symbol®

SC-960SL-III
User's Guide

symbol ®

SC-960SL-III
User's Guide

Contents

Regulations 1

FCC statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the Federal Communications Commission (FCC) rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case users will be required to correct the interference at their own expense.

DOC statement

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus as outlined in the Radio Interference Regulations of the Canadian Department of Communications (DOC).

This Class A digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numerique de Classe A respecte les Standards Canadiens d'emissions et perturbations electromagnetiques.

Safety information 2

Disposing of lithium-ion or nickel-cadmium batteries

Lithium-ion and nickel-cadmium batteries contain chemically active materials that are hazardous to
the environment; therefore, they must be disposed
of properly. Never attempt to incinerate a lithium-ion or nickel-cadmium battery; doing so could cause it to explode. Symbol urges you to contact the Environ-
mental Protection Agency, the Department of Natural Resources, a local hazardous waste disposal agency,
or the Symbol Customer Support Center at 1-800-653-5350 for assistance prior to disposing of your lithiumion or nickel-cadmium batteries.

Scope of the manual 3

This manual provides general information on how
to install, operate, and maintain the SC-960SL-III Single-bay
Communication Cradle. Use this manual as an introduction to
the cradle along with the manual or instructions provided by
your supervisor.

This manual does not provide instructions on how
to perform the tasks specific to your job in your organization.
For that information, refer to the manual or instructions
provided by your supervisor.

Document conventions

The following conventions are used throughout this manual.

Cautions

Cautions indicate potential damage to equipment. They are set
off in the left-hand columns of this manual by the following
symbol: **!**.

Notes

Notes provide supplementary information. They are set off in
the left-hand columns of this manual and are not preceded by a
symbol.

Overview of the SC-960SL-III 4

The SC-960SL-III Single-bay Communication Cradle is an accessory for the PTC-960SL. The cradle works with the PTC in two ways.

First, the cradle acts as a communication link between the PTC and a host computer. It can send data to and receive data from both units. The PTC and the cradle communicate with each other through their communication contacts and with the host computer via a cable or external modem.

Second, the cradle automatically charges a PTC's lithium-ion or nickel-cadmium battery pack when the PTC is inserted into the cradle. The SC-960SL-III requires approximately 4 hours to recharge lithiumion packs or 1.5 hours to recharge nickel-cadmium packs (plus the amount of time the PTC spends communicating with the host computer).

Light-emitting diodes (LEDs) on the cradle's front panel indicate connection, communication, power, and battery charging status.

The SC-960SL-III can be used by itself or can be connected directly to other SC-960SL-IIIs to form a system of up to 32 cradles.

Getting started 5

Unpacking the SC-960SL-III

Any additional accessories are shipped separately.

Each shipping box contains

an SC-960SL-III,

a cradle base,

an 18-volt, 800-mA power pack (if ordered),

an *SC-960SL-III Read-Me-First Sheet*, and

an *SC-960SL-III User's Guide*.

See Appendices B and C for cable part numbers and diagrams.

If you will be connecting the cradle to a host computer or an external modem, you need a properly wired cradle-to-host or cradle-to-modem cable, available separately.

1. Remove the cradle from the box.

2. Remove all packing material from the cradle. Save the packaging in case the cradle is ever stored or shipped to Symbol for service.

3. Check the contents of the package to make sure you have received everything ordered.

If anything is missing or damaged, notify your Symbol sales representative.

4. Check the cradle and accessories for shipping damage.

Parts 6

Figure 1 on page 7 shows and describes the parts of the SC-960SL-III. The part listed below is not shown in the figure.

Power pack

To use the cradle outside of the U.S. or Canada, you need a power pack designed for the country's AC voltage supply (e.g., 220 volts).

The power pack, which provides power to the cradle, plugs into the cradle's power jack and an electrical outlet (110 volts AC in the U.S. or Canada).

The power pack provides 18 volts of direct current (VDC) at 800 milliamperes (mA).

Each cradle, whether installed individually or as part of a system of connected cradles, must have its own power pack.

1. This female 25-pin connector connects via cable to a host computer or external modem. When cradles are connected together, this connector (on all cradles in the system except the one in the left-most position) plugs into the daisychain connector of another SC-960SL-III.

2. This male 25-pin connector plugs into the host connector of another SC-960SL-III to form a system of daisychained cradles. You can connect up to 32 SC-960SL-IIIs in a system.

3. The power pack's cable plugs into this connector to supply power to the cradle. To access the power jack, the cradle must be removed from its base.

4. The base supports the SC-960SL-III when it is used on a flat horizontal surface.

5. These three mounting holes allow the SC-960SL-III to be mounted to a wall. See page 9 for mounting directions.

6. This row of six contacts inside the PTC bay fits against similar contacts on the PTC-960SL. The electronic impulses for all communication between the PTC and a host computer and the power for recharging the PTC's battery pack pass through these contacts. See Appendix C for the pinouts of these contacts.

7. This area of the cradle holds a PTC-960SL. The bay contains the cradle's communication/charging contacts.

8. These light-emitting diodes indicate connection, communication, power, and battery charging status. See Appendix D for an explanation of each LED.

Figure 1. The SC-960SL-III

8. LEDs

6. PTC bay
7. Communication/charging contacts

1. Host connector
2. (Daisychain connector on opposite side)

5. Mounting holes

3. Power jack (on back of cradle)

4. Base
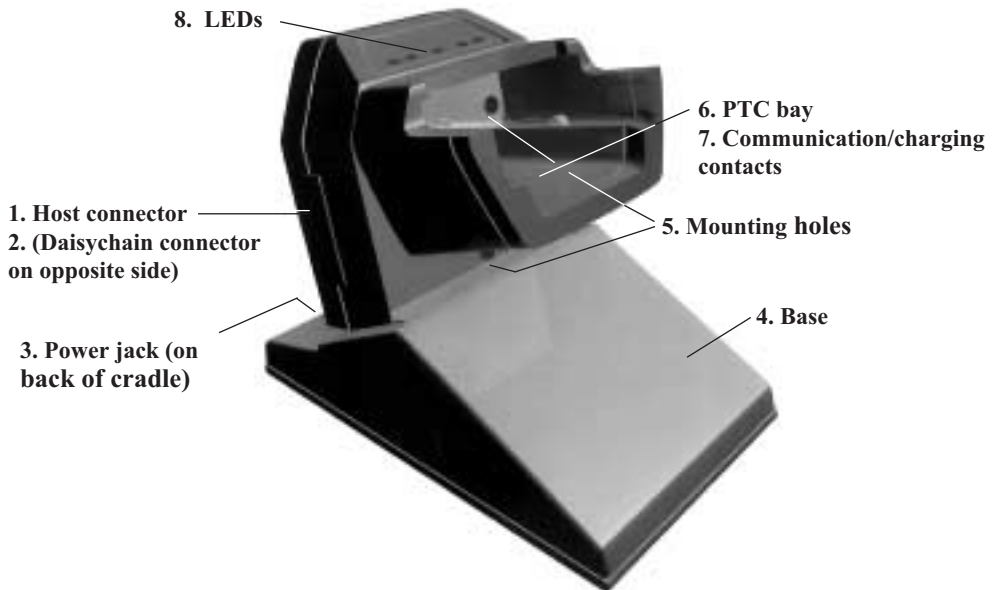
Features **7**

The SC-960SL-III Single-bay Communication Cradle performs the following functions:

Links a PTC-960SL to a host computer

Communicates with the host computer either directly through a cable or remotely over telephone lines via an external modem

Provides standard RS-232 communication with the host computer or external modem

Directly connects to other SC-960SL-IIIs to form a system of cradles with a single communication connection to a host computer or external modem

Provides a communication connection for reprogramming the PTC's internal flash EPROM

Automatically charges the installed PTC's lithium-ion or nickel-cadmium battery pack

Displays the charging status of the PTC's battery pack and the connection and communication status of the PTC

Rests on a horizontal surface or permanently mounts on a wall

Installing a single cradle 8

Positioning the cradle

The SC-960SL-III can be used while resting on a horizontal surface or when mounted to a wall. Follow the instructions in one of the sections below to properly position your cradle.

Placing the cradle on a horizontal surface

Equipment required:

A cradle base

An 18-volt, 800-mA power pack

1. Place the cradle's base on a flat horizontal surface, such as a table or desk.

The power pack must be connected to the cradle before the cradle is inserted into its base.

2. Plug the connector on the power pack's cable into the power jack on the back of the cradle.

3. Hold the cradle vertically, with the LEDs on top and facing you.

4. Thread the power pack's cable into the channel on the back of the cradle and insert the bottom of the cradle into the slot in the base.

Mounting the cradle to a wall

Equipment required:

An 18-volt, 800-mA power pack

A pencil

A power drill and an assortment of drill bits

Three #6-size mounting screws (at least 1.5 inches/3.8 centimeters long)

A screwdriver

Make sure that the cradle is within 6 feet (1.8 meters) of an electrical outlet and that any connecting cable will reach the host computer or external modem.

1. Plug the connector on the power pack's cable into the power jack on the back of the cradle.

2. Determine where you will permanently mount the cradle.

3. Hold the cradle securely to the wall at the desired location.

4. Insert a pencil into one of the cradle's mounting holes and mark its position on the wall. Then repeat this step for the two remaining mounting holes.

5. Move the cradle aside.

   Drill three pilot holes for the mounting screws at the marked hole positions.

6. Hold the cradle to the wall so that the holes you drilled line up with the mounting holes in the cradle.

7. Insert the mounting screws into the cradle's mounting holes. Use a screwdriver to tighten them.

Connecting to a host computer or external modem

Equipment required:

A cradle-to-host or cradle-to-modem cable

An 18-volt, 800-mA power pack

To use the cradle outside of the U.S. or Canada, you need a power pack designed for the country's AC voltage supply (e.g., 220 volts).

An electrical outlet within 6 feet (1.8 meters) providing 110 volts AC in the U.S. or Canada

If the connectors do not connect easily, make sure they are lined up correctly, no pins are bent, and nothing is obstructing either connector.

1. Connect the male connector on the cradle-to-host or cradle-to-modem cable to the host connector on the left side of the SC-960SL-III.

2. Connect the other end of the cable to the host computer or external modem.

Follow the installation instructions provided in the modem operator's guide to make this connection.

3. If you are connecting the SC-960SL-III to an external modem, you must connect the modem to a telephone line.

4. Plug the power pack into the cradle's power jack, if it is not already connected.

5. Plug the power pack into an electrical outlet. The cradle's Power LED glows.

6. Turn on the host computer or modem. The SC-960SL-III's Comm LED glows when a communication session has been established.

Connecting cradles together 9

Cradles that are connected together in a system share the same connection to the host computer or external modem.

A system can be assembled as a single section or as two or more separate sections that are connected together by cradle-to-cradle extension cables. See Appendix B for the cable part number and Appendix C for the cable diagram.

**The maximum number of cradles in a system is 32. These may be in a single section or in two or more sections. The maximum length of any cable in the system–cradle-to-host, cradle-to-modem, or cradle-to-
cradle–is 50 feet (15.2 meters).**

If more than 32 cradles are connected, they must be divided into separate systems, and each system must have its own connection to the host computer or external modem. Figure 2 shows typical cradle configurations.

Equipment required:

> One 18-volt, 800-mA power pack for each cradle
>
> The proper cradle-to-host, cradle-to-modem, and cradle-to-cradle cables, if necessary

> An electrical outlet (providing 110 volts AC in the U.S. or Canada) for each cradle

Make sure your system has no more than 32 cradles and each cable is not longer than 50 feet (15.2 meters).

Cradle-to-host cable

| Host computer | SC-960SL III | SC-960SL III | SC-960SL III | SC-960SL III | SC-960SL III | SC-960SL III |

Cradle-to-host cable

Cradle-to-Cradle cable

| Host computer | SC-960SL III | SC-960SL III | SC-960SL III | | SC-960SL III | SC-960SL III | SC-960SL III |

RJ-11 cable

| TELEPHONE WALL JACK | EXTERNAL MODEM | | SC-960SL III | SC-960SL III | SC-960SL III | SC-960SL III |

Cradle-to-Cradle modem
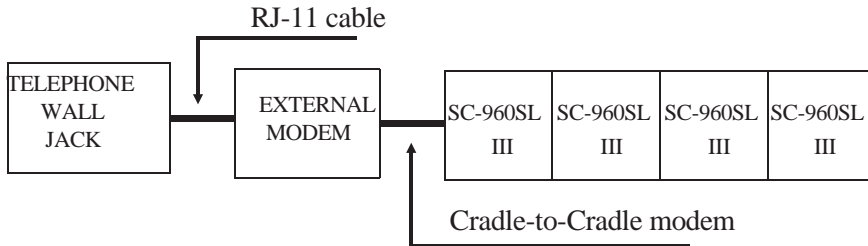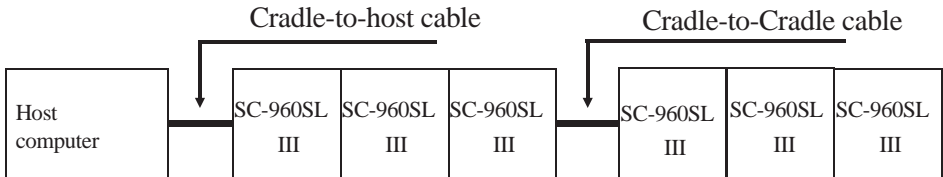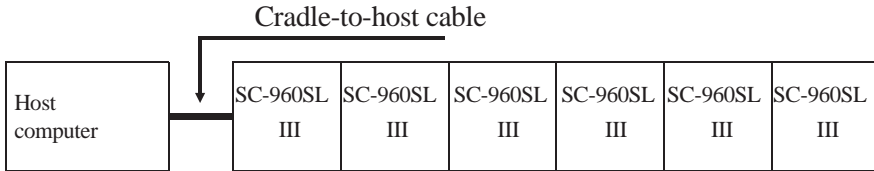
Each cradle must have its own power pack. One pack cannot power all the cradles in the system.

Line up the cradles in a row, in the approximate positions where they are to be installed. Follow the instructions on page 9 to place the cradles on a horizontal surface or to mount them to a wall.

Starting with the two cradles farthest to the left, line up the left-most cradle's daisychain connector with the host connector on the left side of the second cradle.

! Do not force the cradle connectors together if they do not connect easily. Make sure they are properly aligned and no pins are bent.

Gently press the two cradles together so the pins on the left cradle's connector go into the holes on the right cradle's connector.

Repeat Steps 3 and 4 for the remaining cradles in the section and then for any additional sections.

If necessary, use a similar procedure to connect any cables that join sections of cradles.

! Do not force any connectors together if they do not connect easily; you could damage them. Make sure they are lined up correctly, no pins are bent, and nothing is obstructing either connector.

Connect the cradle-to-host or cradle-to-modem cable to the host connector on the left-most cradle in the system and then connect the other end of the cable to the host computer or external modem.

Plug each cradle's power pack into an electrical outlet.

Turn on the host computer or external modem.

Inserting and removing a PTC **10**

Inserting a PTC into the cradle

Your SC-960SL-III has been designed for use with a PTC-960SL. Do not attempt to insert any other PTC into the cradle.

Make sure the cradle's Power LED is glowing. If it is not, check the power pack's connections at the electrical outlet and the cradle.

Figure 3. Inserting a PTC into the cradle

Hold the PTC by its handle and insert the nose
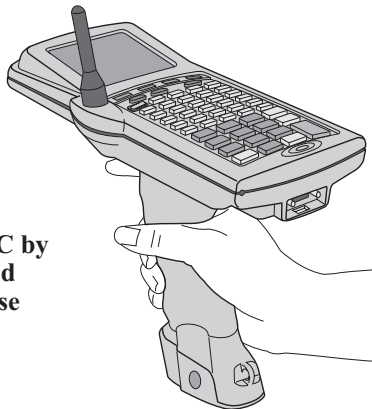
! Do not force a PTC into the cradle if it does not slide in easily. Make sure that the PTC is properly aligned with the cradle's PTC bay and that nothing connected to the PTC is obstructing its entry into the bay.

Hold the PTC by its handle and insert the nose into the cradle's PTC bay until it will go no farther. See Figure 3.

The SC-960SL-III's In Cradle LED glows when the PTC is properly connected to the cradle. The Charging LED also glows to indicate that the PTC's internal battery pack is being charged.

Removing a PTC from the cradle

After the PTC-960SL's internal battery pack is charged, the PTC can be removed from the cradle, provided any communication with the host computer is complete. The cradle's Charged LED glows when the PTC's battery pack has been charged.

Make sure the PTC is off.

Grasp the PTC by its handle and carefully lift it out of the cradle.

Charging battery packs 11

Charging precautions

Follow these guidelines when using the SC-960SL-III to charge PTC-960SL lithium-ion or nickel-cadmium battery packs:

Do not attempt to charge any battery pack that has not been designed for use with a PTC-960SL.

Do not charge battery packs under extremely hot or cold conditions. The recommended charging temperature is 40 to 110 degrees F (4 to 43 degrees C).

! Recharging a cold battery pack can damage it.

Allow any battery pack that has been stored in below-freezing temperatures to warm up to room temperature before recharging.

The charging process

Charging begins automatically when you insert a PTC-960SL into the cradle's PTC bay.

See Appendix D for an interpreta-tion of the cradle's Charging and Charged LEDs.

The cradle charges the PTC's lithium-ion battery pack in approximately 4 hours or the PTC's nickel-cadmium battery pack in 1.5 hours (plus the amount of time the PTC spends communicating with the host). A lithium-ion battery pack will take longer to recharge if recharging is not performed at room temperature.

Once a PTC's battery pack has been charged, the PTC can be removed and re-placed with another PTC. Wait at least 2 seconds af-ter removing a PTC before inserting a new one.

If the PTC is left in the cradle after charging, the SC-960SL-III will maintain the PTC's battery pack at full charge until the PTC is removed.

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Communicating data 12

All communication between a PTC-960SL and the SC-960SL-III takes place through the PTC's and the cradle's communication contacts. The cradle acts as a communication link between the PTC and a host computer or an external modem.

See Appendices B and C for cable information.

To communicate with a host computer or an external modem, the cradle must be directly connected via an RS-232-type serial cable. Instructions for making the appropriate connections are provided in the "Connecting to a host computer or external modem" section on page 10.

Communication is managed automatically by your organization's application program. See the instructions or manual provided by your supervisor for the proper procedure to follow.

Flashing through the cradle 13

Flash EPROMs **are electronic
components inside a PTC
that
store the operating system
and
application program.**

A PTC-960SL's flash EPROM can be reprogrammed through
the SC-960SL-III by a user application after the initial load.
Follow the guidelines listed below and the instructions in the
Guide to the Flash Utilities (TCAL or MS-DOS Version) to
reprogram the PTC's flash EPROM through the cradle.

Flashing guidelines

The initial flashing of the PTC's operating system and
application must be done through a null-
modem cable that is directly connected to the PTC and a
PC.

Make sure the PTC containing the flash EPROM
to be reprogrammed is installed securely in the cradle's
PTC bay.

**For this procedure to work
successfully, the PTC must
have more than two times
as much
RAM as application ROM.**

**The PTC's application ROM (ARC) can be reflashed
only if an application running on the PTC executes
the following procedure:**

1. **The application downloads an application
   image
   into the RAM E-disk file system through the
   cradle.**

2. **The application then makes a PTC kernel
   call to transfer the image from RAM to the
   application ROM (ARC).**

Maintaining the SC-960SL-III 14

Operating conditions

Although the SC-960SL-III is designed to resist dust, dirt, and moisture, it should not be used in excessively dirty or moist conditions. Do not use the cradle in temperatures below 40 degrees F (4 degrees C) or above 110 degrees F (43 degrees C).

Handling the cradle

The SC-960SL-III is well constructed and durable; however, it is a precision electronic device and must be treated as such. Following the procedures in this section will help to ensure you receive reliable service.

Do not attempt to open the cradle. No user-serviceable parts are inside.

Make sure all cables are connected correctly and locked firmly into place and the correct cables are used.

Cleaning the cradle

To clean the SC-960SL-III, slightly moisten a soft, clean, lint-free cloth with a mild, nonabrasive cleaner, such as Windex, and wipe the cradle's outside surfaces.

Do not use a paper towel to clean the cradle.

Do not soak the cloth and do not spray or pour cleaning liquids directly onto the cradle.

If the SC-960SL-III becomes extremely dirty or if liquids, dirt, or other foreign materials get inside the case, contact your Symbol service representative.

Storing the cradle

Do not store the SC-960SL-III in temperatures below –20 degrees F (–29 degrees C) or above 140 degrees F (60 degrees C).

Do not store the SC-960SL-III in a damp or humid environment (over 95% noncondensing).

Pack the cradle in the original packing material or in a padded box and put it in a safe place away from dust, dirt, humidity, and excessive heat or cold.

Servicing the cradle

Do not attempt to service the SC-960SL-III. Only a trained Symbol technician may service the cradle. Follow the procedure set up by your organization to have the cradle serviced properly.

Troubleshooting 15

The cradle fails to communicate with the host computer or external modem

Make sure you are using the correct connecting cables.

Make sure the cables are properly connected.

Make sure the cradle's power pack is connected to the cradle and plugged into a functioning electrical outlet.

Make sure the host computer or external modem has been turned on.

If the cradle still fails to communicate, contact your Symbol service representative.

The PTC fails to communicate through the cradle

Make sure the PTC is on.

Make sure the SC-960SL-III is on. Check the power pack connections at the cradle and the electrical outlet.

Make sure the PTC is properly installed in the cradle.

If the PTC still fails to communicate, contact your Symbol service representative.

The PTC's battery pack takes too long to charge

Make sure the PTC is inserted properly in its bay. The In Cradle LED lights when the PTC is inserted correctly.

Check the temperature of the environment in which the battery pack is being recharged. Lithium-ion batteries take longer to recharge if recharging does not occur at room temperature.

Clean the contacts on the PTC's battery pack using isopropyl alcohol.

Try another PTC to make sure the cradle's charger is working properly.

If the charging time is still too long, contact your Symbol service representative.

The PTC's battery pack fails to recharge

Make sure the PTC is inserted properly in its bay. The In Cradle LED lights when the PTC is inserted correctly.

Replace the PTC's battery pack with another one and try to recharge it.

If the battery pack still fails to recharge, contact your Symbol service representative.

The Power LED does not light

Make sure the cradle's power pack is plugged into an electrical outlet and the connector on the end of the power pack's cable is snug in the cradle's power jack.

Plug the power pack into a different electrical outlet.

If the Power LED still does not light, contact your Symbol service representative.

The cradle's Charging LED does not light when a PTC is in the bay

Move the PTC to a spare SC-960SL-III, if one is available.

If the Charging LED on the spare cradle does not light, the battery pack inside the PTC is faulty and must be replaced.

If the Charging LED on the spare cradle glows, the original cradle may be defective. Contact your Symbol service representative.

Other problems

If you experience any other problems with your SC-960SL-III that you cannot solve, contact Symbol's Customer Support Center for assistance at 1-800-653-5350.

Appendix A

Specifications

Communication

Data communication via 25-pin connectors:	Full duplex, 300 to 38.4 K bits per second (bps)
Maximum system max. size: cable	32 cradles; 50 ft/15.2 m is the length of any single attached

Electrical

Power pack:	18 volts, 800 mA
Battery charging packs) time: battery packs)	4 hours (lithium-ion battery 1.5 hours (nickel-cadmium

Environmental

Operating temperature:	40 to 110 degrees F (4 to 43 degrees C)
Storage temperature:	–20 to 140 degrees F (–29 to 60 degrees C)

Physical

Length:	7.375 in/18.7 cm 11.75 in/29.8 cm (with PTC in
cradle)	
Width:	5 in/12.7 cm

Height:	6 in/15.2 cm
	9.25 in/23.5 cm (with PTC in cradle)
Weight:	14 oz/.4 kg (without base)
	23 oz/.65 kg (with base)
	49 oz/1.4 kg (with base and PTC)
Capacity:	One PTC-960SL

Appendix **B**

Accessory part numbers

Table 1 lists part numbers for ordering SC-960SL-III accessories.

Table 1. Accessory part numbers

Item	Part number
Hardware	
18-volt, 800-mA power pack	09798-000
Spare cradle base	21157-001
PTC-960SL lithium-ion battery pack	23065-001
PTC-960SL nickel-cadmium battery pack	19903-106
Standard communication cables	
Cradle-to-9-pin host cable	P-80910-100
Cradle-to-25-pin host cable	11345-1X0*
Alternate communication cables	
Cradle-to-9-pin host cable	13656-322
Cradle-to-25-pin host cable	10582-001
Other cables	
Cradle-to-modem cable	11346-000
Cradle-to-cradle extension cable	10930-120
Manuals	
PTC-960SL User's Guide	20361-000
Guide to the Flash Utilities (TCAL or MS-DOS Version)	16541-000

***The "X" in the last three digits
of this part number
indicates the cable length
in feet. You may adjust
this number according to
your requirements.**

Refer to Appendix C for

Appendix C

Communication connections

This chapter provides information on the connections used to establish and maintain communication between the SC-960SL-III and other devices.

Pinouts

Table 2 lists the pinouts for the cradle's 25-pin host connector, and Table 3 provides the pinouts for the cradle's communication/charging contacts.

Table 2. Host connector pinouts

Pin	Signal	Description
1	GND	Signal ground
2	TXD	Transmit data
3	RXD	Receive data
4	RTS	Request to send
5	CTS	Clear to send
6	DSR	Data set ready
7	GND	Signal ground
8	CD	Carrier detect
9	TEST5V	5-volt test
10	N.C.	No connection
11	N.C.	No connection
12	DS0	Device select 0
13	DS1	Device select 1
20	DTR	Data terminal ready
22	RI	Ring indicate

Table 3. Communication/charging contact pinouts

Pin	Signal	Description
1	EXTRI	Ring indicate
2	EXTDS0	DS0 enable
3	RXD	Receive data
4	TXD	Transmit data
5	VSNCALC	Signal input to identify battery type
6	NEW_CHARGE	Positive charge source

Cables

This section lists the cables that can be used by the SC-960SL-III and indicates the function of each. Figures 4 through 9 illustrate the cable configurations.

Standard communication cables

When possible, the following communication cables should be used to connect the cradle to a host computer:

> **Cradle-to-9-pin host cable   P-80910-100**
>
> **Cradle-to-25-pin host cable   11345-1X0**

These cables can be used with the Symbol TCOM-204 communication package as well as with custom host communication packages. For custom packages, however, the host software must be developed such that the RI signal on the cradle side is not asserted during periods of inactivity. If the RI signal is always asserted, the PTC in the cradle will never suspend, and the PTC's battery pack will not be recharged by the cradle.

Alternate communication cables

The following communication cables should be used only to maintain compatibility with older Symbol communication packages, specifically PC-TCOS, TCOM-101, and TCOM-201:
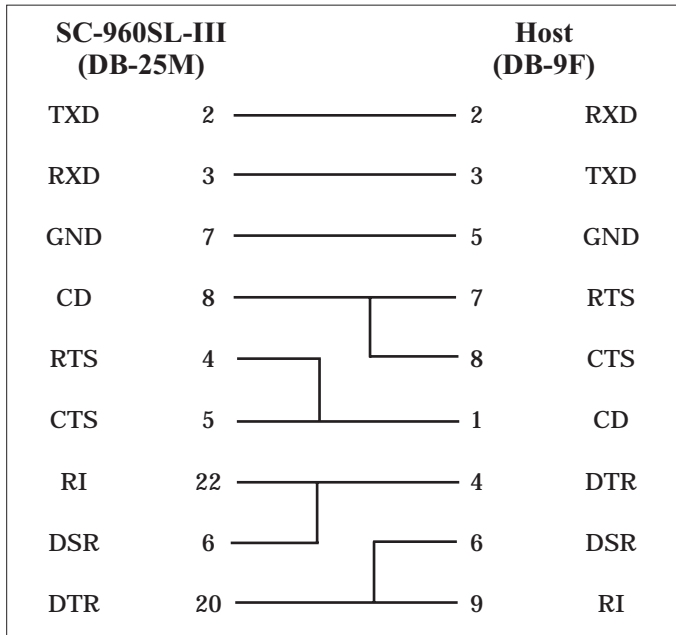
Cradle-to-9-pin host cable   13656-322

Cradle-to-25-pin host cable   10582-001

Other cables

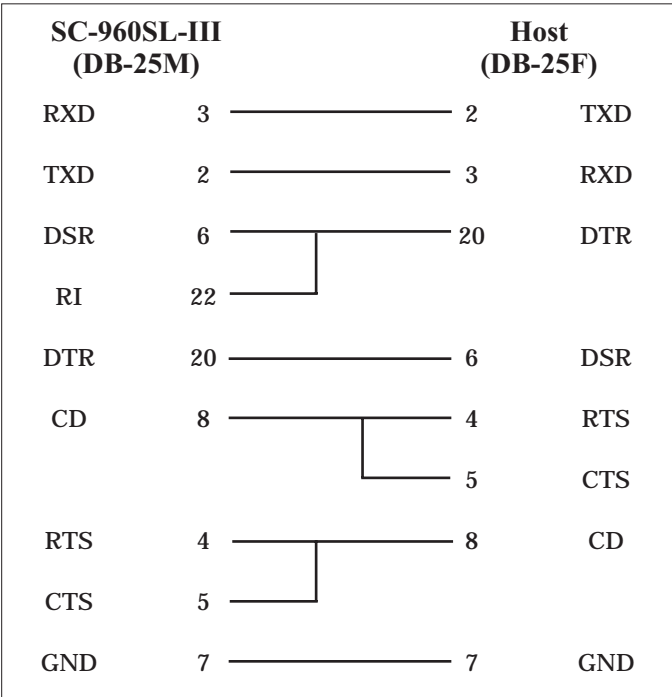The *cradle-to-modem cable* (11346-000) is used to connect the cradle to an external modem.

The *cradle-to-cradle extension cable* (10930-120) is used to increase the distance between daisychained cradles.

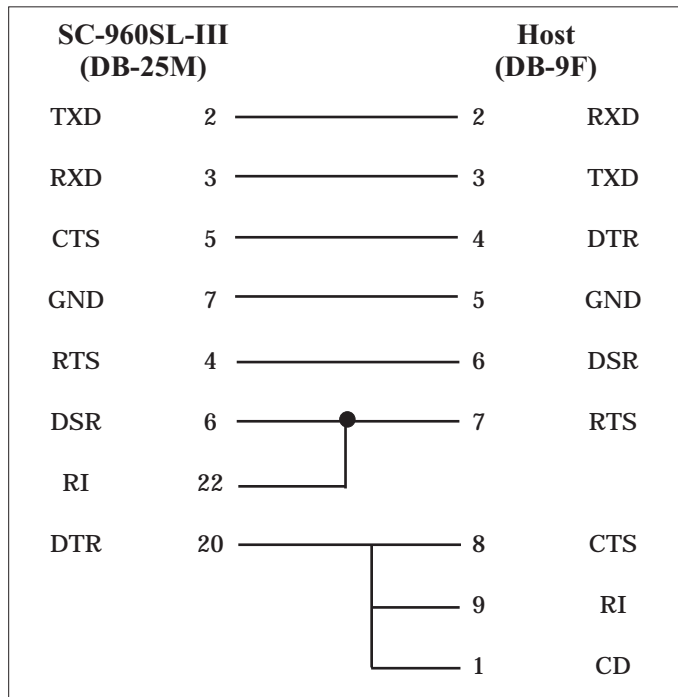## Figure 4. Cradle-to-9-pin host cable (standard), P/N P-80910-100

SC-960SL-III (DB-25M)			Host (DB-9F)
TXD	2 ———————— 2	RXD
RXD	3 ———————— 3	TXD
GND	7 ———————— 5	GND
CD	8 ———— 7	RTS
RTS	4 ———— 8	CTS
CTS	5 ———————— 1	CD
RI	22 ———— 4	DTR
DSR	6 ———— 6	DSR
DTR	20 ———————— 9	RI

Figure 5. Cradle-to-25-pin host cable (standard), P/N 11345-1X0

SC-960SL-III (DB-25M)			Host (DB-25F)
RXD	3 ——————— 2		TXD
TXD	2 ——————— 3		RXD
DSR	6	20	DTR
RI	22		
DTR	20 ——————— 6		DSR
CD	8	4	RTS
		5	CTS
RTS	4	8	CD
CTS	5		
GND	7 ——————— 7		GND

Figure 6. Cradle-to-9-pin host cable (alternate), P/N 13656-322

SC-960SL-III (DB-25M)			Host (DB-9F)
TXD	2 ——————— 2	RXD
RXD	3 ——————— 3	TXD
CTS	5 ——————— 4	DTR
GND	7 ——————— 5	GND
RTS	4 ——————— 6	DSR
DSR	6 ——————●——— 7	RTS
RI	22 ———————		
DTR	20 ———————— 8	CTS
		9	RI
		1	CD

Figure 7. Cradle-to-25-pin host cable (alternate), P/N 10582-001

SC-960SL-III (DB-25M)			Host (DB-25F)
RXD	3 —————— 2		TXD
TXD	2 —————— 3		RXD
RTS	4 —————— 6		DSR
CTS	5 —————— 20		DTR
GND	7 —————— 7		GND
DSR	6 ——●—— 4		RTS
RI	22 ——┘		
DTR	20 ——●— 5		CTS
	●— 8		CD
	└— 22		RI
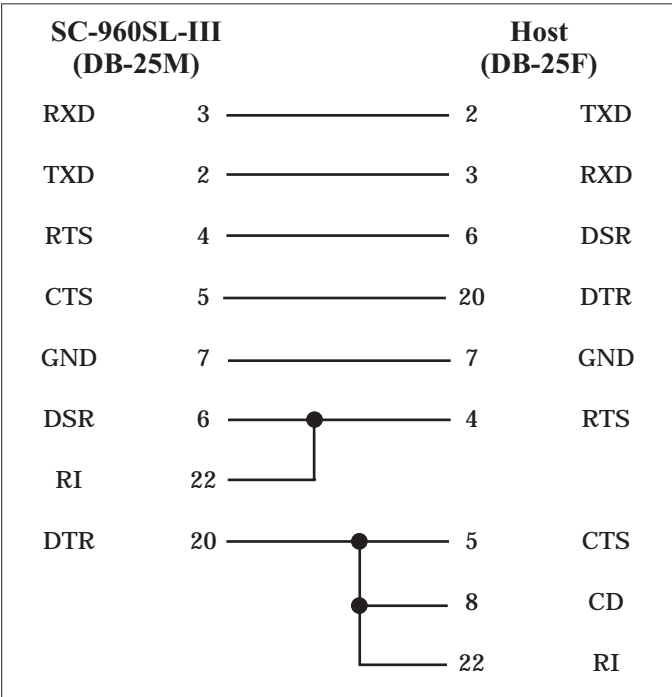
Figure 8. Cradle-to-modem cable, P/N 11346-000

SC-960SL-III (DB-25M)				Modem (DB-25M)
TXD	2	———————	2	RXD
RXD	3	———————	3	TXD
DTR	20	———————	20	DSR
DSR	6	———————	6	DTR
RTS	4	———————	4	CTS
CTS	5	———————	5	RTS
RI	22	———————	22	RI
CD	8	———————	8	CD
GND	7	———————	7	GND

Figure 9. Cradle-to-cradle extension cable, P/N 10930-120

SC-960SL-III A (DB-25M)			SC-960SL-III B (DB-25F)
RI	22 ———————— 22		RI
CD	8 ———————— 8		CD
CTS	5 ———————— 5		CTS
DSR	6 ———————— 6		DSR
RXD	3 ———————— 3		RXD
TXD	2 ———————— 2		TXD
RTS	4 ———————— 4		RTS
DTR	20 ———————— 20		DTR
GND	7 ———————— 7		GND

Appendix D

LED status indicators

Light-emitting diodes (LEDs) on the SC-960SL-III's front panel indicate the status of the cradle and an installed PTC.

Figure 10 shows the SC-960SL-III's LED panel.

Figure 10. LED panel

In Cradle	Comm	Power	Charged	Charging
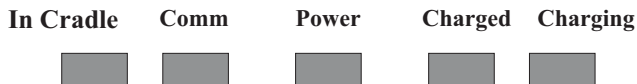
In Cradle LED

This red LED glows when a PTC-960SL is properly installed in the cradle.

Comm LED

This green LED glows when an installed PTC is communicating with a host computer or an external modem.

Power LED

This red LED glows when power is applied to the SC-960SL-III.

Charged LED

This green LED glows when the PTC's battery pack has been fully charged.

Charging LED

This red LED glows when the PTC's battery pack is being charged.

Table 4 helps you to interpret the status LEDs.

Table 4. Status LED interpretation

Status	In Cradle LED	Comm LED	Power LED	Charged LED	Charging LED
SC-960SL-III is receiving power	On or off	On or off	On	On or off	On or off
SC-960SL-III is communicating	On	On	On	On or off	On or off
No battery in the PTC	Off	Off	On	Off	Off
PTC's battery pack is being charged	On	On or off	On	Off	On
PTC's battery pack has been fully charged	On	On or off	On	On	Off

Glossary

application   **A PC, mainframe, or PTC program that is designed to perform a specific task for a user. Examples include route accounting, payroll, price lookup, shipping, and inventory control.**

bit   **The fundamental binary unit, either a 1 (on) or a 0 (off). In ASCII code, seven bits represent one character of data.**

bps   **Bits per second. A rate of electronic data transmission.**

CD   **Carrier detect signal. CD indicates that the modem is receiving a signal from the remote modem.**

CTS   **Clear-to-send signal. CTS indicates that the line between a modem and a terminal device is clear for transmission. CTS usually follows a raised request-to-send (RTS) signal.**

data comm-unication   **The transport of encoded information from one device to another.**

DSR   **Data set ready signal. The modem sends DSR to the attached device to indicate that the modem is connected, on, and ready.**

DTR   **Data terminal ready signal. The signal sent by the terminal device to the modem to indicate that the terminal is ready for transmission.**

flash EPROM	**A type of erasable programmable read-only memory that can be erased and reprogrammed electronically while installed in a PTC.**
GND	**Ground.**
host computer	**A personal computer or mainframe that processes and stores data supplied by PTCs.**
LED	**Light-emitting diode. The LEDs serve as indicator lights on the cradle.**
Lithium-ion battery	**A type of rechargeable battery used to power some PTCs. The advantage of lithium-ion batteries (over nickel-cadmium batteries) is their increased capacity in comparable weight and volume.**
mA	**Milliampere. A measurement of the ability to provide electrical power.**
modem	**Modulator-demodulator. A communication device that converts the serial digital data from a transmitting device to a signal suitable for transmission over a telephone line and then reconverts the signal to serial digital data for the receiving device.**
Nickel-cad-mium battery	**A type of rechargeable battery used to power some PTCs and accessories.**
one-way comm-unication	**The transport of information from one device to another without interruption. In one-way communica-tion, the receiving device cannot respond directly to the sending device.**
PTC	**Portable Tele-Transaction Computer. A battery-powered, programmable, hand-held device used for collecting, storing, and transmitting data.**

RAM	Random access memory. In a PTC, RAM chips store program files and data entered by the operator.
RI	Ring indicate signal. RI alerts a modem to a call waiting on the attached telephone line.
ROM	Read-only memory. In a PTC, ROM chips contain the operating system and the application program.
RS-232	An Electronic Industries Association (EIA) standard that defines the connector, the connector pins, and the signals used to serially transfer data from one device to another.
RTS	Request-to-send signal. RTS initiates the data transmission sequence on a communication line between a modem and a terminal device.
RXD	Receive data. RXD is the data that is being received.
SC-960SL-III Single-bay Comm-unication Cradle	A device manufactured by Symbol Corporation that charges a PTC-960SL's lithium-ion or nickel-cadmium battery pack and allows the PTC to communicate with a host computer.
signals	Electronic impulses that transmit data from one device to another.
two-way comm-unication	The exchange of information between two devices. After each block of data, the receiving device sends a positive or negative acknowledgment to the sending device.
TXD	Transmit data signal. TXD is the data that is being transmitted.
VAC	Volts alternating current. A unit of measure of electric potential or potential difference in a bidirectional electrical current.

VDC   **Volts direct current. A unit of measure of electric potential or potential difference in a unidirectional electrical current.**

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