



System Capacity

Maximum Trunks

The PBX supports the following number of trunks.

Type	KX-NS300	With 1 KX-NS320	With 2 KX-NS320	With 3 KX-NS320
Total Number of Trunks	52 ch	82 ch	112 ch	142 ch
Legacy	36 ch	66 ch	96 ch	126 ch
PRI30	30 ch	60 ch	90 ch	120 ch
E1	30 ch	60 ch	90 ch	120 ch
Analogue	12 lines	24 lines	36 lines	48 lines
IP	16 ch	16 ch	16 ch	16 ch
H.323	16 ch	16 ch	16 ch	16 ch
SIP	16 ch	16 ch	16 ch	16 ch

Option List

Hardware

Component	Model No.	Installed in
DSP	S (63 resources) KX-NS5110	DSP Card Slot
Storage Memory ¹⁾	XS (VM Recording Time: 40 hours) KX-NS3134	Storage Memory Card Slot
	S (VM Recording Time: 200 hours) KX-NS3135	
	M (VM Recording Time: 400 hours) KX-NS3136	
	LCOT6 KX-NS5180	
Trunk	PRI30/E1 KX-NS5290CE	Trunk Slot
	DPH2 KX-NS5162	
Extension	DHLC4 KX-NS5170	Extension Slot
	DLC8 KX-NS5171	
	DLC16 KX-NS5172	
	MCSLC8 KX-NS5173	
	MCSLC16 KX-NS5174	
Expansion Master Card	EXP-M KX-NS5130	EXP-M Slot
Remote Modem	RMT KX-TDA0196	RMT Slot

Activation Keys

Component	Model No.	Maximum	
		KX-NS300	With KX-NS320
System Function	Call Centre ACD Report ²⁾ , Announcement of waiting number for queuing KX-NSF201	1 activation key	
	VoIP/Unified Message (UM) KX-NSF990	1 activation key	
IP Trunk ³⁾	IP Trunks (H.323/SIP) 2 ch KX-NSM102	SIP 16 ch	
	4 ch KX-NSM104	H.323 16 ch	
	8 ch KX-NSM108		
	16 ch KX-NSM116		
Networking	QSIG Network KX-NSN002	1 activation key	
IP Telephone ^{3,4)} -User Licence	IP PTs/KX-UT Series SIP Phones /IP Softphones	1 ch KX-NSM201	32 ch
		5 ch KX-NSM205	
		10 ch KX-NSM210	
		20 ch KX-NSM220	
		Preinstalled	
	IP PTs/KX-UT Series SIP Phones	1 ch KX-NSM501	
		5 ch KX-NSM505	
		10 ch KX-NSM510	
		20 ch KX-NSM520	
		Preinstalled	
SIP Phones	1 ch KX-NSM701		
	5 ch KX-NSM705		
	10 ch KX-NSM710		
	20 ch KX-NSM720		

¹⁾ Storage Memory for VM Time, ACD Report, SMDR expansion, Program upgrading ²⁾ An SD card is necessary to use ACD Reports. ³⁾ KX-NSF990 is necessary to use VoIP/UM features.
⁴⁾ IP PTs: KX-NT500/300 series IP proprietary phones, KX-NT265 IP Softphones; KX-NCS8100, KX-TDA0350 SIP Phones; KX-NT700 IP Conferencing phone and Third party SIP phones (SIP hardphones/SIP softphones).

Incompatible Panasonic Telephones

The KX-NS300 does not support the following Panasonic proprietary telephones:

- KX-NT400 and KX-HGT100

Note: Some models will be exported to limited regions. Please contact our dealer and confirm the availability of specific models in your region.

Specifications

	KX-NS300	KX-NS320
Main CPU	Cortex A8 600 MHz	Cortex A8 300 MHz
Power Input	100 V AC to 130 V AC: 2.2 A/200 V AC to 240 V AC: 1.3 A; 50 Hz/60Hz	
Power Consumption (when fully mounted)	110 W	
External Backup Battery	External battery port is supported.	
Memory Backup Duration	7 years	
Dialling	Trunk	Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialling
	Extension	Dial Pulse (DP) 10 pps, 20 pps Tone (DTMF) Dialling
Mode Conversion	DP-DTMF, DTMF-DP	
Ring Frequency	20 Hz/25 Hz (selectable)	
Operating Environment	Temperature	0 °C to 40 °C
	Humidity	10 % to 90 % (non-condensing)
Conference Call Trunk	From 10 x 3-party conference call to 4 x 8-party conference call	—
Music on Hold (MOH)	Maximum 8 ports (Level Control: -31.5 dB to +31.5 dB per 0.5 dB)	—
	MOH: Selectable Internal/External Music Source port	—
External Paging	Maximum 6 ports (Volume Control: -15.5 dB to +15.5 dB per 0.5 dB)	—
LAN Port	1 (for LAN connection)	10BASE-T/100BASE-TX (Auto MDI/MDI-X)
	SLT	1-pair wire (T, R)
Extension Connection Cable	DPT	1-pair wire (D1, D2) or 2-pair wire (T, R, D1, D2)
	PT-interface CS	1-pair wire (D1, D2)
	PT-interface CS (High-density)	4-pair wire (D1, D2)
	DSS Console and Add-on Key Module	1-pair wire (D1, D2)
Air-cooling Method	Fan	
Dimension	430 mm (W) x 88 mm (H) x 367 mm (D)	
Weight (when fully mounted)	Under 4.5 kg	

Maximum Terminal Equipment

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

Type	KX-NS300	With 1 KX-NS320	With 2 KX-NS320	With 3 KX-NS320
Extensions (DXDP¹⁾)	66 (72)	98 (112)	130 (152)	162 (192)
Legacy (DXDP ¹⁾)	34 (40)	66 (80)	96 (120)	130 (160)
SLT	32	64	96	128
DPT (DXDP ¹⁾)	18 (24)	34 (48)	50 (72)	66 (96)
APT	8	16	24	32
IP	32	32	32	32
IP-PT ²⁾	32	32	32	32
SIP	32	32	32	32
SIP Phone ³⁾	32	32	32	32
S-PS	32	32	32	32
DSS Console	8	8	8	8
CS	20	24	28	32
DPT-CS (2 ch) / (8 ch)	4 / 2	8 / 4	12 / 6	16 / 8
IP-CS/SIP-CS	16	16	16	16
PS	128	128	128	128
VM				
ESVM (ch)	2	2	2	2
Built-in UM (ch)	24	24	24	24
TVM Unit	2	2	2	2
Doorphone	2	4	6	8
Door Opener	2	4	6	8
External Sensor	2	4	6	8

¹⁾ When Digital XDP is used.
²⁾ KX-NT500 series, KX-NT300 series, and KX-NT265 (software version 2.00 or later only).
³⁾ KX-UT Series, KX-NT700 and third party SIP phones (SIP hardphones/SIP softphones).

Component	Model No.	Maximum	
		KX-NS300	With KX-NS320
Cellular Phone Extension-User Licence	1 ch KX-NSE101	288 cellular phone extensions	
	5 ch KX-NSE105		
	10 ch KX-NSE110		
	20 ch KX-NSE120		
Unified Messaging System ³⁾	Feature		
	Two-way REC (Recording) Control	KX-NSU002	1 activation key
	Message Backup	KX-NSU003	1 activation key
	Unified Messaging Channel	2 ch KX-NSU102	24 UM Ports
	2 ch KX-NSU102		
	4 ch KX-NSU104		
	User (Mailbox) Licence		
	E-mail (IMAP4) Client/ E-mail Notification	1 user KX-NSU201	500 mailboxes
	5 users KX-NSU205		
	10 users KX-NSU210		
20 users KX-NSU220			
All users KX-NSU299			
Two-way Recording/ Two-way Transfer	1 user KX-NSU301	288 users	
5 users KX-NSU305			
10 users KX-NSU310			
20 users KX-NSU320			
All users KX-NSU399			
User Licence			
CA Basic-Express	All users KX-NSA201	without CA server 240 users/ with CA server 288 users	
1 user KX-NSA201			
5 users KX-NSA205			
10 users KX-NSA210			
CA PRO	40 users KX-NSA240	without CA server 4 users/ with CA server 128 users	
128 users KX-NSA249			
CA Supervisor	1 user KX-NSA301	without CA server 128 users/ with CA server 128 users	
CA Operator Console	1 user KX-NSA401		
CA Network Plug-in	1 user KX-NSA901	without CA server 240 users/ with CA server 1022 users	
	5 users KX-NSA905		
	10 users KX-NSA910		
	40 users KX-NSA940		
128 users KX-NSA949			
External Interface			
CA Thin Client	Thin Client Server Connection KX-NSA010	1	
CSTA Multiplexer	Multiple CSTA Connection KX-NSA020		
3rd Party CTI link	CTI interface KX-NSF101		

System Feature Capacity

	Item	Capacity	
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, 1000 entries	
	Extension number	1 – 5 digits	
	Extension Personal Identification Number (PIN)	10 digits, 1 entry/extension	
	Host PBX Access Code	10 digits, 10 entries/trunk group	
	Number of Characters of Name	20	
	Printing message	8	
	Queuing Time Table	64	
	Ring Tone Pattern Plan	8	
	Simultaneous Programmers	• one manager programmer + 32 personal programmers	
	SMDR Call Storage	1000 calls (Without SD card)/4000 calls (With SD card)	
	Special Carrier Access Code	16 digits, 20 entries	
	Tenant	8	
	Time Service Holiday	24	
	Verification Code	4 digits, 1000 entries	
	Verification Code Personal Identification Number (PIN)	10 digits, 1000 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, 4000 entries	
Redial		32 digits	
System Speed Dialling		32 digits, 1000 entries/tenant	
One-touch Dialling—PT		32 digits, 5000 entries/system	
One-touch Dialling—PS		32 digits, 1000 entries/system	
Groups		Conference Group	32 (32 members/group for Conference Group Mode, 32 members/group for Broadcast Mode)
	User Group	32	
	Call Pickup Group	64	
	Idle Extension Hunting Group	64 (16 extensions/group)	
	Incoming Call Distribution Group	128 (128 extensions/group)	
	Paging Group	32	
	PS Ring Group	32	
	Trunk Group	64	
	UM Group	1	
	VM (DPT) Group	2 units x 12 ports (24 channels)	
	VM (DTMF) Group	2 groups x 32 channels	
	P2P Group	32	

	Item	Capacity
TRS/Barring	TRS/Barring Level	7
	TRS/Barring Denied Code	16 digits, 100 entries/level
ARS	TRS/Barring Exception Code	16 digits, 100 entries/level
	Routing Plan Table	48 entries
	Leading Number Table	16 digits, 1000 entries
	Leading Number Exception Table	16 digits, 200 entries
Call Log and Message Waiting	ARS Carrier	48
	Itemised Billing Code	10 digits
	Authorisation Code for Tenant	16 digits
	Authorisation Code for Trunk Group	10 digits
Voice Message	Outgoing Call Log—PT	100 records/extn. 1520 records/system
	Outgoing Call Log—PS	100 records/extn. 640 records/system
	Incoming Call Log—PT	100 records/extn. 3040 records/system
	Incoming Call Log—PS + Incoming Call Distribution Group	100 records/extn. or group Total 2560 records/system
Hospitality and Charge Management Features	Message Waiting—PS + Incoming Call Distribution Group	256
	Message Waiting—PT + SLT	256
	Outgoing Message (OGM)	64
	OGM Total Recording Time	Approx. 20 minutes
Networking	Build-in Simplified Voice Message (SVM)	125 messages
	SVM Total Recording Time	120 minutes
	Billing items for guest rooms	1000 records/PBX (Without SD card)/ 10000 records/PBX (With SD card)
	Hotel Operator	4
Unified Messaging	Charge Rate	7 digits including a decimal
	Charge Denomination	3 currency characters/symbols
	TIE Line Routing and Modification Table	32 entries
	Leading Number	3 digits
Web Maintenance Console Accounts	PBX Code	7 digits
	NDSS: Monitored PBXs	8
	NDSS: Registered Extensions for Monitor PBX	250
	Mailboxes	500 subscriber mailboxes 1 System Manager mailbox 1 Message Manager mailbox
Users (Administrator) Installer Password (all account types)	Group Distribution List	User: 4 groups, 40 members per group System: 20 groups, 200 members per group
	Service Group	64 entries
	Unified Messaging Ports	24 ports
	Users (User)	500 accounts
Users (Administrator)	8 accounts	
Installer	1 account	
Password (all account types)	4 – 16 characters	

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)
 - 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 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 Tone 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
 - Setting a Line Features
 - Line Preference—Outgoing
 - Trunk Access
- Memory Dialling Features**
- One-touch Dialling
 - Last Number Redial
 - Speed Dialling—Personal/System
 - Quick Dialling
 - Hot Line
 - T7710 One-touch Dialling
- 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**
- Automatic Route Selection (ARS)
 - Primary Directory Number (PDN)/Secondary Directory Number (SDN) Features**
 - Primary Directory Number (PDN)/Secondary Directory Number (SDN) Extension
 - 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
- Conversation Features**
- Hands-free Operation
 - Off-hook Monitor
 - Mute
 - Headset Operation
 - Data Line Security
 - Flash/Recall/Terminate
 - External Feature Access (EFA)
 - Trunk Call Limitation
 - Calling Party Control (CPC) Signal Detection
 - Paralleled Telephone
 - One-numbered Extension
- Transferring Features**
- Call Transfer
 - SIP Refer Transfer
- Holding Features**
- Call Hold
 - Call Park
 - Call Splitting
 - Music on Hold
- Conference Features**
- Conference
 - Privacy Release
- Conference Group Call Features**
- Conference Group Call
- Direct Inward System Access (DISA) Features**
- Direct Inward System Access (DISA)
 - Automatic Fax Transfer
 - Built-in Simplified Voice Message (SVM)
- Paging Features**
- Paging
 - Trunk Answer From Any Station (TAFAS)
- External Device Features**
- Doorphone Call
 - Door Open
 - External Sensor
 - External Relay Control
- Caller ID Features**
- Caller ID
 - Incoming Call Log
- Message Features**
- Message Waiting
 - Absent Message
- Proprietary Telephone (PT) Hardware Features**
- Fixed Buttons
 - Flexible Buttons
 - LED Indication
 - Display Information
- 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
- Computer Telephony Integration (CTI) Features**
- Computer Telephony Integration (CTI)
 - CA (Communication Assistant)
- Cellular Phone Features**
- Voice Mail Features**
 - Voice Mail (VM) Group
 - Voice Mail DTMF Integration
 - Voice Mail DPT (Digital) Integration
- E1 Line Service Features**
- E1 Line Service
- Miscellaneous Features**
- Background Music (BGM)
 - Outgoing Message (OGM)
- 2. Unified Messaging System**
- Unified Messaging System Administration**
- System Administration
 - Automatic Configuration of Mailboxes
 - Custom Service Builder
 - Default Mailbox Template
 - Password Administration
 - System Backup/Restore
 - System Reports
 - System Security
- System and Subscriber Features**
- System Features
 - Alternate Extension Group
 - Auto Forwarding
 - Automated Attendant (AA)
 - Automatic Two-way Recording for Manager
 - Broadcasting Messages
 - Extension Group
 - Hold
 - Holiday Service
 - Hospitality Mode
 - Intercept Routing to a Mailbox
 - Intercom Paging
 - Intercom Service
 - List All Names
 - Logical Extension (All Calls Transfer to Mailbox)
 - Message Reception Mode
 - Message Waiting Notification—E-mail Device
 - Message Waiting Notification—Lamp
 - Message Waiting Notification—Telephone Device

- Multilingual Service
 - No DTMF Input Operation
 - On Hold Announcement Menu
 - Operator Service
 - PIN Call Routing
 - Play System Prompt After Personal Greeting
 - Port Service
 - Remote Time Service Set
 - Service Group
 - Simplified Tutorial
 - System Prompts
 - Transfer Recall to a Mailbox
 - Transfer to Mailbox
 - Trunk Service (Universal Port)
 - Voice Mail Service
 - Subscriber Features
 - Auto Receipt
 - Automatic Login
 - Autoplay New Message
 - Bookmark
 - Call-through Service
 - Call Transfer Scenario
 - Call Transfer Status
 - Callback Number Entry
 - Caller ID Callback
 - Delete Message Confirmation
 - Direct Service Access
 - External Message Delivery Service
 - Forwarding to a Mailbox
 - Group Distribution Lists
 - Incomplete Call Handling Service
 - Live Call Screening (LCS)
 - Mailbox
 - Mailbox Capacity Warning
 - Manager Service Switching
 - Message Transfer
 - Personal Custom Service
 - Personal Greetings
 - Private Message
 - Recover Message
 - Remote Absent Message
 - Remote Call Forwarding Set
 - Subscriber Tutorial
 - Timed Reminder Setting
 - Toll Saver
 - Two-way Record/Two-way Transfer
 - Urgent Message
 - Voice Mail (VM) Transfer Button
 - Web Programming
- E-mail Client Integration Features**
- Integration with Microsoft Outlook
 - IMAP Integration
- 3. Network Features**
- Public Network Features**
- SIP (Session Initiation Protocol) Trunk
 - Integrated Services Digital Network (ISDN) Service Features
 - Calling/Connected Line Identification Presentation (CLIP/CLDP)
 - 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
 - Meticulous Call Identification (MCID)
 - Completion of Calls to Busy Subscriber (CCBS)
 - ISDN Service Access by Keypad Protocol
- Automatic Rerouting to Secondary PBX**
- Private Network Features**
- TIE Line Service
 - Making a TIE Line Call
 - TIE Line and Trunk Connection

- TIE Line Programming
 - Common Extension Numbering for 2 PBXs
 - Voice over Internet Protocol (VoIP) Network
 - Gateway Groups
 - Common Extension Numbering for Multiple PBXs
 - Call Distribution Port Group
 - ISDN Virtual Private Network (ISDN-VPN)
 - OSIG Standard Features
 - Calling/Connected Line Identification Presentation (CLIP/CLDP) and Calling/Connected Name Identification Presentation (CNIP/CNCP)—by OSIG
 - Call Forwarding (CF)—by OSIG
 - Call Transfer (CT)—by OSIG
 - Completion of Calls to Busy Subscriber (CCBS)—by OSIG
 - OSIG Enhanced Features
 - Network Direct Station Selection (NDSS)
 - Centralised Voice Mail
 - Network ICD Group
 - PS Roaming by Network ICD Group
- 4. System Configuration and Administration Features**
- System Configuration—System**
- Class of Service (COS)
 - Group
 - Tenant Service
 - Time Service
 - Operator Features
 - Manager Features
- System Configuration—Extensions**
- IP Proprietary Telephone (IP-PT)
 - SIP (Session Initiation Protocol) Extension
 - KX-UT Series SIP Phones
 - SIP Portable Station (S-PS) and SIP Cell Station (SIP-CS)
 - Simple Remote Connection
 - Peer-to-Peer (P2P) Connection
 - Portable Station (PS) Features
 - Portable Station (PS) Connection
 - PS Ring Group
 - PS Directory
 - PS Feature Buttons
 - Wireless XDP Parallel Mode
 - Virtual PS
 - ISDN Extension Features
 - ISDN Extension
 - Extension Port Configuration
- Legacy Device Connection**
- Trunk Adaptor Connection
- E-mail Notification Features**
- E-mail Notification for Extension Users
 - E-mail Notification of System-level Events
 - E-mail Notification of Sensor Alarm
- System Data Control**
- User Profiles
 - PC Programming
 - PT Programming
 - DSP Resource Usage
 - DSP Resource Reservation
 - DSP Resource Advisor
 - Automatic Setup
 - Dynamic Host Configuration Protocol (DHCP) Server
 - Flexible Numbering/Fixed Numbering
 - Floating Extension
 - Software Upgrading
- Fault Recovery/Diagnostics**
- UPS (Uninterruptible Power Supply) Integration
 - Power Failure Transfer
 - Power Failure Restart
 - Local Alarm Information
 - System Network Management Protocol (SNMP) System Monitor
 - Dynamic Host Configuration Protocol (DHCP) Assignment
 - PING Confirmation

• This spec sheet is for the KX-NS300 Software Version 1.0 or later.
• Some operations may vary depending on the type of telephone or Activation Key being used. Please consult a Panasonic sales company for details.