MOTOROLA

C140
Dual Band Wireless Telephone

C140

GSM 900/1800

GSM 850/1900

Introduction

Motorola® Inc. maintains a worldwide organization that is dedicated to provide responsive, full-service customer support. Motorola products are serviced by an international network of company-operated product care centers as well as authorized independent service firms.

Available on a contract basis, Motorola Inc. offers comprehensive maintenance and installation programs that enable customers to meet requirements for reliable, continuous communications. To learn more about the wide range of Motorola service programs, contact your local Motorola products representative or the nearest Customer Service Manager.

Product Identification

The model number on a label (usually on the housing) identifies Motorola products. Use the entire model number when inquiring about the product. Numbers are also assigned to chassis and kits.

Use these numbers when requesting information or ordering replacement parts.

Product Names

Product names are listed on the front cover. Product names are subject to change without notice. Some product names, as well as some frequency bands, are available only in certain markets.

Product Changes

When electrical, mechanical or production changes are incorporated into Motorola products, a revision letter is assigned to the chassis or kit affected, for example: -A, -B, or -C, and so on. The chassis or kit number, complete with revision number is imprinted during production. The revision letter is an integral part of the chassis or kit number and is also listed on schematic diagrams, and printed circuit board layouts.

Regulatory Agency Compliance

This device complies with Part 15 of the FCC Rules. Operation is subject to the following conditions:

*   This device may not cause any harmful interference, and
*   this device must accept interference received, including interference that may cause undesired operation

This class B device also complies with all requirements of the Canadian Interference-Causing Equipment Regulations (ICES-003).

Cet appareil numerique de la classe B respecte toutes les exigences du Reglement sur le materiel brouilleur du Canada.

Computer Program Copyrights

The Motorola products described in this manual may include Motorola computer programs stored in semiconductor memories or other media that are copyrighted with all rights reserved worldwide to Motorola. Laws in the United States and other countries preserve for Motorola, Inc. certain exclusive rights to the copyrighted Introduction computer programs, including the exclusive right to copy, reproduce, modify, decompile, disassemble, and reverse-engineer the Motorola computer programs in any manner or form without Motorola's prior written consent. Furthermore, the purchase of Motorola products shall not be deemed to grant either directly or by implication, estoppel, or otherwise, any license or rights under the copyrights, patents, or patent applications of Motorola, except for a nonexclusive license to use the Motorola product and the Motorola computer programs with the Motorola product.

About This Service Manual

Using this service manual and the suggestions contained in it assures proper installation, operation, and maintenance of C140 telephones. Refer questions about this manual to the nearest Customer Service Manager. This manual contains mechanical service information required for the equipment described and is current as of the printing date.

Audience

This document aids service personnel in testing and repairing C140 telephones Service personnel should be familiar with electronic assembly, testing, and troubleshooting methods, and with the operation and use of associated test equipment.

Scope

This manual provides basic information relating to C140 telephones, and also provides procedures and processes for repairing the units at Level 1 and 2 service centers, including:

- Unit swap out
- Repairing of mechanical faults
- Basic modular troubleshooting
- Testing and verification of unit functionality
- Initiate warranty claims and send faulty modules to Level 3 or 4 repair centers.

Conventions

Special characters and typefaces, listed and described below, are used in this publication to emphasize certain types of information.

*Note: Emphasizes additional information pertinent to the subject matter.*

Caution: Emphasizes information about actions that may result in equipment damage.

Waring: Emphasizes information about actions that may result in personal injury.

Keys to be pressed are represented graphically. For example, instead of "Press the Menu Key", you will see "Press ☰".

Information from a screen is shown in text as similar as possible to what appears in the display. For example, ALERTS or ALERTS.

Information that you need to type is printed in **boldface type**.

Warranty Service Policy

The product is sold with the standard 12-month warranty terms and conditions. Accidental damage, misuse, and extended warranties offered by retailers are not supported under warranty.

Non-warranty repairs are available at agreed fixed repair prices.

Out of Box Failure Policy

The standard out of box failure criteria applies. Customer phones that fail very early on after the date of sale are to be returned to Manufacturing for root cause analysis, to guard against epidemic criteria. Manufacturing to bear the costs of early life failure.

Product Support

The customer's original phones will be repaired but not refurbished as standard. Appointed Motorola Service Hubs will perform warranty and non-warranty field service for level 2 (assemblies) and level 3 (limited Transceiver component). Motorola High Tech Centers will perform level 4 (full component) repairs.

Customer Support

Customer support is available through dedicated Call Centers and in-country help desks. Product-Service training should be arranged through the local Motorola Support Center.

Parts Replacement

When ordering replacement parts or equipment, include the Motorola part number and description used in the service manual. When the Motorola part number of a component is not known, use the product model number or other related major assembly along with a description of the related major assembly and of the component in question. In the U.S.A., to contact Motorola, Inc. on your TTY, call: 800-793-7834

Accessories and Aftermarket Division (AAD)

Replacement parts, test equipment, and manuals can be ordered from AAD.

U.S.A.	**Outside U.S.A.**
Phone: 800-422-4210	Phone: 847-538-8023
FAX: 800-622-6210	FAX: 847-576-3023

For EMEA spare parts call +49 461 803 1638.

For Asia spare parts call +65 648 62995.

Specifications

General Functions	Specification
Dimensions	100.6mm x 45.6mm x 21.8mm
Weight	88 grams (with battery)
LCD Display	65K Color TFT, Active Area: 27.93mm x 19.07mm, Hardware pixels: 96 x 64
Band	GSM900/1800 or GSM850/PCS1900
Battery	920 mAh Li Ion Battery
Product type	BAR type
Antenna	Internal Antenna
Frequency Range (EGSM)	880-915 MHz Tx, 925-960 MHz Rx
Frequency Range (DCS)	1710 – 1785 MHz Tx, 1805-1880 MHz Rx
Frequency Range (GSM850)	824-849 MHz Tx, 869-894 MHz Rx
Frequency Range (PCS)	1850-1910MHz Tx, 1930-1990 MHz Rx
Channel Spacing	200KHz
Channels	174 EGSM, 374 DCS, 124 GSM850, 299 PCS
Modulation	GMSK at BT=0.3
Transmitter Phase Accuracy	5 Degrees RMS, 20 Degrees peak
Duplex spacing	45MHz EGSM, 95MHz DCS, 45MHz GSM850, 80MHz PCS
Frequency Stability	$\pm$0.1PPM of the downlink frequency (Rx)
Operating voltage	3.53V ~4.2V
Average Transmit Current	Power Level 5: 280 mA Power Level 19: 115 mA
Average Standby Current	DRX 2: 6 mA DRX 9: 2.7 mA
Temperature Range	-20°C to 55°C

Transmitter Functions	Specification
RF Power Output	33 dBm typical GSM850/GSM900 30 dBm typical DCS1800/PCS1900
Output Impedance	50 ohms nominal
Spurious Emissions	-36 dBm from 0.1 to 1GHz, -30 dBm from 1 to 4 GHz

Receiver Functions	Specification
Receiver Sensitivity	-107 dBm typical GSM 850/GSM900 -107 dBm typical DCS1800/PCS1900
RX Bit Error Rate (100K bits) type II	<2%
Channel Hop Time	500 microseconds
Time to Camp	Approximately 6~10 Second

Speech Coding Functions	Specification
Speech Coding Type	Regular pulse excitation/linear predictive coding with long term prediction (PRE LPC with LTP)
Bit Rate	13.0 Kbps
Frame Duration	20 ms
Block Length	260 bits
Classes	Class 1 bits =182 bits; Class 2 bits = 78 bits
Bit Rate with FEC Encoding	22.8 Kbps

Product Overview

The Motorola C140 features a global system for mobile communications wireless interface. It also features a simplified icon and graphical user interface (UI) for easier operation in addition to short message service text messaging (SMS), speed dialing, quick dialing, an alarm, a calculator, games, and an address book.

C140 telephones support SMS in addition to traditional circuit switched transport technologies. Data transmission rates for GSM networks can potentially increase from the current rate of 9.6 kbps up to a theoretical maximum of 171.2 kbps.

The telephones are made of polycarbonate plastic. The display and speaker, as well as the 21-key keypad, transceiver printed circuit board (PCB), microphone, charger and headphone connectors, and power button are contained within the candy bar form-factor housing. The user-replaceable 920 mAh Lithium-Ion (Li-Ion) battery provides up to 180 minutes of talk time with up to 250 hours of standby time. The phone accepts 1.8v and 3V mini subscriber identity module (SIM) cards that fit into the SIM holder next to the battery. These telephones feature a 96 x 64 pixel color graphics display and an internal antenna.

Features

C140 telephones use advanced, self-contained, sealed, custom integrated circuits to perform the complex functions required for GSM communication. Aside from the space and weight advantage, microcircuits enhance basic reliability, simplify maintenance, and provide a wide variety of operational functions.

Features available in this family of telephones include:

- A 96 x 64 pixel color graphics display
- Internal antenna
- Lower voltage technology that provides increased standby and talk times
- Extended GSM (EGSM) channels
- Tri-coder/decoder(CODEC) that allows full rate, half rate, and enhanced full rate modes of transmission.
- Display animation
- VibraCall® vibrating alert
- 5-Way navigation key
- SIM Toolkit™ Class 2 (STK) (Network, subscription and SIM card or service provider dependent feature. Not available in all areas.)
- Backlight
- Speed-, Quick- and One-Touch dialing
- Call Forwarding and Holding
- Customized Menus
- Personal management tools calculator with currency converter, and clock with date
- Other features

Caller Line Identification

Upon receipt of a call, the calling party's phone number is compared to the phone book. If the number matches a phone book entry, that name will be displayed. If there is no phone book entry, the incoming phone number will be displayed. In the event that no caller identification information is available, an incoming call message is displayed.

SIM Toolkit™ - Class 2

SIM Application Toolkit is a value-added service delivery mechanism that allows GSM operators to customize the services they offer their customers, from the occasional user who requests sports news and traffic alerts, to a high call time business user who receives stock alerts and checks flight times. Operators can now create their own value-added services menu quickly and easily in the phone.

The customized menu will appear as the first menu and may be updated over-the-air with new services when customers request them.

General Functions

Controls, Indicators, and Input/Output (I/O) Connectors

The C140 phone's controls are located on the front side of the device and on the keyboard as shown in below. Indicators icons are displayed on the LCD.
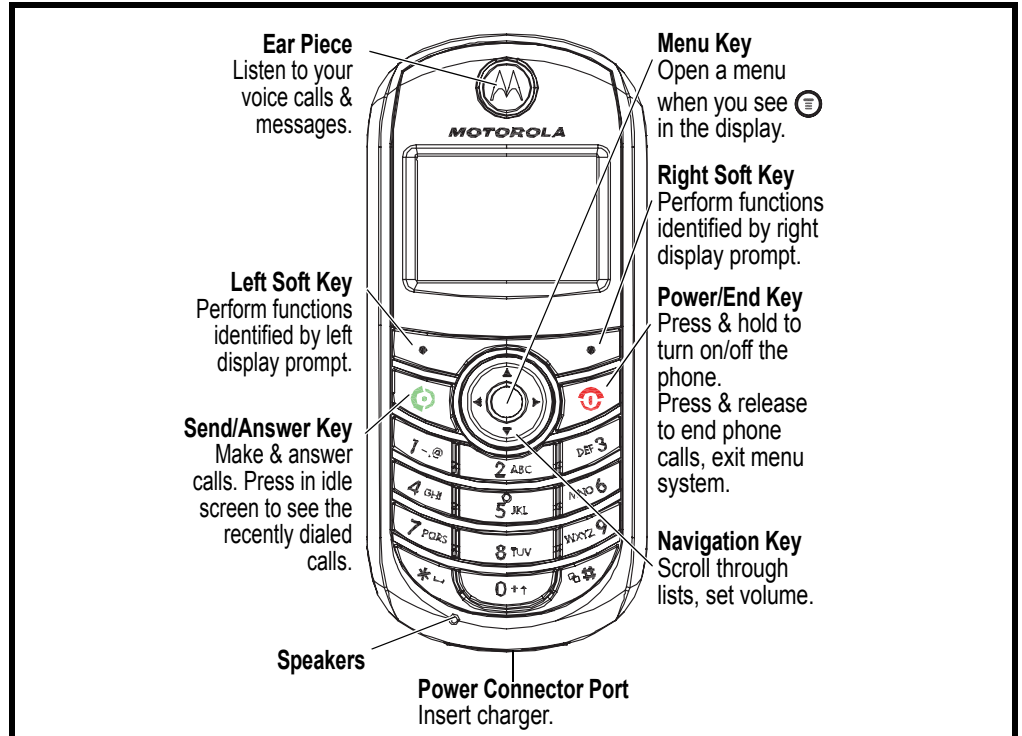

Figure 1. C140 Telephone Control Locations

Menu Navigation

C140 telephones are equipped with a simplified icon and graphical-based user interface. See the table below for details of the C140 menu structure. A five-way navigation key allows you to move easily through menus and confirm your selection.

Liquid Crystal Display (LCD)

The LCD provides a 700 square millimeter multicolor backlit color display with user-adjustable contrast settings for optimum readability in all light conditions. The bit-map 96 x 64 pixel display includes up to 3 lines of text, 1 line of icons, and 1 line of prompts.
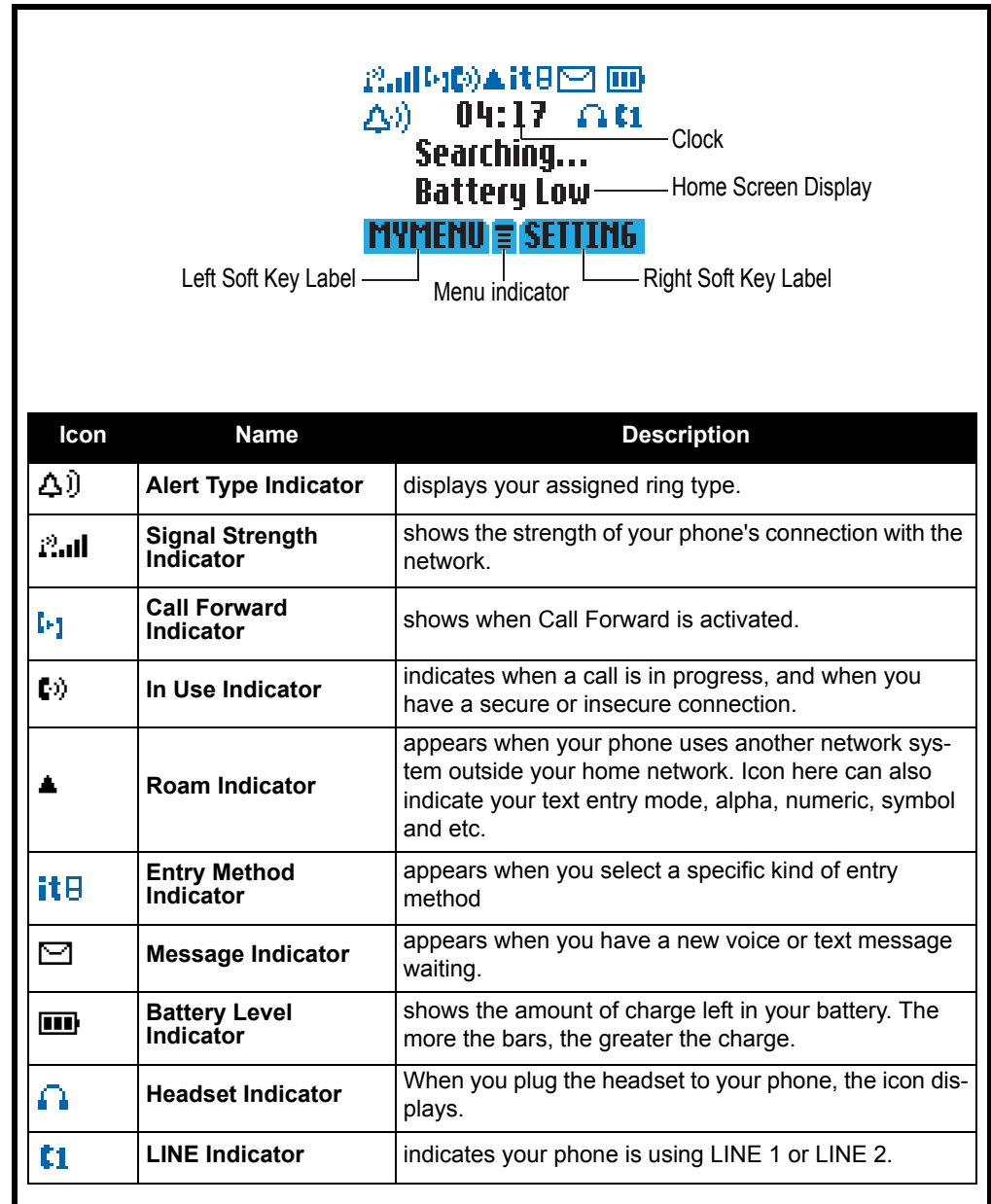

Icon	Name	Description
△))	Alert Type Indicator	displays your assigned ring type.
₨.ₗₗₗ	Signal Strength Indicator	shows the strength of your phone's connection with the network.
[•]	Call Forward Indicator	shows when Call Forward is activated.
[•))	In Use Indicator	indicates when a call is in progress, and when you have a secure or insecure connection.
▲	Roam Indicator	appears when your phone uses another network system outside your home network. Icon here can also indicate your text entry mode, alpha, numeric, symbol and etc.
it8	Entry Method Indicator	appears when you select a specific kind of entry method
✉	Message Indicator	appears when you have a new voice or text message waiting.
▥	Battery Level Indicator	shows the amount of charge left in your battery. The more the bars, the greater the charge.
∩	Headset Indicator	When you plug the headset to your phone, the icon displays.
(1	LINE Indicator	indicates your phone is using LINE 1 or LINE 2.

Figure 2. C140 Display Icon Indicators

User Interface Menu Structure

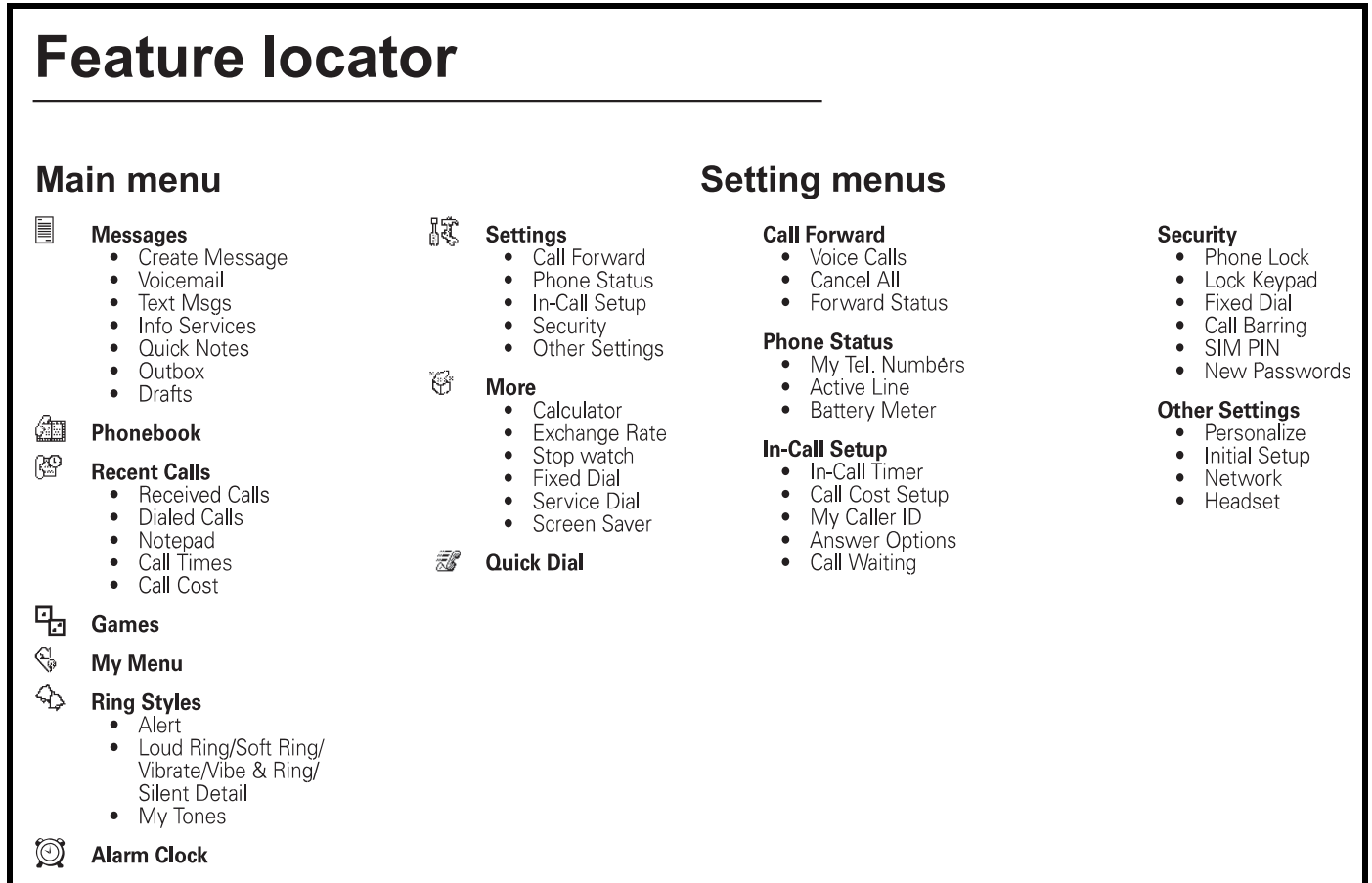The table below shows a portion of the C140 telephone menu structure.

Feature locator

Main menu   Setting menus

Messages
  • Create Message
  • Voicemail
  • Text Msgs
  • Info Services
  • Quick Notes
  • Outbox
  • Drafts

Phonebook

Recent Calls
  • Received Calls
  • Dialed Calls
  • Notepad
  • Call Times
  • Call Cost

Games

My Menu

Ring Styles
  • Alert
  • Loud Ring/Soft Ring/
    Vibrate/Vibe & Ring/
    Silent Detail
  • My Tones

Alarm Clock

Settings
  • Call Forward
  • Phone Status
  • In-Call Setup
  • Security
  • Other Settings

More
  • Calculator
  • Exchange Rate
  • Stop watch
  • Fixed Dial
  • Service Dial
  • Screen Saver

Quick Dial

Call Forward
  • Voice Calls
  • Cancel All
  • Forward Status

Phone Status
  • My Tel. Numbers
  • Active Line
  • Battery Meter

In-Call Setup
  • In-Call Timer
  • Call Cost Setup
  • My Caller ID
  • Answer Options
  • Call Waiting

Security
  • Phone Lock
  • Lock Keypad
  • Fixed Dial
  • Call Barring
  • SIM PIN
  • New Passwords

Other Settings
  • Personalize
  • Initial Setup
  • Network
  • Headset

Figure 3. C140 Menu Structure

Battery Function

The telephone displays a battery charge indicator icon in the idle screen to indicate the battery charge level. The gauge shows four levels: 100%, 66%, 33%, and Low Battery.

Removing the battery causes the phone to shut down immediately and loose any pending work (partially entered phone book entries or outgoing messages, for example).

Note: All batteries can cause property damage and/or bodily injury such as burns if a conductive material such as jewelry, keys, or beaded chains touches exposed terminals. The conductive material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse, or other container with metal objects.

If the battery is removed while receiving a message, the message is lost.

To ensure proper memory retention, turn the phone OFF before removing the battery. Immediately replace the old battery with a fresh battery.

Operation

For detailed operating instructions, refer to the appropriate User Guide listed in the Related Publications section toward the end of this manual.

Tools and Test Equipment

The table below lists the tools and test equipment used on C140 telephones. Use either the listed items or equivalents.

Table 1: General Test Equipment and Tools

| Motorola Part Number[1]	Description	Application
See Table 6	Charger	Used to charge battery and power phone
0180386A82	Antistatic Mat Kit (includes 66-80387A95 antistatic mat, 66-80334B36 ground cord, and 42-80385A59 wrist band)	Provides protection from damage to phone caused by electrostatic discharge (ESD)
-	Antistatic Gloves	Provides protection from damage to phone caused by electrostatic discharge (ESD)
8102430Z04	GSM / DCS / PCS Test SIM	Used to enable manual test mode
6680388B67	Disassembly tool, plastic with flat and pointed ends (manual opening tool)	Used during assembly/disassembly
6680388B01	Tweezers, plastic	Used during assembly/disassembly
-	T5 Screw driver	Used with Screw Driver
HP34401A[2]	Digital Multimeter	Used to measure battery voltage

Please wear ESD protection wrist or gloves in the entire procedure
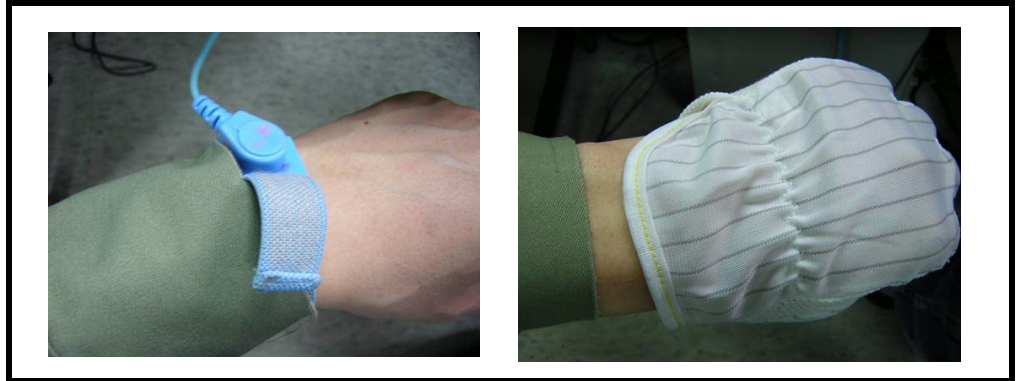
Figure 4. Antistatic wrist band and Antistatic gloves

1. To order in North America, contact Motorola Aftermarket and Accessories Division (AAD) by phone at (800) 422-4210 or FAX (800) 622-6210. Internationally, AAD can be reached by calling (847) 538-8023 or by fax (847) 576-3023.
2. Not available from Motorola. To order, contact Hewlett Packard at (800) 452-4844.
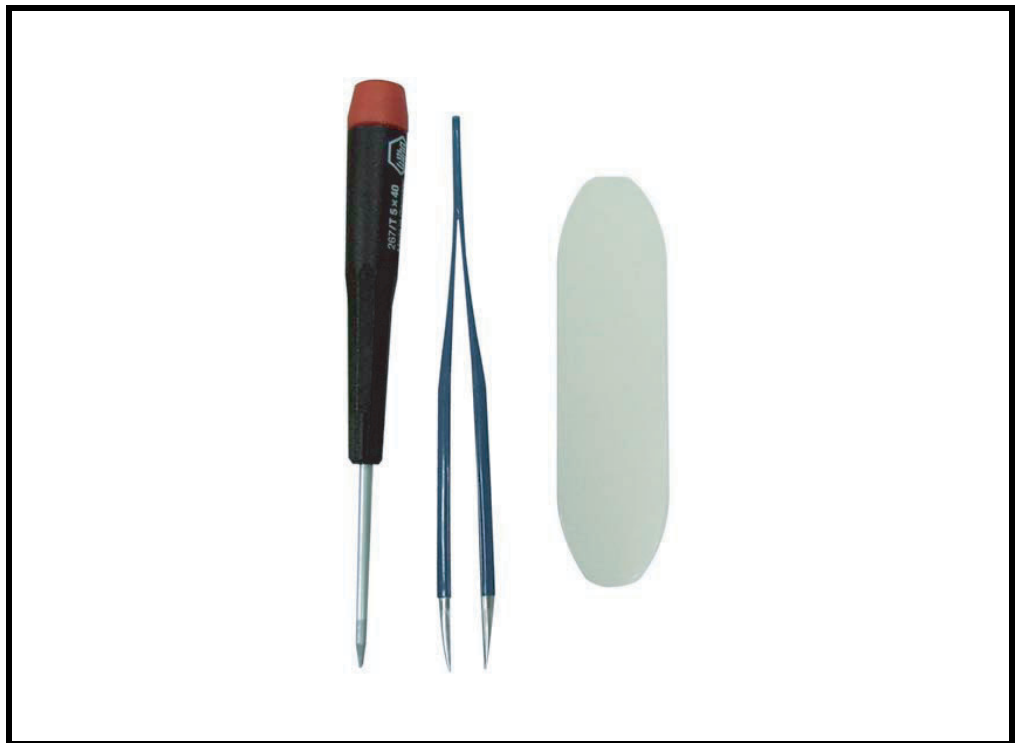
Figure 5. A screwdriver (T5), a pair of tweezers, and a wedge tool

Disassembly

This section describes how to disassemble a C140 telephone. Tools and equipment used are listed on the preceding page.

Many of the integrated devices used in this phone are vulnerable to damage from electrostatic discharge (ESD). Ensure adequate static protection is in place when handling, shipping, and servicing any internal components.

Avoid stressing the plastic in any way to avoid damage to either the plastic or internal components.

Removing and Replacing the Battery

All batteries can cause property damage and/or bodily injury such as burns if a conductive material such as jewelry, keys, or beaded chains touches exposed terminals. The conductive material may complete an electrical circuit (short circuit) and become quite hot. Exercise care in handling any charged battery, particularly when placing it inside a pocket, purse, or other container with metal objects.

1. Ensure the phone is turned off.
2. Slide off the battery cover.

Figure 6. Removing the battery cover

3. Press the tab to pop out the battery.

There is a danger of explosion if the Lithium ion battery is replaced incorrectly. Replace only with the same type of battery or equivalent as recommended by the battery manufacturer. Dispose of used batteries according to the manufacturer's instructions.

4.   To replace, insert the battery with 2 tabs on its bottom end into the battery slot.

Figure 7. Replace the battery cover

5.   Click the battery into place, then slip the battery cover over it.

Removing and Replacing the SIM Card

1.   Remove the battery.
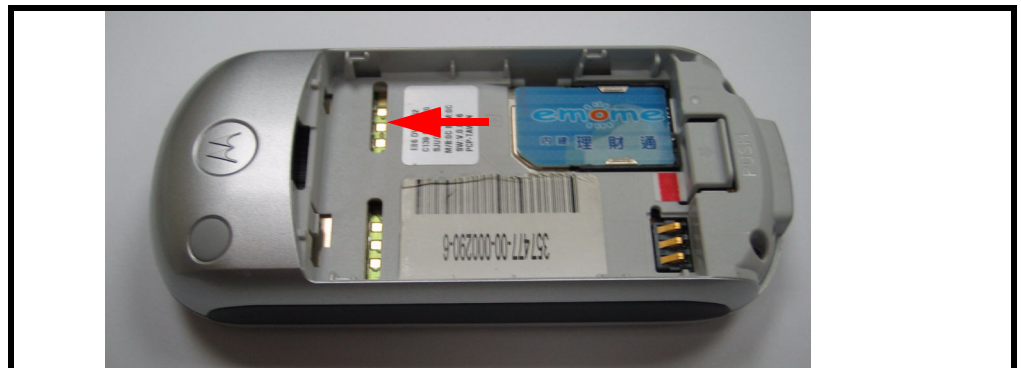2.   Remove the SIM from its holder by sliding it in the direction shown below.

Figure 8. Removing the SIM card

3.   To replace, carefully slide the SIM into position in its socket. The latch secures the SIM when correctly positioned over the terminals in the phone.

Removing and Replacing the Front Housing

1. Remove the SIM card.
2. Remove two T5 screws from the bottom half of the front housing (torque force of 1.4 kgf-cm).

Figure 9. Removing the two T5 screws (T-force = 1.4 kgf-cm)

3. Use a flat wedge tool to pry the case open along the central seam beginning in the lower left hand corner and sliding up and around to disengage the latches. Repeat this for the right hand side.

Be careful not to damage the side rubbers.

Figure 10. Prying the case apart along the seam

4.   Remove the front housing.

Figure 11. Removing the front housing

5.   (Optional) Remove and replace the rubber keypad. It slips out of the front housing.

Figure 12. Removing the rubber keypad

6.   To replace, simply snap the front and back halves together again.

Removing and Replacing the Transceiver Board, Back Housing, and Vibrator Module

1. Remove the front housing.
2. Remove two T5 screws securing the PCB transceiver board to the back housing (torque force of 1.4 kgf-cm).

Figure 13. Removing two T5 screws (T-force = 1.4 kgf-cm)

3. Disengage the side latches that help to secure the transceiver board to the back housing, and then pop it out.

Figure 14. Disengaging the side latches

4.   In the back housing component, gently pry out the vibrator module.

Figure 15. Removing the vibrator module

Removing and Replacing the Antenna Module, Microphone and Buzzer Sponge

1. Remove the transceiver board, the vibrator module, and the back housing.
2. Gently snap the antenna away from the transceiver board.
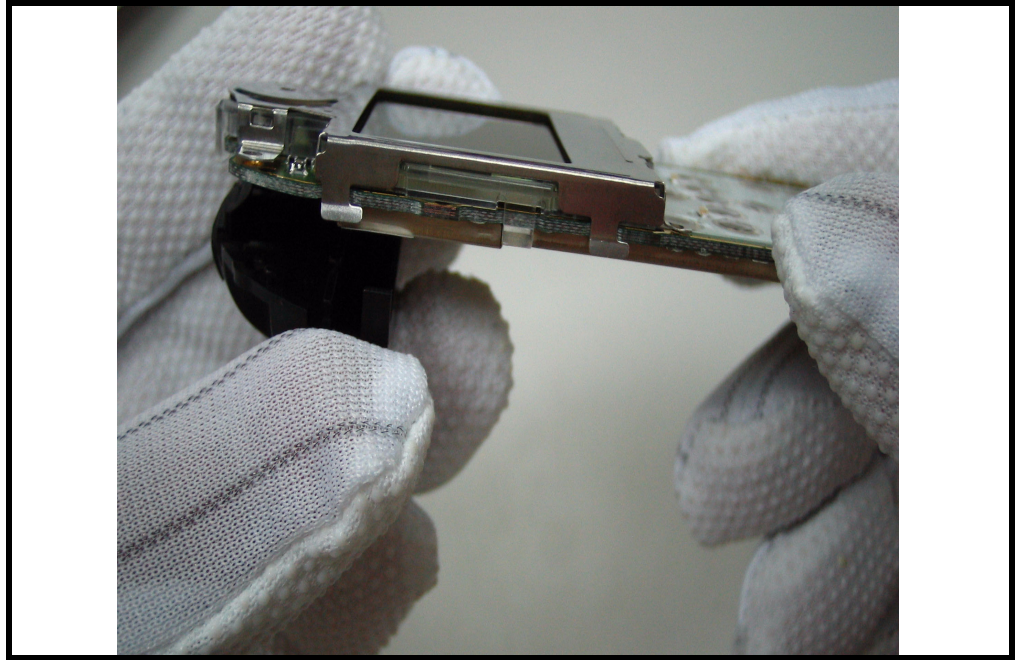
Figure 16. Removing the antenna module

3. Carefully pry off the microphone component.

Figure 17. Removing the microphone

4. Next, remove the buzzer sponge from the embedded buzzer module (not removable).
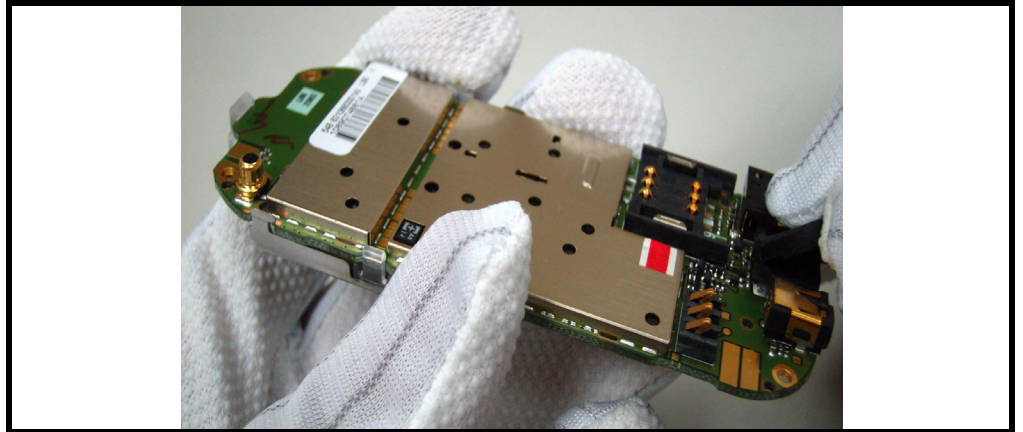
Figure 18. Removing the buzzer sponge

Removing and Replacing the LCD Screen

1. Remove the antenna module as described earlier.
2. Gently pry the LCD screen away from the Transceiver board. Seven latches hold it in place (three on each side and one by the speaker at the top).
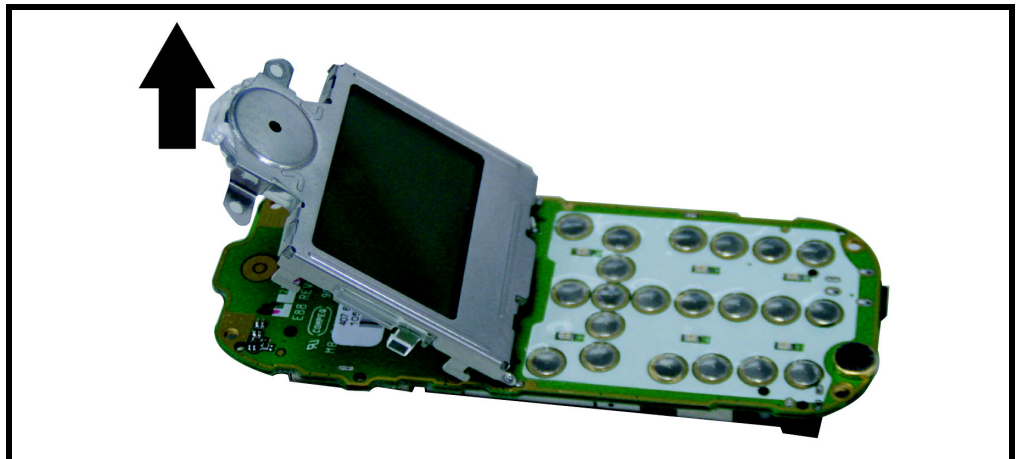
Figure 19. Pry the LCD screen away from the Transceiver board

3. Detach the cable connecting the LCD screen to the Transceiver board.
4. To replace it, gently solder the cable to the Transceiver board then mount the LCD.
5. Restore the antenna module and other parts.

Removing and Replacing the LCD Shielding Case

1. Remove the LCD screen as described earlier.
2. Gently pry the LCD shielding case away from the LCD screen.
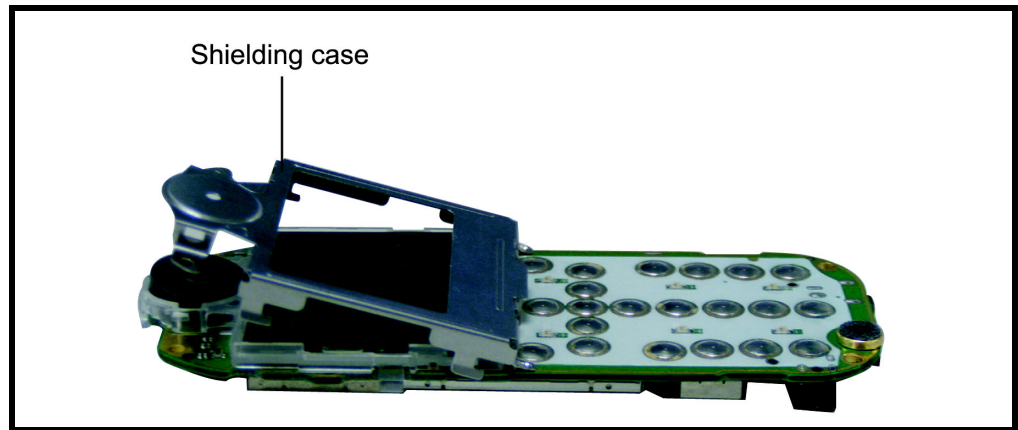
Shielding case

Figure 20. Pry the LCD shielding case away

3. To replace it, mount the LCD shielding case over the LCD screen.
4. Restore the LCD screen and other parts.

Removing and Replacing the Receiver

1. Remove the LCD shielding case as described earlier.
2. Pop out the receiver. It rests in the circular space atop the LCD screen.
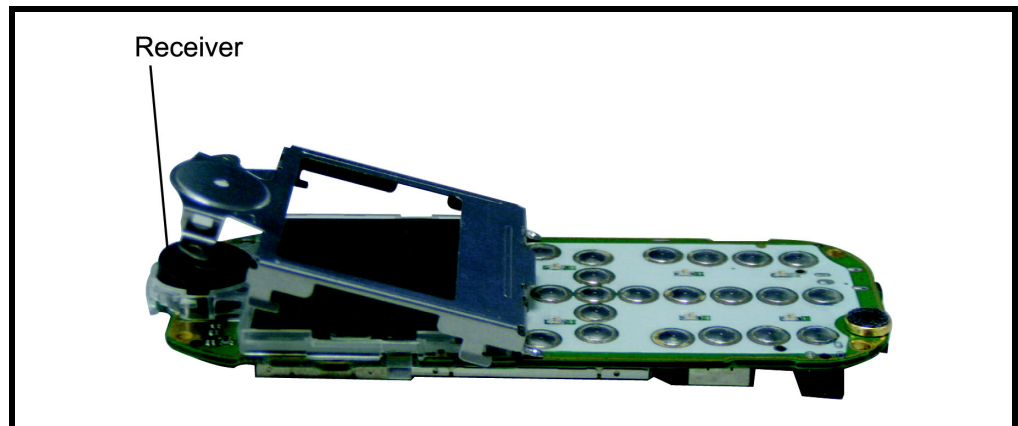
Receiver

Figure 21. Pop out the receiver

3. To replace it, gently insert the receiver into the circular space atop the LCD screen.
4. Restore the antenna module and other parts.

Subscriber Identity Module (SIM) and Identification Label

SIM

A SIM is required to access the existing local GSM network, or remote networks when traveling (if a roaming agreement has been made with the provider).

The SIM contains:

*   All the data necessary to access GSM services
*   The ability to store user information such as phone numbers
*   All information required by the network provider to provide access to the network

Identification

Each Motorola GSM phone is labeled with a variety of identifying numbers. The following information describes the current identifying labels.

Mechanical Serial Number (MSN)

*   The MSN is an individual unit identity number and remains with the unit throughout its life.
*   The MSN can be used to log and track a phone on Motorola's Service Center Database.
*   The MSN is divided into 4 sections as shown in Figure 22.
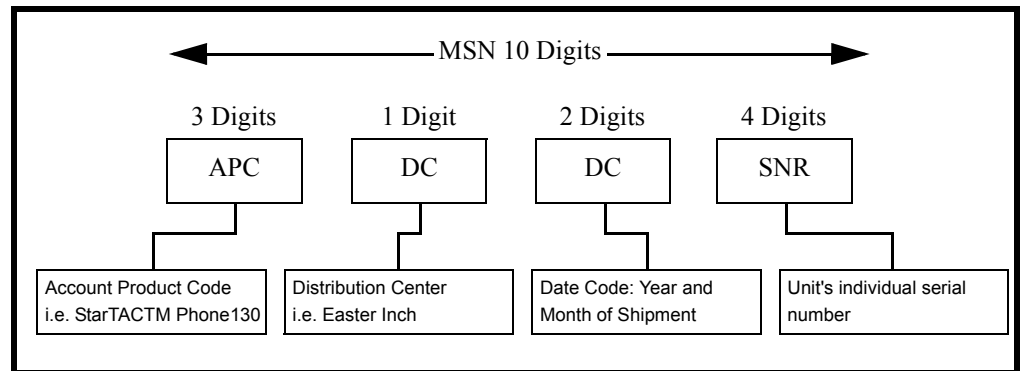
Figure 22. MSN Label Breakdown

International Mobile Station Equipment Identity (IMEI)

The International Mobile Station Equipment Identity (IMEI) number is an individual number unique to the Transceiver and is stored within the unit's memory. The IMEI uniquely identifies an individual mobile station and thereby provides a means for controlling access to GSM networks based on mobile station types or individual units. The full IMEI structure is listed in the table below.

Table 2: IMEI Number Breakdown

TAC	Serial Number	Check Digit
NNXXXXXX	ZZZZZZ	A

Where

TAC   Type Allocation Code, formerly known as Type Approval Code

NN   Reporting Body Identifier (BABT or CTIA)

XXXXXX   Type Identifier (defined by BABT or CTIA)

ZZZZZZ   Individual unit serial number

A   Phase 1 = 0.
             Phase 2 & 2+= check digit and is defined as a function of
             all other IMEI digits

Other label number configurations present are:

- **TRANSCEIVER NUMBER:** Identifies the product type. Normally the SWF number. (i.e. V100).
- **PACKAGE NUMBER:** Identifies the equipment type, mode, and language in which the product is shipped.

Troubleshooting

Manual Test Mode

Motorola C140 telephones are equipped with a manual test mode capability. This allows service personnel to verify functionality and perform fault isolation by entering keypad commands.

To enter the manual test command mode, a GSM/DCS/PCS test SIM must be used.

1. Press and hold ⬠ to turn the phone OFF.
2. Remove the battery as described in the procedures.
3. Remove the customer's SIM card from the phone as described in the procedures.
4. Insert the test SIM into the SIM slot.
5. Replace the battery as described in the procedures.
6. Press and hold ⬠ to turn the phone ON.

Manual Test Mode Commands

Table 3: Manual Test Commands

Key Sequence	Test Function/Name	Remarks
#02#	Handset information	
#03#	RF information	
#04#	ADC information	
#09#	Simple Test mode	
**0102#	FFS format	
**0105#	Disable EFEM mode	
*#06#	IMEI number	

Troubleshooting Chart

Table 4: Level 1 and 2 Troubleshooting Chart

Symptom	Probable Cause	Verification and Remedy
1. Telephone will not turn on or stay on.	a) Battery either discharged or defective.	Measure battery voltage across a 50 ohm (>1 Watt) load. If the battery voltage is <3.25 Vdc, recharge the battery using the appropriate battery charger. If the battery will not recharge, replace the battery. If battery is not at fault, proceed to b.
	b) Battery terminals open or mis-aligned.	Visually inspect the battery terminals on both the battery and the telephone. Realign and, if necessary, either replace the battery or refer to a Level 3 Service Center for the battery connector replacement. If battery terminals are not at fault, proceed to c.
	c) keypad defective.	Replace the keypad. Temporarily connect a +3.6 Vdc supply to the battery terminals. Press and hold the PWR button. If unit turns on and stays on, disconnect the dc power source and reassemble with the new keypad.
2. Telephone exhibits poor reception or erratic operation such as calls frequently dropping or weak or distorted audio.	Connections to or from lower PCB defective.	Check connection between the antenna and the lower PCB.
3. Display is erratic, or provides partial or no display.	LCM defective.	Replace the LCM. Verify that the fault has been cleared and reassemble the unit with the new LCM.
4. Incoming call alert transducer audio distorted or volume is too low.	Speaker defective.	Replace the speaker as described in the procedures. Verify that the fault has been cleared and reassemble the unit with the new speaker.
5. Telephone transmit audio is weak. (usually indicated by called parties complaining of difficulty in hearing voice).	Microphone defective.	Replace the microphone as described in the procedures. Verify that the fault has been cleared and reassemble the unit with the new microphone.
6. Receive audio from earpiece speaker is weak or distorted.	a) Connections to or from lower PCB defective.	Check connection between the antenna and the lower PCB. If the connection is OK, proceed to b.
	b) Speaker defective.	Temporarily replace the speaker with a known good speaker. Ensure good connection. Place a call and verify improvement in earpiece audio. If fault is cleared, reassemble the telephone with the good speaker.

Table 4: Level 1 and 2 Troubleshooting Chart (Continued)

Symptom	Probable Cause	Verification and Remedy
7. Telephone will not recognize or accept SIM card.	SIM card defective.	Check the SIM card contacts for dirt. Clean if necessary, and check if fault has been cleared. If the contacts are clean, insert a known good SIM card into the telephone. Power up the unit and confirm that the card has been accepted. If the fault no longer exists, replace the defective SIM card.
8. Keypad not functioning.	Keypad defective.	Use alcohol to wipe the keypad metal dome. Check if fault has been cleared. If the fault is still present, either replace the keypad or refer to a Level 3 Service Center for the keypad metal dome replacement.
9. Vibrator feature not functioning.	a) Vibrator faulty.	Check general condition of vibrator. If it is good, proceed to b.
	b) Vibrator defective.	Replace the defective vibrator.
10. No or weak audio when using headset.	Headset plug not fully pushed.	Ensure the headset plug is fully seated in the jack.

Programming: Software Upgrade and Flexing

Contact your local technical support engineer for information about equipment and procedures for flashing and flexing.

Part Number Charts

The following section provides a reference for the parts associated with C140 telephones.

Exploded View Diagram
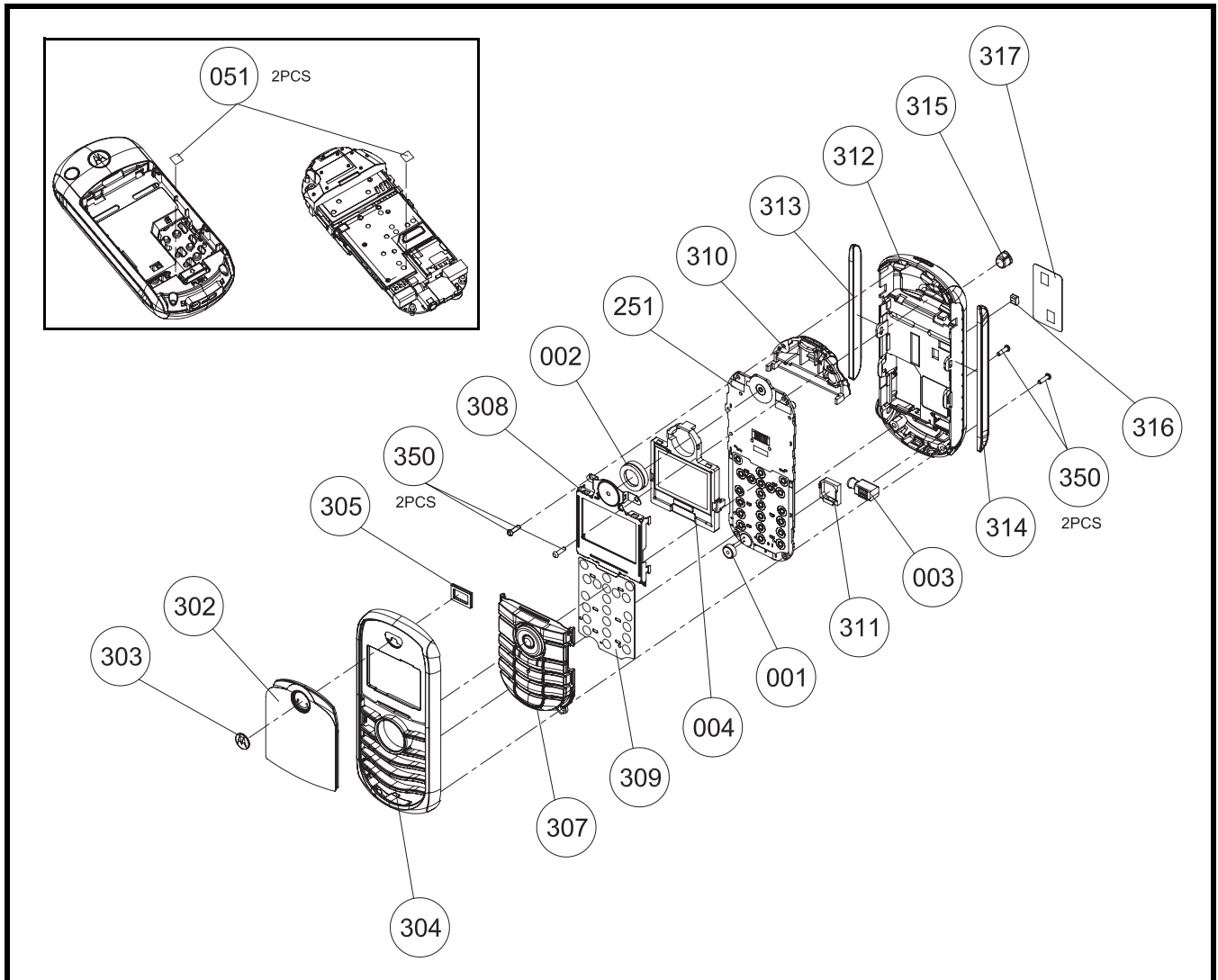

Figure 23. C140 Exploded View Diagram

Exploded View Parts List

Table 5: C140 Exploded View Parts List

Item Number	Part Number	Description	Specification
001	2220602204W	MIC	ACMG6022-02P28-402 ϕ6 -40dB
002	2240133203W	RECEIVER	SDR1332-03J01-F06-G AAC
003	3930408012W	SPR-VIB	ϕ4*L8 1.3V LA4-459ED COPAL
004	76300014B3W	LCM	TD014THEA3 96*64 65K TOPPOLY-G
051	82C6960001W	LABEL	C699 WATERPROOF LABEL FOR H/S
251	6910713311N	F/WMB 33	E86 GA-084
300	550125300W	ME/PT 33	E82 LUST/SILVER
302	2541E82001W	LCD-LENS	E82-PMMA-DARK BLACK SILVER
303	2545E58001W	MARK	E58-ABS CHROME M-LOGO
304	2511E82002W	UPP-ASSY	E82-LUSTROUS SILVER
305	3033E97001W	REC-SPON	E97-FELT+PU-7.6*11*1.00
307	3101E82012W	DIAL-KEY	E82-RUBBER-LUSTROUS-E 21KEY
308	3012E86001W	SHIELDASY	E86-SHIELD+SPONGE ASSY
309	3109E88001W	MET-DOME	E88-ϕ4*160g*21KEY PRINTECH
310	2301E86001W	ANTENNA	E86-ANT 900/1800 AMPHENOL
311	3035E88001W	BUZ-SPON	E88-SILICONE-10*11.15*2.7
312	2523E86002W	LOW-CASE	E86-PC-LUSTROUS SILVER
313	254FE86001W	DECORATE	E86-RUBBER-DBS-L
314	254FE86002W	DECORATE	E86-RUBBER-DBS-R
315	3028E86002W	RF-COV	E86-SILICONE-LUSTROUS SILVER
316	3068E88001W	GASKET	E88-4*2*3
317	3052E86004W	SHIELD-C	E86-SUS301-30*16.5*0.1
350	3501760104W	SCREW_G	PH T5 M1.7*6.0 TP-B KL

There is a danger of explosion if the Lithium ion battery pack is replaced incorrectly. Replace only with the same type of battery or equivalent as recommended by the battery manufacturer. Dispose of used batteries according to the manufacturer's instructions.

To order parts please use the following Link:

https://servicelink3.motorola.com

(Password is required)

For information on ordering parts please contact EMEA at +49 461 803 1638.

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