Output Port	SASW	Setting
2-10	Checking Audio Input/Output Port Setting	RASW	Status
2-11	Setting Audio Mute Operation at start of Communications	SMMT	Setting
2-12	Reads the current Mute mode setting at start of Communications	RMMT	Status
2-13	Sets the Audio and Audio/Video Mute mode at start of Communications	SMTC	Setting
2-14	Reads the current Mute control at start of Communications	RMTC	Status

Table 3: LINE Setting Command

NO	Feature	Command Name	Process
3-1	Setting Network Type (P x 64/56)	SNET	Setting
3-2	Checking Network Type Setting (P x 64/56)	RNET	Status
3-3	Setting Transmission Line Type	NNSS	Setting
3-4	Checking Transmission Line Type Setting	NNSI	Status
3-5	Setting Transmission Line Speed	SLSP	Setting
3-6	Checking Transmission Line Speed Setting	RLSP	Status

Table 4: DATA Command

NO	Feature	Command Name	Process
4-1	Setting LSD Speed	SAM2	Setting
4-2	Checking LSD Speed Setting	RAM2	Status
4-3	Setting MLP Speed	SDM3	Setting
4-4	Checking MLP Speed Setting	RDM3	Status

Table 5: ISDN Registering/Setting Command

NO	Feature	Command Name	Process
5-1	Registering My Number	NDSS	Setting
5-2	Checking My Number Registration	NDSR	Status
5-3	Registering Speed Dial	MDST	Setting
5-4	Checking Speed Dial Registration	MDRD	Status
5-6	Setting Incoming Call Buzzer	NBZS	Setting
5-7	Checking Incoming Call Buzzer Setting	NBZI	Status
5-8	Setting Incoming Call Mode	SINC	Setting/Status
5-9	Setting/Checking Incoming Call Buzzer at Auto Answer Mode	SRNG	Setting/Status
5-10	Registering SPID	SPID	Setting
5-11	Checking SPID	RPID	Status

Table 6: Camera related Registering/Setting Command

NO	Feature	Command Name	Process
6-1	Registering Camera Preset Position	CPPS	Setting
6-2	Registering Talker Name	CPNS	Setting
6-3	Setting Camera Model	SCMK	Setting
6-4	Checking Camera Model Setting	RCMK	Status

Table 7: Communication Status Reading Command

NO	Feature	Command Name	Process
7-1	Read Manufacturer Code	RMAC	Status
7-2	Read Common Mode During Communication	RMOD	Status
7-3	Read H.221 Synchronous Status	R221	Status
7-4	Read Remote Site Name (at Point-to-Point)	RPNA	Status
7-5	Read Participating Conference Status	RCST	Status

Table 8: Alarm related Command

NO	Feature	Command Name	Process
8-1	Read Alarm Status	CALM	Status

Table 9: History Reading Command

NO	Feature	Command Name	Process
9-1	Read Communication/Alarm History	RLAM	Status

Table 10: Registering Local Location Name Command

NO	Feature	Command Name	Process
10-1	Registering Local Site Name	MRNS	Setting

Table 11: Serial Port Control Command

NO	Feature	Command Name	Process
11-1	Setting Serial Port	SSIO	Setting
11-2	Checking Serial Port Setting	RSIO	Status

Table 12: Acquiring Version Command

NO	Feature	Command Name	Process
12-1	Requesting Software Version	RVER	Operation

Table 13: Maintenance Command

NO	Feature	Command Name	Process
13-1	Setting Local Loopback	SLLB	Operation
13-2	Checking Local Loopback Setting	RLLB	Status

Table 14: Report Response Control Command

NO	Feature	Command Name	Process
14-1	Conference Status Report Control	ITCS	Operation
14-2	Multi-point Conference Status Report Control	IMCU	Operation
14-3	H.243 Report Control	I243	Operation
14-4	Command Generator Related Report Control	ICGP	Operation

Table 15: Maintenance and Other Command

NO	Feature	Command Name	Process
15-1	Setting Parameter Initialization	ISPR	Operation
15-2	Clearing Backup Memory	CRAM	Operation
15-3	System Reset Request	RRST	Operation
15-4	Setting System Clock	WCLK	Setting
15-5	Checking System Clock Setting	RCLK	Status

Table 16: Maintenance and Other Command

NO	Feature	Command Name	Process
16-1	Read Multi-point Conference Participating Location Name	RMNA	Status
16-2	Read Multi-point Conference Operation Status (NEC Specific)	RMST	Status
16-3	Read Multi-point Conference Operation Status	RMPS	Status
16-4	Read Multi-point Conference Mode Status	RMMD	Status

Table 17: Model Identification Command

NO	Feature	Command Name	Process
17-1	Read Model Identification	RMES	Status

Table 18: Audio Training Command

NO	Feature	Command Name	Process
18-1	Initiate Audio Training	ECTS	Operation

Table 19: ISDN Control Command

NO	Feature	Command Name	Process
19-1	Requesting Connection	NCRN	Operation
19-2	Request Disconnection	NDSC	Operation
19-3	Incoming Call Permit/Reject	NCIC	Operation
19-4	Communication Status Inquiry	NSTQ	Operation

Table 20: Camera Control Command

NO	Feature	Command Name	Process
20-1	Request for Camera Direction Change	CAMS	Operation

Table 21: Option Control Command

NO	Feature	Command Name	Process
21-1	Pointer Control	POCS	Operation
21-2	Talker Detection Control	VCTS	Operation
21-3	SnapShot Transmission Request	STPR	Operation
21-4	Standard Display Screen Setting Request	SXMR	Operation
21-5	Request to Acquire Composite Screen Setting	SXST	Operation

Table 22: Multi-point Conference Control

NO	Feature	Command Name	Process
22-1	Request to Chairman Control	COPR	Operation
22-2	Multiple Address Transmission Request	CSPR	Operation
22-3	Specific Picture Reception Request	CRPR	Operation
22-4	Request to Switch Multiple Address Originator Monitor	CMPR	Operation

Table 23: Opening Message Command

NO	Feature	Command Name	Process
23-1	Opening Message at Unit Activation	OMES	Report

Table 24: Communication Status Report Command

NO	Feature	Command Name	Process
24-1	H.221 Synchronous Status Report	H221	Report
24-2	Manufacturer Code Report	IMAC	Report
24-3	Report of Common Mode in Communication	IMOD	Report

Table 25: Alarm Status Report Command

NO	Feature	Command Name	Process
25-1	Alarm Status Change Report	RALM	Report

Table 26: Video Status Report Command

NO	Feature	Command Name	Process
26-1	Incoming Video Synchronous Status Report	RVSR	Report

Table 27: Participating Status Report Command

NO	Feature	Command Name	Process
27-1	Participating Conference Status Report	ICST	Report

Table 28: ISDN - Report Command

NO	Feature	Command Name	Process
28-1	Display During Calling	NALT	Report
28-2	Incoming Call Report	NINC	Report
28-3	On-line Report	NONL	Report
28-4	Disconnection Report	NDCI	Report

Table 29: Camera Control Report Command

NO	Feature	Command Name	Process
29-1	Camera Status Report	CAMI	Report
29-2	Talker Name Display Report	CPNI	Report

Table 30: Option Control Report Command

NO	Feature	Command Name	Process
30-1	SnapShot Transmission Ending Report	STEI	Report
30-2	SnapShot Reception Report	RFVR	Report

Table 31: Other Report Command

NO	Feature	Command Name	Process
31-1	Automatic Activating File Starting Report	CGSI	Report
31-2	Automatic Activating File Ending Report	CGEI	Report

Table 32: Multi-point Related Report Command

NO	Feature	Command Name	Process
32-1	Multi-point Conference Operation Status Report	IMPS	Report
32-2	Multi-point Conference Mode Status Report	IMMD	Report
32-3	Acquisition of Right to Operate Report	COPI	Report
32-4	Multiple Address Transmission Report	CSPI	Report
32-5	Specific Picture Reception Report	CRPI	Report
32-6	Talker Detection Control Report	CVCI	Report
32-7	SnapShot Transmission Permit Report	CSSC	Report
32-8	Multiple Address Originator Monitor Video Switch Report	CMPI	Report
32-9	Terminal Connection Report	CJNI	Report
32-10	Conference Status Report	CSTI	Report

Table 33: Multi-Screen Related Report Command

NO	Feature	Command Name	Process
33-1	Composite Screen Setting Report	XMII	Report
33-2	Standard Display Screen Setting Report	XMCI	Report
33-3	Response to Composite Screen Setting Request	XSCI	Report

Table 34: Microphone Command

NO	Feature	Command Name	Process
34-1	Voice Activate Microphone Report	PPNI	Report

Table 35: System Error Command

NO	Feature	Command Name	Process
35-1	System Error Report	ERRI	Report

Table 36: On-Screen Display

36-1	Setting On-Screen Display	SOSD	Operation
------	---------------------------	------	-----------

Table 37: Current Power OFF Condition

37-1	Set and read the current Power Off Condition	CSTB	Status/Report
------	--	------	---------------

Chapter 3: Command Detailed Format

Command details are described in this section according to the following format.

Command Name

Command Number

Description: Describe command features.

Command Format: Describe command input format.

Response: Describe a response to a command.

SPIP **Setting Picture-in-Picture****1-3**

Description: Sets PIP (small screen) display

Command Format: SPIP p1 p2

 p1: ON : PIP output ON
 OFF : PIP output OFF
 P2: RT : Display at top right
 RB : Display at bottom right
 LT : Display at top left
 LB : Display at bottom left

Note: p2 is omitted when p1 = Off

Response: Normal Response: OK

 Error Response: [ERR01](#)
 [ERR07](#)
 [ERR85](#)
 [ERR87](#)

RPIP **Checking Picture-in-Picture Setting****1-4**

Description: Checks the current PIP display status

Command Format: RPIP

Response: Normal Response: p1 p2 OK

 p1: ON : PIP output ON
 OFF : PIP output OFF
 p2: RT : Display at top right
 RB : Display at bottom right
 LT : Display at top left
 LB : Display at bottom left

 Error Response: [ERR01](#)
 [ERR01](#)
 [ERR87](#)

SPDP Setting/Checking PIP Display Format

1-9

Description: Setting the display image seen in the picture-in-picture (PIP) window.

Command Format: SPDP [p1]

 p1: M : mirror image is displayed
 N : non-mirror image is displayed

Note: When p1 is omitted, the current setting is reported.

Response: Normal Response:

 If p1 is set: OK

 If p1 is omitted:

 p1 OK
 p1: M : mirror display
 N : non-mirror display

Error Response: [ERR01](#)

SPSW Setting/Checking PIP Image when Snapshot is Viewed

1-10

Description: Setting the display image seen in the picture-in-picture (PIP) window when a snapshot is viewed.

Command Format: SPSW [p1]

 p1: 1 : Receiving video
 3 : Transmitting video

Note: When p1 is omitted, the current setting is reported.

Response: Normal Response:

 If p1 is set: OK

 If p1 is omitted:

 p1 OK
 p1: 1 : Receiving video
 3 : Transmitting video

Error Response: [ERR01](#)

SCPI Setting/Checking Video Priority 1-11

Description: The VisuaLink has a function to automatically optimize the picture quality, (e.g., number of frames, resolution, coding, noise, etc.). In low bit rate coding there is characteristic for resolution and frame to oppose each other. If resolution is imposed, the number of frames (motion) becomes less. If however the number of frames increases, resolution quality is degraded. This requires a trade off.

Command Format: SCPI [p1]

 p1: R : Resolution
 M : Motion

Note: When p1 is omitted, the current setting is reported.

Response: Normal Response:

 If p1 is set: OK

 If p1 is omitted:

 p1 OK
 p1: R : Resolution
 M : Motion

 Error Response: **ERR01**

S263 Setting H.263 1-12

Description: Setting video coding mode to ITU-T Recommendation H.263

Command Format: S263 p1

 p1: ON : H.263 available
 OFF : H.263 not available

Response: Normal Response: OK

 Error Response: **ERR01**

R263 Checking H.263 Setting**1-13**

Description: Reporting the current setting by S263 command

Command Format: R263

Response: Normal Response: p1 OK

 p1: ON : H.263 available
 OFF : H.263 not available

Error Response: [ERR01](#)
 [ERR07](#)
 [ERR14](#)
 [ERR21](#)
 [ERR87](#)

3.2 AUDIO Command

SAMD Setting Audio Mode

2-1

Description: Sets the audio coding format. The VisuaLink is capable of μ -Law PCM, SBADPCM and LP-CELP.

Command Format: SAMD p1

p1: OFF : OFF
 ULW : G711 (μ -Law PCM) (56 kbps)
 SBA : G722 (SB-ADPCM) (48 kbps, 56 kbps)
 LDC : G728 (LD-CELP) (16 kbps)

Response: Normal Response: OK

 Error Response: [ERR01](#)
 [ERR07](#)
 [ERR14](#)
 [ERR21](#)
 [ERR87](#)

RAMD Checking Audio Mode Setting

2-2

Description: Check current audio mode setting

Command Format: RAMD

Response: Normal Response: p1 OK

p1: OFF : OFF
 ULW : G711 (μ -Law PCM) (56 kbps)
 SBA : G722 (SB-ADPCM) (48 kbps, 56 kbps)
 LDC : G728 (LD-CELP) (16 kbps)

 Error Response: [ERR01](#)
 [ERR07](#)
 [ERR87](#)

SADL Setting Audio Delay**2-3**

Description: Sets audio delay (lip sink). Delay is generated when video is coded in transmission, and the amount of delay differs depending on a transmission speed. On the contrary, audio coding delay is about 1/1000 ~ 1/100, so a problem that a person's lips and audio cannot be synchronized (lip sink). VisuaLink is equipped with a feature to insert a delay in audio to compensate lip sink by adjusting a mount of delay.

Command Format: SADL p1 p2 p3

 p1: 64 : 56/64 kpbs
 2x64 : 2x56/2x64 kpbs
 3B : 168/192 kpbs
 4B : 224/256 kpbs
 5B : 280/320 kpbs
 6B : 336/384 kpbs

 p2: 000-024 : 3-digit in decimal fixed (10msec step)

 p3: TX : Transmission side

Response: Normal Response: OK

 Error Response: [ERR01](#)
 [ERR05](#)
 [ERR49](#)
 [ERR87](#)

Note: If VL128, setting 3B to 6B at p1 results in error.

SASW Setting Audio Input/Output Port

2-9

Description: Sets the audio input port and output port.

Command Format: SASW p1

 p1: LINE : LINE
 HEAD : Headset
 TEL : Telephone
 AUTO : Automatic

Response: Normal Response: OK

 Error Response: [ERR01](#)
 [ERR07](#)
 [ERR87](#)

RASW Checking Audio Input/Output Port Setting

2-10

Description: Checks the current audio input and output setting.

Command Format: RASW

Response: Normal Response: p1 OK

 p1: LINE : LINE
 HEAD : Headset
 TEL : Telephone
 AUTO : Automatic

 Error Response: [ERR01](#)
 [ERR07](#)
 [ERR87](#)

SMMT Sets Audio or Audio/Video Outgoing Mute Setting 2-11

Description: Sets whether the audio or audio and video outgoing is muted or unmuted at the start of communication when the VisuaLink automatically answers or manual answered calls.

Command Format: SMMT p1

 p1: ON: Mute outgoing audio or audio and video at the start of communication
 OFF: Donot Mute audio at the start of communication (Default)

Response: Normal Response: OK

RMMT Checking Audio or Audio/VideoOutput Mute Setting 2-12

Description: Reads the current MUTED mode setting.

Command Format: RMMT

Response: Normal Response: p1 OK

 p1: ON : Mute outgoing audio or audio and video at the start of communication
 OFF : Donot Mute audio at the start of communication

SMTC Sets Audio or Audio/Video Mute Setting 2-13

Description: Sets whether the audio or audio and video outgoing is muted or unmuted at the start of communication when the VisuaLink automatically answers or manual answered calls.

Command Format: SMTC p1

 p1: A: Audio is set to be Muted (Default)
 AV: Video/Audio is set to be Muted

Response: Normal Response: OK

RMTC Checking Audio or Audio/VideoOutput Mute Setting 2-14

Description: Reads what is to be MUTED at the start of communication.

Command Format: RMTC

Response: Normal Response: p1 OK

 p1: A : Audio is set to be Muted
 AV : Video/Audio is set to be Muted

3.4 DATA Command

SDM2 Setting LSD Speed

4-1

Description: Setting Low Speed Data (LSD) port speed

- Allows for H.281 far-end camera control
- PC-to-PC data transmission

Command Format: SDM2 p1

p1: OFF : OFF
1.2 : 1.2 kbps
4.8 : 4.8 kbps
6.4 : 6.4 kbps
9.6 : 9.6 kbps
14.4 : 14.4 kbps

Response: Normal Response: OK

Error Response: [ERR01](#)
[ERR05](#)
[ERR07](#)
[ERR21](#)
[ERR87](#)

RDM2 Checking LSD Speed Setting**4-2**

Description: Reporting the current LSD speed by SDM2 command

Command Format: RDM2

Response: Normal Response: p1 OK

p1: OFF : OFF
 1.2 : 1.2 kbps
 4.8 : 4.8 kbps
 6.4 : 6.4 kbps
 9.6 : 9.6 kbps
 14.4 : 14.4 kbps

Error Response: [ERR01](#)
 [ERR05](#)
 [ERR07](#)
 [ERR21](#)
 [ERR87](#)

SDM3 Setting MLP Speed**4-3**

Description: Sets the Multi Layer Protocol (MLP) data port speed

- Allows for NEC far-end camera and system control
- Allows for T.120 transmission

Command Format: SDM3 p1

p1: OFF : OFF
 4.0 : 4.0 kbps
 6.4 : 6.4 kbps
 14.4 : 14.4 kbps
 24.0 : 24.0 kbps

Response: Normal Response: OK

Error Response: [ERR01](#)
 [ERR05](#)
 [ERR07](#)
 [ERR21](#)
 [ERR87](#)

3.5 ISDN Registering/Setting Command

NDSS Registering My Number

5-1

Description: Registers a local dial number. In a communication, a local dial number is reported to the remote site at a call origination. The local number to report at this time is registered. The number of digit that can be registered is 20 digits for dial number and 8 digits for a sub address at a maximum.

Command Format: NDSS [p1] p2 p3

p1: L11 : line 1 dial No. 1
L12 : line 1 dial No. 2
L21 : line 2 dial No. 1
L22 : line 2 dial No. 2
L31 : line 3 dial No. 1
L32 : line 3 dial No. 2

p2: 0-9 : dial Number (within 20 digits)
 : sub address (within 8 digits)
* : dial number/sub address separating code
Off : Registration Deleted
Local Dial Format: dial number * Sub Address

p3: 0-9

Note 1: If p1 is omitted, the default is L11.

Note 2: If VL128, setting L21 to L32 results in error.

Response: Normal Response: OK

Error Response: **ERR01**

NDSR Checking My Number Registration**5-2**

Description: Checks the current local dial number setting. In a communication, a local dial number is reported to the remote site at a call origination. This is used to check a local dial number set by a **NDSR** command.

Command Format: NDSR [p1]

p1: L11 : line 1 dial No. 1
 L12 : line 1 dial No. 2
 L21 : line 2 dial No. 1
 L22 : line 2 dial No. 2
 L31 : line 3 dial No. 1
 L32 : line 3 dial No. 2

Response: Normal Response: p1 p2 OK

p1: L11 : line 1 dial No. 1
 L12 : line 1 dial No. 2
 L21 : line 2 dial No. 1
 L22 : line 2 dial No. 2
 L31 : line 3 dial No. 1
 L32 : line 3 dial No. 2

p2: 0-9 : dial Number (within 20 digits)
 : sub address (within 8 digits)
 * : dial number/sub address separating code
 No Entry : Registration Deleted
 Local Dial Format: dial number * Sub Address

Error Response: [ERR01](#)
 [ERR05](#)
 [ERR07](#)
 [ERR41](#)
 [ERR87](#)

Note: If p1 is omitted, the default is L11.

MDST Registering Speed Dial**5-3**

Description: VisuaLink can register a maximum of 130 speed dial numbers. A dial number that can be registered shall be 20-digit at a maximum with a sub address of a maximum of 8 digits, and a line speed must be set.

Command Format: MDST p1 p2 [p3] [p4] [p5]

p1: #xxx : speed dial number (xxx: speed dial number 1-130)
p2: 0-9 : dial Number (within 20 digits)
 : sub address (within 8 digits)
 * : address/subaddress
 ** : Ch1/Ch2 separating code
 Off : Registration Deleted
p3: B : 64 kbps
 2B : 2x64 kbps
 3B : 192 kbps
 4B : 256 kbps
 5B : 320 kbps
 6B : 384 kbps
 TEL : Telephone
p4: 64 : Px64 Network
 56 : Px56 Network
p5: xxx : Remote Site Name (8-character)

Note 1: If p4 is omitted, "64" is set.

Note 2: If p2 = Off, p3, p4 and p5 are omitted.

Note 3: If p3 = TEL, p4 is omitted.

Response: Normal Response: OK

 Error Response: **ERR01**
 ERR05

Note: If VL128, setting 3B to 6B results in error.

NBZS Setting Incoming Call Buzzer

5-6

Description: Sets the incoming call buzzer in a communication using BRI ISDN, this sets an incoming call bell to rumble when a request for a incoming call from a remote office is received. This setting is valid only when the incoming call setting is manual.

Command Format: NBZS p1

 p1: ON : ring
 OFF : no ring

Response: Normal Response: OK

 Error Response: [ERR01](#)
 [ERR05](#)

Note: This command is ineffective when setting incoming mode is set to Automatic. Utilize this command only in the Manual Answer mode.

NBZI Checking Incoming Call Buzzer Setting

5-7

Description: Checks the current incoming call ring indication setting.

Command Format: NBZI

Response: Normal Response: p1 OK

 p1: ON : ring
 OFF : no ring

 Response: [ERR01](#)
 [ERR05](#)

RPID Checking SPID

5-11

Description: Reporting current SPID

Command Format: RPID p1

p1: L11 : Line1 Channel1
 L12 : Line1 Channel2
 L21 : Line2 Channel1
 L22 : Line2 Channel2
 L31 : Line3 Channel1
 L32 : Line3 Channel2

Response: Normal Response: p1 p2 OK

p1:L11 : Line1 Channel1
 L12 : Line1 Channel2
 L21 : Line2 Channel1
 L22 : Line2 Channel2
 L31 : Line3 Channel1
 L32 : Line3 Channel2

p2:SPID

Error Response: **ERR01**

Note: If VL128, setting L21 ~ L32 in p1 are not valid and will create an error.

3.6 Camera Related Registering/Setting Command

CPPS Registering Camera Preset Position

6-1

Description: Registers a camera preset position.

Command Format: CPPS p1 p2 p3 [p4]

p1: L1-2 : Local Camera Number
R1-2 : Remote Camera Number

p2: 1-9 : Preset Number

p3) ON : Register
OFF : Release

p4: x ... x : Talker Registration (alphabet 16-character)

Note 1: When p3 is OFF, p4 is omitted.

Note 2: A talker name is deleted in p4 = “ “

Response: Normal Response: p1 OK

Response: [ERR01](#)
[ERR10](#)

CPNS Registering Talker Name

6-2

Description: Registers a preset talker name.

Command Format: CPNS p1 p2 = [p3]

p1: L1-2 : Local Camera Number

p2: 1-9 : Talker Name Number

p3: x ... x : Talker Name Registration (alphabet 16-character)

Note 1: When p2 is OFF, the contents of registration of a talker name number is displayed.

Note 2: A talker name is deleted in p2 = “ “

Note 3: When p1 and p2 are omitted, all the registered contents are displayed. When a talker name is not registered, No Entry is displayed.

Response: Normal Response: OK

Error Response: [ERR01](#)
[ERR10](#)

RMOD Read Common Mode During Communication**7-2**

Description: Reads negotiated parameter setting.

Command Format: RMOD

Response: Normal Response: p1 p2 p3 p4 p5 p6 p7 p8 OK

p1: 64 : 56/64 kbps
 2x64 : 2x56/2x64 kbps
 192 : 168/192 kbps
 256 : 224/256 kbps
 320 : 280/320 kbps
 384 : 336/384 kbps
p2: 56 : 56 kbps network
 64 : 64 kbps network
p3: QCIF/FCIF : video format
p4: ULW/ SBA/ LDC/ OFF : audio mode
p5: 4.0/6.4/14.4/24.0/VMLP/Off : MLP speed
p6: On/Off : MBE capability
p7: On/Off : T120 capability
p8: 1.2/4.8/9.6/14.4/OFF : LSD speed

Error Response: [ERR01](#)
[ERR07](#)
[ERR42](#)
[ERR46](#)
[ERR47](#)
[ERR85](#)
[ERR87](#)

RCST Read Participating Conference Status

7-5

Description: This reads conference participating status.

Command Format: RCST

Response: Normal Response: p1 p2 OK

 p1: PP : point to point connection
 MP : multi-point connection

 p2: H243 : multi-point conference based on ITU-T H243
 MLP : NEC specific multi-point conference

Note: When p1 = PP, p2 is omitted.

Error Response: [ERR01](#)

3.8 Alarm Related Command

CALM Read Alarm Status (1 of 2)

8-1

Description: Acquires alarm status. This is used to check the information of a generated alarm and the loopback status.

Command Format: CALM

Response: Normal Response: p1 p2 p3 p4 p5 p6 OK

- p1: 00-FF : CPU/ VIDEO alarm
- p2: 00-FF : LINE alarm
- p3: 00-FF : H221 alarm
- p4: 00-FF : Bonding alarm
- p5: 00-FF : TEST status
- p6: 00-FF : TEST status 2

p1: CPU/VIDEO alarm

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

- D0: CPU alarm 0: normal 1: abnormal
- D1: FAN alarm 0: normal 1: abnormal
- D2-3: Unused 0: fixed
- D4: VIDEO alarm 0: normal 1: input cut
- D5-7: Unused 0: fixed

p2: LINE alarm

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

- D0-3: Unused 0: fixed
- D4: Line 1 SYNC alarm 0: normal 1: abnormal
- D5: Line 2 SYNC alarm 0: normal 1: abnormal
- D6: Line 3 SYNC alarm 0: normal 1: abnormal
- D7: Unused 0: fixed

p3: H221 alarm

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

- D0: REC alarm 0: normal 1: abnormal
- D1: CRC alarm 0: normal 1: abnormal
- D2-7: Unused 0: fixed

3.9 History Reading Command

RLAM Read Communication/Alarm History

9-1

Description: Acquires communication history and alarm history.

Command Format: RLAM p1 p2 p3

```

p1:    L                                : communication history
      A                                : alarm history
p2:    yyyy/mm/dd/hh:mm              : starting date
p3:    yyyy/mm/dd/hh:mm              : ending date
         yyyy: year
         mm: month
         dd: date
         hh: hour
         mm: minute

```

Note: p2 and p3 can be omitted. If so, all the histories are output.

Response: Normal Response: p1 p2 OK

```

p1:    [yyyy/mm/dd hh:mm]            : date
p2:    xxxxxxxxxxx                    : contents of history (xx is moved to
                                         a new line after 50 byte)

```

Error Response: [ERR01](#)

Example 1: Communication history

```

RLAM L
[1997/10/20/09:46] NALT
[1997/10/20/09:47] NONL 2B
[1997/10/20/09:57] NDCI 00:10:00 ¥110#016#016
OK

```

Example 2: Alarm history

```

RLAM A
[1997/10/20/09:35] RALM 10 00 00 00 00 00
[1997/10/20/09:37] RLAM 00 00 01 00 00 00
[1997/10/20/09:38] RLAM 00 00 00 00 00 00
OK

```


3.10 Registering Local Location Name Command

MRNS Registering Local Site Name

10-1

Description: Registers a local site location name.

Command Format: MRNS p1 p2

p1: xxxxxxxx : alphabet location name (within 16 characters)
p2: XXXXXXXX : character location name (within 16 characters)

Note 1: When p1 is omitted, a location name is deleted.

Note 2: When p1 is omitted, p2 is omitted.

Response: Normal Response : when parameter is specified OK
: when parameter is omitted p1 p2 OK

p1: xxxxxxxx : alphabet location name (within 16 characters)
p2: XXXXXXXX : character location name (within 16 characters)

Error Response: [ERR01](#)

3.12 Acquiring Version Command

RVER Requesting Software Version

12-1

Description: Acquires the VisuaLink software version.

Command Format: RVER

Response: Normal Response:p1 p2 OK

 p1: xxxxxxx : F/W version
 p2: xxxxxxx : DSP version

Error Response: [ERR01](#)
 [ERR07](#)
 [ERR87](#)

3.13 Maintenance Command

SLLB Setting Local Loopback 13-1

Description: Sets local loopback process.
 VisuaLink is equipped with a loopback test point inside a terminal for autonomous diagnosis as a maintenance feature. Loopback points are as follows:

AUDIO: analog audio section loopback
 VIDEO: analog video section loopback
 LINE: line interface section loopback

Command Format: SLLB p1

 p1: Off : release
 AUDIO : audio loopback
 VIDEO : video loopback
 LINE : line loopback

Response: Normal Response OK

Error Response: [ERR01](#)
 [ERR07](#)
 [ERR13](#)
 [ERR14](#)
 [ERR38](#)
 [ERR45](#)
 [ERR47](#)
 [ERR87](#)

RLLB Checking Local Loopback Setting 13-2

Description: Checks the current loopback status.

Command Format: RLLB

Response: Normal Response: p1 OK

 p1: Off : release
 AUDIO: audio loopback
 VIDEO: video loopback
 LINE: line loopback

Error Response: [ERR01](#)
 [ERR87](#)

3.14 Report Response Control Command

ITCS Conference Status Report Control 14-1

Description: Activation/deactivation of conference status reporting for thing such as: [CAMI/CPNI/STEI](#)

Command Format: ITCS p1

p1: ON : report
OFF : not report

Note: p1 can be omitted. If so, the current set value is displayed

Response: Normal Response: When parameter is omitted: p1 OK

p1: ON : report
OFF : not report

When parameter is specified: OK

Error Response: [ERR01](#)

IMCU Multi-point Conference Status Report Control 14-2

Description: Activation/deactivation of multipoint conference status reporting for things such as: [COPI/CSPI/CRPI/CVCI/CSSC/CMPI/CJNI/CSTI](#)

Command Format: IMCU p1

p1: ON : report
OFF : not report

Note: p1 can be omitted. If so, the current set value is displayed.

Response: Normal Response: When parameter is omitted: p1 OK

p1: ON : report
OFF : not report

When parameter is specified: OK

Error Response: [ERR01](#)

I243**H.243 Report Control****14-3**

Description: Activation/deactivation of H.243 multipoint conference status reporting for such things as: [COPI/CSPI/CRPI/CVCI/CSSC/CMPI/CJNI/CSTI](#)

Command Format: I243 p1

p1: ON : report
OFF : not report

Note: p1 can be omitted. If so, the current set value is displayed.

Response: Normal Response: When parameter is omitted: p1 OK

p1: ON : report
OFF : not report

When parameter is specified: OK

Error Response: [ERR01](#)

ICGP**Command Generator Related Report Control****14-4**

Description: Activation/deactivation of the command generator status reporting for things such as: [CGSI/CGEI](#)

Command Format: ICGP p1

p1: ON : report
OFF : not report

Note: p1 can be omitted. If so, the current set value is displayed.

Response: Normal Response: When parameter is omitted: p1 OK

p1: ON : report
OFF : not report

When parameter is specified: OK

Error Response: [ERR01](#)

3.15 Maintenance and Other Command

ISPR Setting Parameter Initialization 15-1

Description: Initializes all VisuaLink values to factory default.

Command Format: ISPR

Response: Normal Response OK

 Error Response: [ERR01](#)

CRAM Clearing Backup Memory 15-2

Description: Initializes registered data.

Command Format: CRAM p1

 p1: T : abbreviated speed dial registration

 S : camera preset registration

Note: If not specified, both registered contents are initialized.

Response: Normal Response OK

 Error Response: [ERR01](#)

RRST System Reset Request 15-3

Description: Resets the VisuaLink.

Command Format: RRST

Response: Normal Response OK

 Error Response: [ERR01](#)

WCLK Setting System Clock

15-4

Description: Sets the VisuaLink built-in system clock, date and time.

Command Format: WCLK p1-p2-p3 p4:p5:p6 (p7)

p1: yyyy : year
p2: 01-12 : month
p3: 01-31 : date
p4: 01-24 : hour
p5: 00-59 : minute
p6: 00-59 : second
p7: xxx : day of the week
 (MON/ TUE/ WED/ THU/ FRI/ SAT/ SUN)

Response: Normal Response OK

Error Response: [ERR01](#)

RCLK Checking System Clock Setting

15-5

Description: Reads the VisuaLink built-in system clock, date and time.

Command Format: RCLK

Response: Normal Response p1-p2-p3 p4:p5:p6 (p7) OK

p1: yyyy : year
p2: 01-12 : month
p3: 01-31 : date
p4: 01-24 : hour
p5: 00-59 : minute
p6: 00-59 : second
p7: xxx : day of the week
 (MON/ TUE/ WED/ THU/ FRI/ SAT/ SUN)

Error Response: [ERR01](#)

3.16 Mutli-point Conference Status Command

RMNA	Read Multi-point Conference Participating Location Name	16-1
-------------	--	-------------

Description: Acquires location name of all location participating locations in multi-point conference.

Command Format: RMNA p1

p1: 1-255 : conference room number (can be specified in multiple)

Response: Normal Response p1 p2 p3 OK

p1: 1-999 : conference room number
p2: xxxxxxxx : location name in alphabet
p3: XXXXXXXXX : location name in Japanese character

Error Response: [ERR01](#)
[ERR24](#)

RMPS Read Multi-point Conference Operation Status 16-3

Description: Acquires the multi-point conference status.

Command Format: RMPS

Response: Normal Response p1 p2 p3 p4 p5 p6 OK

 p1: 1-255 : local site conference room number
 p2: 0/1 : status of acquisition of a right to operate in a local site
 1: acquired 0: released
 p3: 1-255 : location number of a video being received
 p4: 0/1 : local site video transmitting status 0: OFF 1: ON
 p5: 1-255 : a number of multi-point conference participants
 p6: 0/1 : screen composite capability 0: none 1: yes

Error Response: [ERR01](#)

RMMD Read Multi-point Conference Mode Status 16-4

Description: Acquires the multi-point conference mode status.

Command Format: RMMD

Response: Normal Response p1 OK

 p1: 1 : audio switch
 2 : local site video transmission
 3 : chairman control
 4 : selective receive
 5 : a status of multiple address transmission by operator

Error Response: [ERR01](#)

3.17 Model Identification Command

RMES	Read Model Identification	17-1
-------------	----------------------------------	-------------

Description: Read model identification

Command Format: RMES

Response: Normal Response p1 p2 OK

p1: TC2000_EC : VL128
TC2000_6B : VL384

p2: F/W version: ex. V01.01.01

Error Response: [ERR01](#)

3.18 Audio Training Command

ECTS	Audio Training Command	18-1
-------------	-------------------------------	-------------

Description: Initiate audio training. White noise is generated while 7 seconds.

Command Format: ECTS

Response: Normal Response OK

Error Response: [ERR01](#)

3.19 ISDN Control Command

NCRN Requesting Connection

19-1

Description: Placing a BRI ISDN call. A call can be requested by either directly specifying a remote number or using an speed dial number. If using an speed dial number, it must be registered in advance with **MDST** command.

Command Format: NCRN p1 p2 p3

p1: #xx : speed dial call (xx : speed dial number)
 0-9 : dial number (within 20-digit)
 Sub address (within 8-digit)
 * : address/ sub address
 ** : ch1/ ch2 separating code
 R : redial
 p2: B : 64 kbps
 2B : 2x64 kbps
 3B : 192 kbps
 4B : 256 kbps
 5B : 320 kbps
 6B : 384 kbps
 TEL : telephone
 p3: 64 : P x 64 k network
 56 : P x 56 k network

Note 1: With p1: speed dial, p2 and p3 are omitted.

Note 2: When p3: is omitted, "64" is set.

Note 3: When p3 = TEL, p4 is omitted.

Response: Normal Response OK

Error Response: [ERR01](#)
[ERR05](#)
[ERR33](#)
[ERR34](#)
[ERR35](#)
[ERR41](#)
[ERR43](#)
[ERR44](#)
[ERR45](#)
[ERR47](#)
[ERR48](#)
[ERR86](#)
[ERR87](#)

Note: If VL128, setting 3B - 6B in p1 results in error.

NSTQ Communication Status Inquiry**19-4**

Description: Gives a status on the ISDN communication.

Command Format: NSTQ

Response: Normal Response p1 p2 p3 p4 p5 p6 p7 OK

 p1: B : communication speed B
 2B : communication speed 2B
 3B : communication speed 3B
 4B : communication speed 4B
 5B : communication speed 5B
 6B : communication speed 6B
 TEL : communication speed TEL
 p2: xx : ch1 communication status (see below)
 p3: xx : ch2 communication status (see below)
 p4: xx : ch3 communication status (see below)
 p5: xx : ch4 communication status (see below)
 p6: xx : ch5 communication status (see below)
 p7: xx : ch6 communication status (see below)

 Communication Status xx = 01: no communications
 02: dialing
 03: waiting to connect
 04: calling
 05: checking a response
 06: communicating
 07: disconnecting

 Error Response: [ERR01](#)
 [ERR05](#)
 [ERR41](#)
 [ERR87](#)

Note: If VL128, p4 ~ p7 are not reported.

3.20 Camera Control Command

CAMS Request for Camera Direction Change

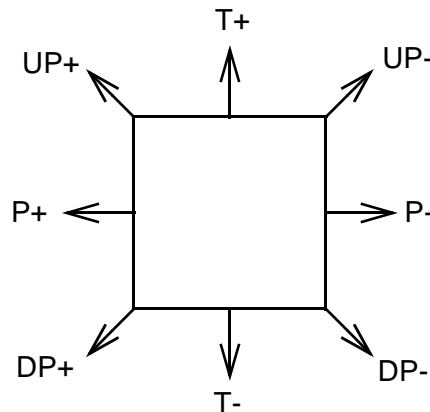
20-1

Description: Sets camera head swing control. This command is valid only when an preset or auto mode camera is in use. A control of Camera 2 is only valid when the camera is the EVI-D30 type.

Command Format: CMAS p1 p2

p1: L1-2 : local camera 1/ 2 control
 R1-2 : remote camera 1/ 2 control
 p2: 1-9 : preset number
 Z x : zoom change
 F x : focus change
 P x : pan change
 T x : tilt change
 UP x : diagonally upper direction
 DP x : diagonally lower direction
 H : center

Note: x: + : positive direction
 - : negative direction
 0 : stop moving (changing)



Response: Normal Response OK

Error Response: [ERR01](#)
[ERR11](#)
[ERR12](#)
[ERR16](#)
[ERR20](#)
[ERR27](#)

SXST Request to Acquire Composite Screen Setting

21-5

Description: Request for status on the various video screens displays. This command is only valid when going through an NEC multi-point control unit MCU5000A, that has multi-screen control capability.

Command Format: SXST p1 p2 p3

p1: Composite Screen Status

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

D7-D5 : 0 fixed
 D4-D3 : re-lineup 00: none 10: in the order of terminal number
 D2 : speaker display 0: none 1: yes
 D1-D0 : 0 fixed

p2 : Number of Composite Screen : 04: 4 screens 09: 9 screens
 16: 16 screens

p3 : Composite Pattern : A fixed

Response: Normal Response: When Parameter is specified: OK

When Parameter is omitted:

p1 p2/p3 p4=p5; p6
 OK

p1: Composite Screen Status

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

D7-D5 : 0 fixed
 D4-D3 : re-lineup 00: none 10: in the order of terminal number
 D2 : speaker display 0: none 1: yes
 D1-D0 : 0 fixed

p2 : Number of Composite Screen : 04: 4 screens 09: 9 screens
 16: 16 screens

p3 : Composite Pattern : A fixed

p4 : Composite Screen Position :01~16

p5 : MCU number : 00-FF

p6 : Terminal number : 00-FF

Example: SXST

00 04/A 01=01:01 02=01:02 03=01:03
 OK

Error Response: **ERR01**

3.22 Multi-point Conference Control

COPR Request to Chairman Control

22-1

Description: Acquires or deletes chairman control. Command is only valid when the VisuaLink is in a multi-point conference.

Command Format: COPR p1 p2

p1: 1-14 : conference room number (specified only in a NEC specific multi-point conference)

p2: ON : acquire
OFF : release

Note 1: When p1 is omitted, it becomes a local office conference room number.

Note 2: p1 is omitted in H.243 multi-point conference.

Response: Normal Response OK

Error Response: [ERR01](#)
[ERR20](#)
[ERR22](#)
[ERR23](#)
[ERR24](#)
[ERR26](#)

CSPR Multiple Address Transmission Request

22-2

Description: Acquires the simulcast transmission.

Command Format: CSPR p1

 p1: 0-255 : conference room number to be received
 * : composite screen display

Note 1: When p1 is omitted, it becomes a local office conference room number. Also in a NEC specific multi-point conference, 1-14 only can be specified.

Note 2: In p1, * is valid only when a MCU to connect has a capability of screen composition.

Note 3: In p1, "0" is valid in H.243 multi-point conference. It means a release of simulcast transmission.

Response: Normal Response OK

Error Response: [ERR01](#)
 [ERR20](#)
 [ERR22](#)
 [ERR23](#)
 [ERR24](#)
 [ERR26](#)

CRPR Specific Picture Reception Request

22-3

Description: Activates or deactivates selective receive mode.

Command Format: CRPR p1 p2 p3

p1: 1-255 : reception side conference room number
p2: 1-255 : transmission side conference room number
* : composite screen display
p3: ON : reception selection setting/ release
OFF : reception selection release

Note 1: When p1 is omitted, it becomes a local office conference room number.

Note 2: p1 is omitted in H.243 multi-point conference.

Note 3: In p2, * is valid only when a MCU to connect has a capability of screen composition. Also in a NEC specific multi-point conference, 1-14 only can be specified.

Response: Normal Response OK

Error Response: [ERR01](#)
[ERR20](#)
[ERR22](#)
[ERR23](#)
[ERR24](#)
[ERR26](#)

CMPR Request to Switch Multiple Address Originator Monitor

22-4

Description: Request to switch the broadcasting video image at the originator's monitor. This command is only available when it is in a NEC specific conference mode.

Command Format: CMPR p1

p1: 1-14 : conference room number

Response: Normal Response OK

Error Response: [ERR01](#)
[ERR20](#)
[ERR22](#)
[ERR23](#)
[ERR24](#)
[ERR26](#)

3.23 Opening Control Command

OMES Opening Message at Unit Activation

23-1

Description: Report opening message at power up. This is reported when the unit is automatically re-start due to some failure. In the case of automatic reset, please perform necessary procedures to reconnect the line.

Command Format: OMES p1 p2

p1: TC2000-EC : VL128

 TC2000-6B : VL384

p2: F/W version (ex) V01.00.00

3.24 Communication Status Report Command

H221 H.221 Synchronous Status Report 24-1

Description: H.221 reporting status change.

Command Format: H221 p1

 p1: AI : synchronization established
 DI : out of synchronization

IMAC Manufacturer Code Report 24-2

Description: Reports a manufacturer code for the remote site.

Command Format: IMAC p1 p2 p3 p4 p5 OK

 p1: 00-FF : Manufacturer code 49 : NEC
 Else : other vendor
 p2: 00-FF : Division code 00 : NEC
 Else : other division of NEC
 p3: 00-FF : Unit code 00 : TC5000EX7
 01 : TC5000EX10
 02 : MMVC
 03 : VL128/384
 10 : MCU5000A
 Else : Reserved

 p4: 00-FF : Own Capability code

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

D0: Kanji Display Capability 0: Off
 1: On
D1: Composite Screen Display Capability 0: Off
 1: On
D2: H281 Camera Control Capability 0: Off
 1: On

 p5: 00-FF : Reserved

IMOD Report of Common Mode in Communication**24-3**

Description: Reports the negotiated mode during a communication.

Command Format: RMOD p1 p2 p3 p4 p5 p6 p7 p8

p1:	B/2B/3B/4B/5B/6B	:	communication speed
p2:	56/64	:	network TYPE
p3:	QCIF/FCIF	:	video format
p4:	ULW/ SBA/ LDC/ OFF	:	audio mode
p5:	4.0/6.4/14.4/24.0/VMLP/OFF	:	MLP speed
p6:	ON/OFF	:	MBE capability
p7:	ON/OFF	:	T120 capability
P8:	1.2/4.8/9.6/14.4/OFF	:	LSD SPEED

3.25 Alarm Status Report Command

RALM Alarm Status Change Report (1 of 2)

25-1

Description: Reports the VisuaLink alarm status. This is reported when alarm and loopback status is changed.

Command Format: RALM p1 p2 p3 p4 p5 p6

p1: 00-FF : CPU/ VIDEO alarm
 p2: 00-FF : LINE alarm
 p3: 00-FF : H221 alarm
 p4: 00-FF : Bonding alarm
 p5: 00-FF : TEST status
 p6: 00-FF : TEST status 2

p1: CPU/ VIDEO alarm

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

D0 : CPU alarm 0: normal 1: abnormal
 D1 : FAN alarm 0: normal 1: abnormal
 D2-3 : Unused 0: fixed
 D4 : VIDEO alarm 0: normal 1: input cut
 D5-7 : Unused 0 fixed

p2: LINE alarm

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

D0-3 : Unused 0 fixed
 D4 : SYNC alarm 0: normal 1: abnormal
 D5 : SYNC alarm 0: normal 1: abnormal
 D6 : SYNC alarm 0: normal 1: abnormal
 D7 : Unused 0 fixed

p3: H221 alarm

D7	D6	D5	D4	D3	D2	D1	D0
----	----	----	----	----	----	----	----

D0 : REC alarm 0: normal 1: abnormal
 D1 : CRC alarm 0: normal 1: abnormal
 D2-7 : Unused 0 fixed

3.26 Video Status Report Command

RVSR	Incoming Video Synchronous Status Report	26-1
-------------	---	-------------

Description: VisuaLink monitors a synchronization status of a received video, and a report is made when a received video synchronization status changes.

Command Format: RVSR p1

p1: AI : synchronization established
DI : out of synchronization

NDCI Disconnection Report

28-4

Description: Reports disconnecting the ISDN line. This is a report to show that communication is disconnected. Section 9 describes the disconnection reason.

Command Format: NDCI p1 p2 p3 p4 p5 p6 p7 p8

p1: hh:mm:ss : communication time (hour: minute: seconds)
p2: xxxxx : communication fee (0-99, 999)
p3: #000-#999 : Reason for CH1 disconnection
p4: #000-#999 : Reason for CH2 disconnection
p5: #000-#999 : Reason for CH3 disconnection
p6: #000-#999 : Reason for CH4 disconnection
p7: #000-#999 : Reason for CH5 disconnection
p8: #000-#999 : Reason for CH6 disconnection

Note: If VL128, p5 ~ p8 do not apply.

3.31 Other Report Command

CGSI Automatic Activation File Starting Report 31-1

Description: This is a report to show the start of auto executed file.

Command Format: CGSI p1

 p1: 0-7 : number of file for auto executed file

CGEI Automatic Activating File Ending Report 31-2

Description: This is a report to show the completion of auto executed file.

Command Format: CGEI p1 p2

 p1: 0-7 : number of file for auto executed file

 p2: xxxxx : ending result

 xxxx : OK : normal ending

 EMPTY : no data

 EX ERR : access error

 CMD ERR : command execution error

3.32 Multi-Point Related Report Command

IMPS Multi-point Conference Operation Status Report 32-1

Description: This is a report on the status of multi-point conference.

Command Format: IMPS p1 p2 p3 p4 p5 p6

p1: 1-255 : local site conference room number
p2: 0/1 : status of acquisition of a right to operate in a local site
 1: acquired 0: released
p3: 1-255 : location number of a video transmitting
p4: 0/1 : local site transmitting status 0: OFF 1: ON
p5: 1-255 : a number of multi-point conference participants
p6: 0/1 : screen composite capability 0: none 1: yes

IMMD Multi-point Conference Mode Status Report 32-2

Description: This is a report on the status of multi-point conference mode.

Command Format: IMMD p1

p1: 1: audio switch
 2: local site transmission
 3: operator
 4: reception selection
 5: a status of multiple address transmission by operator

COPI Acquisition of Right to Operate Report 32-3

Description: This is a report on the acquisition or release of right of chairman mode.

Command Format: COPI p1 p2

p1: 1-255 : conference room number
p2: ON/OFF : acquire/ release

CSPI Multiple Address Transmission Report 32-4

Description: This is to report the completion of a simulcast transmission.

Command Format: CSPI p1

p1: 0-255, * : conference room number

Note 1: When p1 = 0, it indicates a release of a multiple address transmission in H.243 multi-point conference.

Note 2: When p1 = *, it indicates a screen composition.

CRPI Specific Picture Reception Report 32-5

Description: This report on a completion of specific video reception process.

Command Format: CRPI p1 p2 p3

p1: 1-255 : reception side conference room number

p2: 1-255/* : transmission side conference room number

p3: ON/OFF : reception selection setting/ release

Note 1: In a NEC specific multi-point conference, 1-14 only can be specified.

Note 2: In p2, * indicates a screen composition.

CVCI Talker Detection Control Report 32-6

Description: This report the execution of an audio switch process.

Command Format: CVCI p1 p2

p1: 0-255 : audio switch control conference room number

p2: ON/OFF : audio switch execution/ release

Note: When p1 = 0, it indicates a general setting.

CSTI Conference Status Report**32-10**

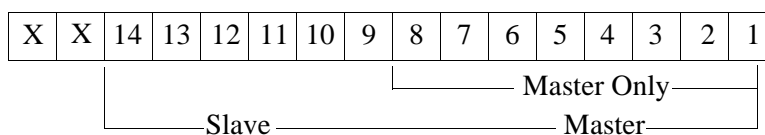
Description: This is to report the multi-point conference status. This is reported only in a NEC specific multi-point conference.

Command Format: CSTI p1 p2 p3 p4 p5 p6 p18

p1: 1-14 : local site conference number
 p2: 0000-FFFF : conference participating status 1: participate
 0: not participate
 p3: 0000-FFFF : terminal connection status 1: connect
 0: not connected
 p4: 0000-FFFF : audio switch status 1: switch 0: not switch
 p5: 0000 : fixed
 p6: 0000 : fixed
 p7: 1-14 : operator conference room number
 00: no operator
 p8: 1-14 : conference room number of the originator of
 multiple address transmission
 p9: 1-14 : conference room number of a location
 receiving multiple address transmission.
 p10: 1-14 : conference room number of the originator of
 a transmission at a specified video reception.
 It is not a specific video reception if it is 00.
 p11: 0 : fixed
 p12: 0 : fixed
 p13: 0 : fixed
 p14: 0 : fixed
 p15: 0 : fixed
 p16: 0 : fixed
 p17: 1111 : fixed
 p18: 0-1 : local site in transmission 0: not transmitting
 1: transmitting

Note 1: When p1 = 0, a local office withdraw from a multi-point conference.

Note 2: Bit assignment of 0000-FFFF is as follows.



XSCI Response to Composite Screen Setting Request

33-3

Description: This is a response report of composite screen setting/acquisition request.

Command Format: XSCI p1

 p1: OK : normal
 ERRxx : NG

3.34 Microphone Command

PPNI	Voice Activate Microphone Report	34-1
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Description: Report microphone that inputs the voice

Command Format: PPNI p1

p1: 1 to 3

3.35 System Error Command

ERRI System Error Report

35-1

Description: Report system error

Command Format: ERRI p1

p1: [S_RAM] BACKUP ERROR: SRAM error
 [SYSTEM] BACKUP ERROR: System parameter error
 [M_DIAL] BACKUP ERROR: Speed dial information error
 [S_NAME] BACKUP ERROR: Preset talker name error
 [C_PRIS] BACKUP ERROR: VC-C1 preset error
 [CG FILE] BACKUP ERROR: CG file error
 [S_PRIS] BACKUP ERROR: EVI-D30 preset error
 [R_DIAL] BACKUP ERROR: Redial information error
 [AEC_7K] INITIAL ERROR: Echo canceller initialize failure

3.36 On-Screen Command

SOSD Setting On-Screen Display

36-1

Description: Sets the On-Screen displays for the VisuaLink

Command Format: SOSD p1

 p1: ON: Activates the On-Screen Message
 OFF: Deactivates the On-Screen Message

Response: Normal Response: OK

 Error Response: [ERR01](#)
 [ERR07](#)
 [ERR85](#)
 [ERR87](#)

3.37 Current Power OFF Condition

CSTB	Current Power OFF Condition	37-1
-------------	------------------------------------	-------------

Description: Set and read the current Power OFF Condition. The CODEC outputs black video when no user intervention has been acted on for a period of time.

Command Format: CSTB p1

p1: 00 - 10: up to 10 minutes with one minute intervals

CSTB

Response: Normal Response: OK

Normal Response: 05 OK

This page is for your notes.

4: Error Response Table

If a command input from console is not understandable or has a different configuration, an error response is transmitted to the console. Error responses are shown in the following table.

Table 4-1: Error Response Table (1/2)

ERR Number	Contents	Countermeasures
ERR01	Syntax error.	Check the format of a command
ERR05	It is a command that cannot be accepted by the current system.	Check current system settings
ERR06	It is during an initial setting.	Try again
ERR07	Time out	Try again
ERR09	It is a command that cannot be executed in the current mode.	Check current system settings
ERR10	A camera is not connected.	Check current system settings
ERR11	This is not a preset camera.	Check current system settings
ERR12	The displayed screen is not a received video, so a remote camera control cannot be performed.	Check current system settings
ERR16	NEC specific features cannot be performed.	Check current system settings
ERR17	The remote terminal has no capability to perform this command.	It is impossible in the current configuration
ERR18	Cannot be controlled for it is set for a pass-through mode.	VL is in remote maintenance.
ERR20	MLP port has not yet been established.	Check communication status and execute command again.
ERR21	Error in data speed setting combination.	Check current system settings
ERR22	The local site is not participating in the conference room.	Check communication status
ERR23	A specified conference room is not participating in a multi-point conference.	Check communication status and execute command.
ERR24	Multi-point command is either invalid or overlapping.	Check communication status and execute command.
ERR26	VL is not in multi-point conference.	Check communication status and execute command.
ERR32	It cannot be set in the current network.	Check communication status and execute command.
ERR37	The remote terminal cannot be recognized as a NEC model.	Check communication status and execute command.
ERR38	Local loopback cannot be done since it is processing a remote loopback.	Execute a command after release of the remote loopback.
ERR 40	It is in a telephone communication mode.	Command to execute is impossible.
ERR41	Network in use is not an ISDN line.	Check current system settings
ERR42	No incoming call	Check communication status and execute command.
ERR43	Currently originating a call.	Check communication status and execute command.
ERR44	Incoming call	Check communication status and execute command.
ERR45	On line.	Check communication status and execute command again.

Figure 4-1: Error Response Table (2/2)

ERR Number	Contents	Countermeasures
ERR46	Off line.	Check communication status and execute command again.
ERR47	Currently processing.	Try again
ERR48	Disconnecting.	Check communication status and execute command again.
ERR49	Specified delay time is not in decimal.	Check the format of command.
ERR50	Specified delay time is not in 10 ms step.	Check the format of command.
ERR51	It cannot be executed since a command generator is in execution.	Try again
ERR85	Execution is impossible.	Re-start VL unit
ERR86	File overflow of the command generator	Try again
ERR87	CODEC processing.	Try again
ERR88	Exchanging capabilities.	Try again
ERR90	Command not currently supported.	Command to execute is impossible.

5: List of Factors for Disconnection in Table

Location of Factors for Disconnection

LU: Local User LN: Local Network TN: Transit Network RU: Remote User RN: Remote Network

Number	Message	Factors for Disconnection	Countermeasure (Example)	Location
# 1	Unassigned number	Call cannot come in since it is currently a unassigned number.	Check the remote number.	LN/RU
# 2	No route to specified transit network	Specified transit network cannot be recognized.	Check the remote number.	TN/LN
# 3	No route to destination	No route to remote site.	Check the remote number.	LN/RU
# 6	Cancel unacceptable	A channel cannot be accepted in a network.	After a while, retry connection.	LN
# 7	Remote is busy	Connected channel is used.	After a while, retry connection.	LN
# 16	Normal is busy	A restoration of a disconnection of a call is requested.	Try again	RU
# 17	User busy	It is currently in a communication with others.	After a while, make a connection again.	RU/RN
# 18	No user response	No response	Check status of remote unit.	RN
# 19	User alerting, no answer	No response after a call message is received.	Check status of remote unit.	RN
# 21	Call rejected	Communication is rejected.	Check status of remote unit.	RU
# 22	Number changed	Remote terminal number has been changed.	Check remote number, make another connection.	LN/RU
# 26	Non-selected user clearing	No incoming bell	After a while, retry.	LN
# 27	Destination out of order	Remote terminal is OFF	Check status of remote unit.	RU
# 28	Invalid number format (address incomplete)	Invalid format or incomplete number.	Check remote number and retry.	LN/RU/ RN
# 29	Facility rejected	Requested facility is not allowed.	Check remote number.	LN/RU/ RN
# 30	Response to STATus ENquiry	Inquiry for status was received.	Check remote number and retry.	LU/LN
# 31	Normal, unspecified	Normal status was reported.	After a while, retry.	RN
# 34	Circuit/channel congestion	No line or channel is available.	Check communication status.	LN/RN/TN
# 38	Line failure	Network is not functioning normally.	After a while, retry.	LU/LN/RU
# 41	Temporary failure	Network is temporarily not available.	After a while, retry.	RN
# 42	Switching equipment congestion	Switch is busy.	After a while, retry.	
# 43	Access information discarded	Requested information element cannot be transmitted to a remote.	After a while, retry.	
# 44	Requested channel not available	Reported line or channel cannot be provided.	After a while, retry.	LN/RU
# 47	Resource unavailable, unspecified	Report status that other network is busy.	Contact a retailer or a service center.	
# 49	This service is currently not available	QOS cannot be provided.		RU/RN/ LN

Number	Message	Factors for Disconnection	Countermeasure (Example)	Location
# 50	Requested facility not subscribed	Procedure for a requested facility is not taken.	Contact a retailer or a service center.	LN
# 57	Bearer capability not authorized	Unauthorized transmission capability was requested.	Contact a retailer or a service center.	LN
# 58	Bearer capability not presently available	Transmission capability currently not available for use.	Contact a retailer or a service center.	LN
# 63	Service or option not available	Report that other services cannot be used.	Contact a retailer or a service center.	LN
# 65	Bearer capability not implemented	Requested transmission capability is not supported.	Contact a retailer or a service center.	
# 66	This service is currently not available	Requested channel class is not supported.	Contact a retailer or a service center.	RU/RN/ LN
# 69	Requested facility not implemented	Requested additional service is not supported.	Contact a retailer or a service center.	
# 70	A connection could not be made	Limited digital transmission capability among requested transmission capabilities is supported.	Contact a retailer or a service center.	LU/LN
# 79	Service or option not implemented	Report that a service cannot be provided.	After checking a remote number, retry.	
# 81	Invalid call reference value	Different dial number from the currently used number is used.	After checking a remote number, retry.	LN
# 82	Please dial again	Invalid channel number is used.	After checking a remote number, retry.	LN
# 83	A connection could not be made	A different number from the interrupt call discriminating number is used.	After checking a remote number, retry.	LN
# 84	A connection could not be made	The interrupt call discriminating number currently in use is used.	After checking a remote number, retry.	LN
# 85	A connection could not be made	Call discriminating number is not used.	After checking a remote number, retry.	RU
# 86	A connection could not be made	Interrupt call has already been disconnected.	After checking a remote number, retry.	TN/ LN
# 88	Incompatible destination	Attribute of a terminal unit does not match.	After checking a remote number, retry.	LN
# 91	No available line for use	Format of a transit network is not normal.	After checking a remote number, retry.	
# 95	A connection could not be made	Report of other invalid messages.		
# 96	Mandatory information element is missing	Required information element is in short.	Contact a retailer or a service center.	LU/ LN
# 97	A connection could not be made	Undefined or not-provided message is received.	Contact a retailer or a service center.	LU/ LN
# 98	A connection could not be made	Message mismatch.	Contact a retailer or a service center.	LU/ LN
# 99	A connection could not be made	Information element is undefined.	Contact a retailer or a service center.	LU/ LN
# 100	Invalid information element contents	The contents of information element is invalid.	Contact a retailer or a service center.	LU/LN
# 101	Message not compatible with call state	Received message and a call status mismatch.	After checking a remote number, retry.	LU/LN
# 102	Recovery on timer expiry	Restoration due to an expiration of timer.	After checking a remote number, retry.	LU/LN

Number	Message	Factors for Disconnection	Countermeasure (Example)	Location
# 111	Protocol error, unspecified	Report of other protocol error.	After checking a remote number, retry.	RN
# 127	Interworking, unspecified	Inter-work occurrence in a network that cannot display a reason for operation.	After checking a remote number, retry.	
# 901	No response from the remote terminal	Automatic Dial timed out	Check a remote unit status.	
# 903	Network failure	Line (layer 1) failure (Physical connection error).	Contact a retailer or a service center.	
# 904	Network failure	Line (layer 2) failure (Electric interface error)	Contact a retailer or a service center.	
# 905	Network failure or wrong contact	TEI error	Contact a retailer or a service center.	
# 906	Network failure	Layer 3 (Appreciation layer) calling timed out	Contact a retailer or a service center.	
# 907	Disconnected by initialization	Not used		
# 908	Disconnected by initialization	Not used	Contact a retailer or a service center.	
# 909	Disconnected by initialization	Not used	Contact a retailer or a service center.	
# 912	Disconnected by initialization	Message inconsistent with the current condition is received.	After a while, retry.	
# 913	Disconnected by initialization	Connect and disconnect during a re-start response waiting.	After a while, retry.	
# 914	Network failure	Lower layer in failure		
# 915	network failure	Lower layer in failure		
# 916	The provisioned communication time expired	Calling condition is NG		
# 917	A connection could not be made	Layer 3 initialization not completed		
# 918	A connection could not be made	Layer 3 initialization missed		
# 919	A connection could not be made	CES pointing error		
# 980	Disconnected	VCP (Video chip hang-up)	After a while, retry.	

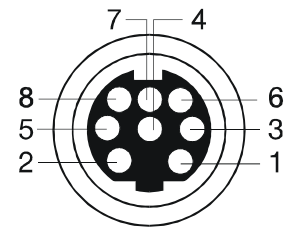
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Appendix A: Pin-out Specification

Pin-out specifications for all the VL 128/384 connectors.

SERIAL 1 PORT

NO	Symbol	Direction	Function
1	RS	OUT	Request to Send
2	CS	IN	Clear to Send
3	SD	OUT	Send Data
4	GND	-	Ground
5	RD	IN	Receive Data
6	-	-	
7	ER	OUT	Data Terminal Ready
8	DR	IN	Data set Ready

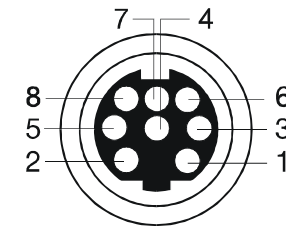


8 PIN MIN DIN FEMALE

Note: The signal direction shown is seen from the VisuaLink 128 (DTE).

SERIAL 2 PORT

NO	Symbol	Direction	Function
1	RS	OUT	Request to Send
2	CS	IN	Clear to Send
3	SD	OUT	Send Data
4	GND	-	Ground
5	RD	IN	Receive Data
6	+5V	OUT	
7	ER	OUT	Data Terminal Ready
8	DR	IN	Data set Ready

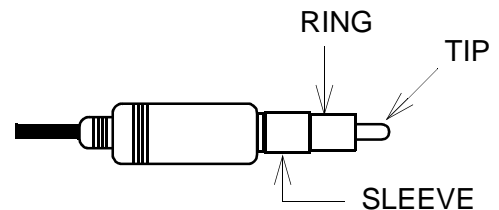


8 PIN MIN DIN FEMALE

Note: The signal direction shown is seen from the VisuaLink 128 (DTE).

Headset

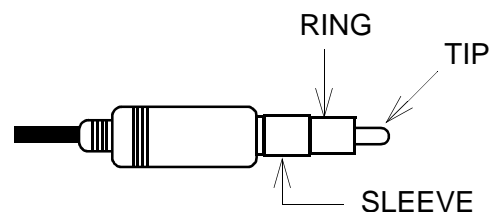
Name	Function
TIP	Input from microphone
RING	Output to ear piece
SLEEVE	Ground



HEADSET JACK

MIC Connection (1 - 3)

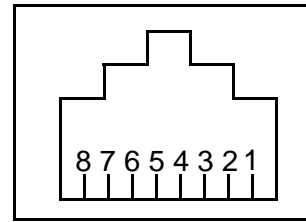
Name	Function	Polarity
TIP	Input from microphone	+
RING	Output to ear piece	-
SLEEVE	Ground	



MIC JACK

S/T Line (ISDN Connection)

PIN #	Symbol	Function	Polarity
1	a		
2	b		
3	c	Transmit Tip	+
4	d	Receive Tip	+
5	e	Receive Ring	-
6	f	Transmit Ring	-
7	g		
8	h		



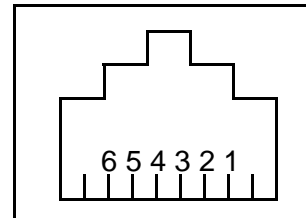
RJ45 FEMALE

Note 1: The signal direction shown is seen from the VisuaLink 128 (DTE).

Note 2: Pins 1, 2, 7, and 8 are not used.

Telephone Connection

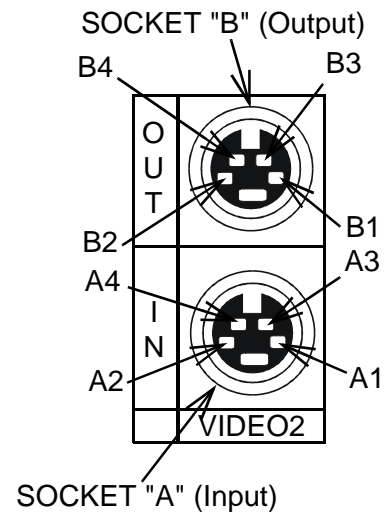
NO	Symbol	Function
1		
2		
3	L2	2W RING PIN
4	L1	2W TIP PIN
5		
6		



RJ11 FEMALE

S-Video Socket Input/Output

NO	PIN NAME
A1	AG (Analog GND)
A2	AG (Analog GND)
A3	Y Signal IN
A4	O Signal IN
B1	AG (Analog GND)
B2	AG (Analog GND)
B3	Y Signal OUT
B4	O Signal OUT



Appendix B: Line Speed Specifications

1B (64kbps) Line Speed

Audio Algorithms		G.711 μ -Law PCM	G.722 SB-ADPCM	G.728 LD-CELP	Mute
Audio Byte Rate (kbps)		56.0	48.0	16.0	0.0
	MLP OFF	6.4 ✘	14.4 ✘	46.4	62.4
	MLP 4kbps	2.4 ✘	10.4 ✘	42.4	58.4
	MLP 6.4kbps	<i>D</i>	8.0 ✘	40.0	56.0
	MLP 14.4 kbps	X	<i>D</i>	32.0 ✘	48.0
	MLP 24kbps	X	X	22.4 ✘	38.4

X : cannot set

Δ : can set but video is not transmitting

✘ : snapshot not available

2B (128kbps) Line Speed

Audio Algorithms		G.711 μ -Law PCM	G.722 SB-ADPCM	G.728 LD-CELP	Mute
Audio Byte Rate (kbps)		56.0	48.0	16.0	0.0
	MLP OFF	68.8	76.8	108.8	124.8
	MLP 4kbps	64.8	72.4	104.8	120.8
	MLP 6.4kbps	62.4	70.4	102.4	118.4
	MLP 14.4 kbps	X	62.4	94.4	110.4
	MLP 24kbps	X	X	84.8	100.8

X : cannot set

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Appendix C: ISDN Q.931 Cause Code Definitions

The following table defines the Q.931 cause codes that the VisuaLink 128/384 writes to event files. Q.931 specification defines the layer-3 protocol for two connected ISDN devices.

Table C: ISDN Q.931 Cause Code Definitions

Code	Meaning	Explanation
1	Unallocated (unassigned) number	The requested destination can not be reached because the number is not currently assigned.
2	No route to specified transit network	The route to the destination network is not recognized, either because it does not exist or because it does not serve the equipment sending the message.
3	No route to destination	The network through which the call has been routed does not serve the desired destination.
8	Preemption	A call is being cleared because the B-channel is being preempted for a call of higher priority. If the preempted B-channel is not needed for the preempted call, it is released for prior use.
9	Preempted - circuit reserved for reuse	A call is being cleared because the B-channel is being preempted for a call of higher priority. The B-channel is dedicated to the preempted call.
16	Normal call clearing	A call is being cleared at the request of one of the users.
17	User busy	The user line is busy.
18	No user responding	No alert or connect indication was received within the prescribed period of time.
19	No answer from user (user alerted)	Connection has not been established in the specified time period, and an alert has been received. (Internal network timers may generate this cause.)
21	Call rejected	The call was rejected despite the equipment being compatible and not in use.
22	Number changed	The number of the called party is no longer assigned: the new number may be reported in the message. Cause code 1 is assigned if the network does not support this function.
27	Destination out of order	A signaling message could not be delivered to the user, indicating that the interface to the destination is not functioning correctly.
28	Invalid number format (address incomplete)	The user cannot be reached because the number is incomplete or in the wrong format.
30	Response to STATUS ENQUIRY	A message has been received in response to a STATUS ENQUIRY.
31	Normal, unspecified	A normal event has occurred for which no other cause applies.
34	No circuit/channel available	No appropriate circuit or channel is currently available to handle the call.
41	Temporary failure	The network is temporarily not functioning correctly.
42	Switching equipment congestion	The switching equipment is experiencing a period of high traffic.

Table C: ISDN Q.931 Cause Code Definitions

Code	Meaning	Explanation
43	Access information discarded	The network could not deliver access information; the type of information discarded - for example, sub-address or protocol - may be provided in the message.
44	Requested circuit/channel not available	The requested circuit or channel is not available.
47	Resource unavailable, unspecified	A resource is unavailable, and no other cause code applies.
50	Requested facility not subscribed	The user has not subscribed to the requested service.
52	Outgoing calls barred	The caller is not authorized to make calls.
54	Incoming calls barred	The recipient has rejected the call.
57	Bearer capability not authorized	The user is not authorized to use the requested capability.
58	Bearer capability not presently available	The requested capability is not currently available.
65	Bearer capability not implemented	The equipment does not support the requested capability.
66	Channel type not implemented	The equipment does not support the requested channel type.
69	requested facility not implemented	The equipment does not support the requested supplemental service.
70	Only restricted digital information bearer capability is available	The equipment supports only the restricted version of a service capability.
79	Service or option not implemented, unspecified	The service or option is not implemented, and no other cause code applies.
81	Invalid call reference value	The call reference value does not match an existing call.
82	Identified channel does not exist	The requested channel can not be assigned to the call - for example, channel 13 through 23 have been requested, and the user has subscribed only to channels 1 through 12.
83	A suspended call exists, but this call identify does not	The requested call can not be resumed because it does not correspond to a suspended call.
88	Incompatible destination	The requested call can not be accommodated because of protocol differences or other incompatibilities, such as data rate.
96	Mandatory information element is missing	The call can not be completed because a mandatory information element is missing.
97	Message type non-existent or not implemented	The received message is not a recognized message type.
98	Message not compatible with call state, or message type non-existent or not implemented	The message can not be received while in the call state.
100	Invalid information element contents	Information received could not be processed because of incorrectly coded elements.
101	Message not compatible with call state	The message received is not compatible with the call state.
102	Recovery on time expiry	A recovery procedure has been initiated after the prescribed time.
127	Interworking, unspecified	The message was triggered by internetworking with a network that does not provide cause codes.

Table C: ISDN Q.931 Cause Code Definitions

Code	Meaning	Explanation
901	No response from the remote terminal	Automatic dialer has timed out. Please check number and try again.
903	Network failure	Layer 1 failure. Verify physical network connection.
904	Network failure	Layer 2 failure. Verify the pin out between the CODEC and the network termination device is correct.
905	Network Failure or wrong contact	TEI error. If failure continues contact your carrier.
906	Network Contact	Layer 3 (caller timer timed out). Try again.
907	Disconnected by initialization	Negotiation between switch and CODEC has failed. Power the unit off and on again.
908	Disconnected by initialization	Negotiation between switch and CODEC has failed. Power the unit off and on again.
912	Disconnected by initialization	Software processing other task. Power the unit off and on again.
913	Disconnected by initialization	Software processing other task. Power the unit off and on again.
914	Network failure	Lower layer negation has failed. Try again. If problem continues contact your carrier.
915	Network failure	Lower layer negation has failed. Try again. If problem continues contact your carrier.
916	The provisioned communication timer expired	Call condition is No Good. Please check number and try again.
917	Running Network Initialize Procedure	Layer 3 initialization has not completed. Wait a few minutes and try again.
918	Incorrect registered SPID numbers	Check SPID registration.
919	A connection could not be made	CES pointing error. Wait a few seconds and try again. If problem continues contact your carrier.
980	Disconnected	VCE (Video Chip has hung up). Reset the unit and try again.

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