SERVICE MANUAL

FOR

MODEL SSC-303-I

OR

MODEL BLC-303-1

(FORMERLY 306-I)

CHARGE A CALL TELEPHONE
WITH INSERTION CARD READER

Equipped with CST 2.01 firmware.

CEECO

Serving the Telephone Industry Since 1930

Communication Equipment
& Engineering Company

519 W South Park Street
Okeechobee, FL 34972
Voice: 863-357-0798
Fax: 863-357-0006

IMPORTANT INFORMATION FOR CUSTOMER

Please fill in before you continue.

The following information is necessary when calling CEECO for assistance.

MODEL NUMBER	MODEL SSC OR BLC-303-I EQUIPPED WITH CST2.01 FIRMWARE (FORMERLY 306-I)
SERIAL NUMBER	
DATE MANUFACTURED	
LOCATION INSTALLED	

For us to better serve you, please have this information available when calling for technical support.

CEECO
Communication Equipment & Engineering Company

519 W South Park Street
Okeechobee, FL 34972
863-357-0798- telephone
863-357-0006- facsimile
info@ceeco.net
www.ceeco.net

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1.0 INTRODUCTION

The practices in this manual provide installation and maintenance information for the CEECO Model SSC OR BLC-303-I Charge-A-Call Telephone with Insertion Card Reader (formerly 306-I) and firmware CST2.01.

The information in this manual is subject to change without notification.

For information not included in this manual, please call or write:

CEECO
Customer Service
519 W South Park Street
Okeechobee, FL 34972
863-357-0798- telephone
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2.0 GENERAL

The CEECO Model 303-I Charge-A-Call Telephone is a microprocessor-based, line powered instrument designed to read the information encoded on the magnetic strip of any ABA Track-2 credit card, and transmit the data via DTMF tones. This model is compatible with the AT&T/BOC, TSPS "Calling Card Service" (CCS) systems and the Southlake Technologies or Summa-Four Call Processors. Software protocol must be specified when ordering.

NOTE: Before installing the phone, please read; Section 10.0 Installation Notes.

3.0 PROGRAMMING

3.1 Using a security tool, remove the backplate and locate the Printed Circuit Board. Locate the two plastic mini-jumpers on the Printed Circuit Board. With the phone on hook, place the two mini-jumpers in the "ON" position, as depicted in the diagram on the last page of this manual.

3.2 Take the phone off hook. if you are programming the phone for the first time, clear all field programmable memory by dialing #97.

3.3 Each location is accessed by dialing #XX, where XX is a two (2) digit code from 00 to 97. The previous contents of the location are automatically erased when the location is dialed.

3.4 In location #18 enter the default call processor number. If the dial-up number is a C.O. speed dial number, enter the "*" key in place of the "#" (i.e. to send 22#, enter 22*). Leave this location blank if no call processor is used.

3.5 In location #19 enter the P.B.X access code, if any (i.e. 9).

3.6 In location #20, enter the phone I.D. (up to 11 digits). Required only for use with Call Processors.

3.7 If Charge-A-Call restrictions by the phone are necessary, enter the allowable numbers in the free call index (location #70 - #79).

EXAMPLE: (NOTE: "-" Shown for clarity only.)

#70 0-***-***-**** (allows all 0-, 0+ calls)
#71 *11 (allows 911, 411, 611, etc.)
#72 1-555-1212
#73 1-***-555-1212
#74 1-800-***-****
#75 950-****-**** (allows all 950 exchange numbers)

NOTE: Each location is up to eleven digits in length. To allow additional digits to be dialed, fill the remaining spaces with "*"s.

EXAMPLE: #75 950-**** will not allow digits to be dialed after reaching the OCC. 950-****-**** will allow unlimited dialing after the OCC call has been completed.

To disable all phone implemented call restrictions enter eleven "*"s in one of the free call index locations.

PROGRAMMING CONTINUED…

3.8 Now it is time to enter credit card handling data (See section 4.03 for blank tables.). For each different type of credit card three locations must be programmed. Three interactive tables are set up for the three different data types. Locations #21-#29 are for the Protocol table. Locations #51-#59 are for the Card Type Identifier table. Locations #61-#69 are for the POP number table. When entering the data for a particular card the three locations used must have the same digit in the ones column.

EXAMPLE:

LOCATION	DATA	DESCRIPTION
21	3	AT&T Card to TSPS
51	855	AT&T Card Type Identifier.
61		No Processor Number.
22	0	MCI Protocol.
52	660032	MCI Card Type Identifier.
62	888-888-8888	MCI Call Processor Number.
23	7	BOC Card to TSPS.
53	6600	All Other BOCS to TSPS.
63		No Processor Number.
27	2	ITT Protocol.
57	660030	ITT Card Type Identifier.
67	999-999-9999	ITT Call Processor Number.
Etc...		

The protocols available at this time are:

NUMBER ENTERED	PROTOCOL TYPE
0	MCI
1	Dump card data and phone ID. (testing)
2	ITT
3	AT&T to TSPS
4	SPRINT
5	Dump full card data. (testing)
6	3 error tones and reset phone.
7	BOC cards to TSPS.

PROGRAMMING CONTINUED

Be sure to record the Protocol numbers entered from the previous page into the Protocol table locations #21-#29 on page 10 for future reference. Also record the Card Type Identifiers in the Card Type Identifier Table locations #51-#59. When entering numbers in the Card Type Identifier table, if you are using identifiers that have similar beginning digits, you must enter them according to their digit length. Place the longer length numbers first. Record the POP numbers in the POP Table locations #61- #69.

EXAMPLES:

WRONG

DIGIT LENGTH

Loc.	|1|2|3|4|5|6|7|	
#51	|8|5|5| | | | |	AT&T
#52	|6|6|0|0| | |	ALL BOCS
#53	|6|6|0|0|3|0| |	ITT
#54	|6|6|0|0|3|2| |	MCI
#55	|6|6|0|0|1|5| |	WIS BELL

Similar beginning digits.

WRONG

DIGIT LENGTH

	|1|2|3|4|5|6|7|	
	|8|5|5| | | | |	AT&T
	|6|6|0|0|3|0| |	ITT
	|6|6|0|0|3|2| |	MCI
	|6|6|0|0| | |	ALL BOCS
	|6|6|0|0|1|5| |	WIS BELL

Similar beginning digits.

RIGHT

DIGIT LENGTH

Loc.	|1|2|3|4|5|6|7|	
#51	|8|5|5| | | | |	AT&T
#52	|6|6|0|0|3|0| |	ITT
#53	|6|6|0|0|3|2| |	MCI
#54	|6|6|0|0|1|5| |	WIS BELL
#55	|6|6|0|0| | |	ALL BOCS

Similar beginning digits.

The first example is wrong because location 52 would cause the phone to match ITT, MCI and WIS BELL with the protocol for all BOCS. The second example is wrong because location 54 would cause the phone to match a WIS BELL card to the protocol for all other BOC cards. Notice, in the last example, that even though the AT&T number, in location 51, is shorter then the numbers that follow it the right protocol is selected because the beginning digits are different.

Be sure that you adjust the other tables if you have already entered data in them.

PROGRAMMING CONTINUED

3.9 Location #00 is the option number, by entering 0 or 1 into each of the 8 digit locations below, the phone is customized to each particular installation.

LOCATION #00:

Digit 1:

0 No incoming calls allowed.
1 Incoming calls allowed.

Digit 2:

0 Call restrictions are in effect. (#70-#79 only.)
1 No call restrictions.

Digit 3:

0 All calling cards are allowed.
1 All calling cards are blocked.

Digit 4:

0 Memory inspection disabled.
1 Memory inspection enabled.

Digit 5:

0 Send expiration date of Bank Cards mm/yr (i.e. AT&T as long distance carrier).
1 Do not send expiration date of Bank Cards (i.e. MCI as long distance carrier).

Digit 6:

0 Send only credit card numbers.
1 Send all credit card information on Track 2 (for use with a Call Processor).

Digit 7:

0 Always 0 for Insertion type card reader.

Digit 8:

0 Wide dial tone detect window.
1 Narrow dial tone detect window.

3.10 Locations #31-#50 are for the Speed Dial Table. Up to eleven digits may be entered in each location. Enter # followed by the location number and the number to be speed dialed from the keypad.

3.11 When programming is completed, place the two mini-jumpers in the "OFF" position, replace and secure the backplate, and place the phone on hook.

PROGRAMMING CONTINUED

3.12 If you have a DTMF test set and you want to inspect any memory location you must have location #00 digit 4 set to a "1". Then simply enter the # key followed by the two digit code for the memory location to be inspected. The information stored in that memory location should appear on your test set.

3.13 To change a single memory location, place the phone on hook and place the two mini-jumpers in the "ON" position. Take the phone off hook, enter # plus the corresponding two digit code for that memory location, and enter the new numbers. Hang the phone up and place the two mini-jumpers in the "OFF" position.

3.14 Summary of programming locations:

LOCATION	DESCRIPTION	SAMPLE ENTRY
#00	Option Number	10110000
#18	Default Call Processor	555-1212
#19	P.B.X. Access Code	9
#20	Phone I.D. Number	1234567
#21 - #29	Card Protocol Code	3
#30 - #49	Speed Dial Numbers	444-4444
#51 - #59	Card Type Identifiers	660015
#61 - #69	POP Numbers For Each Card Type	950-5555
#70 - #79	Free Call Index	911
#97	Clear All Programmable Memory	N/A

4.0 PROGRAMMING TABLES

4.0 OPTION TABLE

CODE DESCRIPTION
#00

Digit 1 2 3 4 5 6 7 8 9

PROGRAMMING TABLES CONTINUED

4.2 IDENTIFICATION TABLE

CODE	DESCRIPTION
#18	_ - _ _ _ - _ _ _ - _ _ _ _ DEFAULT CALL PROCESSOR NUMBER (enter 1 to 11 digits)
#19	_ - _ _ _ - _ _ _ - _ _ _ _ PABX ACCESS CODE (enter 1 to 11 digits)
#20	_ - _ _ _ - _ _ _ - _ _ _ _ PHONE ID NUMBER (enter 7 to 11 digits)

4.3 PROTOCOL SELECTION, CARD TYPE IDENTIFIERS AND POP NUMBERS

Code	Protocol Selected	Code	Card type ID	Code	POP
#21 _ (1 digit)	_____ (notes)	#51	_____ (up to 11 digits)	#61	_____ (up to 11 digits)
#22 _	_____	#52	_____	#62	_____
#23 _	_____	#53	_____	#63	_____
#24 _	_____	#54	_____	#64	_____
#25 _	_____	#55	_____	#65	_____
#26 _	_____	#56	_____	#66	_____
#27 _	_____	#57	_____	#67	_____
#28 _	_____	#58	_____	#68	_____
#29 _	_____	#59	_____	#69	_____

PROGRAMMING TABLES CONTINUED

4.4 SPEED DIAL TABLE

CODE	DESCRIPTION	CODE	DESCRIPTION
#30	_-___-___-____	#40	_-___-___-____
#31	_-___-___-____	#41	_-___-___-____
#32	_-___-___-____	#42	_-___-___-____
#33	_-___-___-____	#43	_-___-___-____
#34	_-___-___-____	#44	_-___-___-____
#35	_-___-___-____	#45	_-___-___-____
#36	_-___-___-____	#46	_-___-___-____
#37	_-___-___-____	#47	_-___-___-____
#38	_-___-___-____	#49	_-___-___-____
#39	_-___-___-____		

PROGRAMMING TABLES CONTINUED

4.5 FREE CALL TABLE

CODE	DESCRIPTION	CODE	DESCRIPTION
#70	_ - _ _ _ - _ _ _ - _ _ _ _	#75	_ - _ _ _ - _ _ _ - _ _ _ _
#71	_ - _ _ _ - _ _ _ - _ _ _ _	#76	_ - _ _ _ - _ _ _ - _ _ _ _
#72	_ - _ _ _ - _ _ _ - _ _ _ _	#77	_ - _ _ _ - _ _ _ - _ _ _ _
#73	_ - _ _ _ - _ _ _ - _ _ _ _	#78	_ - _ _ _ - _ _ _ - _ _ _ _
#74	_ - _ _ _ - _ _ _ - _ _ _ _	#79	_ - _ _ _ - _ _ _ - _ _ _ _

EXAMPLES OF CALL RESTRICTIONS/ALLOWED CALLS

(950-***-****-* allows access to 950 exchange numbers)

(1-800-***-****)

1-***-555-1212 interlata directory assistance)

(1-555-1212 intralata directory assistance)

(*11 allows 411, 911, 011, etc.)

(0-***-*-**-**** allows all 0-,0+,and calling cards)

5.0 OPERATION

5.1 The phone is taken off hook.

5.2 If location #19 contains a number, the phone will wait for dial tone, then dial the number entered in location #19. This is the PABX Access Number. If you do not want a PABX number dialed then leave location #19 blank.

5.3 Three modes of operation exist at this time:

a. Dial a free call; 911, 411 only if number resides in free-call table (4.05)
b. Dial 0+ the number desired, wait for the tone, then insert/withdraw credit card.
c. Enter a Help Selection only if your call processor offers this feature.

6.0 CARD CALLING

6.1 If a valid Credit Card read was performed, a verifier beep will be heard. The phone will determine which type of card was read and what Protocol to use.

6.2 If AT&T cards are programmed to be blocked, 3 error tones will be heard and the phone will reset itself for another call.

6.3 If the call is to go to TSPS, the phone will wait for the user to dial a 0+ number. At the bong tone, the phone will send the card data.

6.4 If the call is to go to the Call Processor, the phone will dial the Call Processor. When the Call Processor acknowledges, the phone will send the phone I.D. and credit card information. The phone is now open. (Card reader on, keypad on, transmitter on, no call restrictions in effect.)

6.5 **FREE CALLS**. If the user attempts to dial a call not programmed in the free call index (call restrictions enabled), the phone will give three warning tones to the user, go on hook, and reset for another call attempt.

7.0 SPECIFICATIONS

INPUT POWER	C.O. Line powered
LOOP CURRENT	23 mA min., 80 mA max.
IMPEDANCE	600 ohms
SIGNALING	DTMF, 70ms Tone, 70 ms Spacing
OUTPUT	-4 to -6 dBm
HEARING AID COMPATIBLE	Meets EIA standards
ENVIRONMENTAL	Temperature: 0°C to 50°C Humidity: 20% to 90% non-condensing
RINGER EQUIVALENCY	0.8A
PROGRAMMING	Via unit keypad
TELEPHONE PANEL	Brushed 16-gauge stainless steel
DIMENSIONS	5∀ wide x 10 3/4∀ high x 5½" deep Handset on hook
MOUNTING	Vertical surface mount
MEMORY RETENTION	Lithium battery, long life
FCC REGISTRATION	BW88T7-13823-TE-T
UL LISTED NO.	6OF5
TYPE JACK	RJ11C
CARD READER	Insertion Type, Read Only
Protocol	ABA Track-2, 1S02
Capacity	40 characters
Speed	8-150 cm/sec
Life	500,000 reads min.
POP PROTOCOLS SUPPORTED	Southlake Technologies Summa-Four AT&T "Calling Card System" (CCS) MCI ITT TSPS SPRINT BOC Cards to TSPS Custom Programming on Special order

8.0 PARTS LIST

DESCRIPTION	PART NO.
Hookswitch Cradle	301-588
Tongue & Bracket Assembly	301-581
Handset w/Armored Cord	301-004
Network	301-009
Network Cable Assembly	650-570
Ringer	401-009
MCRK-2 PC Board Assembly	650-540
Chrome ANS Keypad	705-110
Keypad Cable	700-005
Modular Line Cord	301-018
#10-32 Security Screws (2 ea.)	321-016
Card Reader Assembly	306-600
Card Reader Cable	306-034
Instruction Card Kit	301-030
Number Window	301-039
Number Card	301-040
Backplate	301-051
Grommet	301-052
Modular Connector (RJ11C)	301-054
Handset Swivel	308-016
CTA Board	917-006
OPTIONAL:	
Security Tool	301-037
GTE Logo	301-041

9.0 RECOMMENDED TOOLS AND TEST EQUIPMENT

Volt/Ohm Meter
3/8∀ Nut Driver
Security Tool, CEECO Part Number 301-037
Flat Blade Screw Driver
DTMF Test Set

10.0 INSTALLATION NOTES AND ASSEMBLY INSTRUCTIONS

10.1 The use of a gas tube station protector is recommended. The station ground should not exceed 50 ohms.

10.2 To connect the phone to a phone line, plug the modular line cord from the phone unit into any RJ11C receptacle.

10.3 To access the inside of the phone for programming or service, remove the security screws on the sides and loosen the locking rod on the front using a 301-037 Security Tool. Slowly lift the cover, taking care not to damage the cables connecting the keypad and card reader to the MCRK-2 PC Board inside the phone.

10.4 The cover assembly may be separated from the base by disconnecting one end of each cable from the MCRK-2 PC Board.

10.5 When servicing the MCRK-2 board, be sure the board does not contact metal parts, otherwise permanent damage may occur to the board.

***** WARNING *****

A. Never install telephone wiring during a lightning storm.

B. Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.

C. Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.

D. Use caution when installing or modifying telephone lines.

11.0 TROUBLESHOOTING

Always visually check the phone for loose or shorted wires, damaged terminals or damaged parts.

PROBLEM: NO DIAL TONE AND*/OR MCKR-2 CARD DOES NOT FUNCTION*

POSSIBLE CAUSE:
LINE CORD
RJ11C CONNECTOR
MCRK-2 CARD
NETWORK
NETWORK CABLE ASSY
HOOKSWITCH CABLE ASSY
HOOKSWITCH ASSY
MICRO-PROCESSOR
HANDSET

PROBLEM: DIAL TONE IS DISTORTED

POSSIBLE CAUSE:
NETWORK CABLE ASSY
HOOKSWITCH CABLE ASSY
HOOKSWITCH ASSY
MCRK-2 CARD
NETWORK
HANDSET

PROBLEM: PHONE DOES NOT READ CARD

POSSIBLE CAUSE:
CARD
DIRTY READ HEAD
CARD READER
CARD READER CABLE
MCRK-2 CARD

PROBLEM: TRANSMITTER DOES NOT TURN ON

POSSIBLE CAUSE:
HANDSET
MCRK-2 CARD
NETWORK CABLE ASSY
NETWORK

TROUBLESHOOTING CONTINUED

PROBLEM: TRANSMITTER DOES NOT TURN ON FOR INCOMING CALLS

POSSIBLE CAUSE:
IMPROPER OPTION NUMBER, CHANGE FIELD #00 DIGIT 1 TO A "1"
MCRK-2 CARD

PROBLEM: KEYPAD DOES NOT OPERATE PROPERLY

POSSIBLE CAUSE:
KEYPAD CABLE ASSY.
KEYPAD
MCRK-2 CARD

PROBLEM: PHONE DOES NOT RECOGNIZE CALL PROCESSOR TONE OR BONG TONE

POSSIBLE CAUSE:
MCRK-2 CARD
NETWORK
NETWORK CABLE ASSY.

PROBLEM: LOOSES MEMORY CONTENTS AFTER EXTENDED PERIODS OF NO USE

POSSIBLE CAUSE:
LITHIUM BATTERY

PROBLEM: PHONE CANNOT BE PROGRAMMED

POSSIBLE CAUSE:
MINI-JUMPERS MISPLACED
MEMORY CHIP
MCRK-2 CARD
KEYPAD
KEYPAD CABLE ASSY.

PROBLEM: RINGER DOES NOT OPERATE

POSSIBLE CAUSE:
RINGER
NETWORK

12.0 FCC NOTICE

12.1 FCC REGISTRATION AND REPAIR INFORMATION

Your new telephone has been registered with the Federal Communication Commission (FCC) in accordance with Part 68 of it's rules. The FCC requires that you be advised of certain requirements involving the use of this telephone.

12.2 CONNECTION AND USE WITH THE NATIONWIDE TELEPHONE NETWORK.

The FCC requires that you connect this telephone to the Nationwide Telephone Network through a registered jack provided by the telephone company in your area. This jack is a modular outlet which you can order from your local telephone company.

12.3 NOTIFICATION TO THE TELEPHONE COMPANY

Before connecting this telephone, the FCC requires that you notify your local telephone company business office. The number is in the front of your phone book.

Tell them:
The "line" to which you will connect the telephone (that is, your phone number), the telephone's FCC registration number and ringer equivalence number. These numbers are listed in section 7.0

The FCC further requires that you notify your local telephone company when permanently disconnecting this telephone.

13.0 REPAIR AND RETURN INFORMATION

13.1 WARRANTY REPAIR

Any device returned requiring warranty service, repair or credit must be accompanied with a "Return Material Authorization" (RMA) FORM. It must include: return shipping instructions, original purchase order number and special marking instruction. A description of the trouble observed must be attached to the defective unit. This information must be inside the shipping container.

13.2 DIRECT ALL INQUIRES TO:

CEECO
Repair Department
863-357-0798- telephone
863-357-0006- facsimile
info@ceeco.net
www.ceeco.net

13.3 NON-WARRANTY REPAIR

CEECO will repair equipment out of warranty for a set charge plus parts. The customer must pay the shipping costs for both directions.

13.4 RETURN FOR CREDIT

Material may be returned for credit only with prior approval. Material authorized for return is subject to a 20% restocking charge based on the manufacturers list price. Return Material Authorization must be requested no later than 30 days after original shipment.

13.5 EXCHANGE POLICY

If a replacement unit is required it will be shipped in the most expedient manner consistent with the urgency of the situation. Please contact "Customer Service" for instructions regarding exchange of modules or printed circuit boards.

14.0 WARRANTY POLICY

14.1 GENERAL

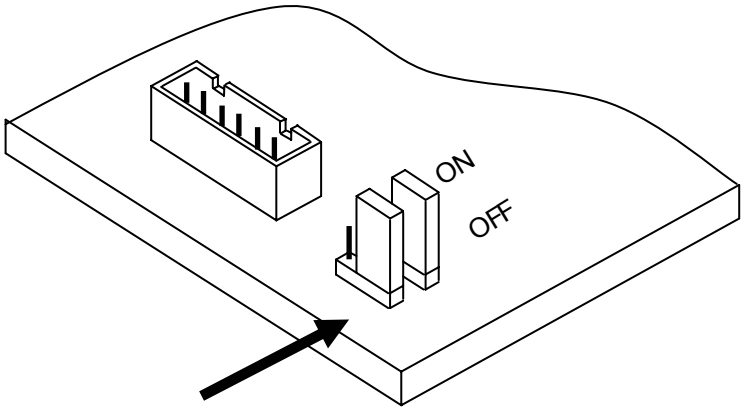
CEECO products are guaranteed to be free of defects in material and workmanship for a period of 365 days from the date of original purchase. CEECO's obligation under this warranty is limited to repair or replacement of any part found to be defective by CEECO. Under no circumstances shall CEECO be liable for loss, damage, cost of repair, or consequential damages of any kind which have been caused by neglect, abuse, acts of GOD or improper of equipment.

14.2 PRINTED CIRCUIT BOARDS

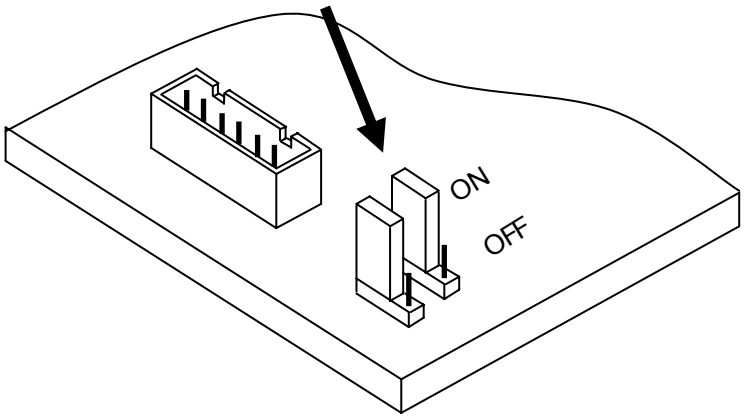
Printed circuit boards should not be field repaired. If a unit is found to be faulty, replace it with another unit and return the faulty unit to CEECO for repair. Modifications by anyone other than CEECO will void the warranty.

15.0 LOCATION OF PROGRAMMING JUMPERS

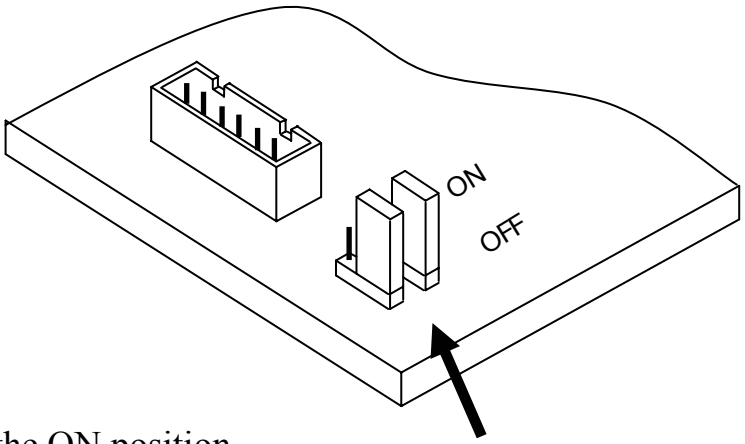
Locate the mini jumpers on the corner of the PCB.



Move the mini jumpers to the ON position BEFORE going off-hook.



When programming is completed, move the mini jumpers to the OFF position.



NOTE:
Do not leave the mini jumpers in the ON position, this will decrease battery life.