



6400 Single and Multidock

**INSTALLATION
INSTRUCTIONS**

PN: 962-020-004
Revision A
September 1998

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Publications Department
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" NOTICE

This equipment meets Class A digital device limits per Part 15 of FCC Rules. These limits protect against interference in a commercial area. It emits, uses, and can radiate radio frequency energy. If you do not install and use the equipment according to its instructions, it may interfere with radio signals. Using it in a residential area is likely to cause interference. If this occurs, you must correct the interference at your expense.

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The following notices apply to equipment that may be connected to telephone lines or systems. For your personal safety, and to protect this equipment from potential electrical or physical damage, do NOT connect equipment to telephone lines or data communication equipment unless the following warnings have been read, understood, and complied with.

- " Never install telephone wiring during a lightning storm.

- " Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- " Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- " Use caution when installing or modifying telephone lines.
- " Avoid using a telephone (other than cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- " Do not use the telephone to report a gas leak in the vicinity of the leak.

Installation du téléphone : avertissements

Les avertissements qui suivent s'appliquent à tout équipement qui peut être branché aux lignes ou systèmes téléphoniques. Pour votre sécurité personnelle et pour protéger l'équipement de tout dommage électrique ou physique potentiel, NE PAS brancher un ordinateur, tablette électronique ou ses périphériques aux lignes téléphoniques ou équipements avant que les avertissements suivants aient été lus, compris et observés :

- " Ne jamais installer de câblage téléphonique pendant un orage électrique.
- " Ne jamais installer de prise téléphonique dans un endroit humide à moins que la prise ait été spécifiquement conçue pour être utilisée dans les endroits humides.
- " Ne jamais toucher les fils de téléphone ou de l'équipement terminal non isolés à moins que la ligne téléphonique n'ait été débranchée de l'interface réseau.
- " User de prudence lors de l'installation ou de la modification de lignes téléphoniques.
- " Éviter d'utiliser un téléphone (autre qu'un appareil téléphonique sans fil) pendant un orage électrique. Il pourrait y avoir un faible risque d'électrocution par la foudre.
- " Ne pas utiliser le téléphone afin de signaler une fuite de gaz à proximité de la fuite.

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B CAUTION: Intermec Technologies Corporation recommends that you only purchase Norand Mobile Systems Division certified modems. Intermec does not certify all modems available in the marketplace. Intermec does not warrant noncertified modems; furthermore, these modems may cause problems from electrostatic discharge and may not conform to FCC regulations. For a list of Norand Mobile Systems Division certified modems call Customer Support at 1-800-221-9236.

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Section 1

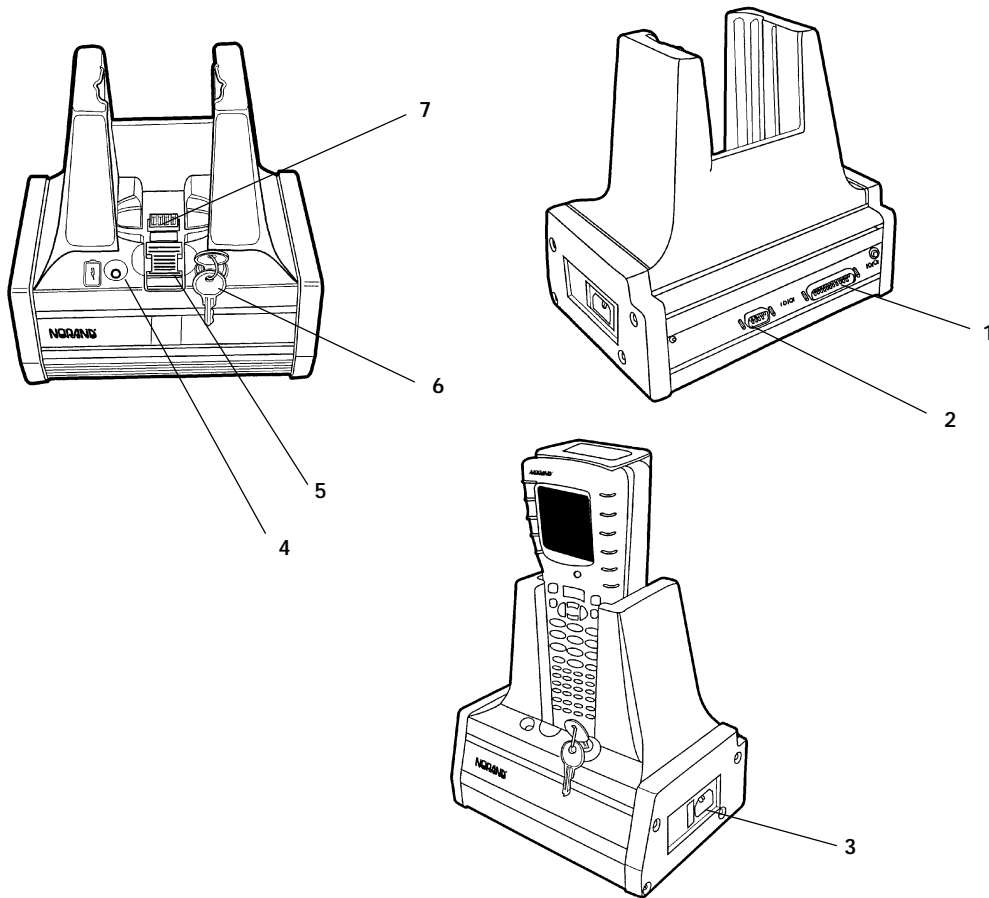
General Information

Single and Multidock Descriptions

Single Dock

The single dock is intended for a fixed location such as on a desk or shelf. A single dock contains:

- An autosensing and switching power supply.
- An ac connector for using the universal power cord.
- The ability for the hand-held computer to receive both charging and operating power.
- The capability to connect your hand-held computer to a network.
- A latch and an optional keylock to seat your hand-held computer into place allowing for security and good connector contact for charging and data communication.
- The capability to connect a printer.



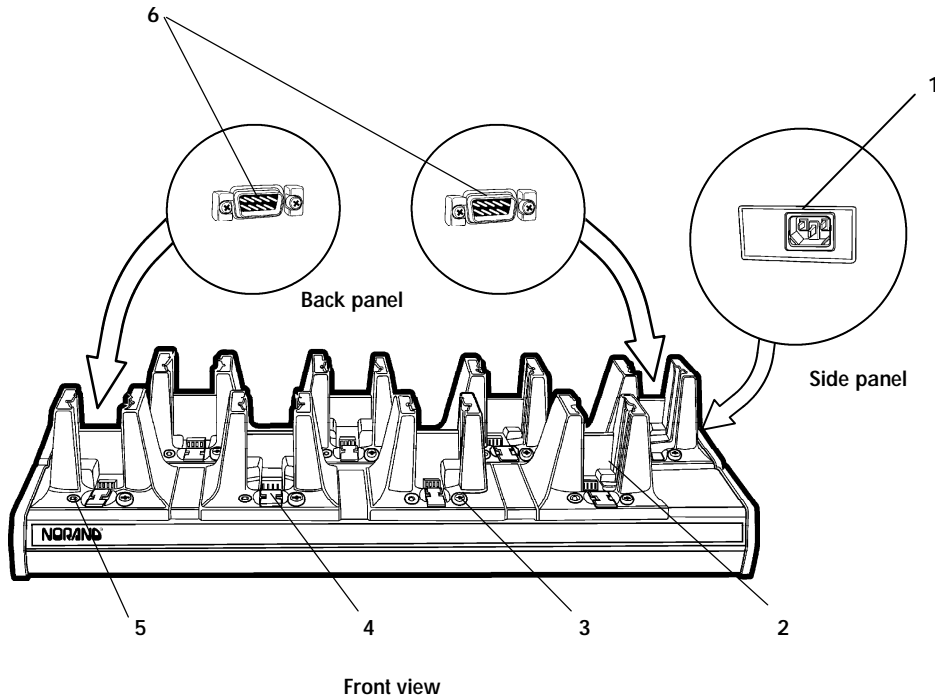
1. 25-Pin serial communication (RS-232 or RS-485) connector
2. 9-Pin RS-232 serial port connected to the IrDA on hand-held computer
3. AC connector
4. Charging indicator (red = charging; green = fully charged)
5. Hand-held computer release latch
6. Optional keylock for locking hand-held computer into dock
7. Hand-held computer interface connector

Figure 1-1
Single Dock Components

Multidock

The multidock is normally mounted on a countertop or wall. The multidock:

- " Holds up to eight hand-held computers.
- " An autosensing and switching power supply.
- " An ac connector for using the universal power cord.
- " The ability for the hand-held computers to receive both charging and operating power.
- " The capability to connect your hand-held computers to a network.
- " A latch and optional keylock to seat your hand-held computers into place allowing for security and good connector contact for charging and data communication.



1. AC connector (located on side panel)
2. Individual hand-held computer cups
3. Optional keylocks (optional)
4. Latches to secure computer into dock
5. Charging indicators (red = charging; green = fully charged)
6. 9-Pin RS-485 connectors (located on back panel)

Figure 1-2
Multidock Components

Specifications

Single Dock

- " Weight: 3.65 lbs. (1.66 kg)
- " Dimensions:
 - " Length: 8 inches (20.32 cm)
 - " Width: Without cables 6 inches (15.24 cm)
With cables 8.5 inches (21.59 cm)
 - " Height: Dock only 8 inches (20.32 cm)
Dock with hand-held computer 11.5 inches (29.21 cm)
- " Minimum vertical spacing between shelves: 17 inches (43.18 cm)

Multidock

- " Weight: 22.25 lbs. (10.09 kg)
- " Dimensions:
 - " Length: 37 inches (93.98 cm)
 - " Width: Without cables 10.75 inches (27.31 cm)
With cables 13.25 inches (29.21 cm)
 - " Height: Dock only 8 inches (20.32 cm)
Dock with hand-held computers 11.5 inches (29.21 cm)
- " Minimum vertical spacing between shelves: 17 inches (43.18 cm)

Connector Pin-Outs

8-Pin Interface Connector

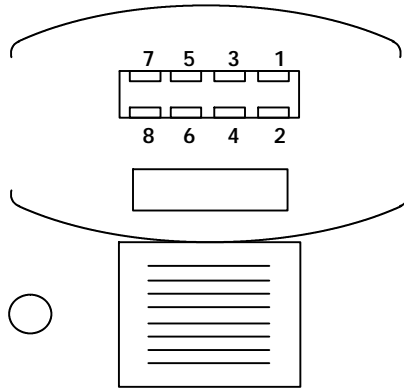


Figure 1-3
Interface Connector

Table 1-1
8-Pin Connector Pin-Outs

Pin	Signal Name	Function on Dock	I/O from Dock
1	BCLK	Battery Interface Clock	Input
2	DOCKPWR	12 Volt Charge Power	Output
3	GND	Ground	
4	BDAT	Battery Interface Data	Input
5	TXD	Transmit Data	Input
6	RXD	Receive Data	Output
7	RTS	Request To Send	Input
8	CTS	Clear To Send	Output

Single Dock 9-Pin Male Serial Port

The single dock RS-232 port, available on a DB9 male connector, is generated from the IrDA interface on your hand-held computer. It has no hardware handshake available and has the following signals.

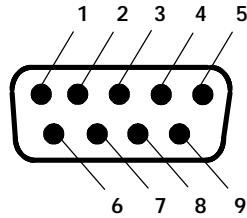


Figure 1-4
Single Dock 9-Pin Male Connector

Table 1-2
Single Dock 9-Pin Serial Port Connector Pin-Outs

Pin	Signal Name	Function	Standard Function on PC	I/O on Dock
1	NC	No Connect	Data Carrier Detect (DCD)	
2	RXD	Receive Data	Receive Data	Input
3	TXD	Transmit Data	Transmit Data	Output
4	DTR	Forced Low	Data Terminal Ready	Output
5	GND	Ground	Ground	
6	DSR	To Set Baud Rate	Data Send Ready	Input
7	RTS	Forced Low	Request To Send	Output
8	CTS	To Set Baud Rate	Clear To Send	Input
9	NC	No Connect	Ring Indicator	

Use pin 6 and 8 of this RS-232 connector to set the baud rate of the IrDA controller located inside the single dock. The standard is to have the baud rate set at 9600. Table 1-3 on page 1-8 shows the baud rate for each combination of control lines.

Table 1-3
Baud Rate Setting

DSR Pin 6	CTS Pin 8	Baud Rate
1	1	9600
1	0	9600
0	1	19.2 K
0	0	115.2 K

Single Dock 25-Pin Male Serial Port

Table 1-4 on page 1-9, shows the signals for the single dock RS-232/RS-485 port DB25 male connector. This connector will support the standard 25-pin RS-232 serial cables.

The single port supports RS-485 operations when you use cable, Norand part number 226-231-001. This cable will ground the 485 enable line and provide two 9-pin connectors to connect to the standard RS-485 cables, Norand part number 226-103-xxx (xxx indicates length). Your sales team will help you determine the length you need for your installation.

Two connectors are provided so that the RS-485 host and a powered RS-485 terminator (NPN: 226-257-001) can be connected, or the network can be continued through to another host computer or dock. For more information about using the powered terminator in your network design work with your Norand sales team.

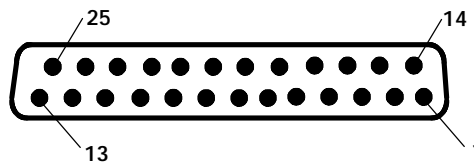


Figure 1-5
Single Dock 25-Pin Male Connector

Table 1-4
Single Dock 25-Pin Serial Port Connector Pin-Outs

Pin	Signal Name	Function	Comments
1	GND	Ground	
2	TXD	Transmit Data	
3	RXD	Receive Data	
4	RTS	Ready To Send	
5	CTS	Clear To Send	
6	DSR	Data Set Ready	Connected to pin 20 DTR
7	GND	Ground	
8	DCD	Data Carrier Detect	
9	NC	No Connect	
10	NC	No Connect	
11	485+	RS-485 Positive Side	
12	NC	No Connect	
13	NC	No Connect	
14	NC	No Connect	
15	NC	No Connect	
16	NC	No Connect	
17	NC	No Connect	
18	485-	RS-485 Negative Side	
19	485 Enable		If grounded 485 Enabled
20	DTR	Data Terminal Ready	Connected to pin 6 DSR
21	NC	No Connect	
22	NC	No Connect	
23	NC	No Connect	
24	NC	No Connect	
25	NC	No Connect	

Multidock 9-Pin Female RS-485 Connector

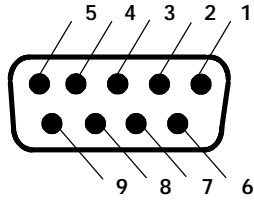


Figure 1-6
Multidock 9-Pin Female RS-485 Connector

Table 1-5
Multidock 9-Pin Connector Pin-Outs

Pin	Signal Name	Function	I/O to Dock
1	NC	No Connect	
2	485+	485 Positive Data Signal	I/O
3	485-	485 Negative Data Signal	I/O
4	NC	No Connect	
5	NC	No Connect	
6	NC	No Connect	
7	NC	No Connect	
8	NC	No Connect	
9	NC	No Connect	

Section 2

Single and Multidock Installation

Installation Guidelines

The single and multidock can be placed (installed) on a desk, counter-top, or mounted onto a structure. If your dock is to be installed on a desk or countertop, then plugging into a power source is about your only consideration for concern.

Wall mounting your dock involves a suitable structure to hold the weight of one or several docking units. Wall mounting kits are available that contain the brackets and hardware necessary for this purpose. This instruction booklet contains the instructions for mounting single and multidocks.

Installation Guidelines

Single and multidock units are intended to be installed and used in environments that remain at about room temperature opposed to high and low extremes. These docks are specifically **not** designed for use in these environments:

- Outdoor loading dock, or staging area
- Walk-in coolers or other refrigerated storage areas
- Over-heated areas such as incubation room
- High-humidity environments
- Confined, unventilated space such as a storage closet
- Wherever chemical dust, fumes, or corrosives materials are present

Electrical Requirements

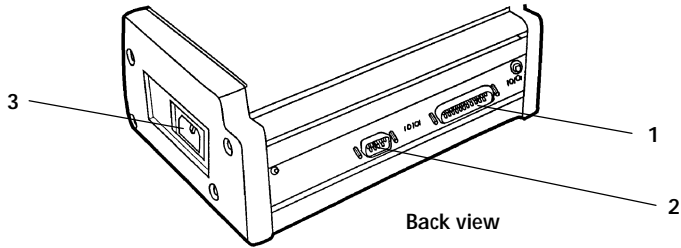
The single and multidocks contain an autosensing (90-240) voltage power supply that uses the alternating current (ac) power from your

outlets. The docks come with a six foot universal power cord and therefore must be located within that distance of an outlet. The outlets must be grounded (three-prong) and with sufficient current to carry the load for the number of docks per circuit breaker.

If you are uploading and downloading data with the host computer you will need to have data jacks close by. You will also need to have communication cables for connecting the docks to the jacks. The connectors are identified in this booklet but cables are not provided in the installation kit.

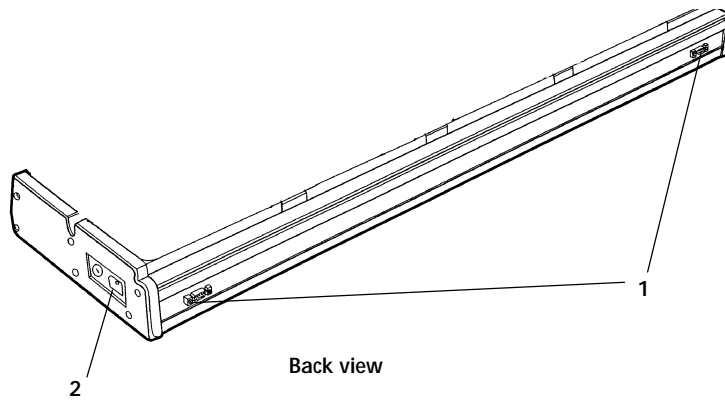
Electrical and Communication Connections

Figures 2-1 and 2-2 show the connectors for the single and multidocks.



- 1. RS-232 or RS-485 serial port
- 2. RS-232 serial port
- 3. AC connector

Figure 2-1
Single Dock Connectors



- 1. RS-485 connectors
- 2. AC connector

Figure 2-2
Multi Dock Connectors

Dock Installation

The single dock is small and fairly lightweight, you can attach the dock the brackets first, and then install the complete assembly to the wall. Or, you can install the mounting brackets on the wall before attaching the single dock. Installing the mounting brackets first is probably the preferred method and therefore the instructions for that follow next.

Mounting Structure

You can install the docks on most structures made of wood, concrete, or cinder block. Use anchors that will support the weight and are designed for the type of wall you will be using.

Some anchor selection guidelines are:

- " Concrete structures use metal expansion anchors. Plastic anchors or dowels will not hold.
- " Cinder block walls, use 1/4 inch or larger toggle bolts into the hollow portions of the blocks. Expansion anchors or dowels pull loose over time.

Single Dock Mounting Bracket Installation

1. Position one mounting bracket at the desired height.
2. Use 1/4 inch or larger hardware to secure one mounting bracket to the wall.
3. Install the second mounting bracket level with the first and no wider than the width of the single dock.

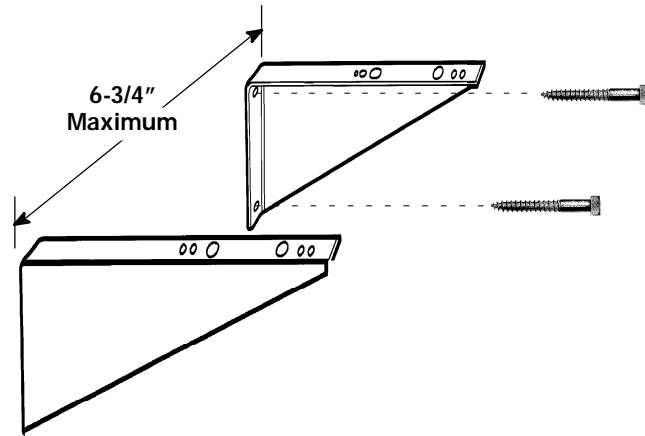


Figure 2-3
Mounting Brackets For Single Dock

Multidock Mounting Bracket Installation

On framed walls, it is preferable to drive lag screws directly into studs whenever possible. If this is not possible, it may be necessary to install scab studs or plywood (5/8 inch thickness or greater) reinforcement.

1. Position one mounting bracket at a suitable height and use 1/4 inch or larger hardware (lagscrew or concrete fastener) to secure one mounting bracket to the wall.
2. Use three fasteners in each bracket.
3. Install the second bracket level with the first, and 24 to 34 inches from it.

" **NOTE:**

When installing several multidocks across a wall, be sure to allow clearance between them for the power cables.

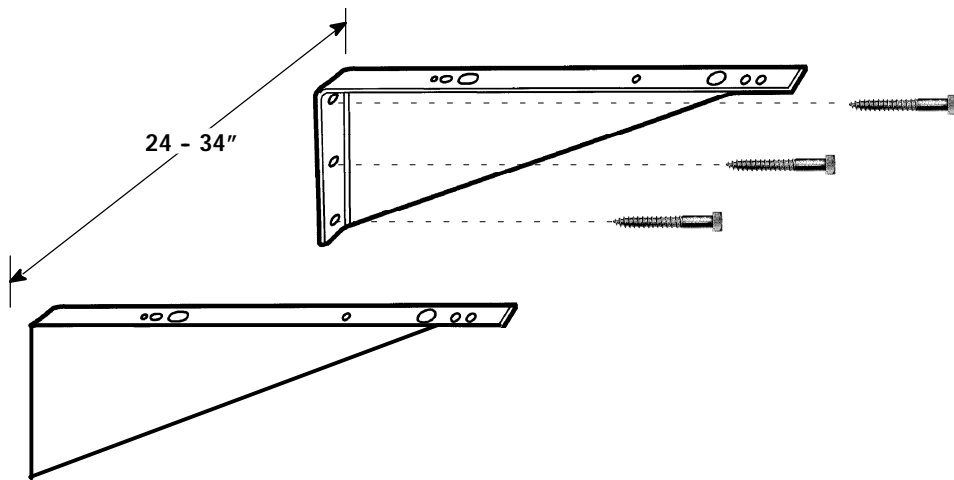
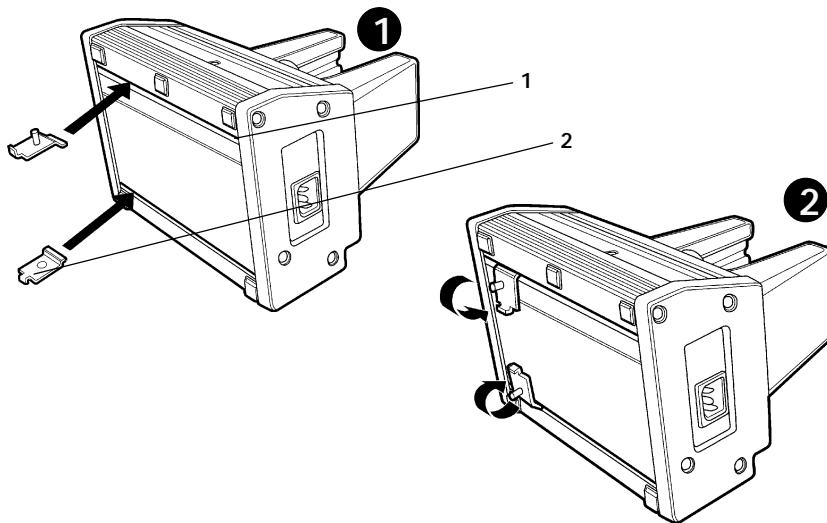


Figure 2-4
Mounting Brackets For Multidock

Dock Preparation

The instructions contained in this section show graphics using a single dock. The instructions for preparing the multidock are the same.

1. Position the dock so it is centered on the mounting brackets.
2. Use the inside edge of the mounting bracket as a guide and make a pencil line on the bottom of each end of the dock going from the front to the back.
3. Lay the dock on its side so the bottom of the dock is towards you.
4. Tilt the clips and slid into the channels on the dock.
5. Press the clips flush against the bottom of the dock.
6. Align the edge of each clip with the pencil mark you made earlier.
7. Use a short strip of masking tape to hold each clip in place.



1. Channel
2. Mounting clips

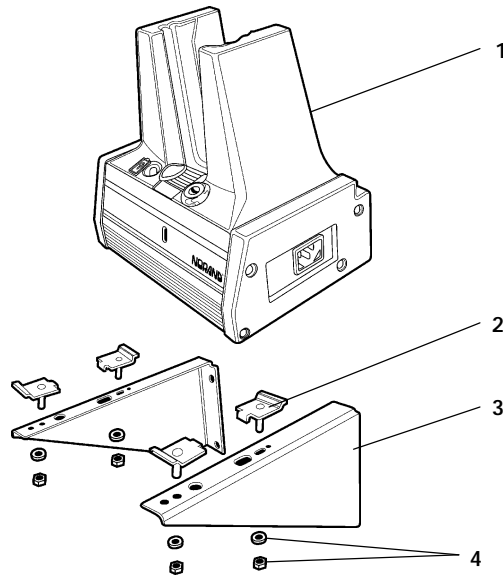
Figure 2-5
Positioning the Mounting Clips

8. Turn the dock right side up.
9. With the dock facing forward, align the mounting clip's studs into the center hole at each mounting location and lower the dock onto the brackets.

" NOTE:

To show the mounting clips and their placement location into the mounting bracket, Figure 2-6 shows them not attached to the underside of the dock. They would normally be attached before placing the dock on the mounting bracket.

10. Install the lock washers and nuts and tighten. Tighten these snugly so as not to strip the threads but enough to keep the dock from loosening.

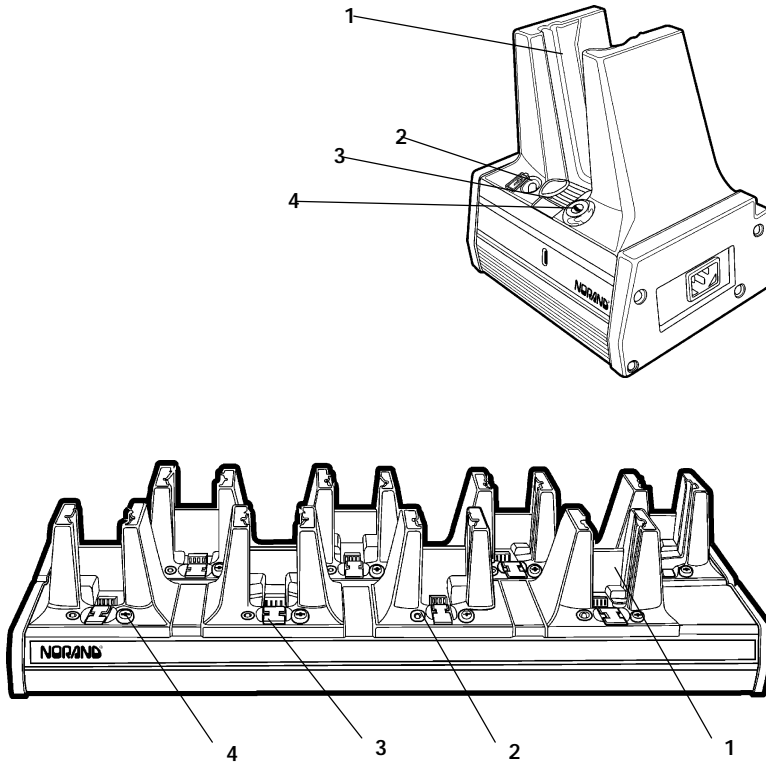


1. Dock
2. Mounting clips
3. Wall brackets
4. Washers and nuts

Figure 2-6
Attaching the Dock to the Mounting Brackets

Using the Single or Multidock

Your single or multidock can accept a hand held computer with or without the optional scanner handle. To review the key components of your dock refer to Figure 2-7.



1. Computer holder
2. Charging indicator
3. Lever to release and secure computer
4. Optional keylock

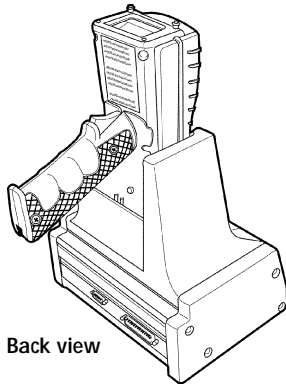
Figure 2-7
Single and Multidock Components

Inserting Your Computer into the Single or Multidock

1. Slide the computer into the computer holder.
 - " Ensure that the computer sets into the holder good enough to engage the release latch to securely hold on your computer.
2. Lock the optional keylock.

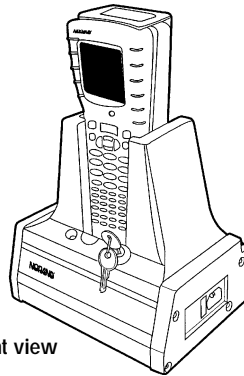
Removing Your Computer from the Single or Multidock

1. Unlock the keylock (if installed).
2. Slide the release latch towards you to release your hand-held computer.
3. Lift up to remove your hand-held computer. from the hand-held computer holder.



Back view

Computer with scanner handle in dock



Front view

Computer without scanner handle in dock

Figure 2-8
Computer With and Without Scanner Handle in Dock

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