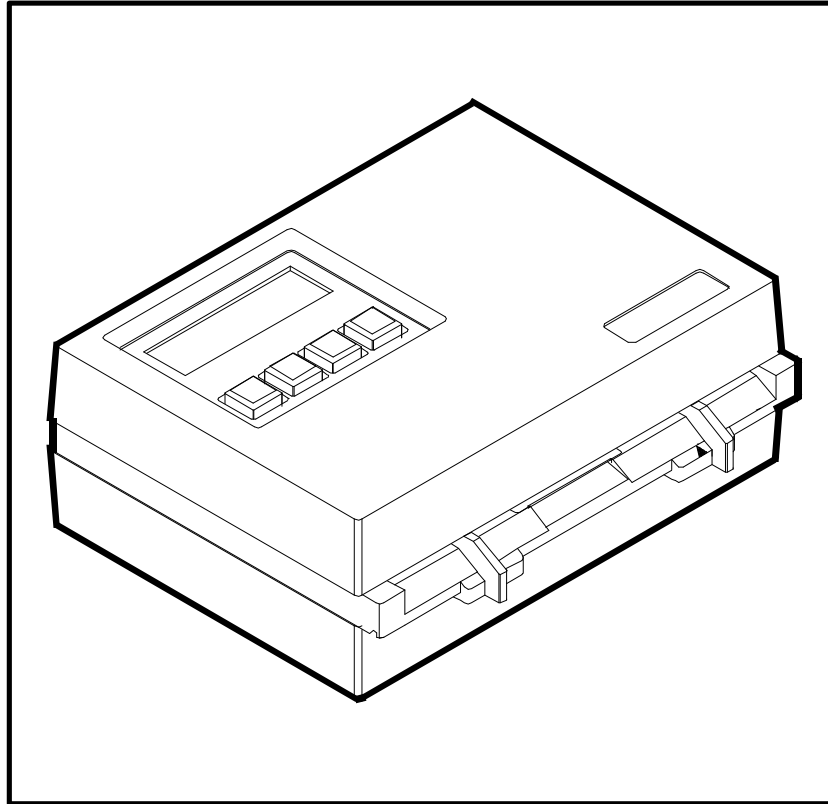


881/882

Automatic Strip Reader Densitometers



Networking
Installation/Operation
Manual

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4,591,978 5,062,714 5,118,183

Other patents pending. Foreign patent numbers provided on request.

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INTRODUCTION

Table of Contents

This manual is organized into four sections and two appendices. In order to make the best use of your instrument, it is recommended that you read all sections and appendices.

SECTION ONE - Getting Started

General Description _____	1-1
Modem and Interface Cable Installation _____	1-2
Single Cable Installation _____	1-2
Y Cable Installation _____	1-3

SECTION TWO - Network Configuration

Network Mode Selection _____	2-1
Accessing Network Configuration Menu _____	2-2
Phone Options _____	2-3
Setting Phone Number (ph#) _____	2-3
Setting Answer and Ring Number (ring) _____	2-4
Setting Fail Retries Number (ret) _____	2-4
Prefix Number _____	2-5
Considerations When Using High Speed Modems (modems over 2400 baud) _____	2-6
Setting Prefix Number _____	2-6
Setting Lab Identification Number _____	2-7
Auto Answer Mode _____	2-8
Setting NET Switch _____	2-9
Locking the Configuration Function _____	2-10

SECTION THREE - Network Operation

Sending Data _____	3-1
Receiving Data _____	3-2
Receiving Notes _____	3-3

SECTION FOUR - Log Buffer Operation

Configuring the Log Buffer _____ 4-1

Viewing Messages _____ 4-2

Manually Receiving Data _____ 4-3

APPENDIX A - Network Error Messages

APPENDIX B - Modem Cable and DB Adapter Diagrams

Getting Started

This section provides a general description of the networking features and modem interface procedures.

Section One Contents

- General Description
- Modem and Interface Cable Installation

GENERAL DESCRIPTION

The QCNetII Network provides the link between X-Rite 881/882 densitometers and QC computers—providing a new dimension to Quality Control, especially for multi-outlet photofinishing labs.

QCNetII (Quality Control Network) is an advanced protocol that is used between the 881/882 and specific photofinishing manufacturers that have designed QCNetII into their QC systems.

With a modem, the 881/882 will communicate with a remote QC computer system where comprehensive tracking and diagnostic evaluation occurs. If desired, the QCNetII protocol can allow remedial instructions or data to be transmitted back to the densitometer where it's printed out in text form on the display or available printer.

QCNetII data is transferred in block format with error detection techniques and valid transfer acknowledgment. QCNetII data transfer can be initiated manually or automatically.

The 881/882 has several internal modem setup features such as: automatic dialing of QC computer's phone number; Lab ID number program; etc.

This network protocol is also designed to operate with the Kodak Color Watch Dial-in System.

For information on QCNetII protocol, order QCNetII Network Protocol Manual from X-Rite (P/N 881-502).

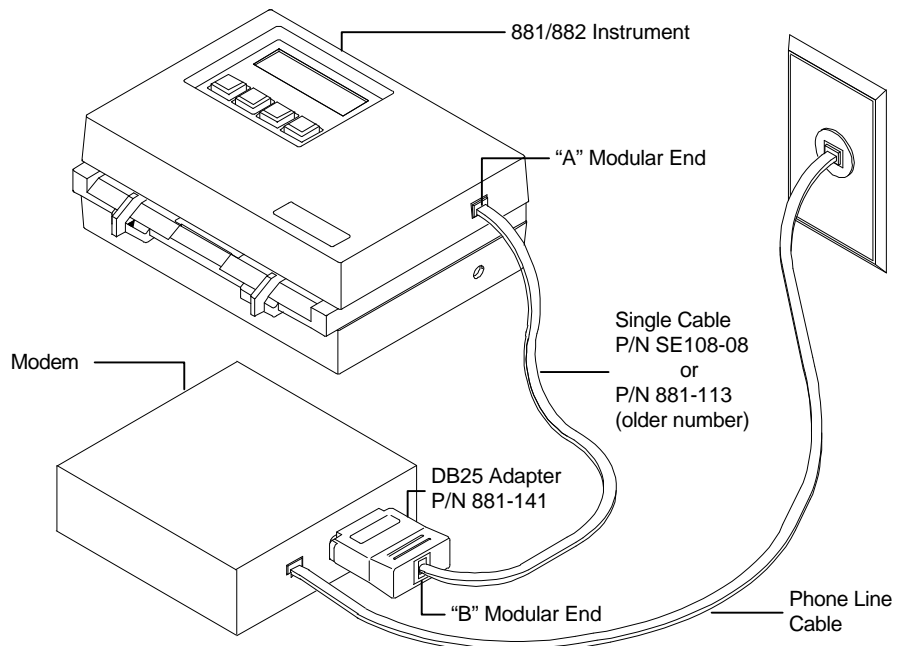
MODEM AND INTERFACE CABLE INSTALLATION

The 881/882 has two interface possibilities, "Single" and "Y" cable interface. You should decide which cable installation you required. The single cable installation will interface the 881/882 to the modem and the wall phone jack. The "Y" cable installation will allow the 881/882 to be interfaced to the modem and to a printer, computer, etc.

CAUTION: DO NOT POWER DENSITOMETER UNTIL ALL CONNECTIONS ARE VERIFIED. Due to the variety of modems available, these installation procedures will only shown the basic steps required. Refer to your modem's operation manual for additional connection and operational information.

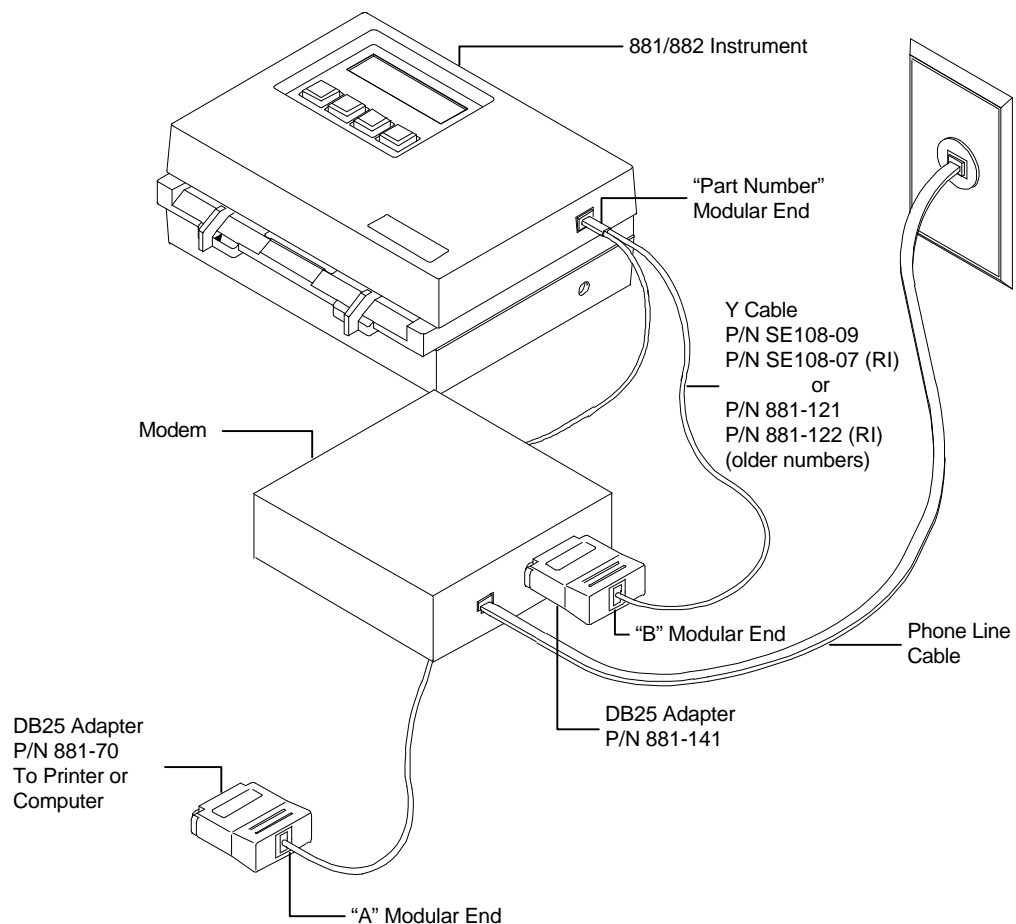
Single Cable Installation

1. Insert the modular end of the Single cable labeled "A" into the I/O port on the 881/882. Modular connectors will only insert in one direction (contact side up), *Do Not Force*.
2. Insert the opposite end of the Single cable labeled "B" into the DB25 Adapter P/N 881-141.
3. Attach the DB25 adapter to the "RS-232" I/O port on the modem.
4. Insert a modular telephone cable into the output port of the modem.
5. Insert the other end of the telephone cable into a modular phone jack.
6. Refer to your modem's operation manual for further information, if required.
7. Refer to Section Two for network configuration.



Y Cable Installation

1. Insert the modular end of the Y cable labeled with the “Part Number” into the I/O port on the 881/882. Modular connectors will only insert in one direction (contact side up), *Do Not Force*.
2. Insert the modular end of the Y cable labeled “B” into the DB25 Adapter P/N 881-141.
3. Attach the DB25 adapter to the “RS-232” I/O port on the modem.
4. Insert a modular telephone cable into the output port of the modem.
5. Insert the other end of the telephone cable into a modular phone jack.
6. Refer to your modem’s operation manual for further information, if required.
7. Insert the modular end of the Y cable labeled “A” into the DB25 Adapter P/N 881-70.
8. Attach the DB25 adapter to the “RS-232” I/O port on the printer or computer.
9. Refer to Section Two for network configuration.



SECTION ONE

Network Configuration

The 881/882 is capable of automatically initiating, sending and receiving a phone call from a remote host computer. In order to operate properly, various parameters must be configured in the 881/882 instrument. Please take time to read through this section to determine what must be configured on your 881/882 for proper operation.

Section Two Contents

- Network Mode Selection
- Accessing Network Configuration Menu
- Phone Options
- Prefix Number
- Setting Lab Number
- Auto Answer Mode
- Setting NET Switch
- Locking the Configuration Function

NETWORK MODE SELECTION

There are three basic modes of operation that can be performed with the instrument when networking. The mode that you choose will depend on your specific requirements.

Automatic Phone Call Initiation Only

If your network expects the densitometer to call out to the host computer, you will need to set the phone number, lab identification number, and possibly, the prefix number. In addition, the “Net” switch in the densitometer configuration menu must be set to “OUT” (See Setting NET Switch).

Automatic Phone Answering Only

If your network expects the densitometer to answer a phone call from the host computer, then you will need to configure your modem (See Auto Answer Mode), set the lab identification number and possibly, the prefix number. It would also be a good idea to set the phone number in case you need to do a manual send. In addition the “Net” switch in the densitometer configuration menu must be set to “IN” (See Setting Net Switch).

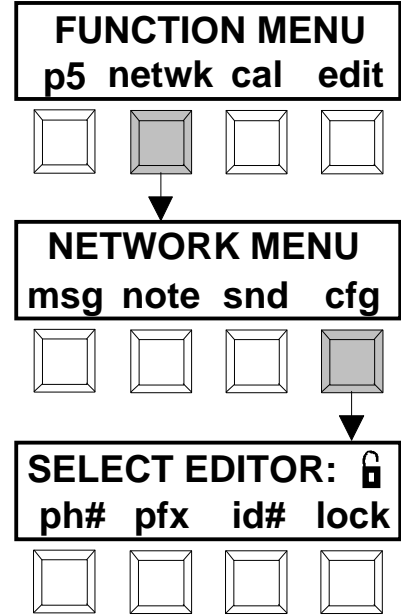
Automatic Phone Call Initiation and Answering

To allow the 881/882 to automatically call out and auto answer, you will need to perform all setup options listed in this section.

ACCESSING THE NETWORK CONFIGURATION MENU

This procedure shows you how to access the Network Menu on your instrument where the phone number, prefix number, etc. are configured. Individual configuration procedure will start with the Select Editor menu.

1. At the Main Menu level, repeatedly press **[p#]** until “Function Menu p5” is displayed.
2. Press **[cfg]** to enter Select Editor menu.
3. Refer to the following pages to configure individual functions.



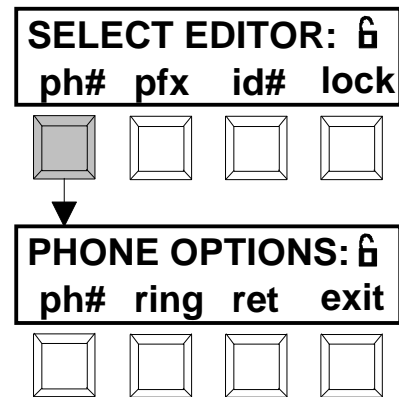
PHONE OPTIONS

The phone screen is used to access the phone number setup (ph#), answer on ring (ring), and fail retries (ret) options. The “phone number” screen is used to enter the number that the instrument will dial when it is time to send data to the QC computer. The telephone number can contain a maximum of twenty digits. The parameters used when entering a number are the normal requirements used—with the exception of a dialing command.

The “answer on ring” screen is used to enter the ring number that the instrument will connect on. The default setting for ring number is “1.”

The “fail retries” screen is used to enter the number of times the instrument will attempt to call after a failed network session—such as host line busy.

- At the **SELECT EDITOR** screen, press [ph#] to access **PHONE OPTIONS** screen.



Setting Phone Number (ph#)

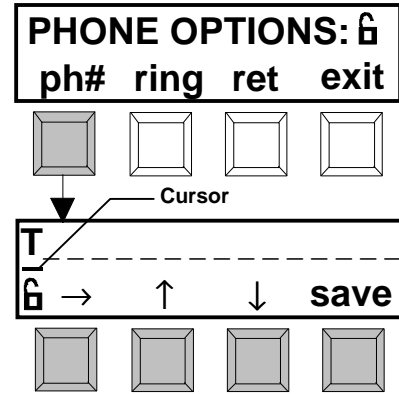
The following dialing commands are the standard commands most users will require. Additional commands not listed (R, !, /, etc.) are available for specific requirements. Consult your modem’s user manual for a description of these special commands.

Command Description

- P** <Pulse> Dials with pulse.
- T** <Tone> Dials with touch-tone (default setting).
- W** <Wait> Causes the modem to wait up to “5” seconds for a second dial tone.
- ,** <Pause> Causes the modem to wait for “2” seconds to allow a second to allow a second dial tone to occur.
- 0-9 * #** Used as dial digits.
- () space** Are used for clarification, but are ignored.

NOTE: Since the screen only displays “16” characters at a time, the number will scroll to the left when the cursor is moved beyond the 16th character. Any characters that have scrolled off the screen will reappear when the cursor is returned to position one.

1. At the **PHONE OPTIONS** screen, press **[ph#]** to access phone number editor screen.
2. Use the **[→]** key move the cursor to the desired position, and the **[↑]** key and **[↓]** key to page through the list of available characters.
3. After number is set, press **[save]** to store phone number and return to the Phone Options screen.

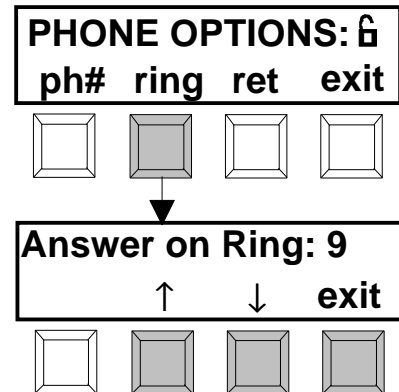


Setting Answer on Ring Number (ring)

The answer on ring number can be set from “1” to “9” (default setting is “1”). The “Net” setting in the configurations menu must be set to either “T” (input) or “I&O” (input and output). See Setting Net Switch.

NOTE: When using a “Y” cable, part number SE108-07 must be used. This cable routes the “ring indicator” line from the modem (connector “B”) to pin 5 of the instrument. The single cable (SE108-08) already includes this line.

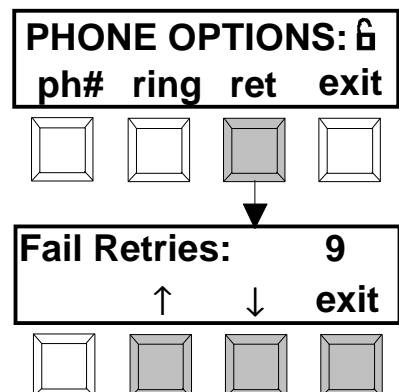
1. At the **PHONE OPTIONS** screen, press **[ring]** to access Answer on Ring editor screen.
2. Use the **[↑]** key and **[↓]** key to page through the available numbers.
3. After number is set, press **[exit]** to store number and return to the Phone Options screen.



Setting Fail Retries Number (ret)

The fail retries number can be set from “0” to “9” (default setting is “9”).

1. At the **PHONE OPTIONS** screen, press **[ret]** to access Fail Retries editor screen.
2. Use the **[↑]** key and **[↓]** key to page through the available numbers.
3. After number is set, press **[exit]** to store number and return to the Phone Options screen.



PREFIX NUMBER

The prefix number is used to set the parameters of the modem. The default prefix is “S0=0.”

The following commands are the standard commands most users will require. Additional commands not listed are available for specific requirements. Consult your modem’s user manual for a description of these special commands.

If a modem over 2400 baud it to be used, refer Modem Consideration after Prefix Command Descriptions.

Command	Description																																													
B (Bell)	B1 = Bell 103 & 212A (USA) and B0 = CCITT (European)																																													
L (Modem Speaker Volume)	L1 = Low speaker volume, L2 = Medium speaker volume, and L3 = High speaker volume.																																													
M (Monitoring Speaker)	M0 = Speaker off all the time. M1 = Listen to speaker for dial tone, busy, etc., and turns off as soon as the carrier signal is recognized. M2 = Speaker on for complete call.																																													
S (Register Value)	The “S” command is used to change the value of a register. The “=” command puts new values into the selected register. Ex. S6=3 (causes a 3 sec. dial tone wait).																																													
	<table border="0" style="width: 100%;"> <thead> <tr> <th style="text-align: left;">REG</th> <th style="text-align: left;">RANGE</th> <th style="text-align: left;">UNITS</th> <th style="text-align: left;">DEFAULT</th> <th style="text-align: left;">DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>S0</td> <td>0..255</td> <td>rings</td> <td>0</td> <td>rings to answer</td> </tr> <tr> <td>S6</td> <td>0..127</td> <td>sec.</td> <td>2</td> <td>dial tone wait</td> </tr> <tr> <td>S7</td> <td>1..255</td> <td>sec.</td> <td>30</td> <td>carrier wait</td> </tr> <tr> <td>S8</td> <td>0..255</td> <td>sec.</td> <td>2</td> <td>comma pause</td> </tr> <tr> <td>S9</td> <td>1..255</td> <td>.1sec.</td> <td>6</td> <td>carrier delay</td> </tr> <tr> <td>S10</td> <td>1..255</td> <td>.1sec.</td> <td>7</td> <td>hang-up delay</td> </tr> <tr> <td>S11</td> <td>50..255</td> <td>.001s.</td> <td>70</td> <td>touch tone duration</td> </tr> <tr> <td>S12</td> <td>20..255</td> <td>.02s.</td> <td>50</td> <td>esc code time</td> </tr> </tbody> </table>	REG	RANGE	UNITS	DEFAULT	DESCRIPTION	S0	0..255	rings	0	rings to answer	S6	0..127	sec.	2	dial tone wait	S7	1..255	sec.	30	carrier wait	S8	0..255	sec.	2	comma pause	S9	1..255	.1sec.	6	carrier delay	S10	1..255	.1sec.	7	hang-up delay	S11	50..255	.001s.	70	touch tone duration	S12	20..255	.02s.	50	esc code time
REG	RANGE	UNITS	DEFAULT	DESCRIPTION																																										
S0	0..255	rings	0	rings to answer																																										
S6	0..127	sec.	2	dial tone wait																																										
S7	1..255	sec.	30	carrier wait																																										
S8	0..255	sec.	2	comma pause																																										
S9	1..255	.1sec.	6	carrier delay																																										
S10	1..255	.1sec.	7	hang-up delay																																										
S11	50..255	.001s.	70	touch tone duration																																										
S12	20..255	.02s.	50	esc code time																																										
W (Wait)	Causes the modem to wait up to 5 seconds between commands.																																													
X (Selects Result Code Set)																																														

NOTE: When a call is initiated, the instrument sets the modem to “X1” or “X3”. It is a good idea to avoid using “X0” in the prefix because the instrument expects extended result codes. Failure to receive extended result codes will cause the session to fail.

X0 = the basic result code set. The modem blind dials, waiting S6 seconds before dialing a number. The result code for both 300bps and 1200bps connection is 'CONNECT.'

X1 = the extended result code set. The modem blind dials, waiting S6 second before dialing a number. The result code for a 300bps connection is 'CONNECT', while 1200bps result code is 'CONNECT 1200.'

X2 = a extended result code set just like X1, except that the modem looks for a dial tone before dialing.

X3 = the extended result code set just like X1, except that the modem looks for a busy signal after dialing.

X4 = both X2 and X3 functions.

Considerations When Using High Speed Modems (modems over 2400 baud).

The prefix default of “S0=0” is fine for 2400 baud modems and slower. However, additional modem commands may be required if you are having difficulty “connecting” with a faster modem.

These commands are necessary because the cabling of the instrument does not support “hardware handshaking” which is found in newer error-correcting / data compressing modems.

You must determine the correct modem string to perform the operations from your modem manufacturer's manual. Listed below are four examples of modem commands:

	US-Robotics 14400 Sportster	Hayes Compatible	Rockwell Compatible	Microcom/ Motorola
1) disable error correction	&M0	&Q0	\N0	\N0
2) disable MNP data compression	&K0	S46=0	%C0	%C0
3) enable variable serial port rate	&B0	&Q0	&Q0	\J1
4) disable modem flow control	&H0&R1	&K0	&K0	\G0
5) disable serial port flow control	&I0	&K0	&K0	\Q0
6) force baud to 2400	&N3	F5	F5	%B3

NOTES:

Items 1 and 2 are for high speed modems only (1200 baud or greater)

Items 3, 4, and 5 are included in the US Robotics “&F0” factory preset.

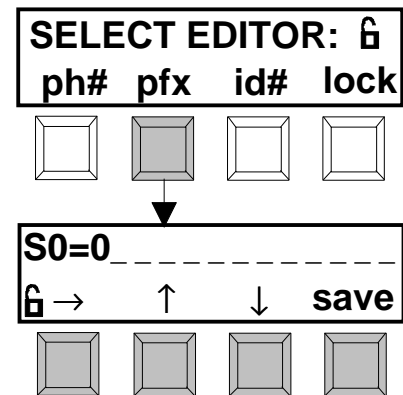
Use S0=0 in the prefix, the “rings” till answer menu option will override this anyway.

Use item 6 if all else fails.

Setting Prefix Number

NOTE: Since the screen only displays “16” characters at a time, the characters will scroll to the left when the cursor is moved beyond the 16th character. Any characters that have scrolled off the screen will reappear when the cursor is returned to position one.

1. At the **SELECT EDITOR** screen, press [**px**] to access prefix editor screen.
2. Use the [**→**] key move the cursor to the desired position, and the [**↑**] key and [**↓**] key to page through the list of available characters.
3. After prefix is set, press [**save**] to store prefix and return to the Network Menu screen.

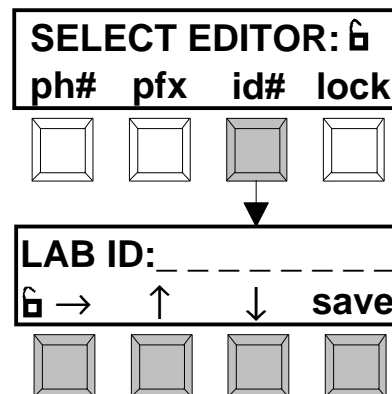


NOTE: Use the “¥” character in place of the “\” if your modem requires a “backslash” character.

SETTING LAB IDENTIFICATION NUMBER

The Lab ID number is used to identify your particular lab when transferring data. The Lab ID can be up to 8 characters long and consist of both letter and numbers.

1. At the **SELECT EDITOR** screen, press **[id#]** to access lab ID screen.
2. Use the **[→]** key move the cursor to the desired position, and the **[↑]** key and **[↓]** key to page through the list of available characters.
3. After lab ID is set, press **[save]** to store lab ID and return to the Network Menu screen.



AUTO ANSWER MODE

NOTE: Make sure the “Net Switch” option in configuration is set to either “I” or “I+O” (see next page).

In order for the Auto Answer mode to work properly your modem must be set up properly. Many modems have a set of configuration switches (also called DIP switches) located on the rear or behind the front panel of the modem. These switches must be set so that the modem:

- (1) is using smart modem (enables Hayes compatible commands)
- (2) sends result codes (some modems allow you to disable result codes)
- (3) auto answer is *disabled* (turned off).

Many modems will have some or all of the above switches.

Any additional switches may be in either position, however, check your modem manual for a description of each switch and try to determine which switch settings will work best for your application.

The instrument monitors the ring indicator (RI) line (pin 22) coming from your modem. Each time your phone rings, the RI line will go active. The instrument will then send the “ATA” command to the modem to cause it to answer the phone.

If the message “Check Modem Hardware” is displayed when performing the above steps, check your cables between the instrument and the modem and also check the configuration of the modem.

Special Note for 881/882 users with Printers and Modems

When using a printer and a modem, you need a “Y” cable that *does not* have the Ring Indicator (RI) line going to the modem. The printer requires this line during graphics printing. This configuration *will not* allow the 881/882 to answer incoming phone calls without the RI line going to the modem.

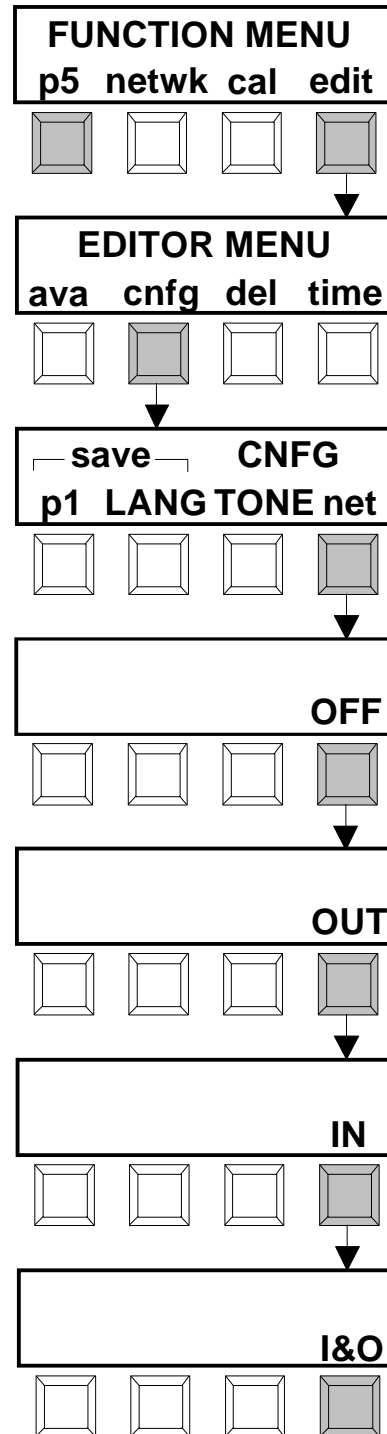
- **Choose a “Y” cable with RI (part number SE108-07-01 or 881-122) if you want your modem to answer incoming calls, and don’t care about printing graphs to the printer.**
- **Choose a “Y” cable without RI (part number SE108-09-01 or 881-121) if you want to print graphs with your printer and don’t want your modem to answer incoming calls.**

SETTING THE NET SWITCH

The Net switch determines which of the automatic data transfer modes (if any) is enabled. It has four possible settings: (1) OFF (no automatic modes enabled), (2) IN (Automatic answer), (3) OUT (automatic phone call initiation), and (4) I & O (automatic answer AND automatic phone call initiation). The 881 is shipped from the factory with this switch set to “OUT.”

1. Decide which automatic mode you will be using.
2. At Channel Menu level, continually press **[p#]** until “p5” is displayed, then press **[edit]**.
3. Press **[cnfg]** to activate configuration program.
4. Press **[net]** to view and change the setting of the net switch.

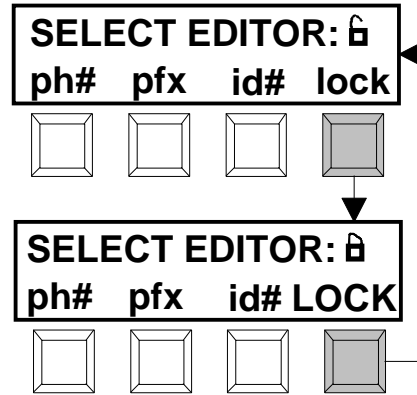
NOTE: When net is set to IN or I&O, then the PIN5 switch (on page 2a) will always display RI to indicate that pin 5 is now being used as a RING INDICATOR input (required for the auto-answer mode).



LOCKING THE CONFIGURATION FUNCTION

The configuration function can be locked to prevent inadvertent or unauthorized changes. When the configuration function is locked, you will be able to view but not change the phone number, prefix, and lab ID.

1. Insert a piece of paper into the paper slot far enough to activate the read switch (approx. 1-1/4" or more). Heavy paper or film works best.
2. Each depression of **[lock]** will alternate between "lock" (options changeable) or "LOCK" (options not changeable). A padlock icon will display closed when the options are locked.
3. When finished with this function, remove the piece of paper.



Network Operation

The system has three basic operation functions: sending data (snd), receiving message (msg), and receiving notes (note). Refer to the following pages for a description of each function.

Section Three Contents

- Sending Data
- Receiving Data
- Receiving Notes

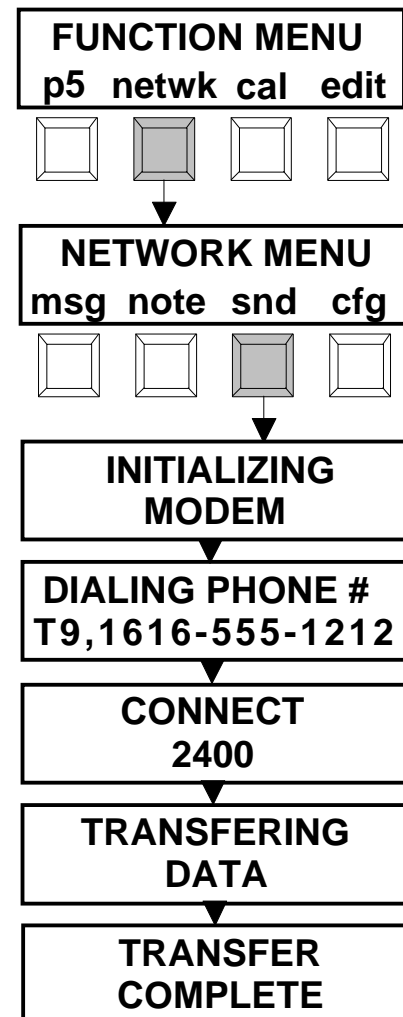
SENDING DATA

The send function is used to manually send data that has been preselected by the host QC computer.

When a session is automatically initiated and transmitted by the 881/882, “STARTING NETWORK SESSION” will display.

1. At Channel Menu level, repeatedly press **[p#]** until “p5” is displayed, then press **[netwk]**.
2. Press **[snd]** to send data.
 - The unit dials the number, initializes the modem, and transfers the data.
3. After data is transmitted, press the keys labeled “MENU” to exit out of network program.

NOTE: If any error message is displayed during data transmission, refer to Error Message Section, Appendix A for possible cause.

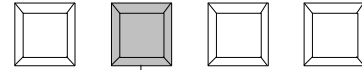


RECEIVING DATA

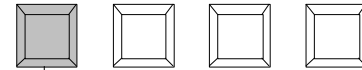
Once the 881/882 has established a link to the QC computer, it can receive messages (via the modem) of up to 120 characters. The messages received from the QC computer are stored in an area of memory called the log buffer. These messages can be displayed or printed.

1. At Channel Menu level, repeatedly press **[p#]** until "p5" is displayed, then press **[netwk]**.
2. Press **[msg]** to activate message menu.
3. Press **[all]** to view all stored messages. The first message to appear will be the oldest.
4. Press **[new]** to view only the messages which were stored since the last time messages were viewed.
 - The densitometer now displays the view menu. The date and time that the current message was received by the densitometer is displayed along with the first four characters of the actual message.
5. Press **[view]** to view the rest of the message. The message scrolls along the top line of the display and can be paused by holding a key down. Once the message is complete, the display will return to the time and date.
6. Press **[prt]** to send the message to a printer. "PRT" will be displayed in capital letters while the message is being sent (the time and date do not get printed with the message).
7. Press **[nxt]** to view the next (newer) message. If there are no more messages, the statement "NO NEW MESSAGES" will appear. At this time, pressing **[nxt]** will display the oldest message in memory to allow you to review old messages.
8. Press **[exit]** to go back to the network menu.

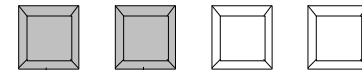
FUNCTION MENU
p5 netwk cal edit



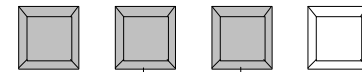
NETWORK MENU
msg note snd cfg



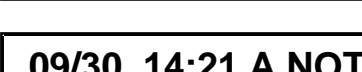
VIEW MESSAGE:
all new exit



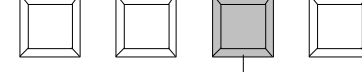
09/30 12:36 THIS
prt view nxt exit



:36 THIS IS A MES
prt view nxt exit



09/30 14:21 A NOT
prt view nxt exit

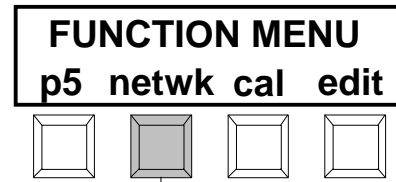


NO NEW MESSAGES
nxt exit

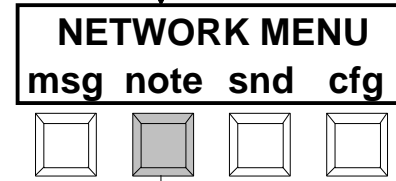
RECEIVING NOTES

With the 881/882 QC computer link established, a two line note of up to 32 character can be received and displayed.

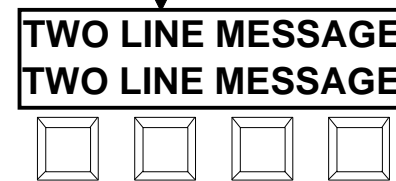
1. At Channel Menu level, repeatedly press **[p#]** until “p5” is displayed, then press **[netwk]**.



2. Press **[note]**.



- A 32 character message will display if information is available.



3. Press any key to return to network menu.

SECTION THREE

Log Buffer Operation

The log buffer is an area of memory within the 881/882 where messages are stored. Messages can be sent by the QC computer to be read on the 881/882 display. Messages can also be entered by a piece of lab equipment (connected to the 881/882) to be sent to the QC computer. Because actual applications of the log buffer can vary widely, this manual will not go into a detailed description of the log buffer. Instead, descriptions of individual applications are left to the manufacturers of systems which utilize the log buffer. What follows is a description of the menus and keys in setting up and using the log buffer.

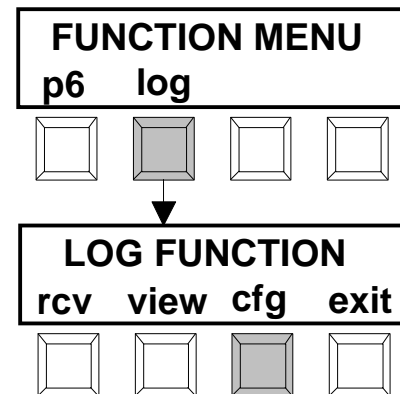
Section Four Contents

- Configuring the Log Buffer
- Viewing Messages
- Manually Receiving Data

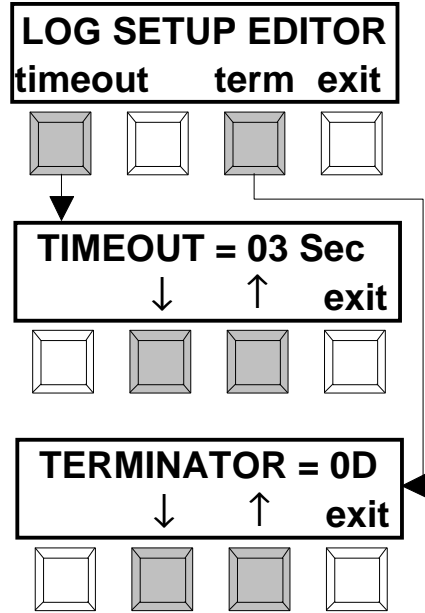
CONFIGURING THE LOG BUFFER

IMPORTANT NOTE: Log buffer functions appear on page 6 of the main menu. This page will not appear if the NET switch is turned off in the configuration. Refer to your 881/882 operation manual for procedure.

1. At Channel Menu level, repeatedly press **[p#]** until "p6" is displayed, then press **[log]**.
2. Press **[cfg]** to enter the log setup editor menu.



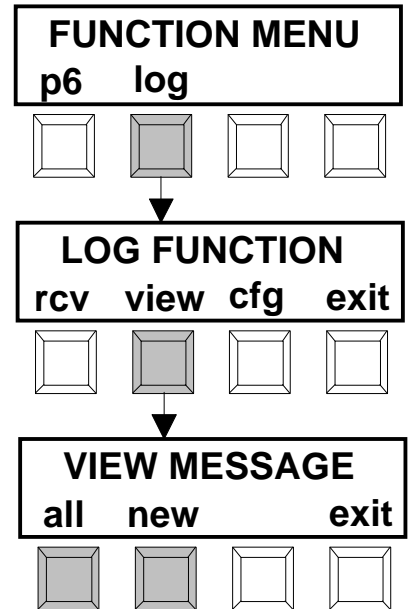
3. Set the time-out value.
 - Press **[timeout]**.
 - Press **[↑]** to increase value or **[↓]** to decrease value. The value can be set from 1 to 60 seconds, or off.
 - Press **[exit]** to return to editor menu.
4. Set the terminator value.
 - Press **[term]**.
 - Press **[↑]** to increase value or **[↓]** to decrease value. The value which is displayed in hexadecimal format can be set from 01 to FF, or off.
 - Press **[exit]** to return to editor menu.



NOTE: Setting both the timeout and terminator to “off” will cause the log buffer to operate improperly and may cause the 881/882 to appear to have “locked up.” If this occurs, press the two “MENU” keys and change either the timeout value or terminator value or both.

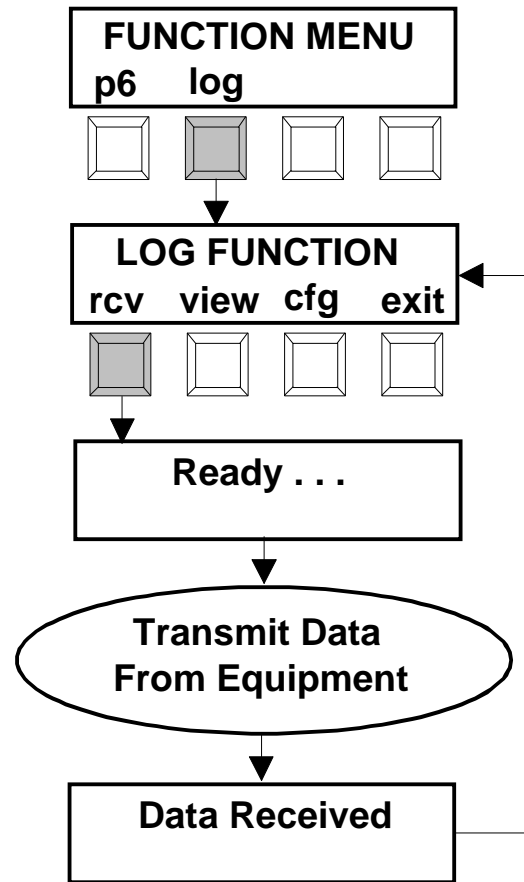
VIEWING MESSAGES

1. At Channel Menu level, repeatedly press **[p#]** until “p6” is displayed, then press **[log]**.
2. Press **[view]**.
3. Messages can now be viewed or printed as described in Receiving Data, Section Four.



MANUALLY RECEIVING DATA

1. At Channel Menu level, repeatedly press [p#] until “p6” is displayed, then press [log].
2. Press [rcv].
 - This forces the 881/882 into a receive mode where it will wait for data. The instrument will display “Ready . . .” to indicate this mode. This function can be aborted by pressing the two “MENU” keys.
3. Perform the steps necessary to transmit data from the equipment connected to the 881/882.
 - When the equipment completes its data transmission, the 881/882 will display “Data Received” and then return to the Log Function Menu.



NOTE: The 881/882 has several other automatic methods of receiving data into the log buffer. The description and use are left to the manufacturers of systems utilizing these methods.

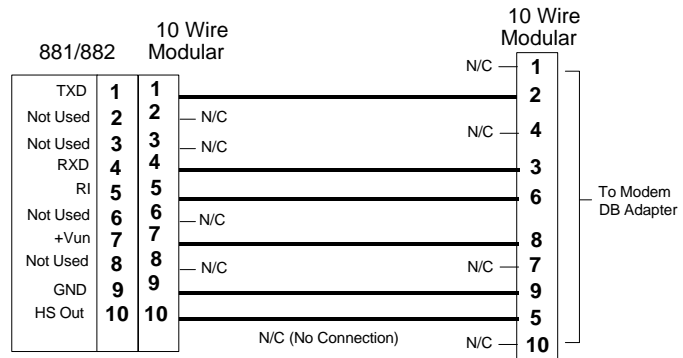
SECTION FOUR

Network Error Messages

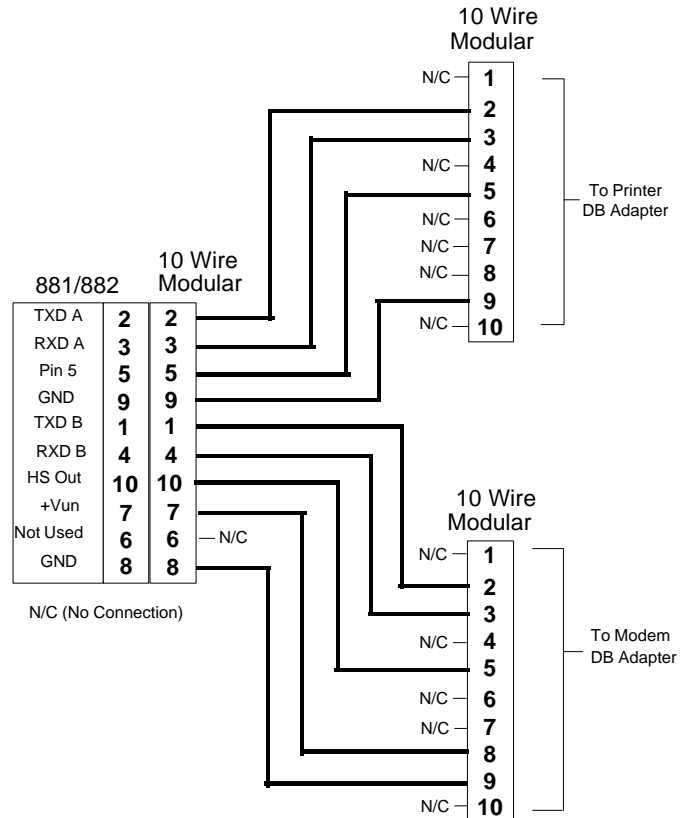
Message	Cause
CHECK MODEM HARDWARE	A bad connection or no connection exist on modem cabling.
LINE BUSY	Phone line was busy when call was placed.
NO DIAL TONE, CHECK PHONE LINE	A bad connection or no connection exist on modem cabling.
HOST MODEM IS OFFLINE	Host modem does not answer, or wrong phone number.
ILLEGAL MODEM PREFIX	Prefix number was entered incorrectly, recheck number.
ILLEGAL PHONE NUMBER	Phone number was entered incorrectly, recheck number.

Modem Cable and DB Adapter Diagrams

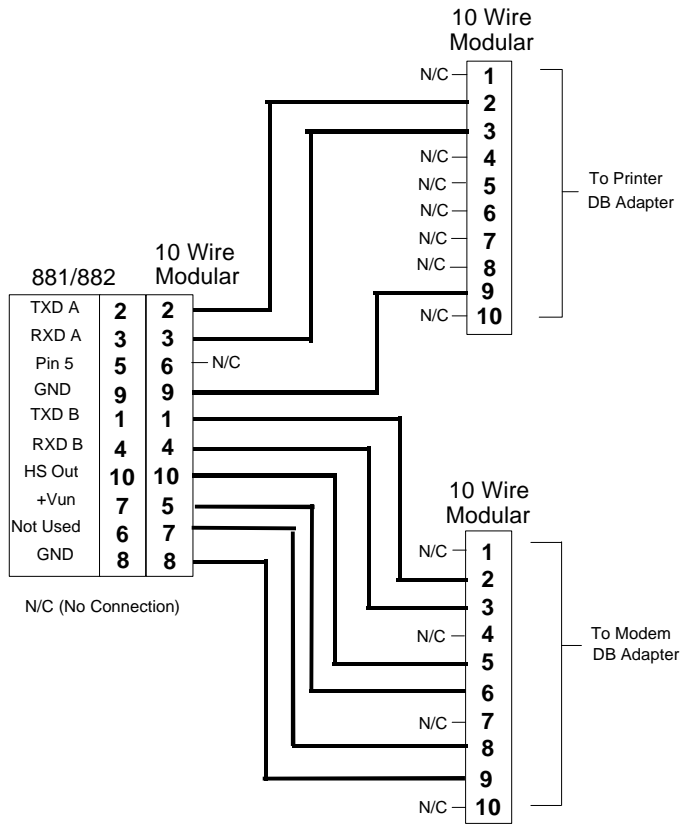
Single Modem Interface Cable (P/N SE108-08)



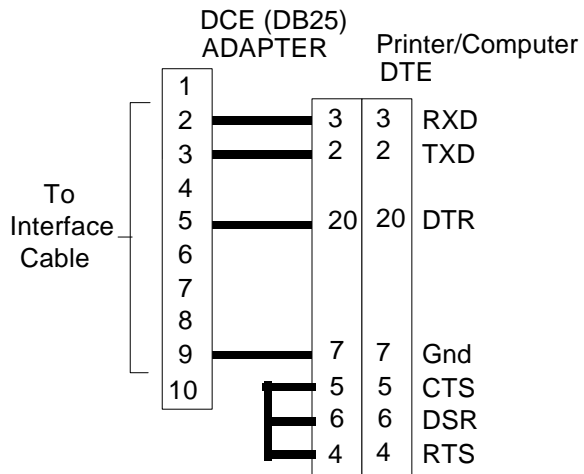
Y Modem Interface Cable (P/N SE108-09)



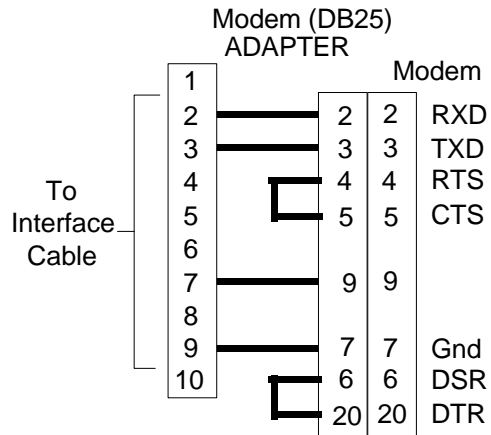
Y Modem Interface Cable with Ring Indicator (P/N SE108-07)



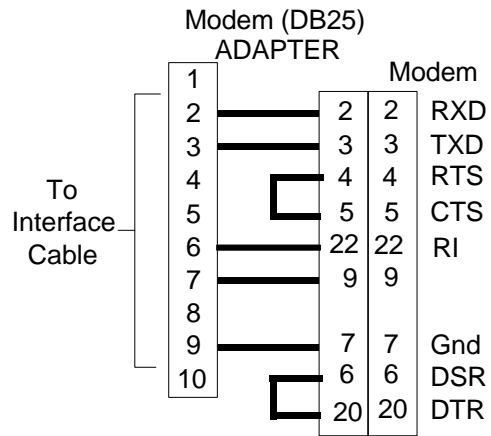
10 Pin to DB25P (pins) Interface Adapter (P/N 381-70) 10 Pin to DB25S (socket) Interface Adapter (P/N 381-71)



10 Pin to DB25P (pins) Modem Adapter (P/N 881-140)

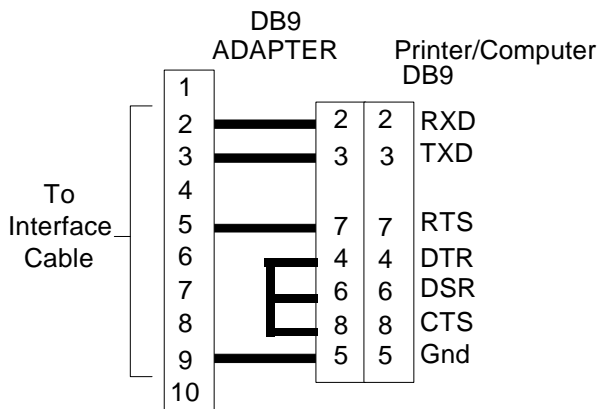


10 Pin to DB25P (pins) Modem Adapter with RI (P/N 881-141)

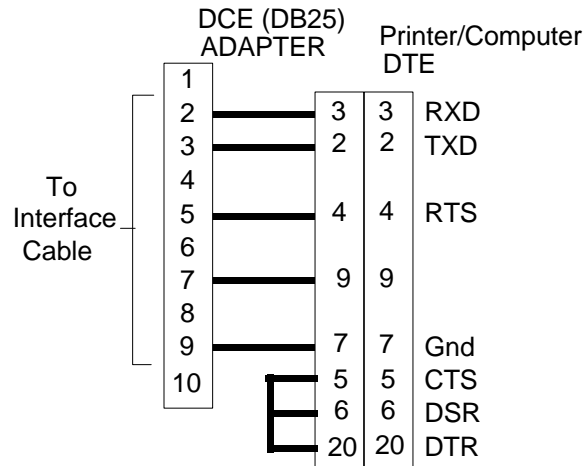


8 Pin to DB9P (pins) Interface Adapter (P/N 881-90)

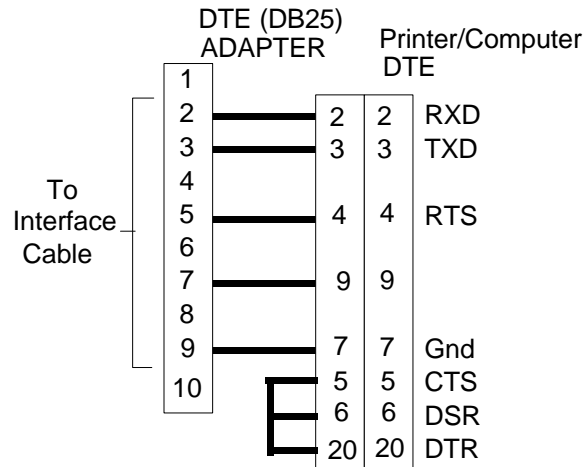
8 Pin to DB9S (socket) Interface Adapter (P/N 881-91)



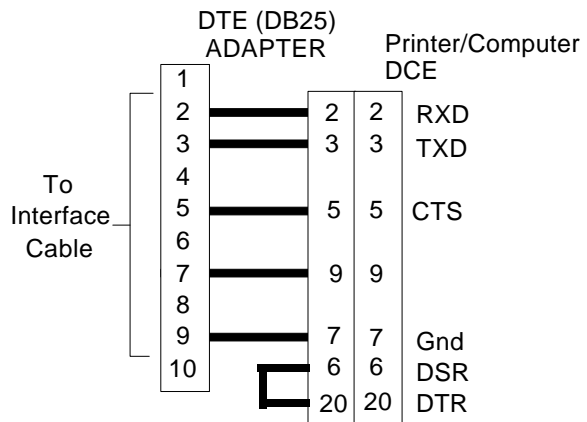
10 Pin to DB25P (pins) DCE Interface Adapter (P/N 881-70)
10 Pin to DB25S (socket) DCE Interface Adapter (P/N 881-71)



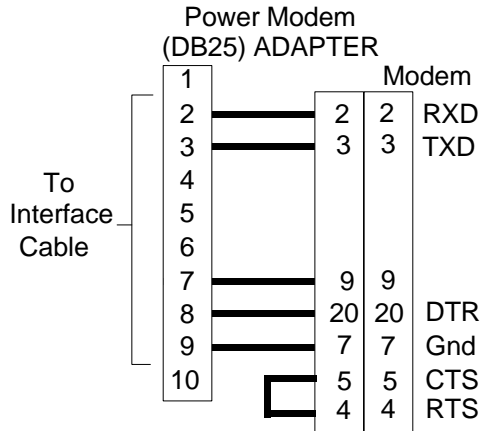
10 Pin to DB25P (pins) DTE Interface Adapter (P/N 881-80)
10 Pin to DB25S (socket) DTE Interface Adapter (P/N 881-81)



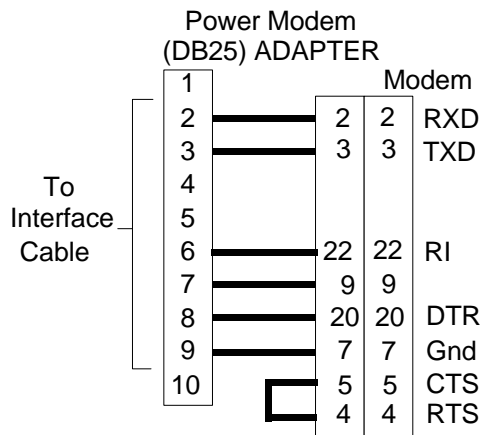
10 Pin to DB25P (pins) DTE Interface Adapter (P/N 881-280)
10 Pin to DB25S (socket) DTE Interface Adapter (P/N 881-281)



10 Pin to DB25P (pins) Power Modem Adapter (P/N 881-130)



10 Pin to DB25P (pins) Power Modem Adapter with RI (P/N 881-131)





X-Rite, Incorporated — World Headquarters
3100 44th Street S.W. • Grandville, Michigan 49418 • USA
Tel: 1-888-826-3044 • Fax: 1-888-826-3045
World Wide Web: <http://www.x-rite.com>

X-Rite GmbH
Charlottenstraße 61 • 51149 Köln • Deutschland
Tel: (49) 2203-91450 • Fax: (49) 2203-914519

X-Rite Asia Pacific Ltd.
Room 1004-05 • Kornhill Metro Tower • 1 Kornhill Road
Hong Kong • Tel: (852) 2-568-6283 • Fax: (852) 2-885-8610

X-Rite Ltd.
Lower Washford Mill • Mill Street • Buglawton
Congleton, Cheshire CW12 2AD • U.K.
Tel: (44) 1260-279988 • Fax: (44) 1260-270696

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