DT500 – DT900

Product Overview

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Contents

1. PRODUCT SUMMARY

With the speed of business today, the importance of the desktop phone has never been greater. Today's employee requires an accessible communication tool at any location, to be as efficient and productive as possible. But, many businesses and employees have not taken advantage of the enhanced capabilities offered by today's next-generation phones. NEC's UNIVERGE® Desktop IP and Digital Terminals are the answer.

NEC's UNIVERGE® family of terminals moves the standard phone to the next level with its large feature set and modular design. By delivering a wide range of customizable features, these terminals can help meet the communication needs of any workplace. As an integral part of UNIVERGE360, they connect people with the information, applications and tools that they need to drive business success.

Your organization can quickly and easily customize the terminals to meet your employees' specific communication needs. And because these terminals support a wide range of applications, these terminals can also help improve overall employee efficiency and productivity.

DT900 Series IP Terminals
NEC's UNIVERGE® Desktop IP Terminals provide all the features and functionality of traditional phones with the seamless integration of advanced IP applications. Integration of voice and data is no longer limited to the network or the PC desktop; it is now in the end-users' hands.

UNIVERGE® DT900 Series Desktop IP Terminals

DT920 IP Terminal
6 Line Keys

DT920 IP Terminal
12 Line Keys

DT920 IP Terminal
8 Line Keys Colour Self-labelling

DT930 IP Terminal
24 Line Keys Colour

DT930 IP Terminal
8 Line Keys Colour Touch Screen

DT920S STD-SIP IP Terminal
6 Line Keys

DT920S STD-SIP IP Terminal
32 Line Keys Colour Self-labelling

DT930S STD-SIP IP Terminal
32 Line Keys Colour Touch Screen

DT500 Series Digital Terminals
In today's intensely competitive business environment, smart companies know that it takes great customer service to get ahead. Desktop Digital Terminals deliver exceptional value and provide users with access to the full power of UNIVERGE communication platforms.

UNIVERGE® DT500 Series Desktop Digital Terminals

DT530 Digital Terminal

12 Line Keys

DT530 Digital Terminal

24 Line Keys

2. VALUE PROPOSITION

UNIVERGE® Desktop IP and Digital Terminals offer features and benefits that brilliantly capture the essence of form and function while providing businesses the means to seamlessly communicate with their customers. These intelligent terminals help your business take service and performance to newer, more profitable heights.

Desktop Terminals deliver exceptional value. With their user-friendly ergonomic design, a range of eight models to choose from and a choice of interfaces and options, they provide users with access to the full power of UNIVERGE® communication platforms.

UNIVERGE® Desktop IP and Digital Terminals are a better solution for your customer because:

- DT500 and DT900 embody the strengths for which Japanese technology is respected worldwide: comprehensive functionality and outstanding reliability in a low cost package
- UNIVERGE®360 enables true role-based services in business communications, a large set of applications bring clear value to employees and customers
- The DT500, DT900 are supported on all UNIVERGE® SV platforms.
- DT900 series terminals support XML, opening the door to a huge range of applications to offer tailored prompts, presence information, instant messaging and other information – a feature that can be used to increase efficiency, improve customer service and even increase revenue.

NEC DT500 and IP-based DT900 series terminals offer up to the minute styling and are extremely easy to use due to an effective combination of screen based prompts and the option of dedicated function keys.

Standard features for DT920 series and DT500 series terminals

- Good quality voice with wideband audio
- Call history is maintained for easier call management
- Local and system directories can be accessed for lookup and click to dial
- The user interface is more intuitive with easy to understand global icons and menus
- Side panels and keypads can be customised
- Optional adapters are provided –
    - Direct Station Select (DSS).

Additional features for DT930 series terminals

- XML support enables new terminal applications

- Terminals and calls are more secure with security enabled authentication control 802.1x (MD5)
- Ringtones and Music on hold can be downloaded
- Simple auto configuration saves time
- The terminal data can be backed-up and protected
- Users can logon to other phones and their profile automatically moves with them
- Support for 10/100/1000 Mbps speeds (IP) with the DT900 terminals.

Medium sized businesses want to present a “big company” image to their customers by providing efficient operators, helpful contact centres, readily contactable staff and advanced, IT-linked applications. They want to improve efficiency by making sure staff can work flexibly, are mobile and can collaborate easily with colleagues. And they want to provide their staff with the latest telephone sets and applications so they feel valued and enjoy their work.

As your business expands, so do your communication needs. Your terminals should be able to grow with your business. And, with NEC’s next generation terminals, you will have the capability to increase feature functionality through applications support and personalization of the phone. There is no need to replace the entire terminal if you need new features. Instead, your initial investment is protected, and the terminal can be upgraded at minimal cost.

UNIVERGE® DT500 and DT900 can deliver all these benefits to your customer.

3. POSITIONING

UNIVERGE® DT500 and DT900 series provide the freedom to tailor your platform and telephony applications to meet your business's evolving needs. Whether your business is just getting started or is already rapidly growing, NEC provides the right solutions.

UNIVERGE® Terminals provide:

- Scalability and customization through modularity
- Investment protection
- Both VoIP and traditional voice support
- XML open interface support
- Advanced applications to improve staff productivity & efficiency
- Intuitive interfaces

4. PRICING AND ORDERING

The price of the terminals can be found in the sales tool "Prophix".

5. SOFTWARE VERSIONS N-SIP/I-SIP AND STANDARD-SIP

5.1 N-SIP/I-SIP

All DT900 Terminals will be delivered with N-SIP/I-SIP capability. The N-SIP / I-SIP is designed for use on the UNIVERGE platforms as described in the compatibility section (section 6 of this document).

5.2 DT900 Standard-SIP

The Standard-SIP software will support the DT900 Terminals used with the SIP@Net and UNIVERGE 3C platforms. Both of these platforms are based upon the RFC SIP standards.
The DT900 is converted from N-SIP/ I-SIP to Standard-SIP by simply loading the Standard-SIP software on the DT900 terminal with the IP Phone manger application. Once the DT900 terminals have the Standard-SIP loaded they are fully supported on the Open-SIP based SIP@Net and 3C platforms.

The possibility to use the DT900 terminals on all NEC platforms is a tremendous future investment protection for new and existing customers.
Although the Standard-SIP is based on the open SIP RFC standards the terminals should not be considered "open" sip terminals and as such do not include full SIP support on platforms other than the SIP@Net and UNIVERGE 3C.

The functionality supported is dependent upon the Terminal and platform.

5.3 DT900S Standard-SIP

The DT900S Standard-SIP only terminals are supported on the SIP@Net and UNIVERGE 3C platforms. Both of these platforms are based upon the RFC SIP standards.
The DT900S terminals are designed specifically to work on the SIP@Net and UNIVERGE 3C platforms and are enhanced with a new reduced button design.

5.3.1 Standard-SIP RFC Standards

The standard-SIP firmware for DT900 complies to following RFC standards:

RFC 0768 - User Datagram Protocol (UDP)
RFC 0783 – The TFTP Protocol (revision 2) – replaced by RFC 1350
RFC 0791 - Internet Protocol
RFC 0792 – Internet Control Message Protocol
RFC 0793 – Transmission Control Protocol (TCP)
RFC 0826 – An Ethernet Address Resolution Protocol (ARP)
RFC 0854 – Telnet Protocol
RFC 0959 – File Transfer Protocol (FTP)
RFC 1034 – Domain Names – Concepts and Facilities (DNS)
RFC 1035 – Domain Names – Implementation and Specification (DNS)
RFC 1305 - Network Time Protocol (Version 3) (NTP)
RFC 1321 - The MD5 Message-Digest Algorithm
RFC 1350 - The TFTP Protocol (Revision 2)
RFC 1889 - A Transport Protocol for Real-Time Applications (RTP) – replaced by RFC 3550
RFC 2131 - Dynamic Host Configuration Protocol (DHCP)
RFC 2132 - DHCP Options and BOOTP Vendor Extensions
RFC 2327 – Session Description Protocol. – replaced by RFC 4556
RFC 2460 – Internet Protocol Version 6 (IPv6)
RFC 2616 - Hypertext Transfer Protocol -- HTTP/1.1
RFC 2617 – HTTP Authentication: Digest Access Authentication
RFC 2818 – HTTP over TLS
RFC 2833 – RTP Payload for DTMF Digits, Telephony Tones and Signals
RFC 3164 - The BSD syslog Protocol
RFC 3261 - SIP- Session Initiation Protocol
RFC 3262 - Reliability of Provisional Responses in the Session Initiation Protocol
RFC 3263 - SIP- Locating SIP Servers
RFC 3264 - An Offer-Answer Model Session Description Protocol
RFC 3265 - SIP-Specific Event Notification
RFC 3311 - Update method (updating party information)
RFC 3326 - The Reason Header Field for SIP
RFC 3361 - Dynamic Host Configuration Protocol (DHCP-for-IPv4) Option for Session Initiation Protocol (SIP) Servers
RFC 3515 - The SIP Refer Method
RFC 3550 - RTP: A Transport Protocol for Real-Time Applications
RFC 3555 - MIME Type Registration of RTP Payload Formats
RFC 3611 - RTP Control Protocol Extended Reports (RTCP XR)
RFC 3711 - The Secure Real-time Transport Protocol (SRTP)
RFC 3842 - SIP Message Waiting
RFC 3891 - The Session Initiation Protocol (SIP) "Replaces" Header
RFC 3892 – The Session Initiation Protocol (SIP) Referred-By Mechanism
RFC 4028 – Session Timers in the Session Initiation Protocol draft-rosenberg-impp-pidf (Status monitoring)
RFC 4330 - Simple Network Time Protocol (SNTP) Version 4 for IPv4, IPv6 and OSI
RFC 4346 - The Transport Layer Security (TLS) Protocol
RFC 4566 - SDP: Session Description Protocol
RFC 6035 - Session Initiation Protocol Event Package for Voice Quality

6. COMPATIBILITY

6.1 Systems

The DT500 and DT900 Terminals can be used on the following systems:

System Type / Terminal Type	SL2100	SV9100	SV9300	SV9500	3C	iS3000-SIP@Net
DT530-12 Button/Display	X	X	X	X	--	--
DT530-24 Button/Display	X	X	X	X	--	--
DT930CG-24 Button/Display/Gigabit	X	X	X	X	X (Note 1)	X (Note 1)
DT920-6 Button Display	X	X	X	X	X	X
DT920-12 Button display	X	X	X	X	X	X
DT920 Colour Self-Labelling	X	X	X	X	X	X
DT930 Colour Touch Screen	--	X	X	X	X	X
DT920S-6 Button Display	--	--	--	--	X	X
DT920S Colour Self-Labelling	--	--	--	--	X	X
DT930S Colour Touch Screen	--	--	--	--	X	X
DT900 Protocol	I-SIP	I-SIP	I-SIP	N-SIP	STD-SIP	STD-SIP

Note 1: Standard SIP software for DT930 24CG terminals will be released later

6.2 Interface type

The DT500 series has a digital interface and the DT900 series has an IP interface.

6.3 Modules/Adapters with the DT500

The table below shows which modules/adapters can be used with DT500 terminals on each of the platforms.

Terminal				
	SL2100	**SV9100**	**SV9300**	**SV9500**
ADA-LP	-	X	X	X
APR-LP	-	X	X	X
DCK-60-2P	X	X	X	X
8LK-KP	-	X	X	X
LCD(BL)-Z	-	X	X	X
WM-L	X	X	X	X
BS(F)-K	X	X	X	X
BS(S)-K	X	X	X	X
BS(ACD)-K	-	-	-	X

6.4 Modules/Adapters with the DT900

The table below shows which modules/adapters can be used with DT900 terminals on each of the platforms.

Terminal	DT930						DT930S						DT920					
	SL2100	SV9100	SV9300	SV9500	SIP@Net	3C	SL2100	SV9100	SV9300	SV9500	SIP@Net	3C	SL2100	SV9100	SV9300	SV9500	SIP@Net	3C
ADA-LP	-	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-
APR-LP	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DCK-60-2P	X	X	X	X	X	X	-	-	-	-	X	X	-	-	-	-	-	-
8LK-KP	-	X	X	X	X	X	-	-	-	-	X	X	-	-	-	-	-	-
WM-L	X	X	X	X	X	X	-	-	-	-	X	X	-	-	-	-	-	-
BS(F)-K	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-
BS(S)-K	X	X	X	X	X	X	-	-	-	-	-	-	-	-	-	-	-	-
BS(ACD)-K	-	-	-	X	-	-	-	-	-	-	-	-	-	-	-	-	-	-

6.5 Sales Tools

Name	Location
Brochures	
UNIVERGE Terminals	BusinessNet
Data Sheets	
UNIVERGE DT500 900S Desktop Terminals	BusinessNet
UNIVERGE DT900S Desktop Terminals	BusinessNet
Presentation	
Platform Terminal Presentation	BusinessNet

7. DETAILED DESCRIPTION

NEC's UNIVERGE Desktop IP Terminals provide all the features and functionality of traditional phones with the seamless integration of advanced IP applications.

UNIVERGE Desktop IP Terminals are ergonomically designed for natural comfort and facilitate ease of use through an array of menu-driven soft key functions and easy access function keys. Together, these aspects of the terminal deliver power, versatility and programmability to all user stations, maximizing efficiency and productivity.

7.1 UNIVERGE® DT530 Terminals

This feature-rich, enterprise-call, multi-line terminals come in either black or white and are offered in a digital format. This class is ideal for users requiring access to more sophisticated system features and provides room from growth, allowing button size from 12 and 24 in digital. All units come with an LCD display, full duplex speakerphone capability, module support for expansion and feature add-on.
Roles

- Team worker
- Office administrator

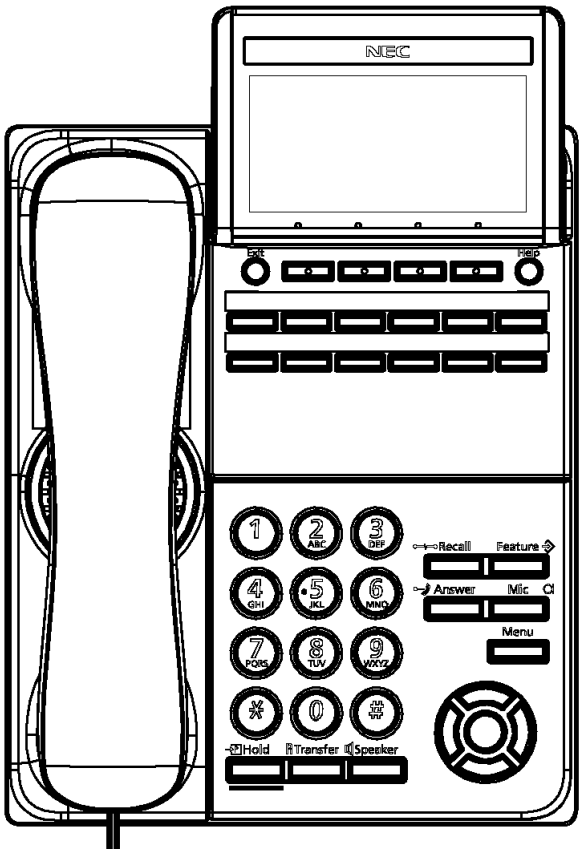
Main Features

- New Cosmetic Design
- Full-Dot Greyscale Backlit LCD (IP Only)
- Backlit Dial-Pad
- Full Duplex Speakerphone
- Dedicated Headset Interface (RJ11)
- Menu/Soft Key Operation
- 60 DSS Console*
- Multi-colour Message Waiting Indication
    - Digital – 7 Colour*

7.1.1 DTK-12D-1P(BK/WH) TEL

This digital multiline terminal has 12 line keys and is available in both black and white. The terminal features:

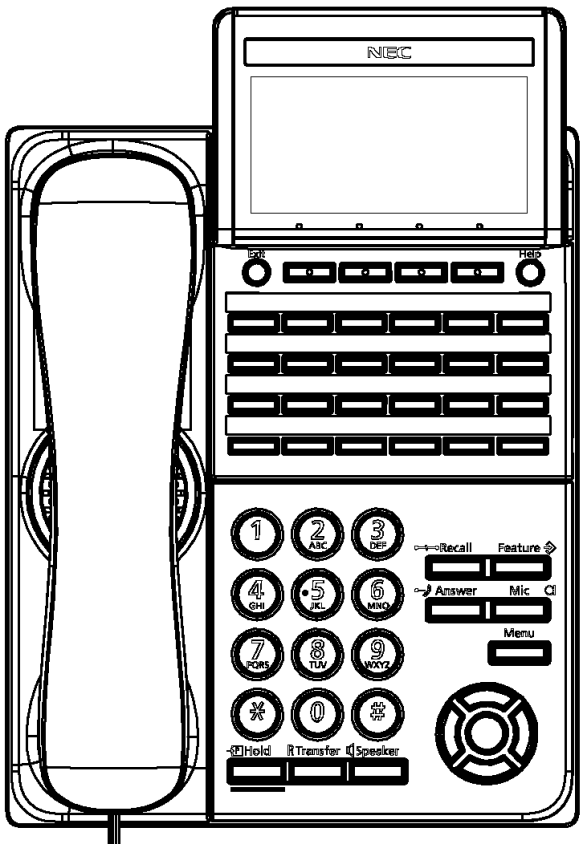
- Fully functional keypad providing standard business functions such as hold, transfer, speaker, microphone and other features
- 168 X 58 dot matrix LCD
- 12 line keys (Red, Green)
- Backlit LCD for easy viewing
- Seven-colour LED for Incoming calls
- Menu/Softkey operation provided on the LCD
- Backlit Numbered Keypad for easy viewing
- Full-duplex handsfree operation
- Five step adjustable base
- Headset jack
- EHS interface



7.1.2 DTK-24D-1P(BK/WH) TEL

This digital multiline terminal has 24 line keys and is available in both black and white. The terminal features:

- Fully functional keypad providing standard business functions such as hold, transfer, speaker, microphone and other features
- 168 X 58 dot matrix LCD
- 24 line keys (Red, Green)
- Backlit LCD for easy viewing
- Seven-color LED for Incoming calls
- Menu/Softkey operation provided on the LCD
- Backlit Numbered Keypad for easy viewing
- Full-duplex handsfree operation
- Five step adjustable base
- Headset jack
- EHS interface



7.2 UNIVERGE® DT930G Terminals

These feature-rich, enterprise-call, multi-line terminals come in either black or white and are offered in an IP format only supporting Gigabit Ethernet connectivity. This class is ideal for users requiring access to more sophisticated system features and provides room from growth, allowing button size 24 button colour display and Touch Screen. The units come with either a colour or touch screen backlit LCD display, full duplex speakerphone capability, module support for expansion and feature add-on. The DT930 expands the capability by providing XML display in order to provide more productivity enhanced applications to the users.
The touch-screen variant can be upgraded by licences on the SV9100, SV9500 (v7 on), 3C and SIP@Net to offer up to 4 self-labelling pages.

Roles

- Team worker
- Office administrator

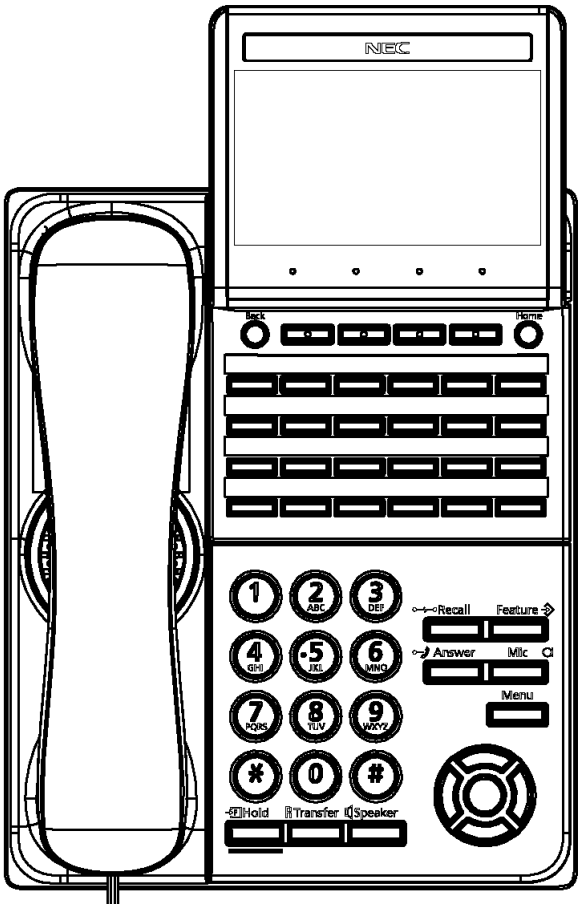
Main Features

- New Cosmetic Design
- Wideband support
- XML Open Interface Support
- LCD display
    - ITK-24CG – 480 x 272 pixel, colour LCD
    - ITK-8TCG – 480 x 272 pixel, colour, touch screen LCD
- Backlit Dial-Pad
- Full Duplex Speakerphone
- Dedicated Headset Interface (RJ11)
- Menu/Soft Key Operation
- Multi-colour Message Waiting Indication
    - IP – 7 Colour
- 10 Base-T/100 Base-TX/1000 BASE-T network interface

7.2.1 ITK-24CG-1P (BK/WH) TEL

This IP multiline terminal has 24 line keys with display and is available in both black and white. The terminal features:

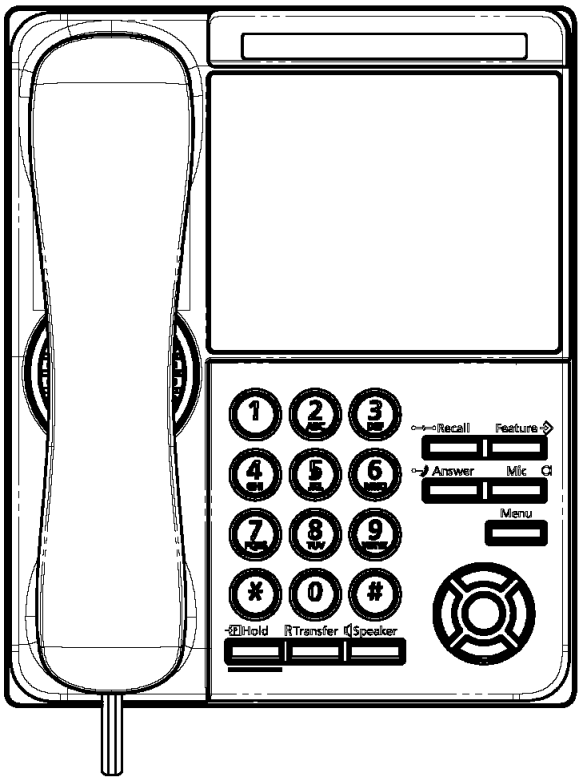
- Fully functional keypad providing standard business functions such as hold, transfer, speaker, microphone and other features
- 1000 Base-T network interface
- 4.3 inch (480 x 272) colour LCD
- 24 line buttons
- XML Open interface support
- Seven-colour LED for Incoming calls
- Menu/Soft key operation
- Backlit numbered keypad for easy viewing
- Optional 60-button DSS Console
- Full-duplex handsfree operation
- Wideband handset
- IEEE 802.3at type 1 compliant
- Five-step adjustable base
- Headset Jack
- EHS interface



7.2.2 ITK-8TCGX-1P(BK)TEL

This IP multiline terminal has 8 line keys with colour display and is available in black only. The terminal features:

- Fully functional keypad providing standard business functions such as hold, transfer, speaker, microphone and other features
- 1000 Base-T network interface
- 8 line keys display on screen
- 4.3 inch (480 x 272) colour capacitive touch screen
- XML Open interface support
- Optional 60-button DSS Console
- Seven-colour LED for Incoming calls
- Backlit numbered keypad for easy viewing
- Full-duplex handsfree operation
- Wideband handset
- IEEE 802.3at type 1 compliant
- Bluetooth distance: 40 meters (open area, i.e. outdoors)
- Five-step adjustable base
- Headset Jack
- EHS interface



7.3 UNIVERGE® DT920 Terminals

This feature-rich, enterprise-call, multi-line terminals come in black only and are offered in an IP format. This class is ideal for users requiring access to more sophisticated system features and provides room for growth, allowing button size from 6 key while also offering a colour self-labelling unit. All units come with a standard LCD display, full duplex speakerphone capability. The DT920 expands the capability by providing XML display in order to provide more productivity enhanced applications to the users.
Offering the ultimate in flexibility on the SV9100, SV9500 (v7 on) 3C & SIP@Net the base models can upgraded by licence to offer gigabit functionality and the self-labelling variant can be upgraded by licences to increase the number of self-labelling pages to 2 or 4. SV9300 and SV9500 pre v7 offer 2 additional models in addition to the base models to offer gigabit functionality and 4 page self-labelling offerings, these terminals can also be upgraded to Standard SIP for connectivity to 3C and SIP@Net for future migration.

Hardware		SL2100	SV9100 CP10	SV9100 CP20	SV9300	SV9500 pre v7	SV9500 v7 on	SIP@Net	3C
BE118954	ITK-24CG-1P(BK) TEL	Yes	Yes	Yes	Yes	Yes	Yes	-	-
BE118955	ITK-24CG-1P(WH) TEL	-	Yes	Yes	Yes	Yes	Yes	-	-
BE118959	ITK-6D-1P(BK) TEL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BE118962	ITK-6DG-1P(BK)TEL	-	-	-	Yes	Yes	-	-	-
BE118965	ITK-12D-1P(BK)TEL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BE118967	ITK-12DG-1P(BK)TEL	-	-	-	Yes	Yes	-	-	-
BE118970	ITK-8LCX-1P(BK) TEL	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
BE118975	ITK-32LCG-1P(BK) TEL	-	-	-	Yes	Yes	-	-	-
Upgrade Option Licenses									
BE119540	TEL Gigabit Ethernet LIC	-	-	Yes	-	-	Yes	Yes	Yes
BE119541	TEL Ext Line key 16 LIC	-	-	Yes	-	-	Yes	Yes	Yes
BE119542	TEL Ext Line key 32 LIC	-	-	Yes	-	-	Yes	Yes	Yes
BE115938	DT820 Gigabit Ethernet License LIC	-	Yes[1]	Yes[1]	-	-	-	Yes	Yes
BE115939	DT820 Ext Line Key 16 LIC	-	Yes[1]	Yes[1]	-	-	-	Yes	Yes
BE115940	DT820 Ext Line Key 32 LIC	-	Yes[1]	Yes[1]	-	-	-	Yes	Yes

1. The DT920 terminals will support the DT820 option licences on SV9100 CP10 and CP20 allowing for gigabit and page upgrade with these licences.
For the purposes of Prophix when a new SV9100 CP20 is configured with DT920 terminals the TEL licences are allocated.
For the purposes of migration the DT820 and DT920 terminals support the DT820 licences allowing for option upgrades on both these terminal types.

Roles

- Team worker
- Office administrator

Main Features

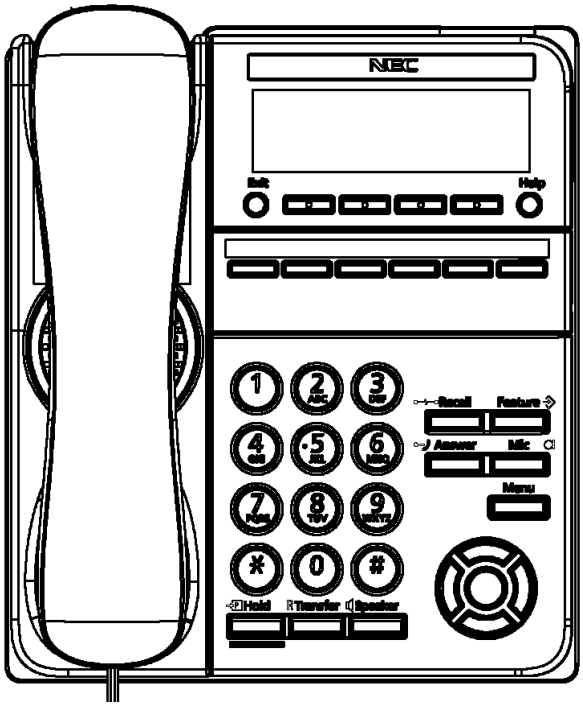
- New Cosmetic Design
- XML Open Interface Support*
- LCD display
    - ITK-6D & ITK-6DG - 168 x 41 dot matrix grey-scale backlit LCD

    - ITK-12D & 12DG - 168 x 41 dot matrix grey-scale backlit LCD
    - ITK-8LCX & ITY-32LCG – 320 x 240 pixel, colour LCD
- Full Duplex Speakerphone
- Dedicated Headset Interface (RJ11)
- Menu/Soft Key Operation
- 6 key/DESI-less Line Key Options
- Gigabit option.
- Upgradeable features by licence (SV9100, SV9500 v7 on)
- Multi-colour Message Waiting Indication
    - 7 Colour

7.3.1 ITK-6/6DG-1P(BK)TEL

This IP multiline terminal has six buttons with display and is available in black only. The terminal features:

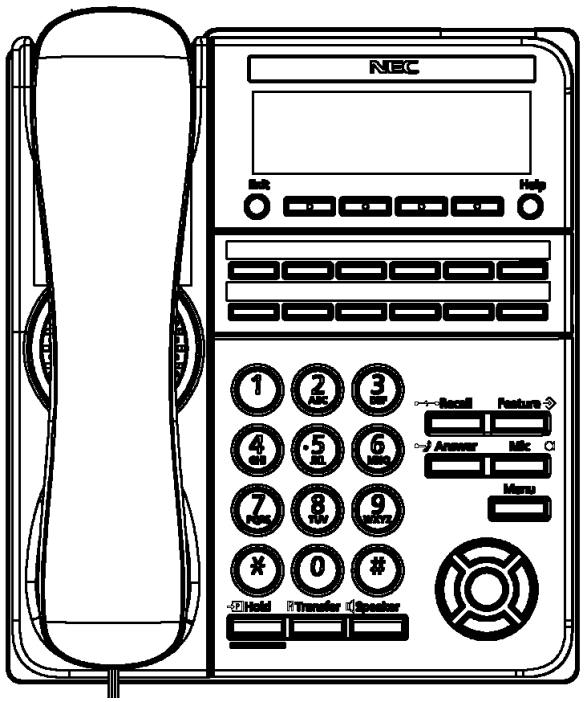
- Fully functional keypad providing standard business functions such as hold, transfer, speaker, microphone and other features
- 10 Base-T/100 Base-TX network interface
- 6-button terminal equipped with 168 x 41 monochrome LCD and full featured keypad
- XML Open interface support
- Backlit LCD
- Seven-colour LED for Incoming calls
- Menu/Softkey Operation
- Full-duplex handsfree operation
- Wideband handset
- IEEE 802.3at type 1 compliant
- PoE only
- Five-step adjustable base
- Headset Jack
- EHS interface



7.3.2 ITK-12/12DG-1P(BK)TEL

This IP multiline terminal has 12 buttons with display and is available in black only. The terminal features:

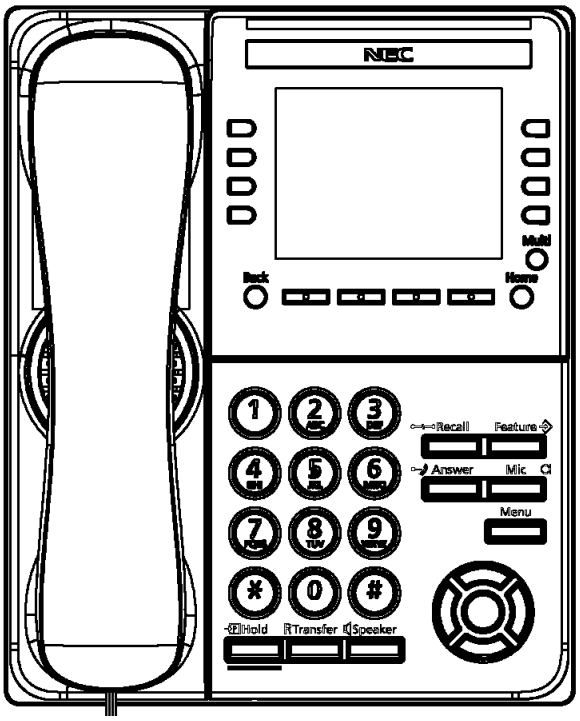
- Fully functional keypad providing standard business functions such as hold, transfer, speaker, microphone and other features
- 10 Base-T/100 Base-TX network interface
- 12-button terminal equipped with 168 x 41 Monochrome LCD and full featured keypad
- XML Open interface support
- Backlit LCD
- Seven-colour LED for Incoming calls
- Menu/Softkey Operation
- Full-duplex handsfree operation
- Wideband handset
- IEEE 802.3at type 1 compliant
- PoE only
- Five-step adjustable base
- Headset Jack
- EHS interface



7.3.3 ITK-8LCX/32LCG-1P(BK)TEL

This IP multiline terminal has 8 line keys with display and is available in black only. The terminal features:

- Self-labelling line key displays 8 line keys
- Fully functional keypad providing standard business functions such as hold, transfer, speaker, microphone and other features
- 10 Base-T/100 Base-TX network interface
- 3.5 inch (320 x 240) Colour LCD
- XML Open interface support
- Seven-colour LED for Incoming calls
- Menu/Softkey Operation
- Full-duplex handsfree operation
- Wideband handset
- IEEE 802.3at type 1 compliant
- PoE only
- Five-step adjustable base
- Headset Jack
- EHS interface



7.4 UNIVERGE® DT900S Terminals

These feature-rich, enterprise-call, multi-line terminals come in black and are offered in an IP format only supporting Gigabit Ethernet connectivity. These terminals are offered in Standard SIP only for connection to 3C and SIP@Net platforms. This class is supplied with gigabit connectivity as standard, allowing button size from 6 key while also offering colour self-labelling unit and colour touch-screen variants. The units come with full duplex wideband speakerphone capability Module support is added on the touch screen for expansion. The DT900S expands the capability by providing XML display in order to provide more productivity enhanced applications to the users.
The DT900S terminals offer a new enhanced user interface on the self-labelling and touch screen versions.

Roles

- Team worker
- Office administrator

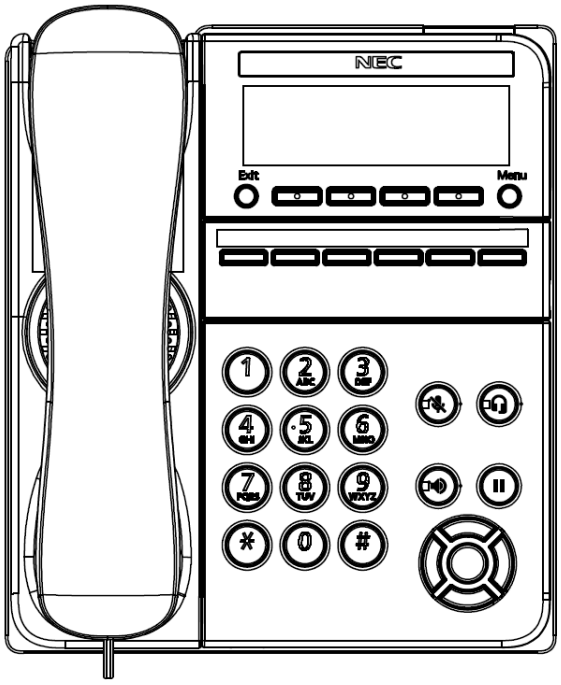
Main Features

- New Cosmetic Design
- Wideband support
- Standard SIP only
- XML Open Interface Support
- LCD display
    - ITK-6DGS – 168 x 41 dot matrix grey-scale backlit LCD
    - ITK-32LCGS - 320 x 240 pixel, colour LCD
    - ITK-32TCGS – 480 x 272 pixel, colour, touch screen LCD
- Backlit Dial-Pad
- Full Duplex Speakerphone
- Dedicated Headset Interface (RJ11)
- Menu/Soft Key Operation
- Multi-colour Message Waiting Indication
    - IP – 7 Colour
- 10 Base-T/100 Base-TX/1000 BASE-T network interface

7.4.1 ITK-6DGS-1P(BK)TEL

This IP multiline terminal has six buttons with display and is available in black only. The terminal features:

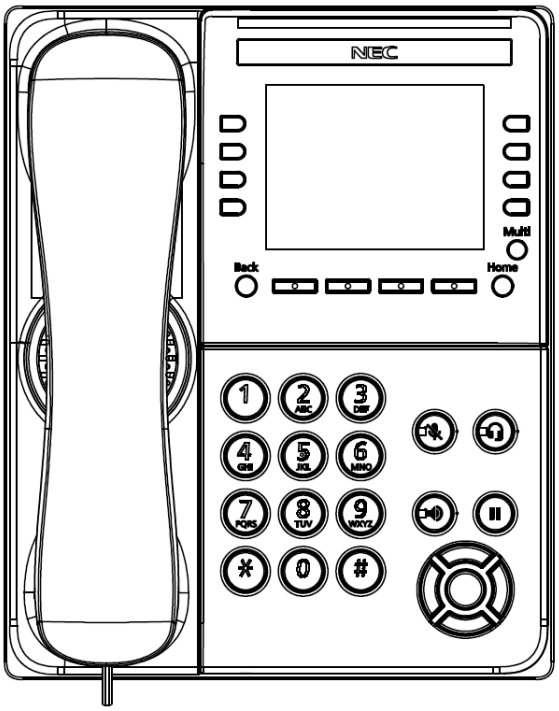
- Reduced button fully functional keypad providing standard business functions such as hold, mute, speaker, microphone and other features
- 1000 Base-T network interface
- 6-button terminal equipped with 168 x 41 monochrome LCD
- XML Open interface support
- Backlit LCD
- Seven-colour LED for Incoming calls
- Menu/Softkey Operation
- Full-duplex handsfree operation
- Wideband handset
- IEEE 802.3at type 1 compliant
- PoE only
- Five-step adjustable base
- Headset Jack
- EHS interface



7.4.2 ITK-32LCGS-1P(BK)TEL

This IP multiline terminal has 8 line keys with display and is available in black only. The terminal features:

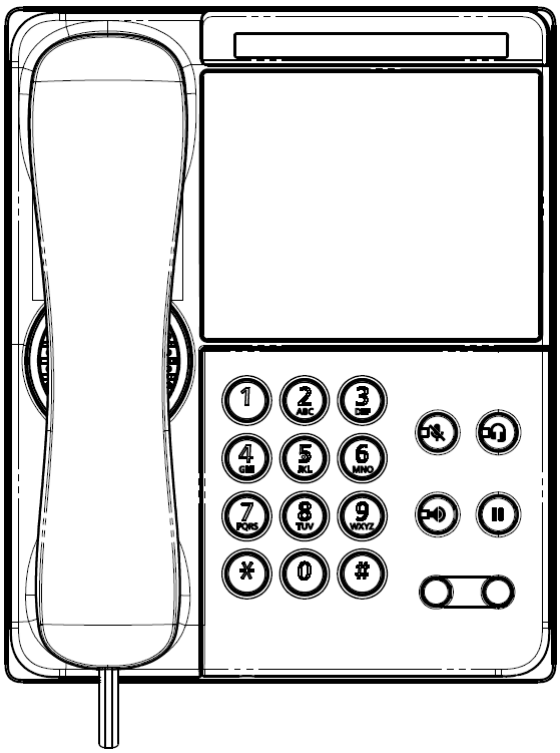
- Self-labelling line key displays 8 line keys
- Reduced button fully functional keypad providing standard business functions such as hold, mute, speaker, microphone and other features
- 1000 Base-T network interface
- 3.5 inch (320 x 240) Colour LCD
- XML Open interface support
- Seven-colour LED for Incoming calls
- Menu/Softkey Operation
- Full-duplex handsfree operation
- Wideband handset
- IEEE 802.3at type 1 compliant
- PoE only
- Five-step adjustable base
- Headset Jack
- EHS interface



7.4.3 ITK-32TCGS-1P(BK)TEL

This IP multiline terminal has 8 line keys with colour display and is available in black only. The terminal features:

- Reduced button fully functional keypad providing standard business functions such as hold, mute, speaker, microphone and other features
- 1000 Base-T network interface
- 32 line keys display on screen
- 4.3 inch (480 x 272) colour capacitive touch screen
- XML Open interface support
- Optional 60-button DSS Console
- Seven-colour LED for Incoming calls
- Backlit numbered keypad for easy viewing
- Full-duplex handsfree operation
- Wideband handset
- IEEE 802.3at type 1 compliant
- Bluetooth distance: 40 meters (open area, i.e. outdoors)
- Five-step adjustable base
- Headset Jack
- EHS interface



7.5 XML open interface support on IP terminals

XML open interface support enables developers to create displayable and accessible applications via NEC's IP terminals. This feature provides you the ability to tailor applications specifically for your business.
The XML interface provides the user a way to integrate additional productivity tools on the desktop and improve efficiency. Applications such as calendar links, wallboard functionality, call directories and countless others can be displayed through a terminal's LCD through the Open XML interface.
XML support is only provided on the SV9100, SV9300, and SV9500 platforms

7.6 Personal, system and corporate directories

Users can quickly access directories to easily reach the people they need; no need to waste time looking up phone numbers. Each entry in the directory is searchable, and a call can be placed from the searched entry. When a call is received, the Caller-ID matches the registered phone number with the entry in the directory, and the name of the entry is displayed on the LCD.

7.7 Easy-to-use, intuitive interfaces

NEC's terminal interfaces are designed to improve the overall user experience. NEC believes telephone users should not need extensive training or manuals to utilize business telephones. The NEC terminal interfaces are designed to be intuitive, allowing for effortless business communications. Global icons indicate status at a glance including notification of new voice or instant messages, missed calls, the telephone user's current presence status, and the device's current data protection mode.

7.8 Call history

Incoming, outgoing and missed calls are logged and are accessible to the user. Call history can be used to make call backs, and the numbers can be added to the directory.

7.9 Wideband CODEC

NEC's UNIVERGE terminals utilize wideband CODECs for the truest possible speech reproduction. The result is crystal clear audio.

7.10 Information protection mode

IP terminals offer multiple levels of protection allowing users to protect personal data, corporate directories and data, and even lock the device to keep calls from being placed to ensure privacy and security on each terminal. Dependant on the platform a security key can be assigned to a feature key on the terminal.

7.11 Customisable ring tones

Different ring tones can be programmed and assigned to unique telephone numbers in the telephone's directory. When an incoming call arrives, an identifying distinctive ring tone can immediately identify who is calling. Additional ringtones can be downloaded from the web (platform dependant).

7.12 Network management and security

Centralized management provides a single point of administration for all terminals and makes real-time access available. IP telephony security is based on "UNIVERGE VoIP Security Best Practices" and provides security enhancement through auto configuration.

7.13 Headset options

The wired headset is supported on the DT530, DT920 and DT930 product line.

For the latest headsets supported by Plantronics, Sennheiser and Jabra please refer to the following websites:

www.plantronics.com

www.sennheiser.com

www.jabra.com

7.14 Electronic Hook Switch Headset adapter

An EHS provides the user with the ability to answer and terminate calls whilst away from their desk.

Compatibility

The Plantronics APD-80 EHS hardware adapter is compatible with i-SIP/N-SIP DT500 & DT900 terminals and Plantronics Savi® 700 Series, CS500™ Series wireless headsets and also the MDA200™.

Further information is available from www.plantronics.com.

7.15 IP Terminal Power Chart

IP Terminal Power Chart – DT900

IP Terminal	IEEE802.3af Class	Label Indication (Maximum Current with All Options)				Maximum Current Without Options			
		48VDC		24VDC		48VDC		24VDC	
ITK-6D-1P TEL	Class 1	75mA	3.6W			75mA	3.6W		
ITK-6DG-1P TEL	Class 1	75mA	3.6W			75mA	3.6W		
ITK-12D-1P TEL	Class 1	77mA	3.7W			77mA	3.7W		
ITK-12DG-1P TEL	Class 1	77mA	3.7W			77mA	3.7W		
ITK-8LCX-1P TEL	Class 1	78mA	3.75W			78mA	3.75W		
ITK-32LCG-1P TEL	Class 1	78mA	3.75W			78mA	3.75W		
ITK-24CG-1P TEL	Class 2	120mA	5.8W	210mA	5.7W	88mA	4.2W	152mA	4.1W
ITK-8TCGX-1P TEL	Class 2	100mA	4.8W	160mA	4.32W	100mA	4.8W	160mA	4.32W
ITK-32TCG-1P TEL	Class 2	100mA	4.8W	160mA	4.32W	100mA	4.8W	160mA	4.32W
ITK-6DGS	Class 1	75mA	3.6W			75mA	3.6W		
ITK-32LCGS	Class 1	78mA	3.75W			78mA	3.75W		
ITK-32TCGS	Class 2	100mA	4.8W	160mA	4.32W	100mA	4.8W	160mA	4.32W

Label Indication:

IP Value – Maximum watts when adding options or modular upgrades.

IEEE802.af Class Specifications

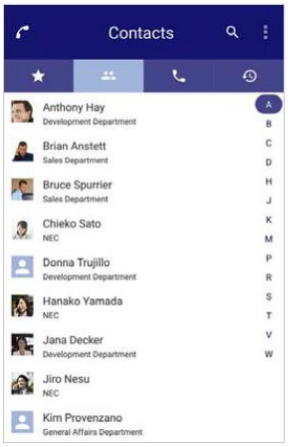
IEEE802.3af	Minimum	Maximum
Class 4	–	–
Class 3	6.49W	12.95W
Class 2	3.84W	6.49W
Class 1	0.44W	3.84W
Class 0	0.44W	12.95W

8. UNIVERGE ST500 MOBILE CLIENT

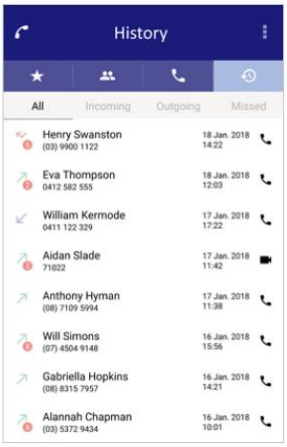
The ST500 is a smart device client application for enabling extension calls on smart devices. Operating on iOS or Android-based smart devices, ST500 integrates with a communication server (UNIVERGE SV/SL Series) and is incorporated into an IP telephone system to provide high-quality voice and video calls. Although free to download from the app stores a relevant licence is required for connectivity to the platform.

Video Call

Voice Call



Contacts



History

- Smart Phone OS
  - iOS 11.0.3+
  - Android 4.0.3+ (4.4 for video)
- Platform Support
  - SL2100 R1.5 or later
  - SV9100 R8 or later
  - SV9300 V5 or later
  - SC9500 V5 or later
- Connectivity
  - Standard SIP
- Platform licences required
  - SL2100 – EU909388 (SL2100 NEC SIP License)
  - SV9100 – EU901001 (SV9100 NEC STD SIP IP PHONE01 LIC)
  - SV9300 – BE114015 (SV93 STD SIP PHONE-1 LIC)
  - SV9500 – BE114263 (SV9500 Lic Client BASIC Voice)
- Voice Codecs Supported
  - OPUS (require SBC)
  - G.722.1
  - G.711
  - G.722
  - G.729a
- Codec Payload
  - 20ms/40ms
- Video Codec supported
  - H.264/AVC
- Protocol
  - SIP
  - SIPS/TLS (not supported on SL2100)
  - SRTP
- DTMF

    - RFC2833
    - Inband
- Network
    - Wi-Fi
    - 3G/4G
- Features (Dependant on communications server)
    - Video call / 2 way call / hold / call transfer / call conference / call forwarding / call pickup

Video calling is available and supported for SL2100 and SV9100 platforms to other video devices when ST500 clients connected over a local Enterprise WLAN or remotely when connected through a VPN connection. These calls will be routed peer-to-peer between the devices.

On the SV9100 only video calls are also supported when using a NAPT connection and the IPLE Video Streaming feature of the VoIPDB card. These calls will NOT be routed peer-to-peer between the devices and use additional resources on the VoIPDB card.

9. APPLICATIONS

9.1 MA4000

Not applicable at present.

10. TOOLS

The following applications are available on the NEC Enterprise Solutions database.

10.1 DT900 IP Phone Manager

The IP Phone Manager is an application which allows an engineer to manage the IP Phones providing features such as being able reset the phone, make a back up of the configuration, upload the terminal firmware.

Release 8.9.0 IPPhoneManager is required for use with the DT900 terminals.

10.2 DT900 Data Maintenance Tool

The DT900 data Maintenance Tool is an application which allows the user or administration staff to perform the following actions to customise the IP Phones ;- Download Ring Tones, Download Wallpaper and Download Music on Hold tones.

10.3 Label Printing Tool

There are a number of different DESI labels available for use with the DT500/DT900. The DESI application (Print Engine 3.8 can be used to print on the labels. A copy of the application can be obtained from http://www.desi.com

11. LOGISTICS

11.1 List of Deliverables

The table below shows the list of deliverables in relation to the DT400 and DT800 Terminals.

Article code	Part code	Description	Service item	Repair Item
BE118954	ITK-24CG-1P(WH)TEL	DT930 24 Button Colour Display	Y	N
BE118955	ITK-24CG-1P(BK)TEL	DT930 24 Button Colour Display	Y	N
BE118959	ITK-6D-1P(BK)TEL	DT920 6 Button Display	Y	N
BE118962	ITK-6DG-1P(BK)TEL	DT920 6 Button Display with gigabit	Y	N
BE118965	ITK-12D-1P(BK)TEL	DT920 12 Button Display	Y	N
BE118967	ITK-12DG-1P(BK)TEL	DT920 12 Button Display with gigabit	Y	N
BE118970	ITK-8LCX-1P(BK)TEL	DT920 8 Button Self Labelling	Y	N
BE118975	ITK-32LCG-1P(BK)TEL	DT920 32 Button Self Labelling with gigabit	Y	N
BE118978	ITK-8TCGX-1P(BK)TEL	DT930 8 Button Touch Screen	Y	N
BE118981	ITK-32TCG-1P(BK)TEL	DT930 32 Button Touch Screen	Y	N
BE118985	ITK-6DGS-1P(BK)TEL	DT920 6 Button Dispay with gigabit	Y	N
BE118989	ITK-32LCGS-1P(BK)TEL	DT920 32 Button Self Labelling with gigabit	Y	N
BE118993	ITK-32TCGS-1P(BK)TEL	DT930 32 Button Touch Screen	Y	N
BE119540	TEL Gigabit Ethernet LIC	TEL Gigabit Ethernet LIC	Y	N
BE119541	TEL Ext Line key 16 LIC	TEL Ext Line key 16 LIC	Y	N
BE118997	DTK-12D-1P(WH) TEL	DT530 12 Button Display	Y	N
BE118998	DTK-12D-1P(BK) TEL	DT530 12 Button Display	Y	N
BE118999	DTK-24D-1P(WH) TEL	DT530 24 Button Display	Y	N
BE119000	DTK-24D-1P(BK) TEL	DT530 24 Button Displayk	Y	N
BE119004	DCK-60-1P(WH) CONSOLE	DT530/DT930 60 Button Console	Y	N
BE119005	DCK-60-1P(BK) CONSOLE	DT530/DT930 60 Button Console	Y	N
BE119009	8LK-KP(WH) UNIT	DT530/DT930 8 Line Key Unit	Y	N
BE119010	8LK-KP(BK) UNIT	DT530/DT930 8 Line Key Unit	Y	N
BE119040	BS(F)-K(WH)	Key Set Unit French (White) (DT500/930)	Y	N
BE119041	BS(F)-K(BK)	Key Set Unit French (Black) (DT500/930)	Y	N
BE119042	BS(S)-K(WH)	Key Set Unit Spanish (White) (DT500/930)	Y	N
BE119043	BS(S)-K(BK)	Key Set Unit Spanish (Black) (DT500/930)	Y	N
BE119044	BS(ACD)-K(WH)	Key Set Unit ACD (White) (DT500/930)	Y	N
BE119045	BS(ACD)-K(BK)	Key Set Unit ACD (Black) (DT500/930)	Y	N
BE119050	Sticker-Braille-K KIT	Braille Supported Seal for DT500/900	Y	N
BE119051	Sticker-Braille-KS KIT	Braille Supported Seal for DT900S	Y	N
BE119052	LEG(VALUE)-K	LEG DT500/900	Y	N
BE119053	LEG(DSS)-K	LEG DT500/900 (DSS)	Y	N
BE119054	DSS WM-K UNIT	Wall Mount Unit, DT500/900 Console	Y	N
BE119046	HANDSET(NARROW)-K(WH) UNIT	Handset, Narrowband for DT500 Terminals (White)	Y	N

Article code	Part code	Description	Service item	Repair Item
BE119047	HANDSET(NARROW)-K(BK) UNIT	Handset, Narrowband for DT500 Terminals (Black)	Y	N
BE119048	HANDSET(WIDE)-K(WH) UNIT	Handset, Wideband for DT900 Terminals (White)	Y	N
BE119049	HANDSET(WIDE)-K(BK) UNIT	Handset, Wideband for DT900 Terminals (Black)	Y	N
A50034138397	DESI labels for DT530/930 12/24 button	DESI labels for DT530/930 12/24 button (PKG 25)	Y	N
A50034138398	DESI labels for DT920 6/12 button	DESI labels for DT920 6/12 button (PKG 25)	Y	N
A50034138400	DESI labels for ITK/DTK 8LK	DESI labels for ITK/DTK 8LK (PKG 25)	Y	N
A50034138401	DESI labels for DCK-60DSS	DESI labels for DCK-60DSS (PKG 25)	Y	N

11.2 Spare Parts

The table below shows the spare parts available for the DT900 and DT500. These parts are not stock items . The lead time for these items varies and is typically 3 months. The minimum order quantity for these items is 50 units

Article code	Part code	Description
BE119052	LEG(VALUE)-K	LEG DT500/900
BE119053	LEG(DSS)-K	LEG DT500/900 (DSS)
BE119046	HANDSET(NARROW)-K(WH) UNIT	Handset, Narrowband for DT500 Terminals (White)
BE119047	HANDSET(NARROW)-K(BK) UNIT	Handset, Narrowband for DT500 Terminals (Black)
BE119048	HANDSET(WIDE)-K(WH) UNIT	Handset, Wideband for DT900 Terminals (White)
BE119049	HANDSET(WIDE)-K(BK) UNIT	Handset, Wideband for DT900 Terminals (Black)

The images on the next pages should help identify the relevant parts the above table refers to;

11.3 DT530 Options and Spare parts

HANDSET(NARROW)-K(WH/BK) UNIT

TenKey Kit (BS(F/S/ACD)-K(WH/BK) KIT)

- French
- Spanish
- ACD

11.4 DT930 Options and Spare parts

Note : the Portal display shown is an enhancement that will be available as a free of charge firmware upgrade to the DT900 colour terminals in a future release.

11.5 DT920 Options and Spare parts

Note : the Portal display shown, on the ITK-8LCX, is an enhancement that will be available as a free of charge firmware upgrade to the DT900 colour terminals in a future release.

11.6 DT530/900 Spare parts

Note : the Portal display shown is an enhancement that will be available as a free of charge firmware upgrade to the DT900 colour terminals in a future release.

12. WARRANTY AND REPAIR

Warranty & Repair for the DT900 and DT500 terminals follows the standard Warranty & Repair Policy for NEC Enterprise Solutions partners. Deviations can be individually negotiated, in which case the warranty & repair agreement is laid-down in the contract between NEC Enterprise Solutions and its business partner.

13. SERVICE AND SUPPORT

Service and Support for the DT900 and DT500 terminals is subject to the maintenance agreement between NEC Enterprise Solutions and the Business partner.

13.1 Training

Training for the terminals will be included in the relevant training course for the system. No specific training on the terminals will be scheduled. Specific items will be covered in the system platform courses.