Panasonic
ideas for life

KX-NCP1000

KX-NCP500

KX-NCP500
KX-NCP1000
PBMPR Software File version 2.0

Maximum Terminal Equipment
The following shows the number of each terminal equipment type supported by the PBX.

Terminal Equipment Type		KX-NCP500	KX-NCP1000
Telephone		**68**	**108**
	SLT	20	36
	KX-DT300/KX-T7600 series DPT	24	40
	Other DPT	6	10
	APT	4	4
	IP-PT *1	40	64
	SIP Extension	32	64
DSS console		8	8
CS		4	8
High-density CS		2	4
IP-CS		8	8
PS		64	64
Voice Processing System (VPS)		2	2
Doorphone		16 *2	16 *2
Door Opener		16	16
External Sensor		16	16
External Relay		16	16

*1 KX-NT400, KX-NT300 series and KX-NT265 (software version 2.00 or later only)
*2 When using the DPH2 card, the maximum number of door phones is 12.

System Capacity

Maximum CO Lines and Extensions
The PBX supports the following number of CO lines and extensions.

Type		KX-NCP500	KX-NCP1000
Total Number of Trunks		**72**	**96**
	Trunk with option Card	64	64
	IP Trunk on MPR Card	8	32
Total Number of Extensions		**68**	**108**
	Extension (Physical Extension Card)	28	44
	Extension (Virtual Extension Card)	40	64
	IP-PT and IP Softphone	40	64
	SIP Extension	32	64

Note For non-peer-to-peer calls via the DSP card, calls cannot be made or received when all of the card's resources are being used.

Option List

Category	Model	Description
Main Unit	KX-NCP500	Main Unit
	KX-NCP1000	Main Unit
IPCMPR Option Cards	KX-NCP1104	4-Channel VoIP DSP Card (DSP4) (A 4-Channel IP Trunk activation key and an 8 channel IP Proprietarytelephone activation key preinstalled.)
	KX-TDE0110	16-Channel VoIP DSP Card (DSP16) (A 4-Channel IP Trunk activation key and an 8 channel IP Proprietary telephone activation key preinstalled.)
	KX-TDE0111	64-Channel VoIP DSP Card (DSP64) (Four 4-Channel IP Trunk activation key and four 8 channel IP Proprietary telephone activation key preinstalled.)
	KX-TDA0196	Remote Card (RMT)
Activation Key Codes	KX-NCS2010	Activation Key for CA Thin Client
	KX-NCS2020	Activation Key for CSTA Multiplexer
	KX-NCS2101	Activation Key for CA Basic for 1 User (CA Basic 1user)
	KX-NCS2105	Activation Key for CA Basic for 5 Users (CA Basic 5users)
	KX-NCS2110	Activation Key for CA Basic for 10 Users (CA Basic 10users)
	KX-NCS2140	Activation Key for CA Basic for 40 Users (CA Basic 40users)
	KX-NCS2149	Activation Key for CA Basic for 128 Users (CA Basic 128users)
	KX-NCS2201	Activation Key for CA PRO for 1 Users (CA Pro 1users)
	KX-NCS2205	Activation Key for CA PRO for 5 Users (CA Pro 5users)
	KX-NCS2210	Activation Key for CA PRO for 10 Users (CA Pro 10users)
	KX-NCS2240	Activation Key for CA PRO for 40 Users (CA Pro 40users)
	KX-NCS2249	Activation Key for CA PRO for 128 User (CA PRO 128user)
	KX-NCS2301	Activation Key for CA ACD Monitor for 1 ICD Supervisor (CA Supervisor 1user)
	KX-NCS2401	Activation Key for CA Console 1 User
	KX-NCS2901	Activation Key for CA Network 1 User
	KX-NCS2905	Activation Key for CA Network 5 User
	KX-NCS2910	Activation Key for CA Network 10 User
	KX-NCS2940	Activation Key for CA Network 40 User
	KX-NCS2949	Activation Key for CA Network 128 User
	KX-NCS3102	2-Channel IP Trunk Activation Key (2 IP Trunk)
	KX-NCS3104	4-Channel IP Trunk Activation Key (4 IP Trunk)
	KX-NCS3201	1-Channel IP Softphone/IP Proprietary Telephone Activation Key (1 IP Softphone/IP PT)
	KX-NCS3204	4-Channel IP Softphone/IP Proprietary Telephone Activation Key (4 IP Softphone/IP PT)
	KX-NCS3208	8-Channel IP Softphone/IP Proprietary Telephone Activation Key (8 IP Softphone/IP PT)
	KX-NCS3216	16-Channel IP Softphone/IP Proprietary Telephone Activation Key (16 IP Softphone/IP PT)
	KX-NCS3501	1-Channel IP Proprietary Telephone Activation Key (1 IP PT)
	KX-NCS3504	4-Channel IP Proprietary Telephone Activation Key (4 IP PT)
	KX-NCS3508	8-Channel IP Proprietary Telephone Activation Key (8 IP PT)
	KX-NCS3516	16-Channel IP Proprietary Telephone Activation Key (16 IP PT)
	KX-NCS3701	1-Channel SIP Extension Activation Key (1 SIP Extension)

Category	Model	Description
Activation Key Codes	KX-NCS3704	4-Channel SIP Extension Activation Key (4 SIP Extension)
	KX-NCS3708	8-Channel SIP Extension Activation Key (8 SIP Extension)
	KX-NCS3716	16-Channel SIP Extension Activation Key (16 SIP Extension)
	KX-NCS3910	Activation Key for Software Upgrade to Enhanced Version (Software Upgrade 01)
Small Free Slot		
Physical CO Line Cards	KX-NCP1180	4-Port Analog Trunk Card (LCOT4)
	KX-NCP1280	2-Port BRI Card (BRI2)
	KX-NCP1290	PRI Card (PRI23)
	KX-NCP1290CE/CJ/CN	PRI Card (PRI30)
Physical Extension Card	KX-NCP1170	4-Port Digital Hybrid Extension Card (DHLC4)
Regular Free Slot		
Physical CO Line Cards	KX-NCP1187	T-1 Trunk Card (T1)
	KX-NCP1188	E-1 Trunk Card (E1)
Physical Extension Cards	KX-NCP1171	8-Port Digital Extension Card (DLC8)
	KX-NCP1172	16-Port Digital Extension Card (DLC16)
	KX-NCP1173	8-Port Single Line Telephone Extension Card (SLC8)
	KX-NCP1174	16-Port Single Line Telephone Extension Card (SLC16)
Other Physical Card	KX-NCP1190	Optional 3-Slot Base Card (OPB3)
OPB3		
Other Physical Cards	KX-TDA0161	4-Port Doorphone Card (DPH4)
	KX-TDA0162	2-Port Doorphone Card (German Type)
	KX-TDA0164	4-Port External Input/Output Card (EIO4)
	KX-TDA0166	16-Channel Echo Canceller Card (ECHO16)
	KX-TDA0191	4-Channel Message Card (MSG4)
	KX-TDA0192	2-Channel Simplified Voice Message Card (ESVM2)
	KX-TDA0194	4-Channel Simplified Voice Message Card (ESVM4)
Cell Stations (CSs) 2.4 GHz	KX-TDA0151	2-Channel Cell Station Unit Using a DHLC/DLC Card (PT-interface CS) for 2.4 GHz Portable Station
DECT	KX-TDA0155CE	2-Channel Cell Station Unit Using a DHLC/DLC Card (PT-interface CS) for DECT Portable Station
	KX-TDA0158CE	8-Channel High-density Cell Station Unit Using a DHLC/DLC Card (PT-interface CS) for DECT Portable Station
	KX-NCP0158CE	8-Channel IP Cell Station Unit Using a V-IPCS4 Card for DECT Portable Station
Proprietary Equipment	KX-T30865	Doorphone
	KX-T7765	

Specifications

KX-NCP500/1000					
Control Bus		Original bus (16-bit, 8 MHz, 10 megabytes per second)	Music on Hold (MOH)		1 port (Level Control: -6 dB to +6 dB per 3 dB) MOH1: Selectable Internal/External Music Source port
Communication Bus		H.100 bus conformity (1024 time slots)			
Switching		Non-blocking	Paging	Internal	Level Control: -6 dB to +3 dB per 3 dB
Power Input	KX-NCP500	100 V AC to 130 V AC; 1.0 A/200 V AC to 240 V AC; 0.6 A; 50 Hz/60 Hz		External	1 port (Volume Control: -15 dB to +6 dB per 3 dB)
	KX-NCP1000	100 V AC to 130 V AC; 1.3 A/200 V AC to 240 V AC; 0.8 A; 50 Hz/60 Hz	Serial Interface Port	RS-232C	1 (maximum 115.2 kbps)
Power Consumption (When fully mounted)	KX-NCP500	51 W (240V:122VA, 200V:133VA, 130V:100VA, 100V: 92VA)	RJ45 Port	MNT Port	1 (for PC connection)
	KX-NCP1000	65 W (240V:142VA, 200V:134VA, 130V:119VA, 100V: 113VA)		LAN Port	1 (for LAN connection)
Maximum Power Failure Tolerance*1		300 ms	Extension Connection Cable	SLT	1-pair wire (T, R)
Memory Backup Duration		7 years		DPT	1-pair wire (D1, D2) or 2-pair wire (T, R, D1, D2)
Dialling	CO Line	Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialling		APT	2-pair wire (T, R, D1, D2)
	Extension	Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialling		PT-interface CS	1-pair wire (D1, D2)
Mode Conversion		DP-DTMF, DTMF-DP		PT-interface CS (High-density)	4-pair wire (D1, D2)
Ring Frequency		20 Hz/25 Hz (selectable)		DSS Console and Add-on Key Module	1-pair wire (D1, D2)
Central Office Loop Limit		1600 Ω maximum			
Operating Environment	Temperature	0 °C to 40 °C (32 °F to 104 °F)	Dimension	KX-NCP500	430 mm (W) x 88 mm (H) x 340 mm (D)
	Humidity	10 % to 90 % (non-condensing)		KX-NCP1000	430 mm (W) x 130 mm (H) x 340 mm (D)
Conference Call CO Line		From 10 x 3-party conference call to 4 x 8-party conference call	Weight (when fully mounted)	KX-NCP500	under 7 kg
				KX-NCP1000	under 8 kg

*1 If tolerance may be exceeded, an Uninterruptible Power Supply (UPS) is recommended.

Compatible Panasonic Proprietary Telephones
The PBX supports the following telephones:
• IP proprietary telephones (e.g., KX-NT400, KX-NT300 series) • IP softphones (e.g., KX-NCS8100) • Digital proprietary telephones (e.g., KX-DT300 series) • Analogue proprietary telephones (e.g., KX-T7700 series)
• Portable stations (e.g., KX-TCA175, KX-TCA275, KX-TCA364/355, KX-TCA256, KX-TD7690) • DSS consoles (e.g., KX-DT390) • Single line telephone (e.g., KX-T7710)
Incompatible Panasonic Proprietary Telephones
The PBX does not support the following telephones:
• KX-T30800 series proprietary telephones and DSS consoles • KX-T61600 series proprietary telephones and DSS consoles • KX-T123200 series proprietary telephone and DSS consoles • KX-TD7500 DECT portable station
• KX-NT136 IP proprietary telephone • KX-NT265 IP proprietary telephone (apart from software version 2.00 or later)

System Feature Capacity

	Item	KX-NCP500	KX-NCP1000
System	Absent Message-Extension	1 x 16 characters	
	Absent Message-System	8 x 16 characters	
	Call Park Zone	100	
	Conference	3-8 parties per conference (32 parties total)	
	COS	64	
	DID/DDI Table	32 digits, 1,000 entries	
	Extension number	1-5 digits (1-4 digits for PSs)	
	Extension Personal Identification Number (PIN)	10 digits, 1 entry/extension	
	Host PBX Access Code	10 digits, 10 entries/trunk group	
	Number of the Characters of Name	20	
	Printing message	8	
	Queuing Time Table	64	
	Ring Tone Pattern Plan	8	
	Simultaneous Programmers	• one system programmer + 63 personal programmers • one manager programmer + 63 personal programmers • 64 personal programmers	
	SMDR Call Storage	200 calls	
	Special Carrier Access Code	16 digits, 20 entries	
	Tenant	8	
	Time Service Holiday	24	
	Verification Code	4 digits, 1,000 entries	
	Verification Code Personal Identification Number (PIN)	10 digits, 1,000 entries	
Dialling	Emergency Call	32 digits, 10 entries	
	Hot Line	32 digits	
	Key Pad Protocol Dial (ISDN Service Access)	32 digits	
	Personal Speed Dialling	32 digits, 100 entries/extn.	
	Quick Dialling	8 digits, 4,080 entries	
	Redial	32 digits	
	System Speed Dialling	32 digits, 1,000 entries/tenant	
Groups	Broad Casting Group	8 (32 members/group)	
	Call Pickup Group	64	
	Idle Extension Hunting Group	64 (16 extensions/group)	
	Incoming Call Distribution Group	128 (32 extensions/group)	
	Paging Group	32	
	PS Ring Group	32	
	Trunk Group	64	
	VM (DPT) Group	2 groups x 12 ports (24 channels)	
	VM (DTMF) Group	2 groups x 32 channels	
TRS	TRS Level	7	
	TRS Denied Code	16 digits, 100 entries/level	
	TRS Exception Code	16 digits, 100 entries/level	
ARS	Routing Plan Table	16 entries	
	Leading Number Table	16 digits, 1,000 entries	
	Leading Number Exception Table	16 digits, 200 entries	
	ARS Carrier	10	
	Itemised Billing Code	10 digits	
	Authorization Code for Tenant	16 digits	
	Authorization Code for Trunk Group	10 digits	

	Item	KX-NCP500	KX-NCP1000
Call Log and Message Waiting	Outgoing Call Log - PT	100 records/extn.	520 records/system
	Outgoing Call Log - PS	100 records/extn.	320 records/system
	Incoming Call Log - PT	100 records/extn.	1,040 records/system
	Incoming Call Log - PS + Incoming Call Distribution Group	100 records/extn. or group 1,040 records/system	
	Message Waiting - PS + Incoming Call Distribution Group	192	
	Message Waiting - PT + SLT	512	
Voice Message	Outgoing Message (OGM)	64	
	OGM Total Recording Time	MSG4 Card: 8 minutes; ESVM2/ESVM4/IPCMPR Card: 20 minutes (at High recording quality)	
	Simplified Voice Message (SVM)	IPCMPR Card: 125 messages; ESVM2/ESVM4 Card: 250 messages per card/block	
	SVM Total Recording Time	20, 60, or 120 minutes (depending on the recording quality)	
Hospitality Features	Billing items for guest rooms	1000 records/PBX	
	Hotel Operator	4	
	Charge Rate	7 digits including a decimal	
	Charge Denomination	3 currency characters/symbols	
Networking	TIE Line Routing and Modification Table	32 entries	
	Leading Number	3 digits	
	PBX Code	7 digits	
	NDSS: Monitored PBXs	8	
	NDSS: Registered Extensions for Monitor PBX	250	
CTI	PC Console	8	
	PC Phone	20	36
	CA Basic	128 users [*1]	
	CA Pro	128 users [*1]	
	CA Supervisor	4 users [*1]	
Password	System Password for Installer	4 - 10 characters	
	System Password for Administrator — for PC Programming	4 - 10 characters	
	System Password for User — for PC Programming	4 - 10 characters	
	System Password for Administrator — for PT Programming	4 - 10 digits	
	System Password for User — for PT Programming	4 - 10 digits	
	Manager Password	4 - 10 digits	
Programmer Code	Installer Level Programmer Code	4 - 16 characters	
	Administrator Level Programmer Code	4 - 16 characters	
	User Level Programmer Code	0 - 16 characters	

[*1] A maximum of 128 simultaneous CA users are supported.

Feature List

1. Call Handling Features

Incoming Call Features
Incoming Trunk Call Features
• Direct In Line (DIL)
• Direct Inward Dialling (DID)/Direct Dialling In (DDI)
• Multiple Subscriber Number (MSN) Ringing Service
• Calling Line Identification (CLI) Distribution
• Intercept Routing
• Intercept Routing-No Destination
Internal Call Features
• Internal Call Block
Incoming Call Indication Features
• Ring Tone Pattern Selection
• Call Waiting

Receiving Group Features
Idle Extension Hunting
Incoming Call Distribution Group Features
• Group Call Distribution
• Outside Destinations in Incoming Call Distribution Group
• Queuing Feature
• VIP Call
• Overflow Feature
• Log-in/Log-out
• Supervisory Feature
Call Distribution Port Group

Call Forwarding (FWD)/Do Not Disturb (DND) Features
• Call Forwarding (FWD)
• Do Not Disturb (DND)
• FWD/DND Button, Group FWD Button

Answering Features
• Line Preference-Incoming
• Call Pickup
• Hands-Free Answerback

Making Call Features
Predialling
Automatic Extension Release
Intercom Call
Trunk Call Features
• Emergency Call
• Account Code Entry
• Dial Type Selection
• Reverse Circuit
• Trunk Busy Out
• Pause Insertion
• Host PBX Access Code (Access Code to the Telephone Company from a Host PBX)
• Special Carrier Access Code
Seizing a Line Features
• Line Preference - Outgoing
• Trunk Access

Memory Dialling Features
• One-Touch Dialling
• KX-T7710 One touch Dialling
• Last Number Redial
• Speed Dialling - Personal/System
• Quick Dialling
• Hot Line

Primary Directory Number (PDN)/Secondary Directory Number (SDN) Features
Busy Line/Busy Party Features
Automatic Callback Busy (Camp-on)
Executive Busy Override
Call Monitor
Second Call Notification to Busy Extension
• Call Waiting Tone
• Off-Hook Call Announcement (OHCA)
• Whisper OHCA

Toll Restriction (TRS)/Call Barring (Barring) Features
Toll Restriction (TRS)/Call Barring (Barring)
Budget Management
Extension Dial Lock
Dial Tone Transfer
Walking COS
Verification Code Entry

Automatic Route Selection (ARS) Features

Conversation Features
Hands-Free Operation
Off-Hook Monitor
Mute
Headset Operation
Data Line Security
Flash/Recall/Terminate
External Feature Access (EFA)
Trunk Call Limitation
Paralleled Telephone
Calling Party Control (CPC) Signal Detection

Transferring Features
Call Transfer

Holding Features
Call Hold
Call Park
Call Splitting
Music on Hold

Conference Features
• Conference
• Privacy Release

Paging Features

Broadcasting Features

Optional Device Features
Doorphone Call
Door Open
Trunk Answer From Any Station (TAFAS)
Background Music (BGM)
Outgoing Message (OGM)
Direct Inward System Access (DISA)
Built-in Simplified Voice Message (SVM)
Automatic Fax Transfer
External Sensor
External Relay Control

Caller ID Features
Caller ID
Incoming Call Log

Message Features
Message Waiting
Absent Message

Proprietary Telephone (PT) Features
Fixed Buttons
Flexible Buttons
LED Indication
Display Information

Integrated Services Digital Network (ISDN) Service Features
• Calling/Connected Line Identification Presentation (CLIP/COLP)
• Advice of Charge (AOC)
• Call Forwarding (CF) - by ISDN (P-MP)
• Call Forwarding (CF) - by ISDN (P-P)
• Call Hold (HOLD) - by ISDN
• Call Transfer (CT) - by ISDN
• Three-party Conference (3PTY) - by ISDN
• Malicious Call Identification (MCID)
• Completion of Calls to Busy Subscriber (CCBS)
• ISDN Extension
• ISDN Service Access by Keypad Protocol

E1 Line Service Features
T1 Line Service Features

Voice Message Features
Voice Mail (VM) Group
Voice Mail DTMF Integration
Voice Mail DPT (Digital) Integration

Portable Station (PS) Features
Portable Station (PS) Connection
PS Ring Group
PS Directory
PS Feature Buttons
Wireless XDP Parallel Mode
Virtual PS

Administrative Information Features
Record Log Features
• Station Message Detail Recording (SMDR)
• Syslog Record Management
Printing Message
Call Charge Services

Hospitality Features
Room Status Control
Call Billing for Guest Room

Extension Controlling Features
Extension Personal Identification Number (PIN)
Extension Feature Clear
Walking Extension Features
• Walking Extension
• Enhanced Walking Extension
Timed Reminder

Audible Tone Features
Dial Tone
Confirmation Tone

Networking Features
TIE Line Service
Voice over Internet Protocol (VoIP) Network
Virtual Private Network (VPN)
QSIG Standard Features
• Calling/Connected Line Identification Presentation (CLIP/COLP) and Calling/Connected Name Identification Presentation (CNIP/CONP) - by QSIG365
• Call Forwarding (CF) - by QSIG
• Call Transfer (CT) - by QSIG
• Completion of Calls to Busy Subscriber (CCBS) - by QSIG
QSIG Enhanced Features
• Network Direct Station Selection (NDSS)
• Centralised Voice Mail
Network ICD Group
• PS Roaming by Network ICD Group

IP Telephone Features
IP Proprietary Telephone (IP-PT)
SIP (Session Initiation Protocol) Extension
Peer-to-Peer Connection
Self Labelling (KX-NT366 Only)

Computer Telephony Integration (CTI) Features
Computer Telephony Integration (CTI)
PC Phone/PC Console
CA (Communication Assistant)

Cellular Phone Features

2. System Configuration and Administration Features

System Configuration - Hardware
Extension Port Configuration

System Configuration - Software
Class of Service (COS)
Group
Tenant Service
Time Service
Operator Service
Manager Features

System Data Control
PC Programming
PT Programming
Password Security
Quick Setup
Automatic Setup
Flexible Numbering/Fixed Numbering
Floating Extension
Software Upgrading

Fault Recovery/Diagnostics
Power Failure Transfer
Power Failure Restart
Local Alarm Information
SNMP System Monitor
DHCP Assignment
Packet Internet Groper (PING) Confirmation