MOTOROLA USERS AND PROGRAMING GUIDES

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This is mainly a compliation of other peoples work. I, Bob, to not seek credit for somthing I did not do. I however will be more then happy to take credit for what I did do. I compiled most of the data you see before you. I took from Mike Larsen's manual, changed a few things, and added to it. I also turned a few documents into tiffs for ease of reading. Authors names remain intact throughout this document, and in most cases, the data has not be changed.

My special `contribularity` to Mike Larsen, Dr. Who, who compiled most of the hard data contained in this manual.

This is not my work. I compiled this so I can better enjoy the work of Mike Larsen and Dr. Who

ADDITIONS TO THIS MANUEL can be made by publicly posting in ALT.2600. Prefix a message "BOB" and i'll be sure to put any additions into this manual

Basic Comands

Before going in to the programming of the cellular phone, it is important for the user to know the normal things necessary for day to day operation. While the majority of the stuff in the users manual is intended for people that have problems programming their VCR, their are a few things that are very important and are only mentioned in the users manual.

Turn On:	[Pwr]
Unlock:	Three Digit Unlock Code. If you make an error, [Clr] and enter again.
Place Call:	Enter Number, [Snd]
Receive Call:	[Snd] or open flip fone
End Call:	[End] or close flip fone.
Store Number:	Phone number, [Sto], 2-digit location number
Recall Number:	[Rcl] and the 2-digit location number
Super Speed Dialing:	Directory location number, [Snd]
Changing Entries:	Press [Rcl] and the 2-digit location number so that the number to be changed is displayed. Press and release [Clr] to back out each of the digits. Enter a new number and press [Sto].
Call Number Displayed:	[Snd]
Microphone Muting:	Press [Fcn], [6]
Lock Unit:	[Fcn], [5] or [LOCK]
Display Unlock Code:	Press [Fcn], 0, your six-digit security code, [Rcl]
Changing Your Unlock Code:	Press [Fcn], [0], your six-digit security code, your NEW 3-digit unlock code, [Sto]
Review Battery Meter:	Press Fcn], [4] and release.
Adjust Volume:	Ear Piece- Press and hold [Vol] to increase Release, press again to decrease.
Recall Last Number Used:	[Rcl], [0], [0]
Recall Own Phone Number:	[Rcl], [#]
Individual Call Timer:	[Rcl], [#], [#]
Resettable Call Timer:	[Rcl], [#], [#], [#]
Reset Resettable Call Timer:	[Fcn], [0], [7], [Clr]
Cumulative Call Timer:	[Rcl], [#], [#], [#], [#]
Access Features:	Press [Fcn], [1]. To change features, press [*] and [#] to scroll and [Clr] to change. To exit Feature menu, Press [END]
Review/Scroll Menu Features:	Press [*] or [#]
Status Review:	[Fcn], [0], [9], [Rcl], [#] or [*] scrolls messages. To end press [END]
Changing System Type:	Press [Rcl], [*]. Repeatedly press [*] untill the desired system type apears. To slect press [Sto].
Out Going Call Restrictions:	Press [Fcn], [0], 6-digit security code,[1], [Sto]. Phone will place calls only from mem locations 1-10 To cahnge back to unrestricted dialing press [Fcn], [0], 6-digit security code, [4], [STO]

I would like to add that while I have extensively worked on finding additional test mode commands, I (and anyone else) have never worked with the normal operation commands as listed above. For example, above you will notice sequences with [Fcn], [1] or [Fcn], [0], [7]. This is totally unexplored teritory. Happy hacking :)

NAM ACCESS

Step 1: Determine programming sequence from the following list. This sequence will allow access to programming mode.

TYPE	MODEL	Prog Code	Sell Code
SCN 2004	4500L	3	A
SCN 2005	4500XL	3	A
SCN 2007	3000	6	B
SCN 2022		6	
SCN 2023	6800XL	6	A
SCN 2033		5	
SCN 2034		6	
SCN 2042	Credit Card	N/A	
SCN 2043	MC200, MODAR 4	4	C
SCN 2056	1900,2200, 2900		
SCN 2080	BLAUPUNKT	6	
SCN 2081		5	
SCN 2083	6800XL	6	A
SCN 2084		2	
SCN 2085		6	
SCN 2090	MC500	6	C
SCN 2094	TOYOTA	6	
SCN 2104	AUDI	6	
SCN 2115		6	
SCN 2119	4500XL	3	
SCN 2120	5000	6	B
SCN 2124	2600, AC320	6	B,E
SCN 2126		4	
SCN 2127		4	
SCN 2128		4	
SCN 2129	DYNA-GRAY	4	
SCN 2133	6000X	1	
SCN 2134		6	
SCN 2144	INFINITI	5	
SCN 2165		4	
SCN 2166		4	
SCN 2168		4	
SCN 2174		3	
SCN 2175		4	
SCN 2180		4	
SCN 2194	MC300	4	C
SCN 2195		6	
SCN 2200	PULSAR	4	
SCN 2201	PULSAR	4	
SCN 2202	PULSAR	4	
SCN 2204	MC500	4	
SCN 2208	SEARS	4	
SCN 2209	MONT-GOMERY-WORDS	4	
SCN 2210		3	
SCN 2222	ACURA	6	
SCN 2223	ACURA FS	6	
SCN 2238	GM	6	
SCN 2251	DYNA-GRAY	6	
SCN 2252		4	
SCN 2259	TRACER PULSAR	4	
SCN 2260	PCC	4	
SCN 2278	INFINITI	5	
SCN 2282	PIONEER	6	
SCN 2283	PIONEER	6	
SCN 2295		6	
SCN 2301	LEXUS	6	
SCN 2329		6	
SCN 2330	AC 250	6	E
SLN 2020	6000X	1	A
SLN 2121		1	
SLN 2025	2000X	4	B
T180B	NAUTILUS-bk	4	
T180W	NAUTILUS-wt	4	
TLN 2659	6000X	1	B
TLN 2674	4000C/5000	2	B/C
TLN 2724		1	
TLN 2726		2	
TLN 2733	6000	2	B
TLN 2734		2	
TLN 2777	2000X	4	B
TLN 2867		1	
TLN 2879		2	
UD71419	ROLLS ROYCE	6	
1632570	GM	2	
1644364	GM	2	
1648752	GM	2	
1648764	GM	2	
4410351C4	A AUDI	6	
750		2	C
8000BC		2	B
8000BCX		1	B
8000H		2	
8500		1	A
869872106	BLAUPUNKT	6	
9000/ULTRA CLASSIC		6	B/C
950/950X		2	B
9800XL		6	A
PERSONAL (w/ menu button)			6
PERSONAL (w/o menu)			1

SELLER CODES

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A: Motorola Direct
B: US West Cellular
C: McCaw (Cell One)
D: LA Cellular
E: Ameritech
<ANONYMOUS AUTHOR> NOTES: Some units have dual NAM's. The ESN prefix is 130 decimal, 82 hex.
Motorola: 1-800-331-6456

Step 2: Once the phone model and sequence number are identified, determine the program access sequence from this list.

SEQUENCE#	ACCESS CODE		
1	FCN	(SECURITY CODE TWICE)	RCL
2	STO #	(SECURITY CODE TWICE)	RCL
3	CTL 0	(SECURITY CODE TWICE)	*
4	FCN 0	(SECURITY CODE TWICE)	RCL
5	FCN 0	(SECURITY CODE TWICE)	MEM
6	CTL 0	(SECURITY CODE TWICE)	RCL

The default security code is 000000. The CTL (control) button is the single black button on the side of the handset.
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NAM programing:

Step 3: PROGRAMMING SEQUENCE

1.	Turn the power on.
2.	Within ten seconds enter the access sequence as determined above.
3.	The phone should now show "01" in the left of the display, this is the first programing entry step number. If it does not the security code is incorrect, or the programing lock-out counter has been exceeded. In either case you can still program the unit by following the steps under TEST MODE PROGRAMING below.
4.	The * key is used to increment each step: Each time you press * the display will increment from the step number, displayed on the left, to the data stored in that step, displayed on the right. When the data is displayed make any necessary changes and press * to increment to the next step number.
5.	The SND key is used to complete and exit programing when any STEP NUMBER is displayed If you have enabled the second phone number bit in step 10 below then pressing SND will switch to NAM 2. Steps 01 thru 06, 09 and 10 will repeat for NAM 2, the step number will be followed by a "2" to indicate NAM two.
5.	The CLR key will revert the display to the previously stored data.
6.	The # key will abort programing at any time.

PROGRAMING DATA:		
STEP#	#OF DIGITS/RANGE	DESCRIPTION
01	00000 - 32767	SYSTEM ID
02	3 DIGITS	AREA CODE
03	7 DIGITS	TEL NUMBER
04	2 DIGITS	STATION CLASS MARK
05	2 DIGITS	ACCESS OVERLOAD CLASS
06	2 DIGITS	GROUP ID (10 IN USA)
07	6 DIGITS	SECURITY CODE
08	3 DIGITS	LOCK CODE
09	0333 OR 0334	INITIAL PAGING CHANNEL
10	6 DIGIT BINARY	OPTION PROGRAMING (SEE NOTE 1)
11	3 DIGIT BINARY	OPTION PROGRAMING (SEE NOTE 2)
NOTES:	Take care with Motorola's use of "0" and "1". Some options use "0" to enable, some use "1".	

1.	This is a 6 digit binary field used to select the following options:	
	Digit 1:	Internal handset speaker, 0 to enable.
	Digit 2:	Local Use Mark, 0 or 1.
	Digit 3:	MIN Mark, 0 or 1.
	Digit 4:	Auto Recall, always set to 1 (enabled).
	Digit 5:	Second phone number (not all phones), 1 to enable.
	Digit 6:	Diversity (Two antennas, not all phones), 1 to enable.
2.	This is a 3 digit binary field used to select the following options:	
	Digit 1:	Continuous DTMF, 1 to enable
	Digit 2:	Transportable Ringer/Speaker, 0=Transducer, 1=Handset
	Digit 3:	8 hour time out in transportable mode, 0 to enable

On newer models they have added and changed some numbers. The numbersas of the 3/27/92 manual are as follows:

1.	The 6 digit binary field is still the same.			
2.	The 3 digit binary field has become a 5 digit binary field.			
	Digit 1:	Failed Page Indicator	1=Disabled	0=Enabled

Digit 2:	Motorola Enhanced Scan	1=Enabled	0=Disabled
Digit 3:	Long Tone DTMF	1=Enabled	0=Disabled
Digit 4:	Transportable Internal Ringer Speaker	1=Handset	0=Transdcr
Digit 5:	Eight Hour Timeout	1=Disabled	0=Enabled

TEST MODE ACCESS:

INSTALLED MOBILE PHONES AND TRANSPORTABLE MODELS

To enter test mode on units with software version 85 and higher you must short pins 20 and 21 of the transceiver data connector. An RS232 break out box is useful for this, or construct a test mode adaptor from standard Radio Shack parts.

For MINI TR or Silver Mini Tac transceivers (smaller data connector) you can either short pins 9 and 14 or simply use a paper clip to short the hands free microphone connector.

HAND HELD PORTABLE MODELS:

There are two basic types of Motorola portable phones, the Micro-Tac series "Flip" phones, and the larger 8000 and Ultra Classic phones. Certain newer Motorola and Pioneer badged Micro-Tac phones do not have a "flip", but follow the same procedure as the Micro-Tac.

8000 & ULTRA CLASSIC SERIES:

If you have an 8000 series phone determine the "type" before trying to enter test mode. On the back of the phone, or on the bottom in certain older models, locate the F09... number this is the series number. If the FOURTH digit of this number is a "D" you CAN NOT program the unit through test mode, a Motorola RTL4154/RTL4153 programer is required to make any changes to this unit.

Having determined that you do not have a "D" series phone the following procedure is used to access test mode:

Remove the battery from the phone and locate the 12 contacts at the top near the antenna connector. These contacts are numbered 1 through 12 from top left through bottom right. Pin 6, top right, is the Manual Test Mode Pin. You must ground this pin while powering up the phone. Pin 7 (lower left) or the antenna connector should be used for ground. Follow one of these procedures to gain access to pin 6:

1. The top section of the battery that covers the contacts contains nothing but air. By careful measuring you can drill a small hole in the battery to gain access to pin 6, alternately simply cut the top off the battery with a hack saw. Having gained access use a paper clip to short pin six to the antenna connector ground while powering up the phone.

2. If you do not want to "destroy" a battery you can apply an external 7.5 volts to the + and - connectors at the bottom of the phone, ground pin 6 while powering up the phone as above.

3. You can also try soldering or jamming a small jumper between pins 6 and 7 (top right to lower left), or between pin 6 and the antenna connector housing ground. Carefully replace the battery and power up the phone. Use caution with this method not to short out any other pin.

4. A cigarette lighter adaptor, if you have one, also makes a great test mode adaptor as it can be disassembled to give you easier access to pin 6. Many are pre marked, or even have holes in the right location. This is because they are often stamped from the same mold that the manufacturer uses for making hands free adaptor kits and these kits require access tothe phone's connectors.

MICRO-TAC "FLIP" SERIES:

This phone follows similar methods as outlined for the 8000 series above.

Remove the battery and locate the three contacts at the bottom of the phone, the two outer contacts are raised and connect with the battery. The center contact is recessed, this is the Manual Test Mode connector.

Now look at the battery contacts, the two outer ones supply power to the phone, the center contact is an "extra" ground. This ground needs to be shorted to the test mode connector on the phone. The easiest way to do this is to put a small piece of solder wick, wire, aluminum foil or any other conductive material into the recess on the phone. Having done this carefully replace the battery and turn on the power, if you have been
successful the phone will wake up in test mode.

GENERAL NOTES:

HANDSETS: Most Motorola handsets are interchangeable, when a handset is used with a transceiver other than the one it was designed for the display will show "LOANER". Some features and buttons may not work, for instance if the original handset did not have a RCL or STO button, and the replacement does, you will have to use the control * or control # sequence to access memory and A/B system select procedures.

LOCK/UNLOCK PROCEDURES:

Phones with "LOCK" buttons: Press lock for at least 1/2 a second.

Phones with a "FCN" button: Press FCN 5, note that 5 has the letter's "J,K, and L" for lock.

Phones with no FCN or LOCK button: Press Control 5, control is the black olume button on the side of the handset.

SYSTEM SELECT PROCEDURES:

Phones with a RCL button: Press RCL *, then * to select, STO to store.

Phones with no RCL button: Press Control * then * to select, # to store.

Options are:

CSCAn	Preferred/Non preferred with system lockout
Std A/b, or Std b/A:	Preferred/Non preferred.
SCAn Ab, or SCAn bA:	Non preferred/Preferred
SCAn A:	"A" ONLY
SCAn b:	"B" ONLY
HOME:	Home only

(these are typical options, some phone's vary. C-Scan is only available on newer models and does not appear unless programed, see below.)

TEST MODE

Taken from the July 1993 Cellular Subscriber Technical Training Manual Item# 68P09300A60-C and the Curtis Namfax vol.4. I believe this is a complete listing of all the commands that were ever possible. This includes old phones and the new ones. If there are two entries for a particular number, the first one is the current command and the second is for older models.

NOTE: Not all commands work on all telephones. If a command is not valid the display will show "ErrOr." Not all numbers have been assigned. Not all numbers have been listed here. Some commands were intended only for Motorola factory applications. (This is the disclaimer in the technical training manual. I have included all of the other commands I have discovered one way or another. I do believe this is a complete list of the commands.)

Three test commands are significant for programming and registering the the telephone for service: see full descriptions under TEST MODE COMMANDS.

32# Clears the telephone. (Older Motorola allowed either three or fifteen changes in the MIN. After that, the phone had to be sent to Motorola to reset the counter. This is the command they use.)

38# Displays the ESN

55# This is the TEST MODE PROGRAMMING (as described below).

TEST MODE COMMANDS:

Enter Test Command Mode

00#	no function
01#	Restart (Re-enter DC power start-up routine.) On TDMA telephones, this command has the same effect as pressing the PWR button.
02#	Display Current Telephone Status (This is a non-altering version of the STATUS DISPLAY. On a 14 character display, all the information is shown. On a 7 character display only the information on the second line of a 14 character display is shown. On a 10 character display, all the information on the second line of a 14 charcter display plus the last three characters of the first line are shown.) STATUS DISPLAY, ALTERNATES BETWEEN: AAA BBB AAA = Channel Number (decimal) BBB = RSSI reading for channel CDEFGHI are as follows:

C =	SAT frequency	0=5970, 1=6000, 2=6030, 3=no channel lock
D =	Carrier	0=off, 1=on
E =	Signalling tone	0=off, 1=on
F =	Power attenuation level	0 through 7
G =	Channel mode	0=voice channel, 1=control channel
H =	Receive audio mute	0=unmuted, 1=muted
I =	Transmit audio mute	0=unmuted, 1=muted
	Press * to hold display and # to end.	

03#	Reset Autonomous Timer. This command results in the reset of the autonomous timer but does not provide any test function on these models.			
04#	Initializes Telephone to Standard Default Conditions: Carrier Off, Power Level 0, Receiver Audio Muted, Transmit Audio Muted, Signalling Tone Off, SAT Off, Resetting of Watch-Dog Timer Enabled, DTMF and Audio Tones Off, Audio Path Set to Speaker			
05#	TX Carrier On (Key Transmitter)		06#	TX Carrier Off
07#	RX Audio Off (Mute Receiver Audio)		08#	RX Audio On (Unmute Receiver Audio)
09#	TX Audio Off		10#	TX Audio On
11(Ch.No.)#	Set Tranceiver to Channel xxxx (Receive and Transmit in Decimal; accepts 1, 2, 3, or 4 digits)			
12x#	Set Power Step to x; (0,1-7) 0=Maximum Power (3 Watts) 7=Minimum Power Out			
13#	Power Off (Shuts off the radio)		14#	10 kHz Signalling Tone On
15#	10 kHz Signalling Tone Off			
16#	Setup (Transmits a five word RECC message; each of the five words will be "FF00AA55CC33." Transmitter de-keys at the end of the message.)			
17#	Voice (Transmits a two word REVC message; each of the two words will be "FF00AA55CC33." Transmitter de-keys at the end of the message.)			
18#	C-Scan (Allows for entry of as many as 5 negative SID's for each NAM.)			

Newer Motorola phones are equipped with a feature called C-Scan, this is an option along with the standard A/B system selections. C-Scan allows the phone to be programed with up to five inhibited system ID's per NAM. This is designed to prevent the phone from roaming onto specified non-home systems and therefore reduce "accidental" roaming fees.

1.	C-Scan can only be programed from test mode, power phone up with the relevant test mode contact grounded (see above).
2.	Press # to access test mode.
3.	Press 18#, the phone will display "0 40000".
4.	Enter the first inhibited system ID and press *.
	Continue to enter additional system ID's if required. After the 5th entry the phone will display "N2". Press * to continue and add system ID's for NAM 2 as required.
5.	If an incorrect entry is made (outside the range of 00000-32767) the display will not advance, press CLR and re-enter. Use a setting of 40000 for any un-needed locations.

	6.	When the last entry has been made press * to store and press # to exit, turn off power.
		or [**Phones without the C-Scan option used this command to SEND NAM.**]

18#	SEND NAM. Display shows AA BB. Where AA=Address and BB=Data. Displays the contents of the NAM, one address at a time, advanced by pressing the * key. The following data is contained in NAM. The test is exited by depressing the # key.		
	SIDH	Sec. Code	
	OPT. (1,2,&3)	MIN	
	MIN1, MIN2	FCHNA	
	SCM	FCHNB	
	IPCH	NDED	
	ACCOLC	CHKSUM	GIM
19#	Display Software Version Number (4 digits displayed as year and week)		
NOTE:	Entering commands 20# through 23# or 27# causes the tranceiver to begin a counting sequence or continous transmission as described below. In order to exit from the commands to enter another test command, the # key must be depressed; all other key depressions are ignored.		
20#	Receive control channel messages counting correctable and uncorrectable errors. When the command starts, the number of the command will be displayed in the upper-right corner of the display. Entering a # key will terminate the command and display two three-digit numbers in the display. The first number is the number of correctable errors and the second is the uncorrectable errors.		
21#	Received voice channel messages counting correctable and uncorrectable errors. When the command starts, the number of the command will be displayed in the upper right-hand corner of the display. Entering a # key terminates the command and will display two three-digit numbers in display. The first is the number of correctable errors and the second is the uncorrectable errors.		
22#	Receive control channel messages counting word sync sequence. When the command starts, the number of the command will be displayed in the upper right-hand corner of the display. Entering a # key will terminate the command and display the number of word sync sequences in the display.		
23#	Receive voice channel messages counting word sync sequences. When the command starts, the number of the command will be displayed in the upper right-hand corner of the display. Entering a # key will terminate the command and display the number of word sync sequences in the display.		
24#	Receive control channel data and display the majority voted busy/idle bit.	0=idle	1=busy
25x#	SAT On When	x=0, SAT=5970HZ x=1, SAT=6000HZ x=2, SAT=6030HZ	
26#	SAT Off		
27#	Transmit Data (Transmits continuous control channel data. All words will be "FF00AA55CC33." When the command starts, '27' will be displayed in the right side of the display. Entering a # key will terminate the command. The transmitter de-keys when finished.)		
28#	Activate the high tone (1150 Hz +/- 55 Hz)		
29#	De-activate the high tone		
30#	Activate the low tone (770 Hz +/- 40 Hz)		
31#	De-activate the low tone		
32#	Clear (Sets non-volatile memory to zeroes or factory default. This command will affect all counters, all repertory memory including the last number called stack, and all user programmable features including the setting of System Registration. It does not affect the ESN, NAM, phasing data, or lock code. This takes a minute or so. DO NOT TURN OFF THE TELEPHONE WHILE THIS IS SHOWING '32' ON THE DISPLAY. WAIT UNTIL THE NORMAL SERVICE LEVEL DISPLAY RESUMES!)		
33x#	Turn on DTMF for x (1-9, *, 0, #, plus the single tones) Where x=		

1	697 Hz + 1209 Hz	10	697 Hz

	2	697 Hz + 1336 Hz	11	770 Hz
	3	697 Hz + 1477 Hz	12	852 Hz
	4	770 Hz + 1209 Hz	13	941 Hz
	5	770 Hz + 1336 Hz	14	1150 Hz (not used in cellular)
	6	770 Hz + 1477 Hz	15	1209 Hz
	7	852 Hz + 1209 Hz	16	1336 Hz
	8	852 Hz + 1336 Hz	17	1477 Hz
	9	852 Hz + 1477 Hz	18	1633 Hz (not used in cellular)
	*	941 Hz + 1209 Hz		
	0	941 Hz + 1336 Hz		
	#	941 Hz + 1477 Hz		

34#	Turn DTMF Off
35#	Display RSSI ("D" Series Portable Only)
	or
35x#	Set Audio Path to x x=0, V.S.P Microphone (Applies to mobiles only.)

x=1,	Speaker
x=2,	Alert
x=3,	Handset
x=4,	Mute
x=5,	External Telephone (Applies to Portables Only)
x=6,	External Handset (Applies to NEWER Portables)

36nnn#	Scan (TDMA Telephones only. Scans the primary control channels and attempts to decipher the forward data stream. The display will show PASS1if the strongest control channel was accessed, PASS2 if the second strongest was accessed, and FAIL if no control channel could be accessed.) (nnn=Scan speed in milliseconds). Tunes from channel 1 to 666 in order. Entering a * pauses the scan and displays current Channel Number and RSSI reading (AAA=Channel Number and BBB=RSSI Reading). When scan speed is 300 milliseconds or greater, the current status is displayed during the scan; when less than 300 milliseconds the status is displayed only during pause. Entering * during a pause causes the scan to resume. Entering # aborts the scan and leaves the mobile tuned to the current channel. During this command only the * and # keys are recognized.
37#	?
38#	Display ESN (Displays ESN in four steps, two hexadecimal digits at a time in a for digit display. The decimal shows the address, 00 through 03 as the first two digits, and two digits of the ESN as the last two digits. Use the 'G' to step through the entire hexadecimal ESN.)
	Compander OFF ("D" Series Portables)
	or
38#	SND-SNM. Display shows AA BB. Where AA=Address;BB=Data. Send the SNM to the display. All 32 bytes of the SNM will be displayed, one byte at a time. The byte address will be displayed in the upper right-hand corner and the contents of that address will be displayed in the hex. The * key is used to step through the address similar to the SEND-NAM (18#) command
39#	Compander ON ("D" Series Portables)
	or
39#	RCVSU. Receive one control channel word. When the word is received it is displayed in hex. This command will be complete when a control channel word is received or when the # key is entered to abort the command.
40#	RCVVC. Receive one voice channel word. When the word is received it is displayed in hex. This command will be complete when a voice channel word is received or when the # key is entered to abort the command.
41#	Enables Diversity (On F19CTA... Series only.)
42#	Disables Diversity (On F19CTA... Series only.)
43#	Disable Diversity

	USE T/R ANTENNA (On F19CTA... Series only.) USE R ANTENNA (On D.M.T./ Mini TAC)
44#	Disable Diversity USE R ANTENNA (On F19CTA... Series only.) USE T/R ANTENNA (On D.M.T./ Mini TAC)
45#	Display Current RSSI (Displayed as a three-digit decimal number)
46#	Display Cumulative Call Timer
47x#	Set RX Audio level to X (For F19CTA ...Series Tranceivers) X=0, Lowest Volume X=6, Highest Volume X=7, mute Normal setting is 4. (For D.M.T./ Mini TAC Tranceivers) X=0, Lowest Volume X=7, Highest Volume Normal setting is 4. (For TDMA Tranceivers and F09F... Series and Higher Portables) X=0, Lowest Volume X=15, Highest Volume Normal setting is 2 to 4. (On TDMA Tranceivers and Micro TAC portables, settings 8 through 15 are for DTMF applications only.)
48#	Side Tone On. Use this command in conjunction with 350# to test the entire audio path in hands-free applications.
49#	Side Tone Off
50#	Maintenance data is transmitted and test results displayed: PASS=received data is correct FAIL 1=2second timeout, no data rec. FAIL 2=received data is incorrect
51#	Test of mobile where maintenance data is transmitted and looped back. Display is as follows: PASS=looped-back data is correct FAIL 1=2 second timeout, no looped-back data FAIL 2=looped-back data is incorrect
52x#	SAT Phase Adjustment. A decimal value that corresponds to phase shift compensation in 4.5 degree increments. Compensation added to inherent phase shift in tranceiver to achieve a total of 0 degrees phase shift. Do NOT enter any values except those shown below.

0 degrees =	0	121.5 degrees =	59	243.0 degrees =	86
4.5=	1	126.0=	60	247.5=	87
9.0=	2	130.5=	61	252.0=	112
13.5=	3	135.0=	62	256.5=	113
18.0=	4	139.5=	63	261.0=	114
22.5=	5	144.0=	40	265.5=	115
27.0=	6	148.5=	41	270.0=	116
31.5=	7	153.0=	42	274.5=	117
36.0=	16	157.5=	43	279.0=	118
40.5=	17	162.0=	44	283.5=	119
45.0=	18	166.5=	45	288.0=	120

49.5=	19	171.0=	46	292.5=	121
54.0=	20	175.5=	47	297.0=	122
58.5=	21	180.0=	64	301.5=	123
63.0=	22	184.5=	65	306.0=	124
67.5=	23	189.0=	66	310.5=	125
72.0=	48	193.5=	67	315.0=	126
76.5=	49	198.0=	68	319.5=	127
81.0=	50	202.5=	69	324.0=	104
85.5=	51	207.0=	70	328.5=	105
90.0=	52	211.5=	71	333.0=	106
94.5=	53	216.0=	80	337.5=	107
99.0=	54	220.5=	81	342.0=	108
103.5=	55	225.0=	82	346.5=	109
108.0=	56	229.5=	83	351.0=	110
112.5=	57	234.0=	84	355.5=	111
117.0=	58	238.5=	85	360.0=	70

53#	Enable scrambler option, when equipped
54#	Disable scrambler option, when equipped
55#	Display/Program N.A.M. (Test Mode Programming) TEST MODE PROGRAMING: Assuming you have completed one of the above steps correctly the phone will wake up in test mode when you turn the power on. When you first access test mode the phone's display will alternate between various status information that includes the received signal strength and channel number. The phone will operate normally in this mode. You can now access Service Mode by pressing the # key, the display will clear and a ' will appear. Use the following procedure to program the phone:

1.	Enter 55# to access programing mode.
2.	The * key advances to the next step. (NOTE that test mode programing does NOT have step numbers, each time you press the * key the phone will display the next data entry).
3.	The CLR key will revert the display to the previously stored data.
4.	The # key aborts programing at any time
5.	To complete programing you must scroll through ALL entries until a ' appears in the display.
6.	Note that some entries contain more digits than can be displayed by the phone, in this case only the last part of the data can be seen.

TEST MODE PROGRAMING DATA:

STEP#	#OF DIGITS/RANGE	DESCRIPTION
01	00000 - 32767	SYSTEM ID
02	8 DIGIT BINARY	OPTION PROGRAMING, SEE NOTE 1 BELOW
03	10 DIGITS	MIN (AREA CODE & TEL#)
04	2 DIGITS	STATION CLASS MARK
05	2 DIGITS	ACCESS OVERLOAD CLASS
06	2 DIGITS	GROUP ID (10 IN USA)
07	6 DIGITS	SECURITY CODE
08	3 DIGITS	LOCK CODE
09	3 DIGITS	SERVICE LEVEL (LEAVE AT 004)
10	8 DIGIT BINARY	OPTION PROGRAMING, SEE NOTE 2 BELOW
11	8 DIGIT BINARY	OPTION PROGRAMING, SEE NOTE 3 BELOW
12	0333 OR 0334	INITIAL PAGING CHANNEL
13	0333	"A" SYSTEM IPCH
14	0334	"B" SYSTEM IPCH
15	3 DIGIT	NUMBER PAGING CHANNEL (021 IN USA)
16	8 DIGIT BINARY	OPTION PROGRAMING, SEE NOTE 4 BELOW

Steps 01 through 06 and 12 will repeat for NAM 2 if the second phone number bit has been enabled in step 11.		
NOTES:	Take care with Motorola's use of "0" and "1". Some options use "0" to enable, some use "1".	
These are eight digit binary fields used to select the following options:		
1.	(step 02 above, suggested entry is: 11101001 for "A" system, 10101001 for "B" sys)	
	Digit 1:	Local use mark, 0 or 1.
	Digit 2:	Preferred system, 0 or 1.
	Digit 3:	End to end (DTMF) dialing, 1 to enable.
	Digit 4:	Not used, enter 0.
	Digit 5:	Repertory (speed) dialing, 1 to enable.
	Digit 6:	Auxiliary (horn) alert, 1 to enable.
	Digit 7:	Hands free (VSP) auto mute, 1 to enable (mutes outgoing hands free audio until the MUTE key is pressed).
	Digit 8:	Min mark, 0 or 1.
2.	(step 10 above, suggested entry is: 00000100)	
	Digits 1 - 4:	Not used in USA, enter 0
	Digit 5:	Single system scan, 1 to enable (scan A or B system only, determined by bit 2 of step 02. Set to "0" to allow user the option).
	Digit 6:	Super speed dial, 1 to enable (pressing N, or NN SND will dial the number stored in memory location NN).
	Digit 7:	User selectable service level, 0 to enable (allows user to set long distance/memory access dialing restrictions).
	Digit 8:	Lock function, 0 to enable (allows user to lock/un-lock the phone, if this is set to 1 the phone can not be locked).
3.	(step 11 above, suggested entry is: 00000000)	
	Digit 1:	Handset programing, 0 to enable (allows access to programing mode without having to enter test mode).
	Digit 2:	Second phone number (not all phones), 1 to enable.
	Digit 3:	Call timer access, 0 to enable.
	Digit 4:	Auto system busy redial, 0 to enable
	Digit 5:	Speaker disable, 1 to enable (use with select VSP units only, do not use with 2000 series mobiles).
	Digit 6:	IMTS/Cellular, 1 to enable (rarely used).
	Digit 7:	User selectable system registration, 0 to enable.
	Digit 8:	Dual antennae (diversity), 1 to enable.
4.	(step 16 above, suggested entry is: 0011010 for portable and 0011011 for mobile units)	
	Digit 1:	Not used, 0 only.
	Digit 2:	Not used, 0 only
	Digit 3:	Continuous DTMF, 1 to enable (software version 8735 and later)
	Digit 4:	8 hour time-out, 0 to enable (software version 8735 and later)
	Digit 5:	Not used, 0 only.
	Digit 6:	Failed page indicator, 0 to enable (phone beeps when an incoming call is detected but signal conditions prevent completion of the call).
	Digit 7:	Portable scan, 0 for portable, 1 for mobile units.
56#	no function	
57x#	Call Processing Mode	
	x=0,	AMPS
	x=1,	NAMPS
	x=2-4,	RESERVED
	x=5,	TDMA signalling
	x=6,	TDMA signalling with loopback before decoding

x=7,	TDMA signalling with loopback voice after decoding
x=8,	TDMA signalling with loopback FACCH after decoding
x=9,	TDMA forced synchronization

58#	Compander On (Audio compressor and expander) (See 39#)
59#	Compander Off (Audio compressor and expander) (See 38#)
60#	no function
61#	ESN Transfer (For Series I D.M.T./Mini TAC only)
62#	Turn On Ringer Audio Path
63#	Turn Off Ringer Audio Path
64#-65#	no function
66#	Identity Transfer (Series II Tranceivers and some Current Shipping Portables)
67#	no function
68#	Diaplay FLEX and Model Information
69#	Used with Identity Transfer
70#	Abbreviated field transmitter audio deviation command, for tranceiverswith FCC ID ABZ89FT5668.
71#	Abbreviated field power adjustment command, for tranceivers with FCC IDABZ89FT5668.
72#	Field audio phasing commands.
73#	Field power adjustment command.
74#-99#	no function
Notes:	There are several numbers that say "no function" next to their entry. In the technical manual, those numbers APPEAR to have no function. It is very possible that they DO IN FACT have a function. As far as I know, using the information provided by the technical manual, I know of no functions for these numbers. But at the top you'll notice in the disclaimer that NOT ALL FUNCTIONS ARE LISTED HERE. That leaves open the possibility of others. Try these numbers and you may get lucky (or you may wipe some vital information...who knows?). I am in fact almost certain that it is possible to change the ESN via the handset. It is just a matter of finding the correct combination of commands. You can bet that won't be easy, but it can't stay a secret forever though! CHECK OUT 37#.
	---------- Note: This is NOT my hack. Thanks to Patrk@delphi.com for this addition.

HACKING THE FOVC

Problem: When listening to something interesting (a conversation), just when that sexy sounding horny broad begins to give her phone number to some lucky guy, HANDOFF!!! then static... DAMN! Trick: Hack the FOVC.

a quick definition:	FOVC	=	FOward Voice Channel
	FOCC	=	FOward Control Channel
	REVC	=	REverse Voice Channel
	RECC	=	REverse Control Channel

As the phone travels through cells, the FOVC is where the tower tells the phone to adjust power levels for the current cell or to change to a new channel for use in the new cell. This info can be hacked apart. So. When you've found a good conversation, don't be lazy! Enter 40#! This makes the phone listen for commands on the voice channel (embedded in the audio portion- you can hear it as a "bump" sound). It will just sit there and the display will read '40' , but the conversation will still be audible. Now when the phone receives a FOVC command (a 40 bit sequence) data will flow across the display, in hex format, and stop. Listen to the phone, if the conversation is still there, then the command was only to adjust power levels. If the conversation is gone, then its a handoff. If you only got a power adjustment command just press # or clr, which ever gets you back to the ' prompt. Enter 40# and keep listening. You can also use the # key to cancel the 40# command, if you want to change channels or something.

If it was a handoff, its time for some quick math. You have to convert some of the numbers to binary, and then to decimal. I don't know how many characters your phone's display will show. Mine only shows the last seven of the ten hex digits. Count left from the end 6 digits. Write down that digit and the next two on a piece of paper, ie:

```
???j16djjj    j=junk numbers  (hex numbers range from 0-9,a-f)
  / \
 these are lost due to scrolling

  write down  16d then convert it to a binary string:

  1 = 0001
  6 = 0110
  d = 1101    (d=13)

  now you have a binary string like this:  000101101101
  throw away the first 2 bits and get:       0101101101
  convert this to decimal and get:                365
```

365 is the new channel the conversation has moved to! Enter 110365# and voila! You too, can hear the horny babe's phone number!

Don't forget to enter 40# again, as the call may be moving quickly through cells (small cells or freeway driving) or the call can get bounced around by the tower for cell traffic purposes.

Here's one more example of the hex>binary>decimal conversion.

```
???j5aejjj
5  =  0101
a  =  1010
e  =  1110
full string        = 010110101110
truncate 2 msb     =   0110101110
convert to decimal =          430
```

Assembling a _QUALITY_ Motorola Flip programming cable

from a standard battery eliminator.
Written by KG/Control Team/Umf 02/07/94

Word. It seems that alot of bad cables are being sold by some lame asses here on the west coast. The result, alot of _rare_ LO phonez are being fried. Welp, this file should clear things up. Even if you've never made anything but clay pots this should be easy for ya. Take your time and this, along with your phone will last a lifetime...

Parts: (1) 550 Battery Eliminator
(2) IN4001 Diodes
(1) Head pins(single row straight stick headers)
(1) DB25/RS232 Connector for connection to LPT1
(1) METAL DB25 cover/protector
(1) 1 1/2 foot of 5 line ribbon
(1) jumper wire (be creative)

Tools: Sizzors (I like sizzors for splicing wires)
Soldering Iron
Hot glue gun (borrow mom's)
Exacto knife (optional)
DMM w/continuity

I'll try and be as verbose as possible. All references to the plastic part that connects the phone to the cable will be known here as the ADAPTER. The hardest thing to find, at least in where I am, is a battery eliminator that has all 8 pins on the ADAPTER. So if ya do have a cable with all the pins you can skip this paragraph. What I did was to go ahead and shell out the 35 duckets for a battery eliminator that only had pin's 7 & 8 (power) on the ADAPTER. Go to you local electronix shop and pick up a pack of head pins. These puppies are the EXACT same thing as what's in the ADAPTER, 'cept their nickel instead of copper. Cut 4 of them off the plastic but be carefull not to bend them when you do so.

Carefully pry off the cover of the ADAPTER and use the exacto knife to get the pins and attatched wires out of the cover. Otherwise you'll end up melting the cover, and trashing the project. Now de-solder the wires connected to pins 7 & 8, wrap then with 2 of the ribbon's leads then re-solder them back to the same pins. Once again, be carefull not to bend them. Now solder the other 4 ribbon lead to the pins 1, 4-6. Now carefully put each pin back into the ADAPTER cover, if some of the holes are filled with resin (batt eliminator), simply push an _extra_ bridge pin thru to get that shit out! Make a note of their colors, then take the DMM and and go over all the connections, making sure that no pin one pin on the ADAPTER is _touching another: 1-4, 2-8, 4-6 ect... * note that pins 7 & 8 will show values from due to the voltage regulator inside the ciggy plug.

Fire up that hot glue gun and place some on the cover to make sure those pins/ wires / solder don't move around when ya put the ADAPTER back together. Don't put too much on or you wont be able to close it. Wait a min or 2 until that dries, then throw some glue into the ADAPTER and quickly close it up.

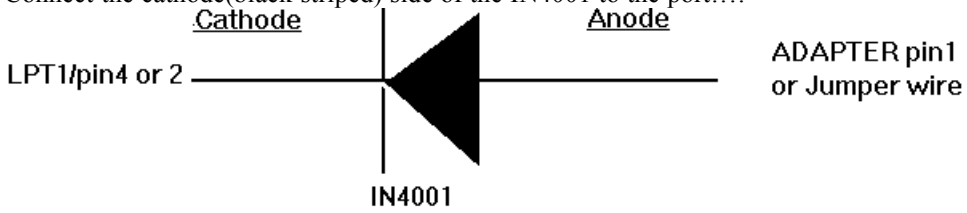
As for the DB25 you shouldn't have any trouble. Just make sure you solder the Diode to the wire before soldering it the the port. Remember parallel pin specs are not the same as serial!!

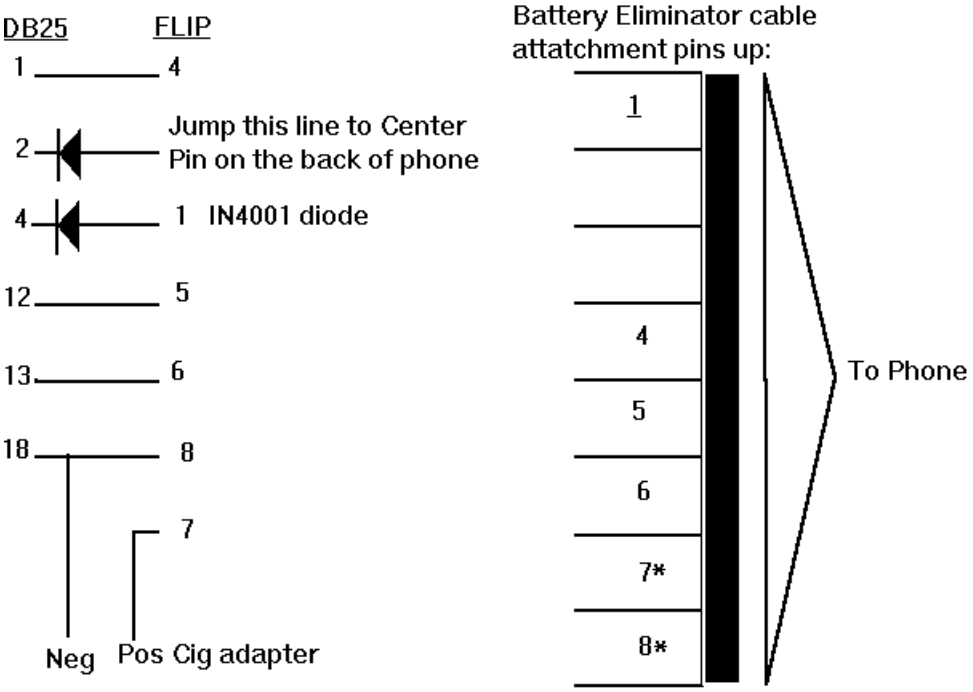
The following is a diagram of a DB25 connector (soldering side). The "*" marks the plain wires, "@" marks placement of the diodes, and the "+" marks where the jumper connects to the anode side of diode one:

								+				
13	12	11	10	9	8	7	6	5	4	3	2	1
*	*	.	.	.	.	.	@	.	@	*		

.	.	.	.	.	*	.	.	.			
25	24	23	22	21	20	19	18	17	16	15	14

Connect the cathode(black striped) side of the IN4001 to the port!!!!





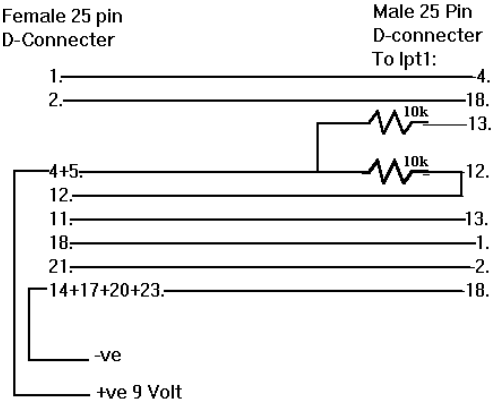
This cable will work with the 6.6, 9.11 & 9.9 software. This means that without a) AMPS or b) The Trick Clip you'll need to find a Flip that has a firmware revision equal to or below 9122. A good sign that the phone is indeed a LO, is to check the ESN located on the back and look for any prefix below A2A. If you can't locate the ESN sticker, usually cause it's stolen, then look for a MCsquared printed along with the menu sticker. If the phone has the MC2 don't buy it. If the phone doesn't have the menu sticker don't buy it! Also before you fork over the $$$ make sure that all the ports on the phone
are in good condition.

Some people may experience problems with 486 machines. I'm looking into slowing the shit down in order for the phone to respond. One way is to divide your BIOS bus clock by 6, another is to load a TSR that actually slows your CPU, although I haven't yet found this to work for me. 286-386 processors work fine. Short cables are a must!

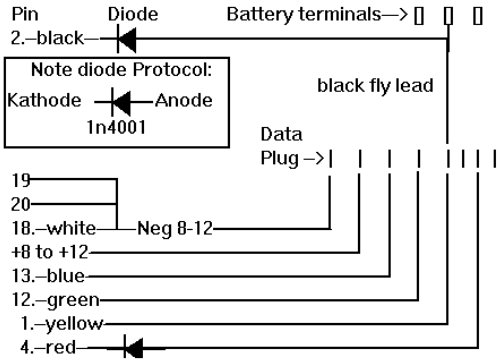
From: locke@dfw.net
Date: Thu, 20 Oct 1994 09:53:54 GMT (altered Thu, 23 Mar 1995)

Anyway, I hope this helps, you CANNOT program the phones without twisting/connecting the additional 19 & 20 DB25 connections.

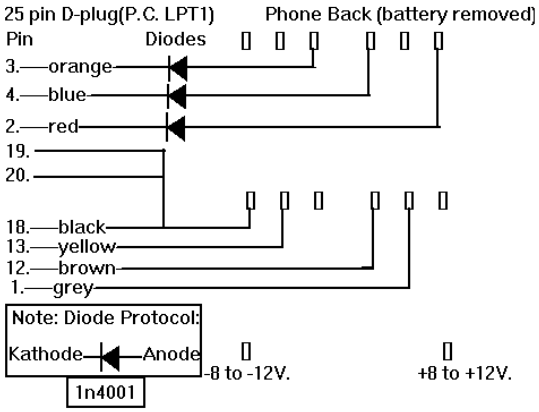
Motorola Transcivers
4500x, 4800x, 6800x, Etc.



Motorola 9800x Personal Tac1 etc. (brick)



Motorola 8500x 8800x (brick)



Final Note:

I HAVE NEVER TESTED ANY OF THESE CABLE SPECS!!! I REPEAT, I HAVE NEVER TRIED ANY OF THESE CABLE SPECS! THE USE OF THESE CABLES COULD DESTROY YOUR PHONE IF THE CABLES ARE MADE INCORRECTLY.
Wether these specs are good or bad is news to me. So if someone could e-mail me to let me know one way or another I would be REALLY obliged. The reason I have never tried these is because I HAVE NO DAMN softwear to use them with. Someone UUENCODE a copy of the newest Motorola softwear to me (unless it is that crap floating around that only changes shit that you could do with the above commands. ESN changing software is what I need.) Anyone with experience in disassembling Motorola's software should e-mail me. We need to get Together.

Mike.Larsen@uit.com
Stularsenmic@vax.colsf.edu

Pinouts for Motorola 8000 “brick” phone - “N” series

----------=?> Doctor Who <?=----------
11/21/94

numbering starts on top row left

pin	Signal
1	logic ground
2	not used
3	audio in to phone
4	audio out (and on/off toggle)
5	4.75 Bias
6	Manual test line
7	Ground for audio signals (common)
8	TRU data line
9	not used
10	CMP data line
11	RTN data line
12	ignition sense

Pinouts for Motorola Motorola series 2 and 3 transceivers 25 pin cable pin defenitions

Doctor Who?

Pin	Designation/Function
1	Transmit Audio / ON - OFF Function
2	Mobile / Transportable Select line
3	Ground (A+ return), one of 2 black wires. Both are required for proper operation
4	Battery A+, one of 2 red wires. Both are required for proper operation.
5	Ignition Sense Lead, green with a black tracer
6	Receiver Audio to handset (RX High), pin 8 on the handset connector
7	Ground
8	Regulated +9.5 volts to handset, pin 2 on handset connector
9	Ground
10	Auxiliary Alert, yellow with black tracer, used to blow the horn or flash the headlights. Provides a ground function. NOTE: 1/2 amps maximum current. The recommended method is to drive a relay (e.q. MOT 59K813674). Ignition Sense, pin 5, must be low for this function to work.
11	T-Data, one of the 3-wire bus lines, to pin 3 of the handset connector.
12	C-Data, one of the 3-wire bus lines, to pin 4 of the handset connector.
13	Ground
14	Transmit Audio Shield
15	Transmit Audio
16	Battery A+, one of two red wires. Both are required for proper operation.
17	Ground, one of two black wires. Both are required for proper operation.
18	R-Data, one of the 3-wire bus lines, to pin 5 of the handset connector.
19.	Receiver Audio to External Speaker
20	Ground for Receiver Audio (Shield) to External Speaker.
21	Manual Test Line. When tied low places the telephone in TEST MODE.
22	Ground
23	Handset Logic Ground, to handset connector pin 1
24	Handset Audio Ground, to handset connector pin 6
25.	Accessory Ground, to External Speaker

Motorola / AMPS handset specifications:

----------=?> Doctor Who <?=----------

RJ-45	DB-25	Description
1	23	ground
2	8	9.5v
3	11	3-wire databus “true”
4	12	complimentary line
5	18	return data line
6	24	audio ground
7	1	rcv hi

ESN CHANGER CABLE
WRITTEN BY THE RAVEN

Well HTH is working on the designs so you guys can also do your Flip Phones in this same manner, which will not require you to open the phone!! Since my days are limited I hope I can get it out to you guys before I go in. If not then you should just contact any HTH member on The New York Hack Exchange Now if you understand how the whole reprogramming process works you'll know that you can not reprogram phones with software version higher than 9122 now as for the flip and the brick phones you can uses that 'Trick Clip' that HTH sells or you can pay more an get from that SPY SUPPLY GUY, now that 'TRICK CLIP' allows you to reprogram phones with software above 9122, with the old software provided that you open the phone, now that is also the same process if you were to reprogram a bag phone with higher software you would need to get another EPROM that has old firmware programmed into it, and that aslo requires you to open the phone. Now this ESN changer cable will allow you to change the ESN of a MOTOROLA Bag phone with out opening it, provided that you already have one bag phone that has the old program in it. Now what this will allow you to do is take you old bag phone and run the Motorola software on it, and change it to the ESN that you wish to place on another phone. Now what you will be doing is placing the the ESN TRANSFER Cable on you rphone and the one you wish to change. And follow the
instructions below.

Now here is the set up for the ESN TRANSFER CABLE I'll make a better Diagram later on so look out for it.

Now check this out...

From your unit	to the phone you want to program
12	12
8	4 & 5
17	3
18	18

Those are you PIN arrangements for the bag phones...Now this will not work on software versions 61c97 and 61H15.

Fail Codes for ESN Transfer:

FAIL Incorrect setup or defective equipment
FAIL 2 No ESN in your unit
FAIL 12 Bad transfer phone. (The phone that your trying to put a new ESN on is fucked up)

INSTRUCTION ON ESN TRANSFER:

Step 1. Connect the cable with no power applied.
Step 2. Press the "PWR" key to turn on the UNITs. Press "#66#" to begin the transfer. The hand set will display "66" while the transfer is taking place and the "66" will be replaced by "PASS" OR "FAIL" WHEN IT IS FINISHED ABOVE IS THE LIST OF fail CODES.
Step 3. If the phones both say "pass" then thats it you pull it off now just check the phone by pressing 38# in test mode to check to make sure the new ESN is in there.

Motorola ESN ranges

The range of ESN numbers may be used to identify the type of Motorola Fone.

From	To	Type
8200 0000	827F FFFF	AMPS
8280 0000	829F FFFF	NAMPS (Narrow AMPS)
82A0 0000	82DF FFFF	AMPS
82E0 0000	82FF FFFF	TDMA
C300 0000	C37F FFFF	AMPS
C380 0000	C3BF FFFF	NAMPS

[Check with your system operator to verify your cellular switch is capable of operating with ESN's in all of these ranges. There have been situations in the past where the switch software was not updated to recognize the new ESN ranges, and customers were unable to complete phone calls as a result.]

Serial code Information

From: Leroy.Donnelly@axolotl.omahug.org (Leroy Donnelly)
Date: Wed, 10 Feb 93 19:26:42 CST
For those who own Motorola phones the following will tell you when it was made.

Year	Code	Month	Code
1984	J	January	A or B
1985	K	February	C or D
1986	L	March	E or F
1987	M	April	G or H
1988	N	May	J or K
1989	P	June	L or M
1990	Q	July	N or P
1991	R	August	Q or R
1992	S	September	S or T
1993	T	October	U or V
1994	U	November	W or X
1995	V	December	Y or Z

Example:

Serial number: 289CLW4321

		Year	Month	
289C		L	W	4321
		---	---	
		1986	NOV	

READING THE SID WITH THE MOTOROLA PHONE

----------=?> Doctor Who <?=----------

Written on March 19, 1995. A sunny, but still somewhat cold sunday.

The SID (System IDentification) of a control channel can be determined using the test mode of the Motorola cellular phone. This document assumes the reader understands cellular technology in general, and how to access Motorola's test mode in specific.

Tune the phone to the desired control channel with 11xxx# where XXX is the channel number. Hit 39# to receive one control channel word. One should appear in less than two seconds, filling up all ten digits on the display with hexadecimal digits. Do this repeatedly until one is found with the correct pattern. Digit places start at the left hand side and go to the right.

The first digit should be C, D, E, or F. This letter can be used to determine the DCC/SAT of the cell. A "C" is SAT 0, D is 1, E is 2, and F is 3. Ignore digits 8, 9, and 10. They are parity bytes. Digit 7 should be "6" or "E", though I have never found it to be other than "E". The hexidecimal value of represented by digits 2 through 5 is then divided by two, and then 1 added if the carrier is a "A" side, "non-wireline" carrier. The result is the System ID.

for example:

E00388EA08

E means this cell has an SAT/DCC of 3. The A08 is ignored. The E to the left of it is proper and normal, so this is the right kind of message. Ignore the 8 in position 6, that is, just to the left of the E. 0038 in hexadecimal translates ((3*16=48)+8)) to 56. 56/2 = 28. Looking up System ID 28 on my chart indicates Nynex in Boston. This is correct.

Please be aware that the two SID charts I have seen around the net are very outdated. I have a more recent version on paper which I may eventually type in, when I have the time and energy.

The methods used above are only a very crude way to do what could be done much more efficiently by computer. I am sure that programs will be written to do exactly this, but I am holding off until I have thoroughly hacked the meaning of all these types of messages before writing such a program. I am also contemplating the design of a cable to replace the handset, running from the 25 pin connector on the side of my Bag Phone to a computer.

----------=?> Doctor Who <?=----------

Sources:

Basic Commands	Mike.Larsen@uti.com	foneinfo.txt motbible.txt
NAM ACCESS	Mike.Larsen@uti.com Unknown	motbible.txt foneinfo.txt keypad_p.txt
NAM programing	Mike.Larsen@uti.com	motbible.txt foneinfo.txt
Test Mode access	Mike.Larsen@uti.com	motbible.txt foneinfo.txt
Test Mode	Mike.Larsen@uti.com	motbible.txt foneinfo.txt
Hacking the FOVC	Unknown	fovchack.txt
Assembling a _QUALITY_ Motorola Flip Programing Cable	KG/Control Team/Umf	
Pinouts for Motorola 8000 “brick” phone	Dr. Who	handset.txt
Pinouts for Motorola Motorola series 2 and 3 transceivers 25 pin cable pin defenitions	Dr. Who	pin25.txt
Motorola / AMPS handset specifications Motorola ESN ranges	Dr. Who	handset.txt
Serial code Information	Leroy.Donnelly@axolotl.omahug.org	motcode.txt
READING THE SID WITH THE MOTOROLA PHONE	Dr. Who	motsid.txt

Motorola Publications:

Software ESN transfer cable plans are vividly described in motorola publication 68P09300A60-B-1 aka Cellular Subscriber Technical Training Manual dated Sept 1992

This is acellular service manual that's used in their cellular service classes
Ask for the Order Fulfillment department when ordering part# 68-093-00a60. $30

Stuff (I am not assocated with anyone listed below. The list is only for informational reasons, for those who can not find the following parts on their own):

innovate63@aol.com (206) 847-6324 Motorola flip phone battery Eleminators $19.95

termi@phantom.com DPC-550 Flip phone cable $50 and Software (CellSoft & MPC)
NATIONAL SALES
P.O. Box 6303
Chelsea, MA 02150

BBS’s & internet sights

Sight/bbs name	Ip address / phone number	Additional information
corrupt.sekurity.com	166.93.16.24	/pub/phones and /pub/incoming

spy.org	198.232.139.1	/pub/SECURITY/SECTEC/cellular
camelot.usc.edu	128.125.37.15	
ripco.com		
wiretap.spies.com		/library/untech/cellphone.mod
ftp.fc.net		MPC.ZIP
ftp.fc.net		
l0pht.com		/pub/blackcrwl/cell
ftp.winternet.com		/users/craigb
camelot.usc.edu		/pub/cellular
		WWW/GOPHER/FTP FROM CASCADE.NET: pub/cDc/New
		http://www.spy.org/
		http://www.phantom.com/
Poisoned Pen	708-251-3868	REALMPC.ZIP