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# DSX

## Component Guide

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This manual has been developed by NEC Unified Solutions, Inc. It is intended for the use of its customers and service personnel, and should be read in its entirety before attempting to install or program the system. Any comments or suggestions for improving this manual would be appreciated. Forward your remarks to:

**NEC Unified Solutions, Inc.**  
4 Forest Parkway  
Shelton, CT 06484  
**[www.necunifiedsolutions.com](http://www.necunifiedsolutions.com)**

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# DSX

## SOPHISTICATION SIMPLIFIED



### INNOVATIVE

DSX from NEC takes the lead with state-of-the-art innovations sure to make your business communications more efficient, profitable, and enjoyable.

Innovation starts with the new sleek DSX telephones. All models feature the same thin, floating design, two position angle adjustment for effortless viewing, and built in wall mounting. The 22-Button Display offers a large 3-line-by-24 character display, four interactive soft keys, and a built in speakerphone. The 34-Button Display is enhanced with a backlit display and illuminated dial pad (for improved low light viewing), as well as additional feature keys. An advanced model of the 34-Button Display provides a built-in half-duplex speakerphone. The 34-Button Super Display has all the features of the advanced 34-Button Display and additionally offers the user a 9-line-by-24-character display and 12 interactive soft keys. Rounding out the line, the DSX Cordless Telephone provides mobility and flexibility for those who spend much of the work-day away from their desk. Complemented by 4 fully programmable Feature Keys, the DSX Cordless Telephone achieves a whole new level of convenience and mobility.

Innovations don't stop with the DSX telephones. Right out of the box the system has a two-port Automated Attendant with no optional equipment required. The capability for full-featured IntraMail Voice Mail with Automated Attendant is inherent in the system and only requires an IntraMail flash card to activate. Program on-site from the telephone or from a PC connected to the system's ethernet or USB port. PC remote programming is available through the ethernet port or built-in modem.

### AFFORDABLE

NEC designed DSX from the ground up with affordability in mind. Economy per port is maximized by high-density circuitry. All DSX telephones have a speakerphone and display for increased functionality and total lower station cost. Native support for ISDN PRI and T1 provides maximum connectivity for low initial investment. Since DSX is simple to install and easy to use, the expenses of configuration, programming, and post-installation training are minimized.

The cost-effective IntraMail provides sophisticated Voice Mail and Automated Attendant features previously available only with expensive add-ons or costly external units. It is available in two configurations: 4 port/8 hour and 8 port/16 hour. The IntraMail Automated Attendant includes the call answering features you demand such as dial access to extensions, unique day, night, and holiday answering (Flexible Answering Schedules), the ability for two companies to share the same IntraMail (Multiple Company Greetings), and the capability to dial employees by entering their names instead of extension numbers (Directory Dialing).

IntraMail Voice Mail is much more than simple messaging. Advanced IntraMail features allow you to automatically place a return call to the message sender (Caller ID with Return Call), screen your incoming calls (Call Screening), forward a message to a co-worker (Message Forward), and send a call to a co-worker's mailbox (Transfer to a Mailbox).

DSX is sized right, starting with the economical 40-port DSX-40, growing into the 80-port DSX-80, and culminating in the 160-port DSX-160. To maintain the value of your investment, all the components of a DSX-80 can be used in DSX-160 just by adding a DSX-160 cabinet. Even when growing from the DSX-40, your investment in programming, telephones and other station equipment is retained.

## **RELIABLE**

Over a decade of intense feature development ensures that the core DSX call processing features are mature, efficient, and reliable – yet intuitive and easy to use. Combined with end-to-end Quality Assurance and state-of-the-art circuit design (which achieves new standards for efficiency and economy), you are assured that DSX will be your reliable business partner for years to come.

Innovative leadership and longevity are a rare combination among technology companies. Founded in 1899, NEC has grown to a nearly \$50 billion enterprise that produces 15,000 products in 126 manufacturing plants worldwide. NEC pioneered the development of telephones and switching systems early in the 20th century, and has maintained a leadership position in communications and networking ever since.

# Table of Contents

---

<b>Components</b> .....	<b>1</b>
DSX Telephones .....	1
22-Button Display Telephone with Speakerphone.....	1
34-Button Backlit Display Telephone with Speakerphone .....	1
34-Button Backlit Display Telephone with Full-Duplex Speakerphone .....	2
34-Button Backlit Super Display Telephone with Half-Duplex Speakerphone.....	2
60-Button DSS Console .....	2
Single Line Telephones .....	3
DTH-1-1 Single Line Telephone .....	3
DTR-1-1 Single Line Telephone .....	3
DTR-1HM-1 Single Line Telephone.....	3
DSX Cordless Telephone.....	4
DSX Cordless Lite II .....	4
Headsets .....	5
Corded Headsets for DSX Keysets and DTR/DTH SLTs .....	5
NEC / Plantronics Headsets .....	5
GN Netcom Headsets .....	8
Headsets for DSX Cordless Lite II Telephone.....	9
DESI Telephone Label System .....	10
DESI Plus Labeling Software.....	10
DESI Telephone Labels .....	11
DSX-80/160 Common Equipment.....	12
DSX-80 4-Slot KSU.....	12
DSX-160 8-Slot KSU.....	12
DSX-80/160 Power Supply .....	12
DSX-80/160 CPU .....	13
DSX-80/160 CPU Card .....	13
DSX-80/160 Station Cards .....	14
DSX-80/160 16 Port Digital Station (16ESIU) Card.....	14
DSX-80/160 16 Port Analog Station (16SLIU) Card with HV Message Waiting.....	14
DSX-80/160 8 Port Analog Station (8SLIU) Card with HV Message Waiting.....	15
DSX-80/160 Line Cards .....	16
DSX-80/160 T1/E1/PRI Line Card .....	16
DSX-80/160 16 Port CO Line (16COIU) Card with Caller ID .....	16
DSX-80/160 8 Port CO Line (8COIU) Card with Caller ID .....	17
DSX-40 Common Equipment .....	18
DSX-40 4x8x2 Key Telephone System with 2 Door Box Ports and Caller-ID.....	18
DSX-40 PCBs .....	19
DSX-40 8-Port Digital Station (8ESIU) Card .....	19
Expansion Guidelines .....	19
DSX-40 8-Port Analog Station (8SLIU) Card.....	19
DSX-40 4 Port (4COIU) Line PCB with Caller ID .....	20
IntraMail .....	21
DSX IntraMail 8 x 16.....	21
DSX IntraMail 4 x 8.....	21
Built-In Automated Attendant .....	21

## Table of Contents

---

Miscellaneous Cards and Optional Equipment .....	22
DSX Analog Door Box .....	22
DSX 2PGDAD Module .....	22
DSX System Administrator (PC Program) .....	23
System Configuration .....	24
DSX-80/160 System Load Factor .....	24
<b>Specifications and Parts .....</b>	<b>27</b>
Specifications .....	27
DSX-80/160 System Specifications .....	27
DSX-40 System Specifications .....	28
DSX IntraMail Specifications .....	34
Parts List .....	35

# Components

## DSX Telephones

### 22-Button Display Telephone with Speakerphone

<b>At a Glance</b>	<b>P/Ns 1090020 (Black) and 1090025 (White)</b>	
	Display: 3 line x 24 character	Speakerphone: Built-in, half-duplex
	Soft Keys: 4	Wall Mount: Built-in
	Feature Keys: 12	Angle Adjustment: 2 position built-in
	Fixed Function Keys: 12	Backlit: No
	Speed Dial Bin Keys: 10	Dual LEDs: Yes
	Headset jack: RJ-10 built-in (standard handset type)	



The 22-Button Display Telephone features a large 3 line-by-24 character alphanumeric display with 4 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial bin keys, 12 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a headset jack and built-in speakerphone. Unique features include dual LEDs, a Ring/Message Lamp (to show ringing, Caller ID, and voice mail messages), built-in wall mounting, and an innovative two position angle adjustment.

### 34-Button Backlit Display Telephone with Speakerphone

<b>At a Glance</b>	<b>P/Ns 1090021 (Black) and 1090026 (White)</b>	
	Display: 3 line x 24 character	Speakerphone: Built-in, half-duplex
	Soft Keys: 4	Wall Mount: Built-in
	Feature Keys: 24	Angle Adjustment: 2 position built-in
	Fixed Function Keys: 12	Backlit: Yes
	Speed Dial Bin Keys: 10	Dual LEDs: Yes
	Headset jack: RJ-10 built-in (standard handset type)	



The 34-Button Display Telephone features a large 3 line-by-24 character backlit alphanumeric display with 4 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial bin keys, 24 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a backlit keypad, a headset jack, and built-in speakerphone. Unique features include dual LEDs, a Ring/Message Lamp (to show ringing, Caller ID, and voice mail messages), built-in wall mounting, and an innovative two position angle adjustment.

## 34-Button Backlit Display Telephone with Full-Duplex Speakerphone

<b>At a Glance</b>	<b>P/Ns 1090022 (Black) and 1090027 (White)</b>	
	Display: 3 line x 24 character	Speakerphone: Built-in, full-duplex
	Soft Keys: 4	Wall Mount: Built-in
	Feature Keys: 24	Angle Adjustment: 2 position built-in
	Fixed Function Keys: 12	Backlit: Yes
	Speed Dial Bin Keys: 10	Dual LEDs: Yes
	Headset jack: RJ-10 built-in (standard handset type)	



This feature-rich 34-Button Display Telephone features a large 3 line-by-24 character backlit alphanumeric display with 4 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial bin keys, 24 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a built-in full duplex speakerphone (with no external speaker or microphone required), a backlit keypad, and a headset jack. Unique features include dual LEDs, a Ring/Message Lamp (to show ringing, Caller ID, and voice mail messages), built-in wall mounting, and an innovative two position angle adjustment.

## 34-Button Backlit Super Display Telephone with Half-Duplex Speakerphone

<b>At a Glance</b>	<b>P/Ns 1090030 (Black) and 1090031 (White)</b>	
	Display: 9 line x 24 character	Speakerphone: Built-in, half-duplex
	Soft Keys: 12	Wall Mount: Built-in
	Feature Keys: 24	Angle Adjustment: 2 position built-in
	Fixed Function Keys: 12	Backlit: Yes
	Speed Dial Bin Keys: 10	Dual LEDs: Yes
	Headset jack: RJ-10 built-in (standard handset type)	



The Super Display Telephone is the system's most sophisticated telephone instrument. It features a large 9 line-by-24 character backlit alphanumeric display with 12 Interactive Soft Keys for intuitive feature access. It also provides 10 Personal Speed Dial bin keys, 24 programmable Feature Keys and 12 fixed function keys for streamlined operation. Additionally, this telephone offers a built-in full duplex speakerphone (with no external speaker or microphone required), a backlit keypad, and a headset jack. Unique features include dual LEDs, a Ring/Message Lamp (to show ringing, Caller ID, and voice mail messages), built-in wall mounting, and an innovative two position angle adjustment.

## 60-Button DSS Console

<b>At a Glance</b>	<b>P/Ns 1090024 (Black) and 1090029 (White)</b>	
	Feature Keys: 60	Wall Mount: Built-in
	Fixed Function Keys: 3	Angle Adjustment: 2 position built-in
	Dual LEDs: Yes	



The 60-Button DSS Console provides a display keyset with a 60-button Busy Lamp Field (BLF) and one-button access to extensions, trunks, and selected system features. Enhanced by Answer, Release, and Transfer fixed function keys, the 60-Button DSS Console is a great time saver for users that do a lot of call processing (such as operators or dispatchers). By default, the DSS Console is set up with Hotline keys to extensions and 14 feature keys for quick access to Page, Park and the system Night Mode

Note: DSX80/160 supports DS1000/2000 telephones if the system has a DSTU Card (P/N 80021A) installed.

## DTH-1-1 Single Line Telephone

<b>At a Glance</b>	<b>P/N 780034 (Black)</b>	
	Fixed Function Keys: 5	Message Waiting: Yes
	Speed Dial Bin Keys: 4	Ring/Message Waiting Lamp: Yes
	Selectable Ring Tones: Yes	Wall Mount: Built-in



Components

The DTH-1-1 is a cost-effective analog single line telephone that offers 5 fixed feature keys, 4 Speed Dial bin keys and Message Waiting. The built-in Message Waiting lamp will flash for incoming calls or when the user has a message. To simplify working in groups, The DTH-1-1 provides 3 selectable ring tones.

## DTR-1-1 Single Line Telephone

<b>At a Glance</b>	<b>P/Ns 780020 (Black) and 780021 (White)</b>	
	Fixed Function Keys: 5	Message Waiting: Yes
	Speed Dial Bin Keys: None	Ring/Message Waiting Lamp: No
	Selectable Ring Tones: Yes	Wall Mount: Built-in
	Handsfree Monitor: No	



The DTR-1-1 is a stylish yet rugged analog single line telephone with 5 fixed feature keys and Message Waiting. Similar to the DTH-1-1, the DTR-1-1 has a built in Message Waiting lamp that will flash for incoming calls or when the user has a message. The DTR-1-1 offers programmable ring pitch and volume. Built-in wall mounting and a bridged data jack for connecting a modem or answering machine are standard.

## DTR-1HM-1 Single Line Telephone

<b>At a Glance</b>	<b>P/Ns 780025 (Black) and 780026 (White)</b>	
	Fixed Function Keys: 7	Message Waiting: Yes
	Speed Dial Bin Keys: 8	Ring/Message Waiting Lamp: Yes
	Selectable Ring Tones: Yes	Wall Mount: Built-in
	Handsfree Monitor: Yes	



The DTR-1HM-1 provides all the features of the DTR-1-1 in addition to two additional fixed function keys (for Hold and Speaker/Monitor) and 8 Speed Dial bin keys. For convenient on-hook dialing and call monitor, the DTR-1HM-1 also offers Handsfree Monitor.

## DSX Cordless Lite II

---

<b>At a Glance</b>	<b>P/N 730087</b>	
	Display: 2 line x 16 character	Transmission: 900 MHz Narrow Band FM
	Status Icons: 4	Range: 350 feet (site dependent)
	Feature Keys: 4	Max Units Per Site: 30 (12 in close proximity)
	Fixed Function Keys: 8	Battery Life: Up to 7 hours talk time
	Channels: 30	



The DSX Cordless Lite II Telephone (P/N 730087) is a 900 Mhz digital narrow band FM cordless telephone that provides mobility, flexibility and convenience for those who spend much of the workday away from their desk. Fully integrated with the DSX system, the DSX Cordless Lite II Telephone offers many standard features such as Call Forwarding, Call Coverage, Hotline, and Voice Mail. Complemented by 4 fully programmable function keys (with LEDs), the DSX Cordless Lite II Telephone achieves a whole new level of convenience and mobility. An easy-to-read 16-character by 2-line LCD display (with four status icons), volume controls, a rechargeable Nickel Metal Hydride Battery Pack, and a handy belt clip round out the elegant and affordable DSX Cordless Lite II Telephone.

The Cordless II Lite Telephone includes the following:

- Base Unit
- Base Unit AC Adaptor (P/N 630618)
- Base Wall Mount Bracket (P/N 730608)
- Base Line Cord
- Handset
- Handset Charger (P/N 730632)
- Handset Charger AC Adaptor (P/N 730619)
- Handset Charger Wall Mount Bracket (P/N 730633)
- Handset Battery (P/N 730631)
- Belt Clip (P/N 730634)

## Corded Headsets for DSX Keysets and DTR/DTH SLTs

The following corded headsets are compatible with DSX keysets and the DTR/DTH single line telephones. Check with your supplier for their latest offerings.

### NEC / Plantronics Headsets

NEC / Plantronics Amplified Headsets				
NEC P/N	Description	Style	Microphone Type	Plantronics Model Number
-	Polaris Starset	In-the-Ear	Voice Tube	P31
-			Noise Canceling	P31N
750631	Polaris Mirage	On-the-Ear	Voice Tube	P41
-			Noise Canceling	P41N
750632	Polaris Supra Monaural	Over-the-Head	Voice Tube	P51
750636			Noise Canceling	P51N
-	Polaris Supra Binaural	Over-the-Head	Voice Tube	P61
750633			Noise Canceling	P61N
750630	Polaris TriStar	In-the-Ear	Voice Tube	P81
-			Noise Canceling	P81N
750634	Polaris Encore Monaural	Over-the-Head	Voice Tube	P91
-			Noise Canceling	P91N
-	Polaris Encore Binaural	Over-the-Head	Voice Tube	P101
760635			Noise Canceling	P101N
-	Polaris DuoSet Convertible	Over-the-Head, On-the-Ear	Voice Tube	P141
-			Noise Canceling	P141N
-	Polaris DuoPro	On-the-Ear	Voice Tube	P151
-			Noise Canceling	P151N
-	Polaris DuoPro	Over-the-Head	Voice Tube	P161
-			Noise Canceling	P161N
-	Polaris DuoPro Convertible	Over-the-Head,	Voice Tube	P171
-	Polaris DuoPro Convertible	Over-the-Head,	Noise Canceling	P171N
-	Polaris DuoPro	Behind-the-Head	Voice Tube	P181
-	Polaris DuoPro	Behind-the-Head	Noise Canceling	P181N
750643	Polaris/SupraPlus Monaural	Over-the-Head	Voice Tube	P251
750644	Polaris/SupraPlus NC Monaural		Noise Canceling	P251N
-	Polaris/SupraPlus NC Binaural	Over-the-Head	Voice Tube	P261
750645	Polaris/SupraPlus NC Binaural		Noise Canceling	P261N
-	Polaris SupraPlus SL Monaural	Over-the-Head	Voice Tube	P351
-			Noise Canceling	P351N
-	Polaris SupraPlus SL Binaural	Over-the-Head	Voice Tube	P361
-			Noise Canceling	P361N

# Headsets

NEC / Plantronics Non-Amplified Headsets <sup>1</sup> ( <a href="http://www.plantronics.com">http://www.plantronics.com</a> )				
NEC P/N	Description	Style	Microphone Type	Plantronics Model Number
-	Polaris StarSet	In-the-Ear	Voice Tube	H31
			Noise Canceling	H31N
-	Polaris Mirage	On-the-Ear	Voice Tube	H41
			Noise Canceling	H41N
-	Polaris Supra Monaural	Over-the-Head	Voice Tube	H51
			Noise Canceling	H51N
-	Polaris Supra Binaural	Over-the-Head	Voice Tube	H61
			Noise Canceling	H61N
-	Polaris TriStar	In-the-Ear	Voice Tube	H81
			Noise Canceling	H81N
-	Polaris Encore Monaural	Over-the-Head	Voice Tube	H91
			Noise Canceling	H91N
-	Polaris Encore Binaural	Over-the-Head	Voice Tube	H101
			Noise Canceling	H101N
-	Polaris Freehand Monaural	In-the-Ear	Voice Tube	H131
			Noise Canceling	H131N
-	Polaris DuoSet Convertible	Over-the-Head, On-the-Ear	Voice Tube	H141
			Noise Canceling	H141N
-	Polaris DuoPro	On-the-Ear	Voice Tube	H151
			Noise Canceling	H151N
-	Polaris DuoPro	Over-the-Head	Voice Tube	H161
			Noise Canceling	H161N
-	Polaris DuoPro Convertible	Over-the-Head, On-the-Ear	Voice Tube	H171
			Noise Canceling	H171N
-	Polaris DuoPro	Behind-the-Head	Voice Tube	H181
			Noise Canceling	H181N
-	Polaris SupraPlus Monaural	Over-the-Head	Voice Tube	H251
			Noise Canceling	H251N
-	Polaris SupraPlus Binaural	Over-the-Head	Voice Tube	H261
			Noise Canceling	H261N
-	Polaris SupraPlus SL Monaural	Over-the-Head	Voice Tube	H351
			Noise Canceling	H351N
-	Polaris SuproPlus SL Binaural	Over-the-Head	Voice Tube	H361
			Noise Canceling	H361N

<sup>1</sup> Requires Vista M12 Amplifier and Handset/Headset Switch

Accessories and Replacement Parts for Polaris Headsets		
NEC P/N	Description	Plantronics Item Number
750655	Polaris Extension Cable (10 ft.) • For all Polaris headset models.	40703-01
750657	Clothing Clip Replacement (1) • For all Polaris Mirage, Tristar, and Encore headset models.	29961-01 or 29961-13
750656	Ear Cushion (Package of 2) • For Supra and Encore models.	15729-11
750 650	Windscreen Replacement (1) • For Supra NC headset models	24316-01 or 24316-04
750651	Clear Voice Tube for Mirage and Supra Replacement (1)	17593-01 or 17593-06
750653	Rainbow Voice Tube for Mirage and Supra Replacement (Package of 6)	17593-7 or 17593-80
750652	Clear Voice Tube for Encore and Tristar (1)	29960-01 or 29960-13
750654	Rainbow Voice Tube for Encore and Tristar (Package of 6)	29960-70 or 29960-80

# Headsets

## GN Netcom Headsets

GN Netcom Non-Amplified Headsets <sup>1</sup> ( <a href="http://www.gnnetcom.com/us/en">http://www.gnnetcom.com/us/en</a> )			
Model Number	Description	Microphone Type	Style
GN 2110 STD01	2100 Sound Tube Monaural	Sound-Tube	Over-the-Head
GN 2120 NCD01	2100 Flex Monaural	Noise-Canceling	Over-the-Head
GN 2115 STD01	2100 SoundTube Binaural	Sound-Tube	Over-the-Head
GN 2125 NCD01	2100 Flex Binaural	Noise-Canceling	Over-the-Head
GN 2117 STD01	2100 SoundTube Monaural	Sound-Tube	On-the-Ear
GN 2127 NCD01	2100 Flex Monaural	Noise-Canceling	On-the-Ear
GN 2110 ST	2100 SoundTube Monaural	Sound-Tube	Over-the-Head
GN 2120 NC	2100 Flex Monaural	Noise-Canceling	Over-the-Head
GN 2115 ST	2100 SoundTube Binaural	Sound-Tube	Over-the-Head
GN 2125 NC	2100 Flex Binaural	Noise-Canceling	Over-the-Head
GN 2127 ST	2100 SoundTube Monaural	Sound-Tube	On-the-Ear
GN 2127 NC	2100 Flex Monaural	Noise-Canceling	On-the-Ear
405-SF	Surefit Monaural	Voice-Tube	3-Way Convertible: Over-the-Head, Ear- hook, Earloops
405-FLEX-SF	Surefit Monaural	Noise-Canceling	
405-UNC-SF	Surefit Monaural	Noise-canceling	
ADP-I	ADDvantage Plus Monaural	Noise-Canceling	Over-the-Head
ADP-II	ADDvantage Plus Binaural	Noise-Canceling	Over-the-Head
GN 2200	2200 Omega Monaural	Noise-Canceling	Over-the-Head
GN 2225	2200 Omega Binaural	Noise-Canceling	Over-the-Head
OG-I	Orator-G Monaural	Noise-Canceling	Over-the-Head
OG-II	Orator-G Binaural	Noise-Canceling	Over-the-Head
Contour LX-G	Contour LX-G Monaural	Noise-Canceling	On-the-Ear
Stratus Ultra-G	Stratus Ultra-G Monaural	Noise-Canceling	On-the-Ear
805-Flex	805-Flex Binaural	Noise-Canceling	Under-the-Chin or Behind-the-Neck

<sup>1</sup> Requires GN8000 MPA Amplifier and Headset Switch.

## Headsets for DSX Cordless Lite II Telephone

At a Glance	P/N 750637 (M175)	P/N 750642 (MX150)
		
	P/N 730602 (EXP9530)	

Components



The following headsets are available for the DSX Cordless Lite II Telephone:

- M175 Headband Style (P/N 750637)
- MX150 Earloop Style (P/N 750642)
- EXP 9350 Convertible Headset (P/N 730602)

# DESI Telephone Label System

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## DESI Plus Labeling Software



At a Glance

DESI Plus Labeling Software is a Windows-compatible application for printing customized key data on specially designed DESI telephone labels. Use DESI Plus Labeling Software to create quick, professional custom labels that can be printed on virtually any office ink jet or laser printer. DESI Labeling Software features:

- Automatic extension numbering
- Label templates that can be saved for later use
- Copy and paste functions
- Perforated and die cut labels for a perfect fit
- Choice of fonts and font colors
- Space for incorporating company logo
- User-printable background graphics (using DESI Preprint)

DESI Plus Labeling Software is provided on the DSX System Document CD included with each DSX telephone system.

## DESI Telephone Labels

At a Glance

### Labels for DSX Telephones



### Labels for NEC Single Line Telephones



Components

The following DESI labels are available for DSX telephone “replacement” applications.

- 22-Button Display (pkg 20 with 10 backers)
  - White (P/N 1093086)
  - Black (P/N 1093085)
- 34-Button Display (pkg 20 with 10 backers)
  - White (P/N 1093084)
  - Black (P/N 1093083)
- 34-Button Super Display (pkg 20 with 10 backers)
  - White (P/N 1093082)
  - Black (P/N 1093081)
- 60-Button DSS Console (pkg 20 with 10 backers)
  - White (P/N 1093080)
  - Black (P/N 1093079)

The following DESI labels are available for DSX telephone “preprint” applications.

- 22-Button Display Preprint (pkg 25)
  - P/N 1093072
- 34-Button Display Preprint (pkg 25)
  - P/N 1093071
- 34-Button Super Display Preprint (pkg 25)
  - P/N 1093070
- 60-Button DSS Console Preprint (pkg 25)
  - P/N 1093069

The following DESI labels are available for the NEC analog single line telephones.

- For DTR-1-1
  - Black (P/N 780400)
  - Metallic green (P/N 780401)
  - Metallic silver (P/N 780402)
  - Lime green (P/N 780403)
  - Preprint (blank) (P/N 780459)
- For DTR-1HM-1
  - Black (P/N 780404)
  - Metallic green (P/N 780405)
  - Metallic silver (P/N 780406)
  - Lime green (P/N 780407)
  - Preprint (blank) (P/N 780460)
- For DTH-1-1
  - Metallic silver (P/N 780450)

# DSX-80/160 Common Equipment

## DSX-80 4-Slot KSU

<b>At a Glance</b>	<b>P/N 1090002</b>	
	Slots: 4	Analog extensions (max.): 32
	Ports: 80	Analog lines (max): 48
	Digital extensions (max.): 32	Digital (T1) lines (max.): 64
	<ul style="list-style-type: none"><li>• Capacities determined by System Load Factor.</li><li>• Always install a 16ESIU Card in the first universal slot.</li></ul>	



The DSX-80 4-Slot KSU contains the CPU, 4 universal card slots and the system's power supply. It provides 80 ports. It is wall-mountable, has a flip off cover and removable side panel for easy access. The cabinet has a handy translucent panel in the cover that allows you to get essential system status and troubleshooting information at a glance, without removing the cover.

## DSX-160 8-Slot KSU

<b>At a Glance</b>	<b>P/N 1090003</b>	
	Slots: 8	Analog extensions (max.): 96
	Ports: 160	Analog lines (max): 64
	Digital extensions (max.): 96	Digital (T1) lines (max.): 64
	<ul style="list-style-type: none"><li>• Capacities determined by System Load Factor.</li><li>• Always install a 16ESIU Card in the first universal slot.</li><li>• Install one power supply for every two 16ESIU Cards.</li></ul>	



The DSX-160 8-Slot KSU contains the CPU slot, 8 universal card slots and up to 3 system power supplies (depending on Load Factor requirements). It provides 160 ports. Just like the DSX-80 4-Slot KSU, the DSX-160 is wall-mountable, has a flip off cover and removable side panel for easy access. The DSX-160 also has a translucent panel in the cover for getting essential system status and troubleshooting at a glance.

## DSX-80/160 Power Supply

<b>At a Glance</b>	<b>P/N 1091008</b>	
	DSX-80 Qty: 1	DSX-160 Qty: 3 (max.)
	<ul style="list-style-type: none"><li>• Quantity required in DSX-160 determined by System Load Factor.</li><li>• In DSX-160, Install one power supply for every two 16ESIU Cards.</li></ul>	



The power supply provides the various DC voltages required to power the DSX-80/160 Cards. The DSX-80 4-Slot KSU requires a single power supply. The DSX-160 8-Slot KSU requires up to 3 power supplies, depending on system configuration.

**DSX-80/160 CPU Card**

<b>At a Glance</b>	<b>P/N 1090010</b>	
	Audio Inputs: 2	RS 232 connector: Yes (for SMDR)
	Audio outputs: 1	Ethernet port: Yes
	USB connector: Yes	CompactFlash interface: Yes



**Components**

The CPU Card is the system’s control center. It provides the system’s Linux operating system, central processing, stored program, and memory for the customer’s site-specific data. Every system requires a CPU Card. In addition, it also provides:

- CompactFlash card interface (for IntraMail, software loading, and database backup)
- Conference circuits, DTMF receivers and DTMF generators
- Real Time Clock
- NAND Flash for storing the system database
- Battery for short term (14 day) backup of the Real Time Clock and station parameters
- Two audio inputs for Background Music and Music on Hold (1/8” mono minijacks)
- One audio output for External Paging (1/8” mono minijack)
- Ethernet and USB ports for local and remote PC Programming
- RS-232 serial port for Station Message Detail Recording
- Built-in V.32BIS 14.4K BPS modem for remote maintenance

The CPU also has a reset switch that provides the following three functions:

1. System reset (when momentarily pressed).
2. System initialization (when held down as power is turned on).
3. Software update (when held down for six seconds while software update CompactFlash card is installed).

**Tips to remember:**

- When connecting to the CPU audio inputs or outputs, make sure the connected device is compatible with the CPU audio specifications. See *Specifications and Parts* (page 27) for more.

## DSX-80/160 16 Port Digital Station (16ESIU) Card

<b>At a Glance</b>	<b>P/N 1091004</b>	
	Digital station ports: 16	Status LED: Yes
	Mode switch: Yes	Activity LED: Yes
	Max. installed in DSX-80: 2 (32 station ports)	Max. installed in DSX-160: 6 (96 station ports)



Each 16ESIU Card connects 16 digital extensions (i.e., DSX keysets). The 16ESIU has a Mode Switch (for taking the card out of service). It also has a status LED that indicates proper card operation — as well as a port activity LED that flashes faster as traffic on the card increases. You can install up to two 16ESIU Cards in a DSX-80. You can install up to six 16ESIU Cards in a DSX-160. See *System Configuration* (page 24) for more.

### Tips to remember:

- In DSX-160, you must install a separate power supply for every two 16ESIU Cards installed.
- In both DSX-80 and DSX-160, you must install a 16ESIU Card in slot 1.
- You can install additional 16ESIU Cards in any slot.

## DSX-80/160 16 Port Analog Station (16SLIU) Card with HV Message Waiting

<b>At a Glance</b>	<b>P/N 1091007</b>	
	Analog station ports: 16	Activity LED: Yes
	High Voltage Message Waiting: Yes	Mode switch: Yes
	Max. installed in DSX-80: 3 (48 station ports)	Status LED: Yes
	Max. installed in DSX-160: 5 (80 station ports)	



The 16SLIU Card connects 16 analog extensions which are typically used for single line telephones and fax machines. Just like the 16ESIU Card, the 16SLIU Card has a Mode Switch (for taking the card out of service), a status LED indicating proper card operation, and a port activity LED to indicate traffic on the card. See *System Configuration* (page 24) for more.

### Tips to remember:

- The 16SLIU Card provides high voltage message waiting for single line sets with high voltage message waiting lamps.
- The 16SLIU Card also provides Caller ID to single line sets.
- You can install a 16SLIU Card in any slot except slot 1.

## DSX-80/160 8 Port Analog Station (8SLIU) Card with HV Message Waiting

<b>At a Glance</b>	<b>P/N 1091010</b>	
	Analog station ports: 8	Activity LED: Yes
	High Voltage Message Waiting: Yes	Mode switch: Yes
	Max. installed in DSX-80: 3 (24 station ports)	Status LED: Yes
	Max. installed in DSX-160: 7 (56 station ports)	

The 8SLIU Card connects 8 analog extensions which are typically used for single line telephones and fax machines. The 8SLIU Card has a Mode Switch (for taking the card out of service), a status LED indicating proper card operation, and a port activity LED to indicate traffic on the card. See *System Configuration* (page 24) for more.

**Tips to remember:**

- The 8SLIU Card provides high voltage message waiting for single line sets with high voltage message waiting lamps.
- The 8SLIU Card also provides Caller ID to single line sets.
- You can install a 8SLIU Card in any slot except slot 1.

# DSX-80/160 Line Cards

## DSX-80/160 T1/E1/PRI Line Card

<b>At a Glance</b>	<b>P/N 1091006</b>	
	Line ports: 24	Activity LED: Yes
	Mode switch: Yes	Diagnostic LEDs: Yes
	Status LED: Yes	CSU required: Yes
	Max. installed in DSX-80: 3 (64 line ports in 3 T1/E1/PRI Cards, with 8 T1 circuits disabled in programming)	Max. installed in DSX-160: 3 (64 line ports in 3 T1/E1/PRI Cards, with 8 T1 circuits disabled in programming)



The T1/E1/PRI Line Card provides T1 advanced digital calling and gives the DSX-80/160 a maximum of 24 trunks in a single card slot. The available T1 line types include:

- Loop Start (DTMF and Dial Pulse)
- Ground Start (DTMF and Dial Pulse)
- Direct Inward Dialing (DID) Wink Start (DTMF and Dial Pulse)
- Direct Inward Dialing (DID) Immediate Start (DTMF and Dial Pulse)
- E&M Tie Line Wink Start (DTMF and Dial Pulse)
- E&M Tie Line Immediate Start (DTMF and Dial Pulse)

### Tips to remember:

- Normally you connect the T1/E1/PRI Card to a separately-purchased Channel Service Unit (CSU). Use a standard straight-through CAT 5 cable to connect the T1/E1/PRI Card to the CSU. The CSU in turn connects to the telco smart jack.
- The T1/E1/PRI Card also provides 32E1 support. E1 is not used in North America.
- PRI is currently not available.
- You can install a T1/E1/PRI Card in any slot except slot 1.

## DSX-80/160 16 Port CO Line (16COIU) Card with Caller ID

<b>At a Glance</b>	<b>P/N 1091005</b>	
	Line ports: 16	Status LED: Yes
	Mode switch: Yes	Activity LED: Yes
	Power Failure ports: 2	Caller ID: Built in
	Max. installed in DSX-80: 3 (48 lines in 3 16COIU Cards)	Max. installed in DSX-160: 4 (64 line ports in 4 16COIU Cards)



The 16COIU Card supports 16 analog loop start CO lines. The card has a Mode Switch (for taking the card out of service), a status LED indicating proper card operation, and a port activity LED that indicates traffic on the card. Each 16COIU Card also provides two power failure cut-through circuits. When commercial AC power fails, the Card automatically cuts through two line circuits to two power failure single line telephones. See *System Configuration* (page 24) for more.

### Tips to remember:

- The 16COIU provides built-in Caller ID.
- You can install a 16COIU Card in any slot except for slot 1.

**DSX-80/160 8 Port CO Line (8COIU) Card with Caller ID**

<b>At a Glance</b>	<b>P/N 1091009</b>	
	Line ports: 8	Status LED: Yes
	Mode switch: Yes	Activity LED: Yes
	Power Failure ports: 2	Caller ID: Built in
	Max. installed in DSX-80: 3 (24 line ports in 3 8COIU Cards)	Max. installed in DSX-160: 7 (56 line ports in 7 8COIU Cards)

The 8COIU Card supports 8 analog loop start CO lines. The card has a Mode Switch (for taking the card out of service), a status LED indicating proper card operation, and a port activity LED that indicates traffic on the card. Each 8COIU Card also provides two power failure cut-through circuits. When commercial AC power fails, the card automatically cuts through two line circuits to two power failure single line telephones. See *System Configuration* (page 24) for more.

**Tips to remember:**

- The 8COIU provides built-in Caller ID.
- You can install a 8COIU Card in any slot except for slot 1.

# DSX-40 Common Equipment

## DSX-40 4x8x2 Key Telephone System with 2 Door Box Ports and Caller-ID

At a Glance	P/N 1090001	
	Digital extension ports: Built-in: 8 Fully expanded: 24	Analog line ports: Built-in: 4 Total: 8
	Analog extension ports: Built-in: 2 Fully expanded: 18	Expansion slots: Station expansion slots: 2 Line expansion slots: 1
	Built-in door box ports: 2 Built-in door box control relays: 2	Audio outputs: 1 Audio inputs: 2
	Total Ports: 40	CompactFlash interface: Yes
	Ethernet port: Yes (auto sensing)	USB connector: Yes



DSX-40 is a compact, wall-mountable, more economical member of the DSX family that offers many of the features and options of the larger DSX-80/160 in a smaller, self-contained cabinet. In its off-the-shelf basic configuration, DSX-40 supports 4 CO (outside) lines with Caller ID, 8 DSX digital keyset extensions, and 2 analog (single line) extensions with power failure. Additionally, the basic DSX-40 provides:

- CompactFlash card interface (for IntraMail, software loading, and database backup)
- Conference circuits, DTMF receivers and DTMF generators
- NAND Flash for storing the system database
- Battery for short term (14 day) backup of the internal Real Time Clock and station parameters
- Two audio inputs for Background Music and Music on Hold (1/8" mono minijacks)
- One audio output for External Paging (1/8" mono minijack)
- Ethernet and USB ports for local and remote PC Programming
- RS-232 serial port for Station Message Detail Recording
- 2 DSX Analog Door Box ports with associated relays
- Built-in V.32BIS 14.4K BPS modem for remote maintenance

### Tips to remember:

1. The CPU also has a reset switch that provides the following three functions:
  - System reset (when momentarily pressed).
  - System initialization (when held down as power is turned on).
  - Software update (when held down for a few seconds while a software update CompactFlash card is installed).
2. DSX-40 provides FSK Message Waiting. It **does not** provide high voltage Message Waiting.

Even with all the value built into the basic off-the-shelf DSX-40, the system is easily expandable by adding station and line PCBs. See *DSX-40 PCBs* (page 19) for more.

## DSX-40 8-Port Digital Station (8ESIU) Card

<b>At a Glance</b>	<b>P/N 1091002</b>	
	Digital station ports: 8	Installs in either the top or middle DSX-40 expansion slot.
	Max. cards installed: 2 (16 additional digital station ports)	Can be mixed with 8-Port Analog Station Cards in any combination in the top and middle expansion slots.
	Max. digital ports: 24 (8 in each digital card installed plus 8 built-in)	



The 8-Port Digital Station Card is an expansion card that provides eight additional digital station ports. You can install up to two 8-Port Digital Station Cards, using the upper and middle expansion slots, for a system maximum of 24 digital stations.

### Expansion Guidelines

The top 2 DSX-40 expansion positions are for the 8-port station cards, and you can install them in either position in any combination.

DSX-40 Station Card Capacities		
Top Position (9-16)	Middle Position (17-14)	Total
8-Port Digital Card	8-Port Digital Card	24 Digital and 2 Analog
8-Port Digital Card	8-Port Analog Card	16 Digital and 10 Analog
8-Port Analog Card	8-Port Analog Card	8 Digital and 18 Analog

#### Tips to remember:

- The 8-Port Digital and 8-Port Analog Station Cards use the same expansion slots (upper and middle).

## DSX-40 8-Port Analog Station (8SLIU) Card

<b>At a Glance</b>	<b>P/N 1091003</b>	
	Analog station ports: 8	Installs in either the top or middle DSX-40 expansion slot
	Max. analog cards installed: 2 (16 additional analog station ports)	Can be mixed with 8-Port Digital Station Cards in any combination in the top and middle expansion slots
	Max. analog ports: 18 (8 in each analog card installed plus 2 built-in)	



The 8-Port Analog Station Card is an expansion card that provides eight additional analog station ports. You can install up to two 8-Port Analog Station Cards, using the upper and middle expansion slots, for a system maximum of 18 analog stations.

#### Tips to remember:

- The 8-Port Digital and 8-Port Analog Station Cards use the same expansion slots (upper and middle).

## DSX-40 4 Port (4COIU) Line PCB with Caller ID

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<b>At a Glance</b>	<b>P/N 1091001</b>	
	Line ports: 4	Installs only in the bottom expansion slot.
	Max. line cards installed: 1 (4 additional CO line ports)	Caller ID: Built in
	Max. line ports: 8 (4 in the CO line card plus 4 built-in)	Message Waiting: FSK only



The 4-Port CO Line Card with Caller ID is an expansion card that provides four additional CO line ports with built-in Caller ID. You can install this card only in the bottom expansion slot for a system maximum of 8 outside line ports.

**Tips to remember:**

- You can install the 4-Port CO Line Card with Caller ID only in the bottom expansion slot.

## DSX IntraMail 8 x 16

At a Glance	<b>P/N 1091013</b>	
	Ports: 8	Storage Hours: 16
	Routing Mailboxes: 16 8 Announcement 8 Call Routing	Subscriber Mailboxes: DSX-40: 34 DSX-80/160: 128
	Ring Group Mailboxes: 8	UCD Group Mailboxes: 8
	Total Mailboxes: DSX-40: 66 DSX-80/160: 160	



## DSX IntraMail 4 x 8

At a Glance	<b>P/N 1091011</b>	
	Ports: 4	Storage Hours: 8
	Routing Mailboxes: 16 8 Announcement 8 Call Routing	Subscriber Mailboxes: DSX-40: 34 DSX-80/160: 128
	Ring Group Mailboxes: 8	UCD Group Mailboxes: 8
	Total Mailboxes: DSX-40: 66 DSX-80/160: 160	



IntraMail is a plug-in “in-skin” full-featured, DSP-based integrated Voice Mail with Automated Attendant for DSX. It is available in two models:

- P/N 1091013 with 8 Voice Mail ports, 16 hours of message storage, and up to 160 mailboxes.
- P/N 1091011 with 4 Voice Mail ports, 8 hours of message storage, and up to 160 mailboxes.

The IntraMail Automated Attendant answers incoming calls and routes them quickly and efficiently. Integrated Voice Mail features include Conversation Record, Answering Machine Emulation, and Caller ID with Return Call. Interactive Soft Keys guide the display telephone user through the extensive IntraMail feature set.

### Tips to remember:

- After plugging in the IntraMail CompactFlash card, IntraMail automatically installs on power-up.

## Built-In Automated Attendant

The Built-In Automated Attendant gives the system call answering and routing capabilities when IntraMail is not installed. The Built-In Automated Attendant can use any of the first eight Call Routing Mailboxes (001-008) for call handling, and each of these eight Routing Mailboxes can have a 30 second Instruction Menu message (Attendant Greeting). The Routing Mailboxes *must* be Call Routing Mailboxes, and all other Routing Mailbox types are ignored. Additionally, the Built-In Automated Attendant provides two voice mail ports, allowing it to process two calls simultaneously.

The Built-In Automated Attendant does not provide voice mail.

Just like the full featured IntraMail Automated Attendant, the Built-In Automated Attendant can answer outside calls on each line according to the time of the day and day of the week that the call is ringing. After answering, the Built-In Automated Attendant plays an Instruction Menu message (greeting) to the caller and provides them with dialing options.

# Miscellaneous Cards and Optional Equipment

## DSX Analog Door Box

<b>At a Glance</b>	<b>P/N 922450</b>
	DSX-40: <ul style="list-style-type: none"><li>• 2 built-in door box ports</li><li>• Additional door box ports requires 2PGDAD Modules connected to Digital Station ports</li></ul>
	DSX-80/160: <ul style="list-style-type: none"><li>• No built-in Door Box ports</li><li>• Requires 2PGDAD Modules connected to DSX Digital Station (16ESIU) PCBs</li></ul>



The Analog Door Box is a self-contained Intercom unit typically used to monitor an entrance door. A visitor at the door can press the Door Box call button (like a door bell). The Door Box then sends chime tones to all extensions programmed to receive chimes. To answer the chime, the called extension user just lifts the hand-set. This lets the extension user talk to the visitor at the Door Box. The Door Box is convenient to have at a delivery entrance, for example. It is not necessary to have company personnel monitor the delivery entrance; they just answer the Door Box chimes instead.

**Tips to remember:**

- The Analog Door Box is a weather-tight unit and can be mounted outside.
- The maximum number of DSX Analog Door Boxes you can install is determined by the number of 2PGDAD Modules, which in turn is limited only by the availability of digital station ports.
- The DSX-40 has 2 built-in door box ports.

## DSX 2PGDAD Module

<b>At a Glance</b>	<b>P/N 0891027</b>
	Provides connection and relays for two DSX Analog Door Boxes      Connects to digital station port



The DSX 2PGDAD Module provides connection and relays for two DSX Analog Door Boxes. This module connects to an available port on a DSX Digital Station (16ESIU) PCB.

**Tips to remember:**

- The maximum number of DSX Analog Door Boxes you can install is determined by the number of 2PGDAD Modules, which in turn is limited only by the availability of digital station ports.

## DSX System Administrator (PC Program)

At a Glance

### Free Download

Download the DSX System Administrator from <http://www.necdsx.com>



Components

The DSX System Administrator is a Windows™-based application you can use for programming the telephone system and maintaining site databases, instead of using the conventional telephone programming. The System Administrator provides:

- **On-Line Programming (Direct Connection)**  
With the PC connected to the telephone system's USB or Ethernet port, you can make immediate changes to the telephone system programming. While connected, the System Administrator also allows you to save your new data to a file on the PC hard disk, or upload a "template" database from your PC to the system.
- **Remote Programming**  
Using an IP or built-in modem connection between your PC and the remote system, you can customize a customer's system without leaving your office.
- **Off-Line Programming**  
With Off-Line Programming, the PC Program allows you to set up a database on your PC off line, connect to the telephone system, and upload the entire custom configuration.
- **Database Save and Restore**  
Use the PC Program to save a site's data to your PC hard disk. You can easily restore the saved data later on, if required.

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## DSX-80/160 System Load Factor

The combination of lines and extensions you can connect to your DSX system may be limited by the System Load Factor. Use the *DSX-80/160 System Load Factor Worksheet* on the next page to verify your system's configuration. When entering data on the worksheet, for each installed card make entries for each *Load Type*. There are two *Load Types* to consider: 5 VDC and 40 VDC.

### To check your system configuration:

1. Indicate the quantity for each card installed in the **Qty** column.
  - The number of keysets, single line sets, and DSS Consoles does not affect the load factor.
2. For each item and for each Load Type, multiply the **Qty** times the **Load** and enter the value in the **Total** column.
  - For example, two 16ESIU Cards have a load of 16 for 5 VDC and 40 for 40 VDC.
3. Add up the entries in each **Total** column and enter the values in **Item 1: Load Type Totals**.
4. Review **Item 2: Power Supply Capacity** and determine the capacity of the power supplies installed in your system.
5. Compare the capacities in **Item 2** to your entries in **Item 1**. **Item 1** must always be equal to or less than the entry in **Item 2**.

**Important**  
**Do not operate your system if the total for either Load Type exceeds the Power Supply Capacity of your installation.**

DSX-80/160 System Load Factor Worksheet					
Description	Qty	Load Type			
		5 VDC		40 VDC	
		Load	Total	Load	Total
CPU Card	1	12	12	0	0
16ESIU Card		8		20	
8SLIU Card		5		8	
16SLIU Card		10		16	
8COIU Card		3		0	
16COIU Card		6		0	
T1/E1/PRI Card		8		0	
<b>Item 1: Load Type Totals</b> (Cannot exceed Item 2: Power Supply Capacity.)					
<b>Item 2: Power Supply Capacity</b>					
If you have <u>one</u> power supply installed, the capacity is:		5 VDC = 40	40 VDC = 48		
If you have <u>two</u> power supplies installed, the capacity is:		5 VDC = 80	40 VDC = 80		
If you have <u>three</u> power supplies installed, the capacity is:		5 VDC = 120	40 VDC = 120		
<b>Notes:</b>					
<ul style="list-style-type: none"> <li>• DSX-80 can only have 1 power supply.</li> <li>• DSX-160 can have up to 3 power supplies. You <i>cannot</i> have more than two 16ESIU Cards per power supply, regardless of System Load Factor calculations.</li> <li>• Exceeding the allowed Load Type Total (Item 1) will cause the system's power supplies to automatically shut down and/or cause erratic system operation.</li> <li>• The total of all station, line, DSS Console, and voice mail ports cannot exceed 160.</li> </ul>					



# Specifications and Parts

## Specifications

### DSX-80/160 System Specifications

DSX-80/160 System Capacities (Page 1 of 2)	
Cabinets:	1
Talk Timeslots (Intercom/line):	Non-blocking
Ports	160
Line Ports:	64
Digital Telephone Ports:	DSX-80: 32 DSX-160: 96
Analog Telephone Ports:	DSX-80: 32 DSX-160: 96
DSS Console Ports:	4 max. per system Plugs into a digital station port
DSX Analog Door Box Ports (Requires 2PGDAD Modules)	Max. limited only by number of available digital station ports for 2PGDAD Modules.
Power Failure Telephone Ports:	2 per COIU Card
Internal Paging Zones:	8 (7 and All Call)
External Page Audio Output:	1 (on CPU)
Music Inputs:	2 (on CPU)

# Specifications

DSX-80/160 System Capacities (Page 2 of 2)	
Conference Circuits:	32 Conference circuits dynamically allocated, with 8 parties max per Conference. Conference circuits provided on CPU.
16ESIU Digital Station Card 16SLIU Analog Station Card 8SLIU Analog Station Card 16COIU Analog CO Line Card 8COIU Analog CO Line Card T1/E1/PRI Card	Refer to <i>System Configuration</i> (page 24) for capacities.
CPU Card:	1

## DSX-40 System Specifications

DSX-40 System Capacities	
Cabinets:	1
Talk Timeslots (Intercom/line):	Non-blocking
Ports	40
Line Ports:	8
Digital Telephone Ports:	24
Analog Telephone Ports:	18
DSS Console Ports:	4 max. per system Plugs into a digital station port
DSX Analog Door Box Ports (Built-In)	2
DSX Analog Door Box Ports (With 2PGDAD Modules)	Max. limited only by number of available digital station ports for 2PGDAD Modules.
Power Failure Telephone Ports:	2
Internal Paging Zones:	8 (7 and All Call)
External Page Audio Output:	1
Music Inputs:	2
Conference Circuits:	32 Conference circuits dynamically allocated, with 8 parties max per Conference. Conference circuits provided on CPU.
8-Port Digital Station Card (Expansion)	2 max.
8-Port Analog Station Card (Expansion)	2 max.
4-Port Line Card with Built-In Caller ID (Expansion)	1 max.

Power Requirements	
A dedicated 110 VAC 60 Hz circuit located within 4 feet of the cabinet is required.	

Environmental Requirements	
Meeting established environmental standards maximizes the life of the system. Refer to the <i>Standard Practices Manual</i> for further information. Be sure that the site is not:	
<ol style="list-style-type: none"> <li>1. In direct sunlight or in hot, cold or humid places.</li> <li>2. In dusty areas or in areas where sulfuric gases are produced.</li> <li>3. In places where shocks or vibrations are frequent or strong.</li> <li>4. In places where water or other fluids come in contact with the main equipment.</li> <li>5. In areas near high-frequency machines or electric welders.</li> <li>6. Near computers, telexes, microwaves, air conditioners, etc.</li> <li>7. Near radio antennas (including shortwave).</li> </ol>	

Environmental Specifications	
<b>Cabinet and Key Telephones</b>	
Temperature:	0 to 40°C (32-104°F)
Humidity:	10 to 95% (non-condensing)
<b>DSX Analog Door Box</b>	
The Analog Door Box is a weather-tight unit, with an operating temperature range of -20 to 60 degrees C (-4 to 140 degrees F) and a relative humidity range of 10-95%, non-condensing.	
Temperature:	-20 to 60°C (-4 to 104°F)
Humidity:	10 to 95% (non-condensing)

DSX-80/160 Electrical Specifications	
The following specifications apply to each power supply installed.	
Power Supply:	120 VAC ± 10% @ 50-60 Hz
Output Power:	91 Watts @ 100% full load
Input Current:	1.5A
VA:	180 VA
Kwh:	0.180 KwH
BTU:	614 Btu
Grounding Requirements:	12 AWG copper wire

# Specifications

DSX-40 Electrical Specifications	
Power Supply:	120 VAC $\pm$ 10% @ 50-60 Hz
Output Power:	83 Watts @ 100% full load
Input Current:	1.1A
VA:	132 VA
Kwh:	0.132 Kwh
BTU:	450 Btu
Grounding Requirements:	12 AWG copper wire

Telephone and Line Voltages	
<b>Keyset Voltages</b>	
DC voltage measured at the MDF (between tip and ring)	Minimum: 36 VDC Maximum: 44 VDC
Minimum operating DC voltage measured at station jack (between tip and ring)	24 VDC
<b>Analog Station (SLIU) Card Single Line Telephone Voltages</b>	
DC voltage measured at the MDF (between tip and ring)	On-Hook Idle State Minimum: 44 VDC On-Hook Idle State Maximum: 56 VDC Off-Hook Active State: 7.5 VDC typical, depending on the telephone type and loop length.
Ringing voltage	50-65 VAC, sinusoidal (sine wave)
High Voltage Message Waiting	<u>DSX-80/160</u> : 95 VDC, <u>DSX-40</u> : Not available
FSK Message Waiting	Available
REN (Ringer Equivalence) Per Port	5
Total REN (Ringer Equivalence Number) per system	10
Simultaneous Ringing	Ringing cycles through the ports, ringing four ports at a time.
<b>Line Voltages</b>	
Ringing voltage	42-103 VAC @ 20 Hz
Battery (from telco)	44-56 VDC

External Paging	
Output Impedance:	600 Ohm
Output Level:	0 dBr @ 1.0 KHz

Mechanical Specifications				
Equipment	Width	Depth	Height	Weight
DSX-40 Cabinet	13 3/16"	2 3/4"	10 1/2"	3 lbs 9.5 oz
DSX-80 Cabinet:	10 3/4"	5 7/8"	13 11/16"	4 lbs 5 oz
DSX-160 Cabinet	19 1/2"	5 7/8"	13 11/16"	6 lbs 12 oz
Display Keyset:	7 5/8"	9 1/2"	4 3/4"	2 lb. 5.7 oz.
Super Display Keyset:	7 5/8"	9 1/2"	4 3/4"	2 lb. 6.5 oz.
60-Button DSS Console	5 5/8"	9 1/2"	4 3/4"	1 lb. 3.4 oz.
DSX Analog Door Box	3 3/4"	1"	5"	6.2 oz

DSX-40 Built-In Analog Door Box Relay Contacts	
Contact Configuration:	Normally open
Maximum Load:	0.5A @ 120 VAC 1A @ 24 VDC
Maximum Initial Contact Resistance:	100 mOhms

2PGDAD Module Analog Door Box Relay Contacts	
<b>Relay Contacts</b>	
Configuration:	Normally open
Maximum Contact Ratings:	250 mA @ 120 VAC 500 mA @ 24 VDC

BGM/MOH Music Source Inputs	
Music inputs are located on the CPU Card.	
Input Impedance:	10K Ohms
Input Level:	+18 dBr (± 2 dBr) @ 1.0 Khz

USB and Ethernet Specifications	
DSX-40 USB and ethernet connectors are located on the cabinet. DSX-80 USB and ethernet connectors are located on the CPU Card.	
USB:	USB 2.0 full speed (12 Mbits/sec)
Ethernet	Auto Sensing

# Specifications

FCC Registration Information				
Model:	DX7NA-40M DX7NA-80M and DSX7NA-160M			
Manufacturer:	NEC Infrontia			
FCC Part 15 Registration:	Class A			
FCC Registration Number:	US:NIFKF00BDSX US:NIFMF00BDSX US:NIFPF00BDSX			
Industry Canada Certificate (DOC) Number:	IC: 140k-DSX			
Reg. Status	FIC	Mfrs. Port ID	REN	Network Jacks
Original	02LS2	<u>DSX-80/160</u> : 1091005, 1091009 <u>DSX-40</u> : 1090001, 1091001	REN 0.6B	<u>DSX-80/160</u> : RJ11C RJ21X <u>DSX-40</u> : RJ11C
DSX-80/160 T1/PRI Card FCC Registration Information				
FIC	Description			
04DU9-BN	1.544 Mbps Superframe format (SF) without line power			
04DU9-ISN	1.544 Mbps ANSI ESF and B8ZS without line power			

Cabling Requirements			
<ol style="list-style-type: none"> <li>Do not run station cable parallel with the AC source, telex or computer, etc. If the cables are near cable runs to those devices, use shielded cable with grounded shields or install the cable in conduit.</li> <li>When cables must be run on the floor, use cable protectors.</li> <li>Cable runs for key telephones and single line telephones must be a dedicated, isolated cable pair.</li> </ol>			
Device	Cable Type	Cable Run (ft)	Notes
Key Telephone	2-wire 26 AWG	1300	
	2-wire 24 AWG	2000	
Single Line Telephone	2-wire 26 AWG	11,500	at constant 20 mA
		3150	at constant 35 mA
	2-wire 24 AWG	18,000	at constant 20 mA
		5050	at constant 35 mA
2PGDAD Module	2-wire 22 AWG	29,000	at constant 20 mA
		8000	at constant 35 mA
DSX Analog Door Box to DSX-40 Built-In Port	2-wire 26 AWG	650	
	2-wire 24 AWG	980	
	2-wire 22 AWG	1640	
DSX Analog Door Box to 2PGDAD Module	2-wire 24 AWG	330	
	2-wire 22 AWG	550	
DSX Analog Door Box to 2PGDAD Module	2-wire 26 AWG	650	
	2-wire 24 AWG	980	
	2-wire 22 AWG	1640	

# Specifications

## DSX IntraMail Specifications

Built-In Automated Attendant Capacities	
Mailboxes	Routing Mailboxes: . . . . . 8 Call Routing: . . . . . 8 Announcement: . . . 0 Subscriber: . . . . . 0 Ring Group Mailboxes: . . . . . 0 UCD Group Mailboxes: . . . . . 0 <b>Total: . . . . . 8</b>
Ports:	2
Storage Hours:	30 seconds for each Call Routing Mailbox
Does not provide voice mail.	

IntraMail Capacities	
P/N 1091011	IntraMail 4 Port/8 Hour
P/N 1091013	IntraMail 8 Port/16 Hour
Mailboxes	<b>DSX-40</b> Routing Mailboxes: . . . . . 16 Announcement: . . . 8 Call Routing: . . . . . 8 Subscriber: . . . . . 34 Ring Group Mailboxes: . . . . . 8 UCD Group Mailboxes: . . . . . 8 <b>Total: . . . . . 66</b>  <b>DSX-80/160</b> Routing Mailboxes: . . . . . 16 Announcement: . . . 8 Call Routing: . . . . . 8 Subscriber: . . . . . 128 Ring Group Mailboxes: . . . . . 8 UCD Group Mailboxes: . . . . . 8 <b>Total: . . . . . 160</b>
Max messages per mailbox (default):	300 = 99, all others = 20
Maximum length per message (default):	120 seconds
Ports:	4 or 8
Storage Hours:	8 or 16

Station Equipment	
Description	Part Number
22-Button Display Telephone with Speakerphone	1090020 (Black) 1090025 (White)
34-Button Backlit Display Telephone with Speakerphone	1090021 (Black) 1090026 (White)
34-Button Backlit Display Telephone with Full-Duplex Speakerphone	1090022 (Black) 1090027 (White)
34-Button Backlit Super Display Telephone with Half-Duplex Speakerphone	1090030 (Black) 1090031 (White)
60-Button DSS Console	1090024 (Black) 1090029 (White)
DTH-1-1 Single Line Telephone	780034
DTR-1-1 Single Line Telephone	780020 (Black) 780021 (White)
DTR-1HM-1 Single Line Telephone	780025 (Black) 780026 (White)
Analog Door Box	922450
2PGDAD Module	0891027

DSX Cordless Lite II Telephone	
Description	Part Number
<b>Cordless Lite II Telephone</b>	<b>730087</b>
Cordless Lite II Base Unit AC Adaptor	730618
Cordless Lite II Base Unit Wall Mount Bracket	730608
Cordless Lite II Handset Charger	730632
Cordless Lite II Handset Charger AC Adaptor	730619
Cordless Lite II Wall Mount Bracket for Handset Charger	730633
Cordless Lite II Handset Battery	730631
Cordless Lite II Belt Clip	730634
Cordless Lite II M175 Headset	750637
Cordless Lite II MX150 Headset	750642
Cordless Lite II EXP 9350 Convertible Headset	730602

Specifications and Parts

# Parts List

<b>DESI Labels</b>	
Description	Part Number
<b>DSX Telephone Labels</b>	
The following DESI labels are available for DSX telephone “replacement” applications (pkg 20 with 10 backers)	
DSX 22-Button Display Telephone (White)	1093086
DSX 22-Button Display Telephone (Black)	1093085
DSX 34-Button Display Telephone (White)	1093084
DSX 34-Button Display Telephone (Black)	1093083
DSX 34-Button Super Display Telephone (White)	1093082
DSX 34-Button Super Display Telephone (Black)	1093081
DSX 60-Button DSS (White)	1093080
DSX 60-Button DSS (Black)	1093079
The following DESI labels are available for DSX telephone “preprint” applications (pkg 25).	
22-Button Display Preprint	1093072
34-Button Display Preprint	1093071
34-Button Super Display Preprint	1093070
60-Button DSS Console Preprint	1093069
<b>DTH-1-1 Telephone Labels</b>	
Metallic Silver	780450
<b>DTR-1-1 Telephone Labels</b>	
Black	780400
Metallic Green	780401
Metallic Silver	780402
Lime Green	780403
Preprint (blank)	780459
<b>DTR-1HM-1 Telephone Labels</b>	
Black	780404
Metallic Green	780405
Metallic Silver	780406
Lime Green	780407
Preprint (blank)	780460

DSX Telephone Headsets	
Description	Part Number
See <i>Headsets</i> (page 5).	

Common Equipment	
Description	Part Number
<b>DSX-80/160</b>	
DSX-80 4-Slot KSU	1090002
DSX-160 8-Slot KSU	1090003
DSX Power Supply	1091008
<b>DSX-40</b>	
DSX-40 Main Equipment Cabinet	1090001
<b>Additional Common Equipment</b>	
Installation Cable	808920
DSX SMDR Adaptor (requires customer-provided 6-conductor line cord)	1091014

Cards	
Description	Part Number
<b>DSX-80/160</b>	
CPU Card	1090010
16 Port Digital Station Card (16ESIU)	1091004
16 Port Analog Station Card with HV Message Waiting (16SLIU)	1091007
8 Port Analog Station Card with HV Message Waiting (8SLIU)	1091010
T1/E1/PRI Line Card	1091006
16 Port CO Line Card (16COIU)	1091005
8 Port CO Line Card (16COIU)	1091009
<b>DSX-40</b>	
8-Port Digital Station Card (Expansion)	1091002
8-Port Analog Station Card (Expansion)	1091003
4-Port Line Card with Built-In Caller ID (Expansion)	1091001

Specifications  
and Parts

## Parts List

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IntraMail	
Description	Part Number
IntraMail 8 Port x 16 Hour	1091013
IntraMail 4 Port x 8 Hour	1091011

Replacement Parts	
Description	Part Number
Handset and Cord Assembly (black)	1091016
Handset and Cord Assembly (white)	1091038
22 Button Clear Plastic Cover (pkg 5)	1091018
34 Button Clear Plastic Cover (pkg 5)	1091019
34 Button Super Display Clear Plastic Cover (pkg 5)	1091020
60 Button DSS Clear Plastic Cover (pkg 5)	1091021
RFI Bead Kit	88901
Replacement Battery for CPU	EX0254-0040 (Sony CR2032)

# Parts List

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# NEC

NEC Unified Solutions, Inc.  
4 Forest Parkway, Shelton, CT 06484  
TEL: 203-926-5400 FAX: 203-929-0535  
[www.necunifiedsolutions.com](http://www.necunifiedsolutions.com)

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