



# 92

## DiamondTel

### CELLULAR TELEPHONE MODEL

#### OPERATING INSTRUCTIONS



## **INTRODUCTION**

Thank you for purchasing DiamondTel Cellular Products. Your DiamondTel 92 offers the flexible options of mobile, installed operation and transportable convenience.

Please read this manual thoroughly to take advantage of all the many options offered.

The DiamondTel 92 features a 14-digit Alpha-Numeric liquid crystal display; volume control with memory and a backlit keypad and display providing convenient night viewing.

The keypad on the handset contains 25 keys. These keys consist of the telephone dial keys; (0 through 9; #, \*) plus thirteen control keys; PWR (POWER), SEND (SEND); END (END), MUTE (MUTE), FCN (FUNCTION), RCL (RECALL), STO (STORE), CLR (CLEAR), P1 (PERSONAL 1), P2 (PERSONAL 2), P3 (PERSONAL 3), and ▲/▼ (VOLUME on the side).

Extended feature functions are provided by using the FCN (FUNCTION) key in conjunction with the numeric keys. These functions are labeled above the numeric keys which enable them.

## **CONTENTS**

<b>STATUS INDICATORS .....</b>	4
<b>CONTROL KEYS .....</b>	6
<b>EXTENDED FUNCTION FEATURES .....</b>	8
<b>BASIC OPERATION.....</b>	13
TURNING ON THE PHONE .....	13
PLACING A CALL .....	14
RECEIVING A CALL .....	15
ENDING A CALL .....	15
TURNING OFF THE PHONE .....	15
<b>OTHER BASIC OPERATION .....</b>	16
VOLUME ADJUSTMENT .....	16
STORING OFTEN-USED NUMBERS .....	18
RECALLING OFTEN-USED NUMBERS .....	19
HOOK-FLASH REQUEST .....	20
LAST NUMBER REDIAL .....	20
DIALED NUMBER CHECK .....	21
CALL IN ABSENCE INDICATOR .....	21
LOW BATTERY INDICATOR .....	22
BACKLIGHTING .....	22
<b>EXTENDED FEATURE OPERATIONS .....</b>	23
SYSTEM A/B SELECTION (FCN/1) .....	23
FORCING SYSTEM A/B OPERATION .....	23
LOCKING/UNLOCKING THE PHONE (FCN/2) .....	25
EXTERNAL HORN ALERT (FCN/3) .....	26
ACCUMULATED TALK TIME (FCN/4) .....	27
DISCONTINUOUS TRANSMISSION MODE (FCN/5) .....	28
CALL RESTRICTION (FCN/6) .....	29
PROGRAMMING OF UNLOCK CODE (FCN/7) .....	30
ALPHABET NAME AND NUMBER STORE (FCN/8) .....	31
ALPHABET SCAN (FCN/9) .....	33
PAUSE FUNCTION (FCN/0) .....	34
AUTOMATIC RETRY ON/OFF (FCN/#) .....	35
CREDIT CARD NUMBER SECURITY (FCN/RCL) .....	36
ANNOUNCE BEEP ON/OFF (FCN/*/1) .....	37

STATUS CHANGE BEEP ON/OFF (FCN/*/2) .....	38
STATUS MONITOR ON/OFF (FCN/*/3) .....	38
USER PROGRAMMABLE AREA CODE (FCN/*/4) .....	40
BATTERY VOLTAGE DISPLAY (FCN/*/5) .....	41
RF OUTPUT POWER CHANGE (FCN/*/6) .....	42
AUTOMATIC ANSWER (FCN/*/7) .....	43
DATA INTERFACE (RJ-11) (FCN/*/8) .....	44
SILENT SCRATCH PAD (FCN/MUTE) .....	45
AUTO STORE (FCN/STO) .....	46
<b>ONE TOUCH DIAL NUMBER STORE/RECALL</b>	
(STO, RCL P1/P2/P3) .....	46
AUTOMATIC DTMF (FCN/SEND) .....	47
RESET CUMULATIVE TIMER (FCN/CLR) .....	48
LCD VIEW ANGLE CONTROL (FCN/2sec) .....	48
<b>OWN TELEPHONE NUMBER DISPLAY/DUAL NAM</b>	
(RCL/#) .....	49
MEMORY SCAN (RCL/▲/▼) .....	50
DTMF OVERDIALLING FROM MEMORY .....	51
VOICE MUTE .....	52
TALK TIME .....	52
CUMULATIVE TIMER INCREMENT .....	53
DUAL HANDSET .....	53
ROAM INHIBIT .....	53
<b>BATTERY INFORMATION</b> .....	54
BATTERY PACK / SAFETY INFORMATION .....	54
BATTERY CHARGE / CHARGING INSTRUCTIONS .....	55
BATTERY REMOVAL AND REPLACEMENT .....	56
<b>ACCESSORIES</b> .....	57
<b>OPERATION NOTES</b> .....	58
PROGRAMMING SEQUENCE .....	59
WARNINGS .....	60
SAFETY INFORMATION .....	61
INSTALLATION .....	63
WIRING INSTRUCTIONS .....	68
DATA INTERFACE OPTION .....	74
<b>MEMORY DIRECTORY</b> .....	83
LIMITED WARRANTY STATEMENT .....	BACK COVER

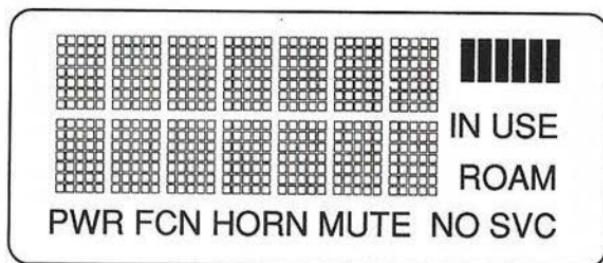
## **DIAMONDTEL 92**



\*Shown with optional TK-92 transportable kit

## **STATUS INDICATORS**

### **LIQUID CRYSTAL DISPLAY:**



#### **Alpha-Numeric**

5 x 7 dot matrix type:

Digits are scrolled from right to left. Up to 32 digits can be entered, but more than 18 are scrolled off the display.

#### **PWR:**

Indicates that the telephone is turned on. When in the transportable mode, it flashes when the station is on and the battery is low.

#### **IN USE:**

Indicates that a call is in progress.

#### **NO SVC:**

Indicates that the station is out of the cellular service area.

#### **FCN:**

Indicates that the "FCN" key is depressed and that the telephone is ready for feature selection. The "FCN" indicator flashes when the key-pad is used in the alphabet entry mode.

#### **MUTE:**

Indicates that the voice input from the microphone is disabled.

**HORN:**

"HORN" is displayed indicating that this option is active. See page 26 for details.

**ROAM:**

Remains steadily on the screen when operating on a preferred, non-home system and flashes when operating on a non-preferred system.

**|||||:**

Indicates the received signal strength.

**AUDIBLE INDICATORS:****Ringing:**

Indicates that a call has been received.

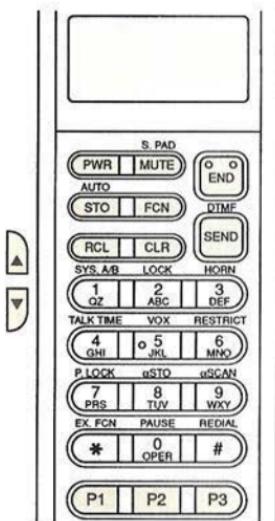
**Reorder:**

Indicates that the system has not accepted your call. Press the "END" and "SEND" keys again for another try.

**Intercept:**

Indicates an incorrect operating sequence has been entered.

# CONTROL KEYS



## PWR

Turns the phone "on" or "off".

## FCN

Allows you to engage specific phone features after pressing the "FCN" key and corresponding digit keys. Detailed explanation follows later.

## CLR

Momentary depression clears the last entered digit while continuous depression clears all digits or exits the extended function mode.

## STO

Stores up to 32 digits in one of 99 memory locations.

Press "STO" and "a number" (01 through 99).

## RCL

Recalls the numbers stored in the 99 memory locations.

Press "RCL" and "a number" (01 through 99).

## SEND

Initiates a phone call to the number in the display. Answers the call when a ringing tone is heard.

Depressing this key during a conversation acts as a "hook-flash" request.

## END

Ends a call.

## MUTE

Disables or enables the voice input from the microphone when in the conversation mode.

### **P1, P2, and P3**

These keys are used for one touch dialing. A call can be initiated by pressing these keys only. These are slow action keys, in order to prevent accidental dialing. Press for more than 0.5 seconds.

### **▲/▼**

These keys control the following 5 independent volume levels:

#### **Speaker volume:**

The minimum volume level is "SP OFF". This level is adjustable when the "FCN" then either the "▲" or "▼" keys are pressed.

#### **Alert volume:**

The minimum volume level is "ALERT OFF". This level is adjustable when the handset is off-hook, and when the phone is in the idle mode.

#### **Handset volume:**

This level is adjustable when the handset is off-hook, and when the phone is in the conversation mode.

#### **Handsfree volume:**

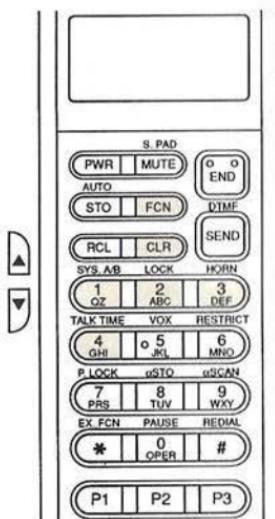
This level is adjustable when the handset is on-hook, and when the phone is in the conversation mode.

#### **Reorder/Intercept/Beep Tone volume:**

This level is adjustable when the handset is on-hook, and when the phone is in the idle mode.

## **EXTENDED FUNCTION FEATURES**

The following are brief descriptions. Details begin on page 23. The extended function features can be initiated by pressing the "FCN" key and then pressing the key labeled with the extended function name. Pressing the "CLR" key always causes the phone to return to the normal operation mode.



### **FCN/1 SYSTEM A/B SELECTION (P. 23)**

This function shows the phone's current cellular system selection priority, and allows you to change the priority by entering numeric choices as shown below.

- 0 Preferred system first
- 1 Alternate system first
- 2 Preferred HOME system only
- 3 Preferred system only
- 4 Alternate system only

### **FCN/2 LOCKING/UNLOCKING THE PHONE (P. 25)**

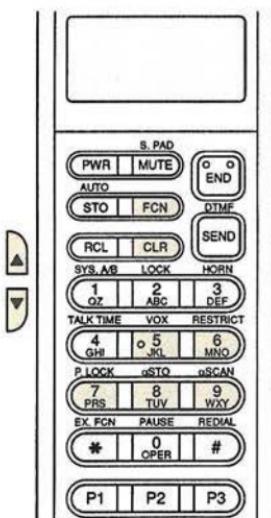
This function allows you to lock the phone when not in use, or when you are away from it. The message "LOCK" will appear in the display. To unlock the phone enter your 3-digit unlock code.

### **FCN/3 EXTERNAL HORN ALERT (P. 26)**

The external horn alert feature sounds the car horn when a call is received. This function has 2 time settings.

### **FCN/4 TALK TIME (P. 27)**

This function shows the talk time of the last call completed and the accumulated talk time. If your 4-digit security code is entered, then the operating timer will also be displayed.



### FCN/5 DISCONTINUOUS TRANSMISSION MODE (DTX) (P. 28)

The discontinuous transmission mode (DTX) is used for battery saving when in the portable mode by activating the transmitter only when you are talking.

**NOTE:** If the cellular system does not have such a system, then this feature is disabled.

### FCN/6 CALL RESTRICTION (P. 29)

By using your 4-digit security code, you can restrict the use of your phone by another person. Call Restriction imposes limits on the telephone numbers that can be dialed by the user.

### FCN/7 PROGRAMMING OF UNLOCK CODE (P. 30)

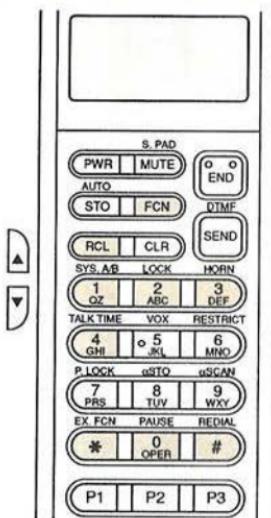
This function allows you to change the unlock code to prevent unwanted access by people who you no longer want to use your phone.

### FCN/8 ALPHABET NAME AND NUMBER STORE (P. 31)

This function allows names and numbers to be stored in the 99 memories using alphabetic and numerical entries of up to 16 characters.

### FCN/9 ALPHABET SCAN (P. 33)

Alphabet scan lets you recall names and numbers from memory by using the first letter of a stored name. After selecting the first letter, the ▲ or ▼ key on the handset, can be used to scan forward to backward through the alphabet memory.



### **FCN/0 PAUSE FUNCTION (P. 34)**

This function allows a pause to be generated within any sequence of digitally transmitted data. (Used with credit card calling, etc.)

### **FCN/# AUTOMATIC RETRY (P. 35)**

When enabled, the telephone will automatically redial a number after failure to establish a call.

### **FCN/RCL CREDIT CARD NUMBERS SECURITY LOCATION (P. 36)**

During the conversation mode, this function enables you to transmit your credit card number from memory.

### **FCN/\*/1 ANNOUNCE BEEP (P. 37)**

This function gives you an indication of the time spent in a conversation by emitting a short beep every 50 seconds of each minute.

### **FCN/\*/2 STATUS CHANGE BEEP (P. 38)**

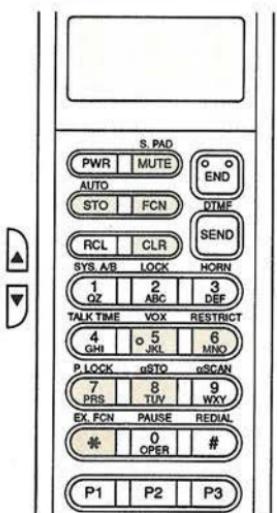
This function gives you an indication that the "NO SVC" or "ROAM" status has changed.

### **FCN/\*/3 STATUS MONITOR (P. 38)**

This function displays the system parameters your phone is accessing.

### **FCN/\*/4 USER PROGRAMMABLE AREA CODE (P. 40)**

An area code of 3 or 4 digits can be stored in memory by using this function. These digits will be prefixed to 7 digit numbers when the phone is outside of its home area.



### **FCN/\*/5 BATTERY VOLTAGE DISPLAY (P. 41)**

This function displays the battery's current voltage level.

### **FCN/\*/6 RF OUTPUT POWER CHANGE (P. 42)**

This function allows you to set the output power of the phone to either its low or high level when in the transportable mode.

### **FCN/\*/7 AUTOMATIC ANSWER (P. 43)**

When an incoming call is received the phone automatically answers the call after 3 rings.

### **FCN/\*/8 DATA INTERFACE (RJ-11) ON-HOOK (P. 44)**

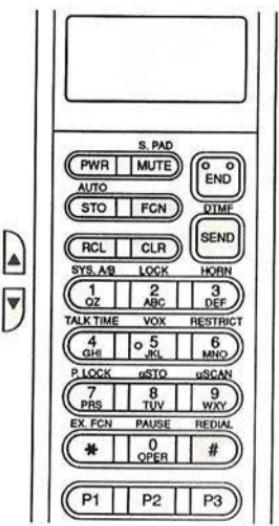
This function allows other devices to be attached to the phone so that you can receive digital data (facsimile machines, computers, etc.)

### **FCN/MUTE SILENT SCRATCH PAD (P. 45)**

When in a conversation, this feature disables the DTMF tones from being either transmitted or heard from the handset.

### **FCN/STO AUTO STORE (P. 46)**

This function locates the first free memory location, if one exists, and stores the displayed number there.



### **FCN/SEND DTMF (P. 47)**

By pressing the "FCN" then "SEND" keys during a conversation, you can transmit the displayed digit data in the form of DTMF tones.

### **FCN/CLR RESET CUMULATIVE TIMER (P. 48)**

This function allows you to reset the accumulated talk timer value between users.

### **FCN**

#### **(HOLD FCN KEY FOR 2 SECONDS)**

#### **LCD VIEW ANGLE CONTROL (P. 48)**

This function allows the LCD display to be adjusted in order to obtain the best viewing clarity.

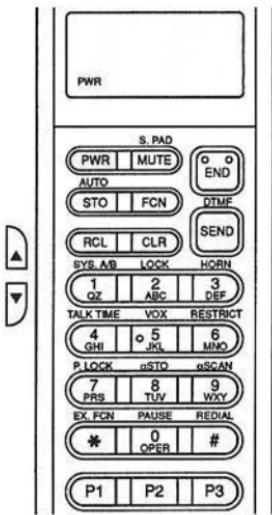
### **RCL/# OWN TELEPHONE NUMBER DISPLAY/DUAL NAM (P. 49)**

This function displays your own telephone number, and if dual NAM is available, allows your phone to work on a alternate system.

### **RCL/▲/▼ MEMORY SCAN (P. 50)**

This function allows rapid scanning of the phones memory to locate stored numbers.

## BASIC OPERATION



### TURNING ON THE PHONE

Press the "PWR" key.

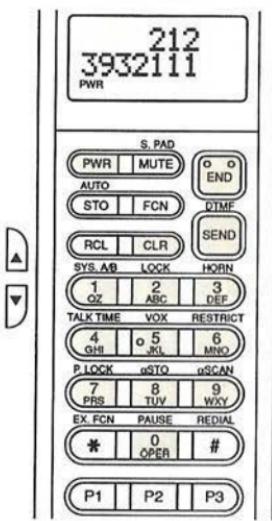
Press the "PWR" key for more than 1 second when in the transportable mode. When the phone is turned on, all possible displays appear briefly with backlight and an audible tone is heard. Your own telephone number is displayed. Your phone number will not be displayed if:

- A) The phone is locked.
- B) Call restriction level is not "0".
- C) "Disable own number" in NAM is not active (during programming).

The "PWR" indicator will remain on the display to show that the phone is on.

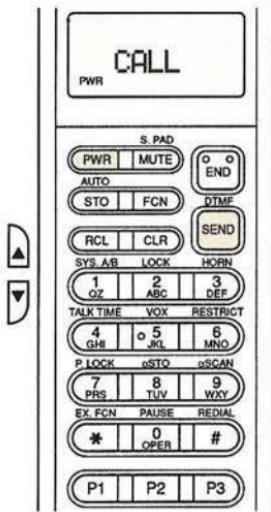
**NOTE:** The same procedure turns off the phone.

1. If the "PWR" indicator starts to blink and the "LOW BATTERY" message appears in the display, it indicates that the battery pack needs to be charged. If the phone is left on despite this alarm, it will turn itself off to protect the battery pack from over-discharging. This function only operates when the phone is in the transportable mode.
2. If the display shows the "LOCK" message, this indicates that the electronic lock is on. To unlock your phone, enter your 3-digit unlock code.
3. After turning on the phone, if the "NO SVC" indicator remains in the display or returns at a later time, it may indicate that you are out of range of the Cellular Service. Calls cannot be initiated or received when the "NO SVC" indicator is displayed.
4. If the message "CHECK 3" appears in the display, the phone should be taken in for service.



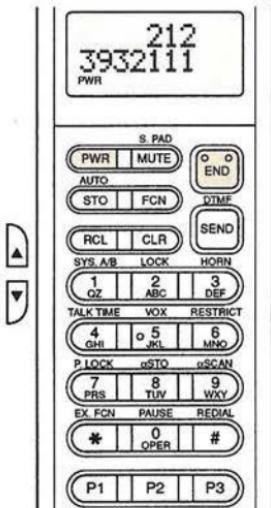
## PLACING A CALL

1. Turn the phone on, and unlock it using your 3-digit unlock code if the "LOCK" message appears in the display.
2. Dial the desired telephone number. Each digit pressed will appear on the display. Up to 32 digits may be entered but only the last 14 digits will be displayed.
3. Press the "SEND" key. The "IN USE" indicator will appear. The dialed telephone number will disappear, and the talk timer will appear. Normal network tones will be heard from the earpiece.
  - If a busy tone is heard, press the "END" key. This is a slow action key.
  - If you key in a wrong digit, press the "CLR" key to clear the last entered digit. To clear the entire number, hold down the "CLR" key.
  - If a reorder (fast busy) tone is heard, press the "END" key and the "SEND" key again.
  - An intercept (siren) signal indicates a mistake was made by the user. Try again.
4. When the called party answers, proceed with the conversation. The talk timer indicates the elapsed time for the present call.



## RECEIVING A CALL

When the phone is turned on and the "NO SVC" indicator does not appear, a call may be received. When a call is received, a ringing tone will be heard and the "CALL" message will flash on the display. Press the "SEND" key or pick up the handset to answer the call.



## ENDING A CALL

Pressing the "END" key always terminates a call.

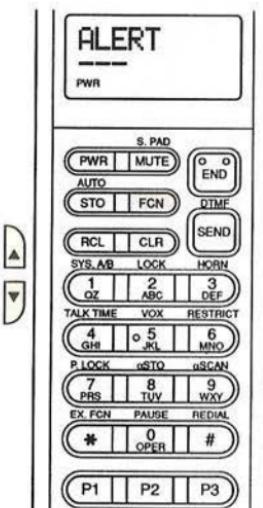
## TURNING OFF THE PHONE

To turn off the phone, press the "PWR" key until a short beep is heard.

**NOTE:** The "PWR" key is disabled during conversation to prevent accidental disconnects.

When in the vehicular mode, even if the ignition switch is turned off during a conversation, the phone does not turn off until the call has ended.

# OTHER BASIC OPERATIONS



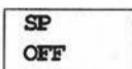
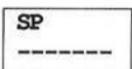
## VOLUME ADJUSTMENT

To adjust the various volume levels, press the " $\Delta/\nabla$ ", or "FCN" + " $\Delta/\nabla$ " keys. The volume levels of the phone change up or down through its 7 settings. By pressing the " $\Delta/\nabla$ " keys, the present level changes every 0.5 seconds until it stops at the maximum or minimum level.

Five independent volume adjustments are available; Speaker volume, Alert volume, Handset volume, Handsfree volume, and Reorder/Intercept/Beep Tone volume. Each volume level is stored in memory and is retained even if power is removed from the phone.

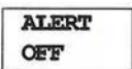
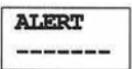
### 1. SPEAKER VOLUME

When the "FCN" key and the volume control keys, " $\Delta/\nabla$ ", on the side of the handset are pressed, the speaker volume and key tone volume can be adjusted to a comfortable listening level. A tone is generated for the adjustment. The minimum volume level is speaker off, "SP OFF".



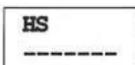
### 2. ALERT VOLUME

When a call is not in progress, you can adjust the ringing volume to a suitable level, when the volume control keys, " $\Delta/\nabla$ ", are pressed and when the handset is off hook. A ringing tone is generated for the adjustment. The minimum volume level is alert off, "ALERT OFF".



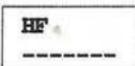
### **3. HANDSET VOLUME**

During a conversation and with the handset off hook, press the volume control keys, "▲/▼", to adjust the volume from the earpiece to a comfortable listening level.



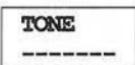
### **4. HANDSFREE VOLUME**

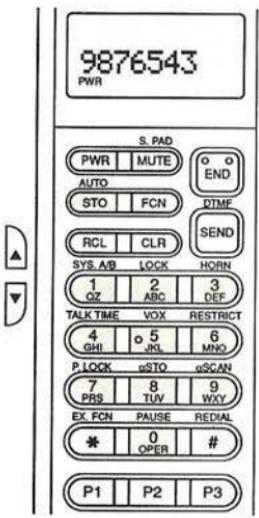
During a conversation and with the handset on hook, press the volume control keys "▲/▼" to adjust the volume from the handset speaker to a comfortable listening level.



### **5. REORDER/INTERCEPT/BEEP TONE VOLUME**

When not in a conversation and with the handset on hook, the Reorder/Intercept/Beep tone volume level can be adjusted by using the volume control keys, "▲/▼". A tone is generated for the adjustment.





## STORING OFTEN-USED NUMBERS

A maximum of 99 often-used telephone numbers, of up to 32 digits each, may be stored in the phone's memory. These 99 memory locations are numbered from 01 to 99.

In order to store a telephone number in memory, follow this sequence:

1. Key in the telephone number to be stored from the keypad.
2. Press the "STO" (STORE) key.
3. Key in a two digit memory location (From 01 to 99).

The display will change as shown below indicating that the digits have been stored.

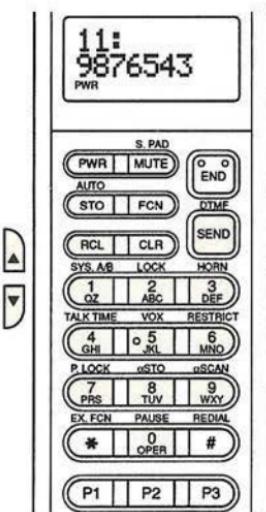
**STORED  
ADDR 11**

**NOTE:** If a number already exists in this memory location, the new telephone number will replace the existing number.

When this is done, the alphabet name corresponding to this number, if programmed, is cleared.

If you want to clear an alphabet name and number from memory, press the "CLR" key for more than 0.5 seconds, followed by the "STO" key, and the address location number that you want cleared.

**EXAMPLE:** "9876543", "STO" and "11" will store the number in memory location 11.



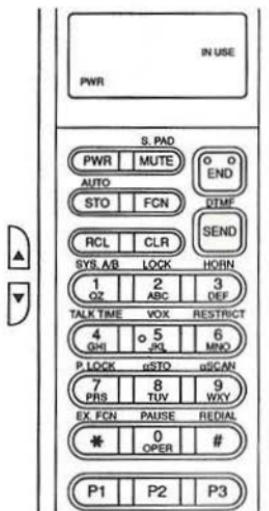
## RECALLING OFTEN-USED NUMBERS

1. Press the "RCL" (RECALL) key.
2. Enter the required memory location (01 to 99).
3. Press the "SEND" key if you wish to place the call.

**EXAMPLE:** "RCL" and "11" will recall the number stored in location 11.

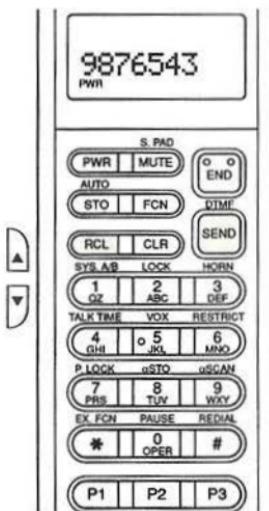
11:  
9876543

**NOTE:** When the telephone number is recalled, the memory location and last, eleven digits of the number are displayed. After recalling the telephone number, you can scan the memories by pressing the "▲/▼" keys. If you press 01 through 99 before pressing the "SEND" key, the corresponding stored telephone number is sent. Memory locations 01 to 09 + "SEND" or 1 to 9 + "SEND" can be accepted. "00" + "SEND" and "0" + "SEND" operations are for operator calls. It is possible to add digits to the recalled numbers.



## HOOK-FLASH REQUEST

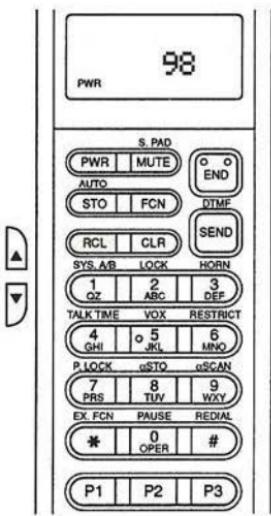
If there are services which can be initiated by pressing the "SEND" key during a conversation, specific procedures to be followed will be provided by the system operator.



## LAST NUMBER REDIAL

The number dialed is also stored in memory when the "SEND" key is pressed. If for any reason the dialed number is not in the display, you can recall it to the display by pressing the "RCL" (RECALL) key twice. For example, if you place a call but you get a busy signal, you turn off the phone. After a while, you turn the phone on and try to place the call again. Depressing the "RCL" key twice recalls the last attempted number.

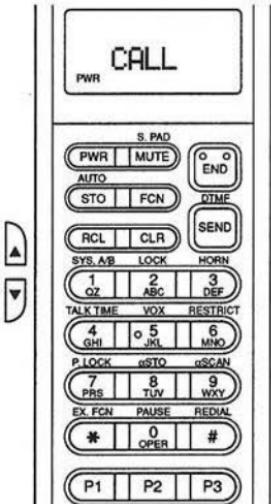
**NOTE:** It is possible to add digits to the recalled numbers.



## DIALED NUMBER CHECK

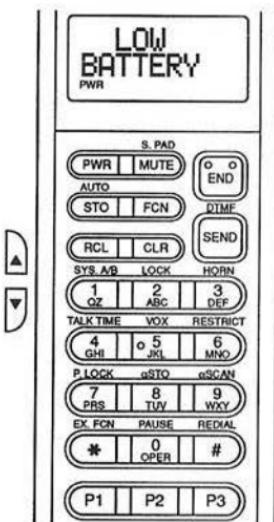
The "RCL" key is used to review the beginning digits of a telephone number with more than 14 digits.

Press and hold the "RCL" key. This shows briefly the most significant four digits and then shows the next significant fourteen digits for as long as the "RCL" key is held down.



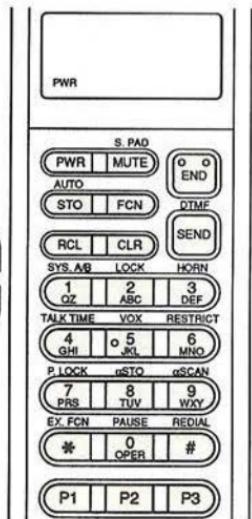
## CALL IN ABSENCE INDICATOR

When an incoming call occurs, "CALL" will flash on the display. The display will clear when the call is answered. A steady "CALL" display indicates a call was received, but not answered.



## LOW BATTERY INDICATOR

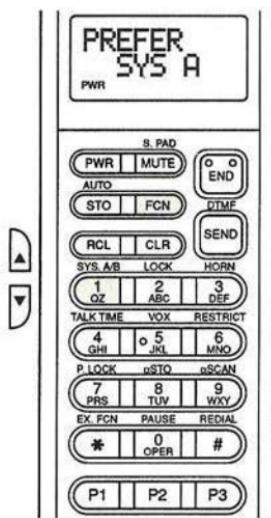
When the battery unit needs charging, in the transportable mode, the "PWR" indicator starts to blink and a short tone can be heard every 20 seconds. The "LOW BATTERY" message also appears in the display. If the phone is left on despite these alarms, it will automatically turn itself off to protect the battery unit from over-discharging.



## BACKLIGHTING

When in the vehicular mode, the backlight is always on. In the transportable mode, the backlight is kept on for 10 seconds by pressing any key except the "PWR" key. If a key is pressed when the backlight is on, this condition is extended for another 10 seconds. Whenever an incoming call occurs or the handset is off hook, the backlight is on.

## EXTENDED FEATURE OPERATIONS



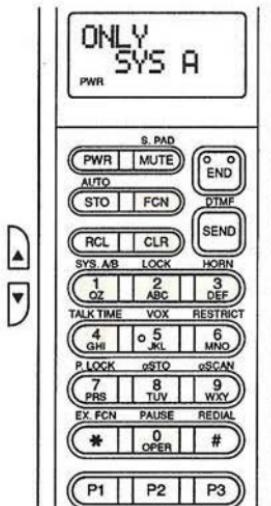
### SYSTEM A/B SELECTION

#### (FCN/1)

FCN + 1 + n

In a particular service region, there may be two system suppliers: system A and system B. Half of the channel allocations are assigned to system supplier A. The other half of the channel allocations are assigned to system supplier B. When you contract for service with a supplier, that supplier's service (either system A or system B) is designated as the preferred service and that supplier's unique system identification is stored in the phone's memory.

The phone is designed so that it will operate on either the A or the B system. The normal mode of operation is for the phone to seek service on the preferred system. If for any reason the phone does not acquire preferred service, it will switch over to the alternative (non-preferred) system to seek service.



### FORCING SYSTEM A/B OPERATION

If you wish to force operation from one system to another, the System A/B function allows several alternatives to be selected:

1. When you press the "FCN" key and "1" key, the current selection is displayed.

- To select the alternate system, press a numeric key "n", ("n" = a number).

"n" = 0, Preferred System A:

PREFER  
SYS A

Seeks service on the preferred system (when either in your home system or roaming in another system) before searching the alternative system for service.

"n" = 1, Preferred System B:

PREFER  
SYS B

Seeks service on the alternate system (when either in your home system or roaming in other system) before searching the preferred system for service.

"n" = 2, Home Only System A:

H ONLY  
SYS A

Operates on the preferred home system only. Operation on any preferred roam system or operation in any alternate system will NOT be allowed.

"n" = 3, Only System A:

ONLY  
SYS A

Operates on the preferred system only (when either in your home system or roaming in another system). Operation on the alternate system will NOT be allowed.

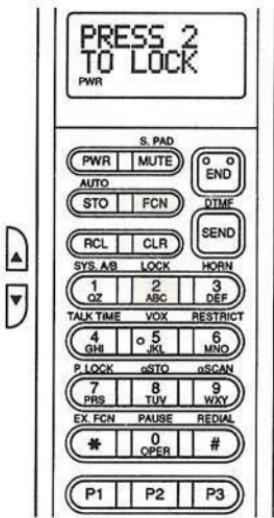
"n" = 4, Only System B:

ONLY  
SYS B

Operates on the alternate system only (when either in your home system or roaming in another system). Operation will NOT be allowed on any preferred system.

**NOTE:** The above-mentioned messages on the LCD are displayed when the preferred system is system A. If system B is selected, the character 'B' replaces 'A' in the above-mentioned messages. This function can only be entered when a call is not in progress. If the ROAM INHIBIT OPTION has been selected by the user you can not enter this mode.

- To exit the System A/B selection mode and restore call operations, press the "CLR" key.



## LOCKING/UNLOCKING THE PHONE (FCN/2)

To lock the phone, press the "FCN" key and the "2" key. The following message will be displayed.

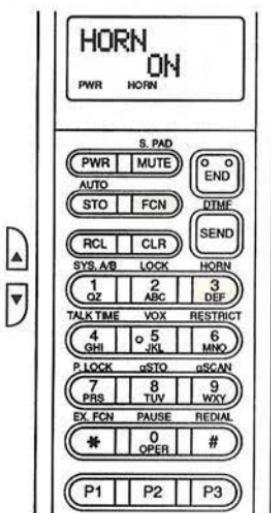
PRESS 2  
TO LOCK

If you want to lock the phone, then press the "2" key, otherwise, press any other key.

The message "LOCK" will appear in the display. When locked, calls can not be received and can not be placed, except for the emergency 911 number. The locking operation is allowed only when a call is not in progress.

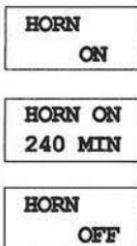
To unlock the phone enter your 3-digit unlock code.

**NOTE:** This locking status is preserved while the phone is turned off. If you forget your unlock code which you may have programmed, try the last 3-digit of your number. Please call your service center for further assistance.



## EXTERNAL HORN ALERT (FCN/3)

Press the "FCN" key and the "3" key. One of the following messages will be displayed.



This function switches through the above displayed modes each time you press the "3" key.

When the horn alert function is activated the "HORN" indicator remains on until the timer expires, if the Disable Ignition Sense bit is inactive, or until the function is disabled by the user, if the Disable Ignition Sense bit is active.

**Disable Ignition Sense bit is inactive:**

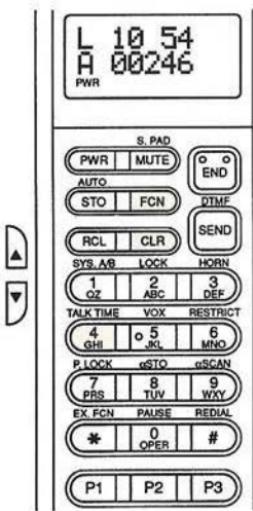
When this function is activated the horn sounds on an incoming call. When "HORN ON" is selected, this feature remains engaged even after turning off the ignition switch. When "HORN ON 240 MIN" is selected, it is engaged for 240 minutes after turning off the ignition switch. If "HORN OFF" is selected, the function is disabled. The function is disabled (if enabled) when the ignition switch is turned on again. This operation is engaged when the ignition switch is on. To return to the normal operation mode, depress any key.

**Disable Ignition Sense bit is active:**

When this function is activated, the horn sounds on an incoming call. In order to disable this function, press the "FCN" and "3" keys. This function remains activated until the user disables it by pressing "FCN" and "3", or until the user turns off the phone.

**NOTE:** The Disable Ignition Sense "bit" is enabled/disabled during NAM programming.

**NOTE:** This function works only during mobile configuration.



## ACCUMULATED TALK TIME (FCN/4)

1. Press the "FCN" key and "4" key. The talk time of the last call completed and the accumulated talk time will appear in the display as follows.

L	MM	SS
A	MMMMM	

Where "MM" represents 00 to 59 minutes and "SS" represents 00 to 59 seconds.

Where "MMMMM" represents 00000 to 99999 minutes.

2. The Non-resettable TALK TIMER (Operating Timer) can also be displayed.

When the last call and the accumulated talk timer have been displayed, enter your 4-digit security code. The display will change and it will show the following message.

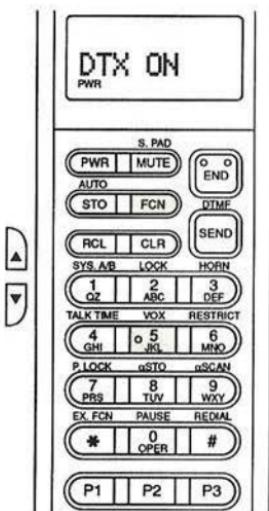
OPERATE
XXXXXX

Where XXXXX equals 00000 to 99999 minutes.

This function is accepted only when a call is not in progress. To return to the normal operation mode, press the "CLR" key.

**NOTE:** The accumulated time shown in the display is the total talk time registered on the phone. It may slightly differ from the actual call charge time. It can not be used to validate the charges by the cellular carrier.

Accumulated talk time is stored in the form of MMMMM:SS. However, only MMMMM will be displayed. The timer value is maintained even if the battery is removed.



## DISCONTINUOUS TRANSMISSION MODE (FCN/5)

The discontinuous transmission mode (DTX) is used for battery saving by activating the transmitter only when you are talking. This function works only during transportable mode operation. To enable/disable this function, press the "FCN" key and the "5" key. One of the following messages will be displayed.



The "DTX ON" message will appear on the display when the discontinuous transmission mode is selected. When in the conversation mode the DTX status is displayed as shown below.

(1) **DTX ON**  
MM SS

(2) **DTX NA**  
MM SS

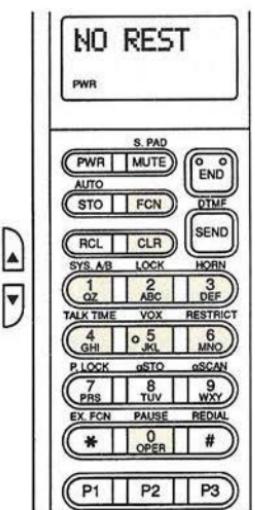
(3) **MM SS**

1. DTX mode is selected and the system allows DTX operation.
2. DTX mode is selected but the system does not allow DTX operation.
3. DTX mode is not selected.

To disable this function, when activated, press the "FCN" and "5" keys again. The display will show "DTX OFF" as proof that this function is now disabled.

To return to the normal operation mode, depress any key.

**NOTE:** This function is dealer programmable upon the user's request. The DTX status remains activated while the phone is turned off. DTX operation is only available if the cellular system provides that feature.



## CALL RESTRICTION (FCN/6)

FCN + 6 + (4-digit security code) + n  
By means of your security code, you can restrict the use of the phone by another person. The various Call Restriction levels impose limits on the telephone numbers that can be dialed by the user.

1. To engage, press the "FCN" key, and the "6" key. Enter your 4-digit security code number when the display shows the message "INPUT CODE". The current restriction level will then be displayed.
2. To change the current setting, set the number "n", to the restriction level you want, as follows;

"n"      LCD

0: **NO REST**

No restriction on the types of calls that can be made.

1: **LOCAL  
ONLY**

Long distance and operator calls are inhibited. (i.e. only seven digit and 1 + 800 + XXX.. toll free calls are accepted.)

2: **RECALL  
1-99**

You cannot enter new telephone numbers. You can only recall numbers from any of the 99 memories and place calls to those numbers.

3: **RECALL  
1-9**

You can not enter new telephone numbers. You can only recall numbers from memory locations 1-9 and place calls to those numbers.

4: **ONLY  
LAST NO**

You can only initiate calls to the last number dialed.

"n" LCD

5: **ONLY  
P1/2/3**

You can only initiate calls to the numbers stored in the "P1", "P2", and "P3" memories.

6: **ONLY  
RECEIVE**

You can only receive calls.

3. In order to set the selected level, press the "CLR" key.

**NOTE:** Calls made using the emergency number (911) are always allowed at any restriction level.

The user can lock and unlock the phone, but the restriction level can only be changed by using your security code.

A new restriction level can be programmed even if the phone is locked.

This mode selection remains active while the phone is turned off.

### INPUT CODE

PWR



### PROGRAMMING OF UNLOCK CODE (FCN/7)

FCN + 7 + (4-digit security code) + (3-digit new unlock code) + STO

To change the unlock code, press the "FCN" key and the "7" key. The following message will be displayed.

### INPUT CODE

Enter your 4-digit security code. The current unlock code will be displayed. Enter the new 3-digit unlock code that you want, and then press the "STO" key.

After pressing the "STO" key, the phone will automatically return to the normal operation mode.

The new unlock code can be programmed even if the phone is locked.

**NOTE:** To avoid confusion, the number "911" should not be used as an unlock code. If you forget your 4-digit security code, or don't know what was programmed in the NAM, try the last 4-digit of your number. Please see your dealer or service center for further assistance.

## ALPHABET NAME AND NUMBER STORE (FCN/8)

Each number key corresponds to letters in the alphabet:

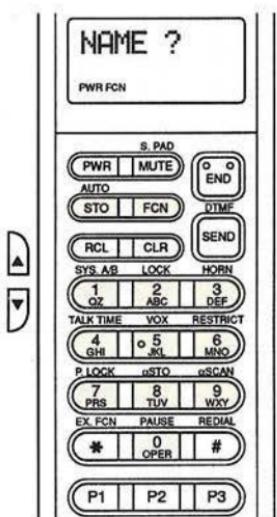
1 = QZ \_\_ (space)

2 = ABC

3 = DEF

, ETC.

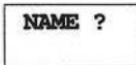
By following these instructions you can store names and their related phone numbers.



FCN + 8 + (letter) + STO + (number)  
+ FCN + STO or STO + XX

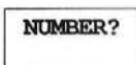
A maximum of 16 letters, space, or numeric characters can be stored in the name area, (but the first character should be a letter), and a maximum of 32 digits can be stored in the number area.

When the "FCN" key and "8" key are pressed,



is displayed.

When the "STO" key is pressed after entering a name,

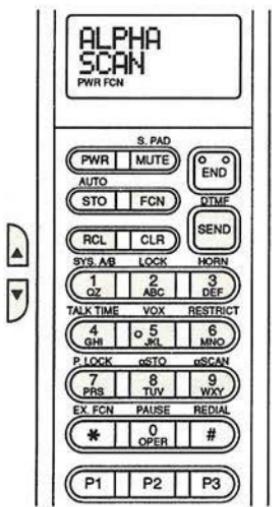


appears.

**EXAMPLE:** DADONNA 123 LA/2123932111

<u>Operation</u>	<u>Display</u>	<u>Operation</u>	<u>Display</u>
FCN + 8	("FCN" indicator blinks) <u>NAME_?</u>	1	<u>DA</u>
<u>3</u> DEF	<u>D</u>	QZ	<u>DONNA_1</u>
<u>2</u> ABC	<u>DA</u>	2	<u>DAD</u>
<u>3</u> DEF	<u>DAD</u>	ABC	<u>ONNA_12</u>
<u>6</u> <u>6</u> <u>6</u> MNO MNO MNO	<u>DADO</u>	3	<u>DADO</u>
<u>6</u> <u>6</u> MNO MNO	<u>DADON</u>	DEF	<u>NNA_123</u>
<u>6</u> <u>6</u> MNO MNO	<u>DADONN</u>	FCN	("FCN" indicator blinks)
<u>2</u> ABC	<u>DADONNA</u>	1 1 1 QZ QZ QZ	<u>DADON</u>
1 1 1 QZ QZ QZ	<u>D</u> <u>ADONNA</u>		<u>NA_123_</u>
	("SPACE" entered aft."A")		("SPACE" entered aft."3")
FCN	("FCN" indicator off)	5 5 5 JKL JKL JKL	<u>DADONN</u>
			<u>A_123_L</u>
		<u>2</u> ABC	<u>DADONNA</u>
			<u>_123_LA</u>
		STO	("FCN" indicator off)
			<u>NUMBER?</u>
		2123932111	<u>212</u>
			<u>3932111</u>
		FCN STO or STO XX	<u>STORED</u>
			<u>ADDR_XX</u>

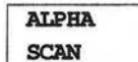
**NOTE:** Underlined key must be depressed for more than 0.5 second. To insert a space between letters, depress the #1 key three times. On the third press, hold down the key for more than 0.5 seconds. A high tone is then heard from the speaker. When the key-pad is used for the letter entry mode, the "FCN" indicator blinks.



## ALPHABET SCAN (FCN/9)

FCN + 9 + (alphabet selection) + ( $\blacktriangle$ / $\blacktriangledown$ )

When the "FCN" key and "9" key are pressed,



appears.

Alphabet Scan is used to find the telephone number corresponding to a person's name which is stored in memory. After entering the first letter of a person's name, press the  $\blacktriangle$  or  $\blacktriangledown$  keys to make the phone scan forward or backward through the alphabet memory. By continuous depression of these keys, the display will change every second.

### EXAMPLE:

<u>Operation</u>	<u>Display</u>	<u>Operation</u>	<u>Display</u>
FCN+9 ("FCN" indicator blinks)	<u>ALPHA</u> <u>SCAN</u>	$\blacktriangle$	09:CROS S_WILLI
2    2 ABC ABC	<u>B</u>	$\blacktriangle$	24: <u>DAVID</u>
		$\blacktriangledown$	09:CROS S_WILLI
The location number and the first eleven characters of the name (if there are that many), are displayed.		RCL (Press and hold)	AMS _____
12: _____ <u>BEN</u>		RCL (Release)	09:CROS S_WILLI
48: _____ <u>CARLSON</u>		CLR	816 4942209



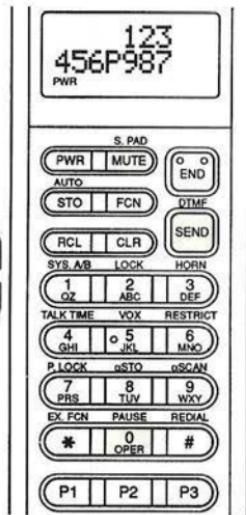
The "RCL" key is used to review the last characters of the alphabet name if it has more than eleven characters. By pressing and holding the "RCL" key, the last characters of the name appear.

If the "FCN" key is pressed during the alphabet scan mode, the corresponding memory location and the last eleven digits of the phone number are displayed, and the scanning mode changes to memory scan. See the memory scan section for further details.

**NOTE:** If the name is on the display, it is possible to make a call without recalling or displaying the corresponding phone number. To place the call, press the "SEND" key.

To recall the desired alpha memory, depress the corresponding letter key for more than 0.5 seconds. A high tone will be heard from the speaker.

When the key-pad is used in the letter entry mode, the "FCN" indicator blinks.



## PAUSE FUNCTION (FCN/0)

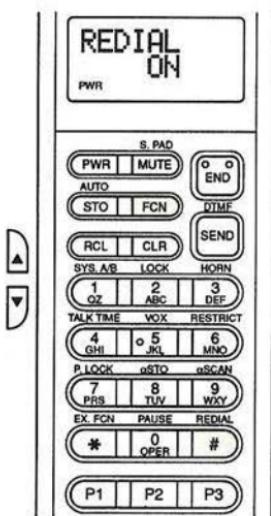
1. Enter the telephone number.
2. Press the "FCN" key and the "0" key.
3. Enter the DTMF number.
4. Press the "SEND" key.
5. Press the "SEND" again.

The display will be of the format shown below:

xxxxxxxxPyyyyyPzzzzzzzzz

In this case, xx... is first transmitted in a digital format. Then yy... and zz... are transmitted as DTMF signals.

The use of the term digital, in no way indicates that this product is a digital format cellular phone.



## AUTOMATIC RETRY ON/OFF (FCN/#)

To engage this function press the "FCN" key and the "#" key:

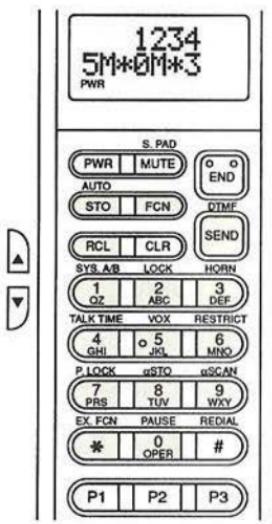
**REDIAL**  
**ON**

**REDIAL**  
**OFF**

When the display shows "REDIAL ON", the automatic retry function is activated. To use this function, it must be enabled during unit programming. Automatic retry continues to try and access the cellular system. The phone will attempt to access the system 15 times with 10 second intervals between each try. When the automatic retry function is operating,

**PAUSE**  
**REDIAL** appears.

**NOTE:** This is not an automatic redial function to redial a busy number. This mode selection remains activated while the phone is turned off.



## CREDIT CARD NUMBERS SECURITY LOCATIONS (FCN/RCL)

This function is used when making a credit card call.

1. Enter the telephone number.
2. Press the "FCN" and "RCL" keys plus "X".

Once the "FCN" and "RCL" keys are pressed, an "M\*" is automatically displayed. (\*X is the special memory location where you have stored your credit card number.)

3. Press the "SEND" key.
4. After you hear the tone, press the "SEND" key again.

**NOTE:** The phone has the special memory location (\*0 – \*9) protected by your security code. You can use this memory area for credit card number storage. The digit capacity of these memories are 16 digits each.

### 1) Store:

Enter the credit card number and press the "STO" key, followed by a special memory location number (\*0 – \*9). The display will show the following message:

INPUT  
CODE

If you enter your 4-digit security code, the stored address will be displayed to confirm that the credit card number is stored.

STORED  
ADDR \*X

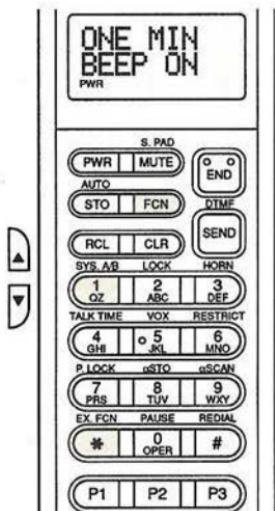
## 2) Recall:

Press the "RCL" key and enter the special memory location number (#0 – #9). The display will show the following message:

INPUT

CODE

If you enter your 4-digit security code, the number in the special memory location will be displayed.



## ANNOUNCE BEEP ON/OFF

(FCN/\*1)

FCN + \* + 1

To engage, press the "FCN", "\*", and "1" keys. One of the following messages will be displayed.

ONE MIN  
BEEP ON

ONE MIN  
BEEP OF

When activated, a short beep sounds 10 seconds before the end of each minute of phone conversation. To disable this function, press the "FCN", "\*", and "1" keys again. The display will show "ONE MIN BEEP OF" to confirm that the function is disabled. To return to the normal operation mode, press any key.

**NOTE:** This mode selection remains activated while the phone is turned off.

**STATUS  
BEEP ON**

PWR



**STATUS  
MON OFF**

PWR



**STATUS CHANGE BEEP ON/  
OFF (FCN/\*/2)**

FCN + \* + 2

To engage, press the "FCN", "\*", and "2" keys. One of the following messages will be displayed.

**STATUS  
BEEP ON**

**STATUS  
BEEP OF**

When activated, and when the status of either the "NO SVC" or "ROAM" indicators change, a short beep tone sounds. To disable this function, when activated, press the "FCN", "\*", and "2" keys again. The display will show "STATUS BEEP OF" to confirm that the function is disabled. To return to the normal operation mode, press any key.

*NOTE:* This mode selection remains activated while the phone is turned off.

*NOTE:* This function enables the user to know when his unit accesses another system other than the one he is registered with.

**STATUS MONITOR ON/OFF  
(FCN/\*/3)**

FCN + \* + 3 + (4-digit security code)

When the "FCN", "\*", and "3" keys are depressed,

**INPUT  
CODE**

appears.

After entering your 4-digit security code, the alternate status monitor mode is displayed as follows:

**STATUS  
MON ON**

**STATUS  
MON OFF**

When this function is activated, "STATUS MON ON";

**1. During the non-conversation mode**

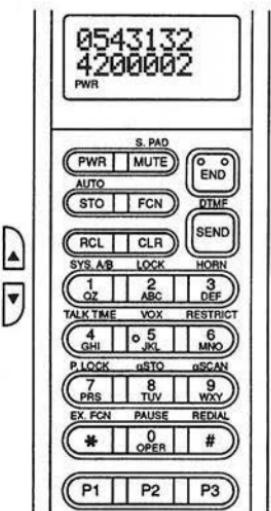
During the non-conversation mode the phone displays the status information. The display format of the status monitor is as follows:

**CCCCRRR  
AAAAAA**

CCCC : Control channel  
RRR : Received RSSI  
AAAAAA : Received SID

**2. During the conversation mode**

During the conversation mode, the phone displays the status information instead of the Talk Time. The display format of the status monitor is as follows:



**CCCCRRR  
PSAAAAAA**

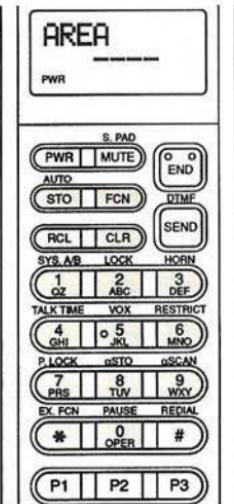
CCCC : Voice channel  
RRR : Received RSSI  
P : Transmit power level  
(0 – 8; 8 means power off)  
S : Received SAT frequency  
0 = 5970 Hz, 1 = 6000 Hz,  
2 = 6030 Hz, 3 = no SAT  
AAAAAA : Received SID

To disable this function, when activated, press the "FCN", "\*", and "3" keys again. When the "INPUT CODE" message is displayed, enter in your 4-digit security code. The display will show the "STATUS MON OFF" message to confirm that the function is disabled.

To return to the normal operation mode, press any key.

**NOTE:** This function is activated only when the phone is not locked.

This mode selection remains activated while the phone is turned off.



## USER PROGRAMMABLE AREA CODE (FCN/\*4)

To display the area code:

FCN + \* + 4

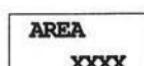
To enter a new area code:

(Area code) + STO

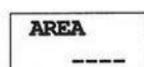
To cancel the current area code:

FCN + \* + 4 + FCN + CLR

When the "FCN", "\*", and "4" keys are pressed, one of the following messages will be displayed.



Where XXXX is  
the current area code.

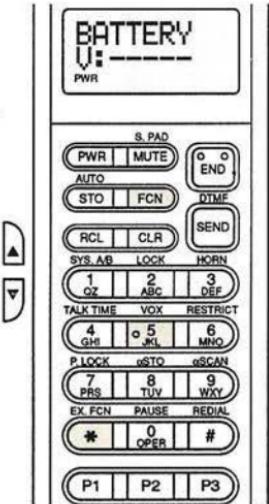


Where no area code  
is programmed.

In order to change the current code, enter in a new area code, and press the "STO" key. The phone will then automatically return to the normal operation mode. If the "CLR" key is pressed after entering in a new area code, the phone will return to the normal operation mode, but the new code will not be accepted. When a phone call is placed, this area code is sent followed by the telephone number, when the length of the telephone number is seven digits, and when the roam condition is active. (i.e. when the roam indicator either flashes or remains on.)

In order to clear an area code from the phone, press the "FCN", "\*", "4", "FCN". and "CLR" keys.

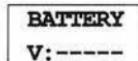
**NOTE:** This function is disabled when the Call Restriction level is set at "LOCAL ONLY".



## BATTERY VOLTAGE DISPLAY (FCN/\*5)

FCN + \* + 5

When the "FCN", "\*", and "5" keys are pressed the following message is displayed.



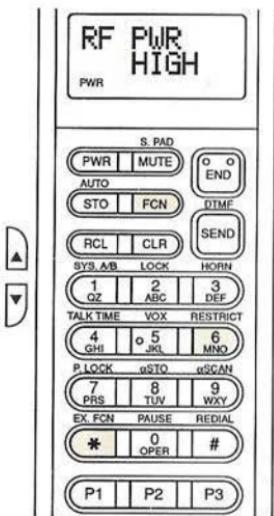
The battery voltage level is displayed as illustrated by the bar graph below:

- - - - ; The battery voltage, "V", is >13.2V
- - - ; 12.4V < V < 13.2V
- - - ; 11.6V < V < 12.4V
- - ; 10.8V < V < 11.6V
- ; 10.2V < V < 10.8V

The actual voltage range for each bar graph indicator group may vary by +/- 15%.

To return to the normal operation mode, press any key.

**NOTE:** When you select this function, the voltage level shown reflects the battery condition at that moment only. To update this information, you must repeat this function.



## RF OUTPUT POWER CHANGE

### (FCN/\*/6)

FCN + \* + 6

When the "FCN", "\*", and "6" keys are pressed, the display will show one of the following messages.

RF PWR  
LOW

RF PWR  
HIGH

The RF output level of the phone is changed to the level shown on the display, when the "FCN", "\*", and "6" keys are pressed. To change the phones output to the alternate level, press the "FCN", "\*", and "6" keys again. To return to the normal operation mode, press any key.

**NOTE:** This function is available only when the phone is in the transportable mode.

This mode selection remains activated while the phone is turned off.

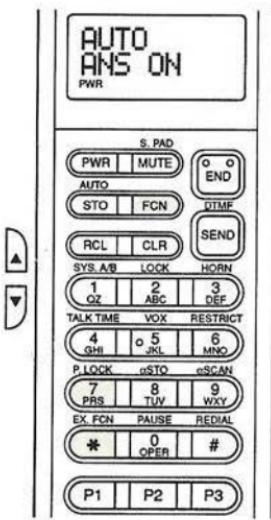
If the phone is in "high power" mode, the battery's "talk time" is reduced.

**NOTE: POWER LEVELS:**

LOW = 1.2 WATTS (TERMINATED)

HIGH = 3.0 WATTS (TERMINATED)  
(ACCEPTABLE ERROR  $\pm$  2dB).

See page 54 for more information on battery performance.



## AUTOMATIC ANSWER

(FCN/\*/7)

FCN + \* + 7

When the "FCN", "\*", and "7" keys are pressed, the display will show one of the following messages.

AUTO  
ANS ON

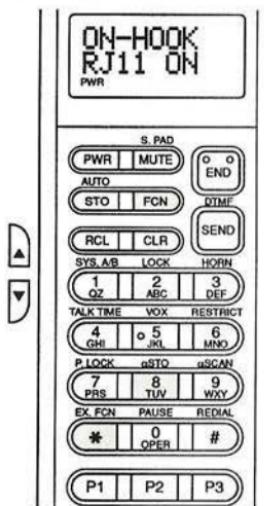
AUTO  
ANS OFF

When this function is activated, "AUTO ANS ON", and an incoming call is received, the phone automatically will answer the call after three rings. To disable the function, press the "FCN", "\*", and "7" keys again. The display will show "AUTO ANS OFF" to confirm that the function is disabled. To return to the normal operation mode, press any key.

This function is not designed to record phone messages when the user cannot answer the call. It will answer the call after three rings, so you do not have to physically pick up the handset out of the unit.

**NOTE:** This mode selection remains activated while the phone is turned off. If the Horn Alert function is activated, this function will not operate.

**CAUTION:** If unit is "ON" (standby mode) and this function is "on" (enabled), incoming calls will be received as if someone was present to answer the call, resulting in accrued air time charges.



## DATA INTERFACE (RJ-11) ON-HOOK (OPTIONAL FUNCTION) (FCN/\*/8)

FCN + \* + 8

When the "FCN", "\*", and "8" keys are pressed, the display will show one of the following messages.

**ON-HOOK**

**RJ11 ON**

**ON-HOOK**

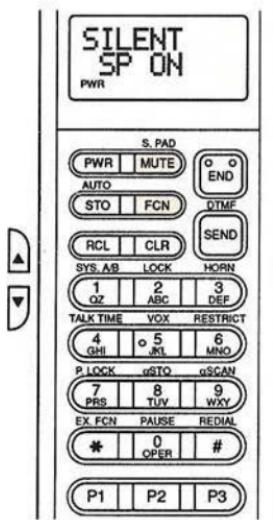
**RJ11 OF**

This optional function allows you to connect various kinds of external equipment to your phone, such as computers, facsimile machines, etc., so that you can receive digital data or messages.

If activated, "ON-HOOK RJ11 ON", and in the conversation mode the "on-hook" signal is detected from the RJ-11 interface, and the phone ends the conversation. If the function is disabled, "ON-HOOK RJ-11 OF", the "on-hook" signal from the RJ-11 interface is ignored. To disable the function, press the "FCN", "\*", and "8" keys again. To return to normal operation mode, press any key.

**This function operates only when the RJ-11 option has been installed and activated in NAM program.**

**NOTE:** This mode selection remains activated while the phone is turned off. This option operates only in the conversation mode and does not handle automatic dial or the receive operation. To initiate transmission, you must first dial the number.



## SILENT SCRATCH PAD (FCN/MUTE)

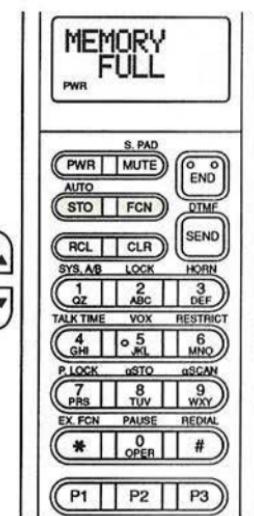
FCN + MUTE

When the "FCN" and "MUTE" keys are pressed, in the conversation mode, one of the following messages will be displayed.

**SILENT  
SP ON**

**SILENT  
SP OFF**

When activated in the conversation mode, "SILENT SP ON", the DTMF tones are not heard from the handset or transmitted. This function is automatically disabled when not in the conversation mode. To disable the function, press the "FCN" and "MUTE" keys again. The display will show the "SILENT SP OFF" message to confirm that the function is disabled. To return to the normal operation mode, press any key.



## AUTO STORE (FCN/STO)

(Telephone number) + FCN + STO

After entering a telephone number, and pressing the "FCN" and "STO" keys, one of the following messages will be displayed.

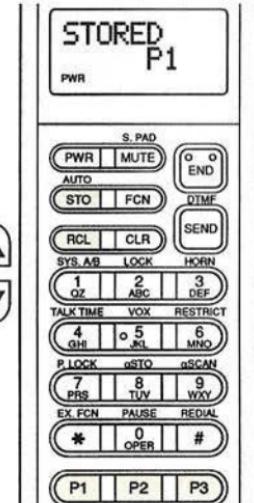
**STORED  
ADDR XX**

Where XX is the stored memory location.

**MEMORY  
FULL**

The message "MEMORY FULL" is shown only when all the 99 memory locations are occupied.

This feature automatically searches for the first open memory location and stores the displayed telephone number there.



## ONE TOUCH NUMBER STORAGE/RECALL (STO, RCL P1/P2/P3)

### 1. STORAGE:

(Telephone number) + STO + P1/P2/P3

After entering a telephone number and pressing the "STO" and either "P1", "P2", or "P3" keys, the following message is displayed.

**STORED  
PX**

Where X = 1, 2, or 3

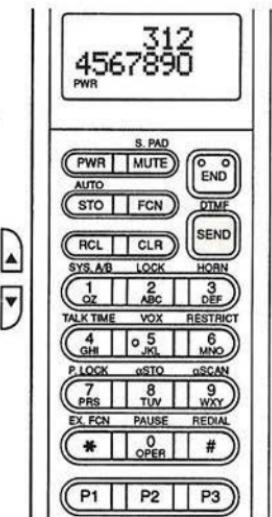
If you want to set or change a One Touch Dial number, enter a telephone number and press the "STO" key followed by either the "P1", "P2", or "P3" key.

## 2. RECALL

RCL + P1/P2/P3

After pressing the "RCL" and either "P1", "P2", or "P3" keys, the selected One Touch Dial number is displayed in the format shown below.

XXX  
XXXXXXX

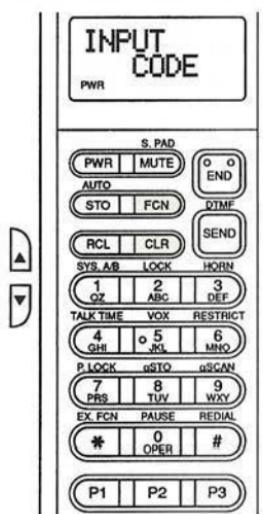


## AUTOMATIC DTMF (FCN/SEND)

FCN + SEND

Depressing the digit keys during a conversation transmits their corresponding DTMFs. The depression of the "FCN" and "SEND" keys during a conversation sends the displayed number string in DTMF form.

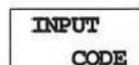
**NOTE:** Also see "DTMF OVERDIALING FROM MEMORY", page 51.



## RESET CUMULATIVE TIMER (FCN/CLR)

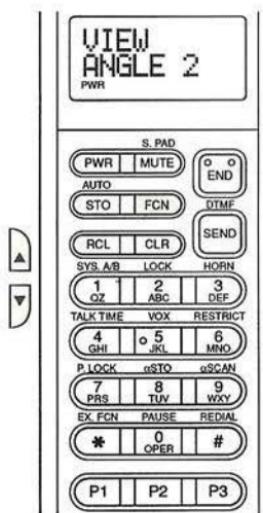
FCN + CLR + (4-digit security code)

When the "FCN" and "CLR" keys are pressed, the following message is displayed.



After entering your 4-digit security code, which was input during phone programming, the Cumulative Timer is reset to zero. The phone will automatically return to the normal operation mode. This function is enabled or disabled at the time when programming the phone for a specific cellular system is done.

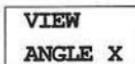
**NOTE:** If you forget your security code, contact the party who programmed your DiamondTel 92.



## LCD VIEW ANGLE CONTROL (FCN/2sec)

FCN (for more than 2 seconds) + ▲/▼

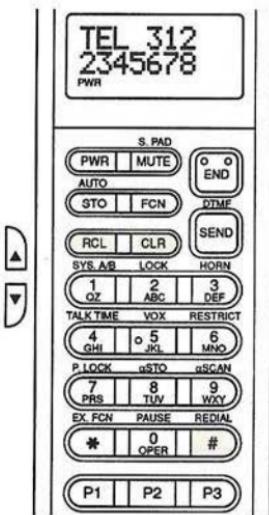
When the "FCN" key is pressed and held down for more than two seconds, the following message is displayed.



Where X is a value from 1 to 8

By pressing the ▲ or ▼ keys, you are able to adjust the angle of the LCD display for comfortable viewing.

**NOTE:** This angle level is maintained while the phone is turned off.



## OWN TELEPHONE NUMBER DISPLAY/SWITCHING FROM ONE PROGRAMMED PHONE NUMBER TO ANOTHER/DUAL NAM (RCL/#)

RCL + #

When the "RCL" and "#" keys are pressed, your own telephone number is displayed in the format shown below.

TEL 312  
2345678

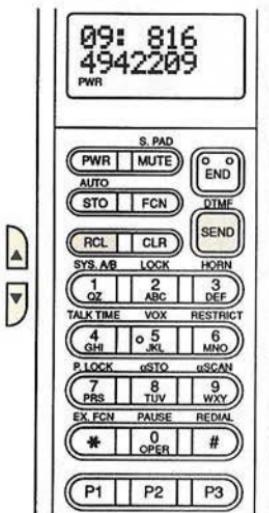
In order to exit from this mode, press the "CLR" key.

If the phone is locked, or the Call Restriction level is not set at zero, this function is disabled.

By using the DUAL NAM feature, you can subscribe to two systems. When the dual NAM is programmed and your 4-digit security code is entered, your DIAMONDTEL 92 will change to the alternate telephone number. The security code is not displayed during this operation. This dual NAM operation can not be done if you are in the conversation mode.

NAM: Number Assignment Module; Your telephone number is stored there.

**NOTE:** To change from one programmed phone number to another, press RCL + # + your 4 digit security number. Your DIAMONDTEL 92 will go through its "wake up cycle" and change over to your other programmed phone number. You must have your programming set for Dual Number and have subscribed to two phone numbers.



## MEMORY SCAN (RCL/▲/▼)

RCL + ▲/▼

When the "RCL" key and either the ▲ or ▼ key is pressed, the last recalled memory location is displayed in the format shown below.

AA:DDDD
DDDDDDDD

AA : Memory address location

DD : Digits of repertory memory

When the ▲ or ▼ keys are pressed, the phone scans forward or backward through the repertory memories. Open memory locations are skipped. Continuous depression of the ▲/▼ keys causes the phone display to change every second.

When the "SEND" key is pressed, all digits of the number memory are displayed and the phone call begins.

**NOTE:** The "RCL" key is used to review the beginning digits of the telephone number if it has more than 11 digits. When you press and hold down the "RCL" key, the beginning seven digits appear briefly, followed by the next fourteen digits, until the key is released.

If the "FCN" key is pressed during the memory scan mode, the corresponding alphabet memory location is displayed and scanning changes to the alphabet scan mode. For more details about the alphabet scan mode, refer to the section on the alphabet scan mode.

When using the memory scan function, the display mode can be changed, as shown below, by pressing the "FCN" key (same as alphabet scan mode).

OperationDisplay

(MEMORY SCAN MODE)

09:\_816

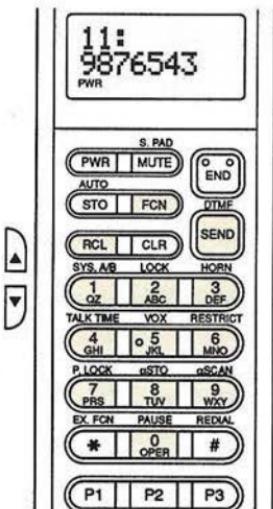
4942209

FCN

(ALPHABET SCAN MODE)

09:CROS

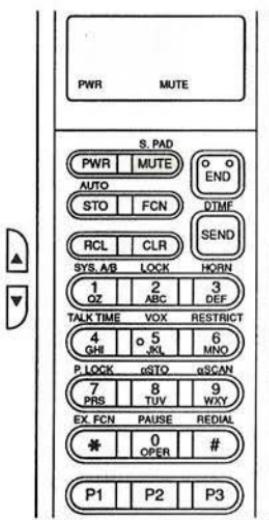
S\_WILLI



## DTMF OVERDIALING FROM MEMORY

RCL + (Memory address) + FCN + SEND

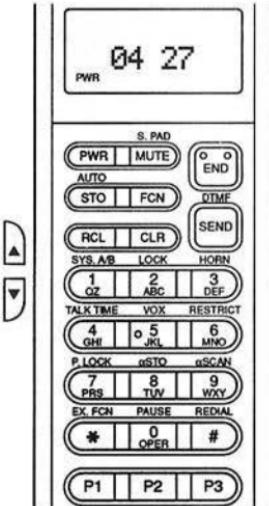
When the "RCL" key is pressed, and a memory address entered, the telephone number in that memory location is displayed as described in the memory recall section. If the "FCN" and "SEND" keys are pressed, the displayed number is sent in DTMF form, when in the conversation mode.



## VOICE MUTE

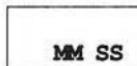
### MUTE

When the "MUTE" key is pressed in the conversation mode, the voice input from the microphone is disabled and the "MUTE" indicator comes on. Pressing the "MUTE" key again, enables the voice input from the microphone and the indicator goes off. The mute function is disabled when you exit the conversation mode.



## TALK TIME

During a conversation, the present talk time is displayed as shown below.



MM : Elapsed minutes

SS : Elapsed seconds

The Talk Time is incremented every second. By pressing the "CLR" key when the Talk Time is displayed, the dialed phone number's memory location appears on the display, if that number has been stored in a memory location.

## **CUMULATIVE TIMER INCREMENT**

The cumulative timer counts in 60, 30, 20, 15, 12, 10, 6, or 1 second increments. The time increment is selected when the NAM is programmed.

- 0 --- 60 seconds
- 1 --- 30 seconds
- 2 --- 20 seconds
- 3 --- 15 seconds
- 4 --- 12 seconds
- 5 --- 10 seconds
- 6 --- 06 seconds
- 7 --- 01 second

This feature allows user to monitor air time most reflective of billing by service provider.

## **DUAL HANDSET**

A dual handset option is available.

This option allows operation of two handsets from one phone unit by using an special adaptor at the handset connector of the phone unit. This option may be desired in large vehicles, for example, where more than one point of operation is desired.

During NAM programming, "DUAL HS" must be enabled (set to 1). Both handsets must be "on-hook" when turning the phone on.

## **ROAM INHIBIT**

When travelling outside of your home service area, the phone will attempt to acquire service with the cellular system serving the area in which you are located, a function known as "roaming". There is usually a higher per minute rate for roaming compared to the home system, and there may be a daily access-carrier charge for using the non-home system.

The phone's "ROAM" capability is enabled or disabled during NAM programming. If it is disabled, the system A/B function (FCN/1) is not active.

## **BATTERY INFOMATION**

### **BATTERY PACK BAT-92 (FZ-1031A) /SAFETY INFORMATION**

The BAT-92 battery pack is installed in the transportable cover (TS-92).

When the battery pack is fully charged to the maximum capacity, it will maintain the following call time or standby time (the phone is turned on but not engaged in a call).

Talk time	Standby time
Approx. 50 min (RF PWR HIGH)	Approx. 14 hours
Approx. 80 min (RF PWR LOW) (RF PWR HIGH or LOW can be selected by FCN + * + 6)	

The battery pack includes the rechargeable nickel-cadmium battery cells with output short-circuit protection. The output terminals of the battery pack are designed to reduce the chance of short-circuits. Keep the battery away from all foreign objects which may conduct electricity, (staples, paper clips, etc.). Contact with such objects could cause battery failure.

The battery is not fully charged at the factory. The battery must be charged before initial use.

*NOTE:* As talk time is used it reduces standby time, and likewise as standby time is used, it reduces talk time.

Observe the following instructions and remarks for your safety.

1. Use only TRANSPORTABLE COVER TS-92 (incl. charging circuit) to charge the battery pack.
2. The battery pack may explode if disposed of in fire.
3. Do not try to disassemble a battery pack. Contents include a strong alkaline electrolyte which is harmful to humans, animals, and other creatures.
4. Do not use battery pack for any other purpose.
5. Be careful not to short circuit battery contacts.
6. Avoid unnecessary impact or shock.
7. This item is not waterproof.
8. Keep terminals clean.
9. When "LOW BATTERY" message is displayed recharge batery pack with TS-92 and transceiver unit.

*NOTE:* TS-92 must be used with CLD-92, AD-92 or directly wired to vehicle to enable charging.

10. If a battery pack is not used for a long period, it may require several charging cycles before it regains its normal capacity.

"Charging cycles" refers to completely charging battery and completely using battery in your DIAMONDTEL 92 several (3 or more) times.

## **BATTERY CHARGE**

The charging circuit included in TS-92 (FZ-1022A) portable cover can charge a fully discharged BAT-92 battery pack in 5 hours. After 5 hours, the charging rate will shift to a trickle charge rate.

The DC power source is supplied from the car battery through the transceiver unit by POWER CABLE (PC-92) or CIGARETTE LIGHTER ADAPTER (CLA-92) or from 120V AC wall outlet through AC/DC POWER SUPPLY (AD-92)

## **CHARGING INSTRUCTIONS (USING TS-92)**

The following instructions should be strictly observed for your safety and reliable operation of the battery pack.

1. To reduce risk of injury, charge only battery BAT-92. Other types of batteries may explode, causing personal injury and damage.
2. Do not charge the battery pack for more than the recommended charging time. Overcharging will reduce the life and capacity of the battery, thus reducing talk and standby time.
3. Do not charge or discharge the battery pack at temperatures below 45 or more than 110 degrees F. Also do not charge a battery pack which is below 45 or more than 110 degrees F. Average charging temperature for the BAT-92 are between 45° and 110°F. Charging outside of this temperature range can affect the charging performance and battery capacities.
4. Keep the contacts on the phone and charger clean, for proper charging.

5. In case of trouble or failure, do not try to disassemble or try to repair your phone by yourself. It must be serviced by an authorized DIAMONDTEL service center.
6. Memory effect  
A Ni-Cd rechargeable battery may show reduced battery capacity called "Memory Effect". It is generally caused by repeated partial discharge/charge cycles. In order to avoid this effect, it is recommended to use the phone until the battery is fully discharged and then fully recharge it.

## **BATTERY REMOVAL AND REPLACEMENT**

See pages 71 for instructions on removing and replacing the battery pack.

## **ACCESSORIES AND OPTIONS**

### **1. CIGARETTE LIGHTER ADAPTER (CLA-92)**

#### **INSTRUCTIONS AND CAUTIONS**

The Cigarette Lighter Adapter allows you to operate the phone from your car's cigarette lighter socket.

Connect the CIGARETTE LIGHTER ADAPTER between the power cable connector of transceiver unit and the cigarette lighter socket of the car.

Plug of cigarette lighter adapter is suitable for the hole that diameter is from 21.5 mm to 23mm (.85" to .91").

CIGARETTE LIGHTER ADAPTER should be used only in DC 12V negative ground car.

- \* **Do not attempt to connect the phone or CLA-92 directly to the car's battery. Severe damage to the phone will result, which is not covered by limited warranty.**

### **2. TRANSPORTABLE ANTENNA AT-92 (FZ-1032A)**

Please fasten the antenna connector securely to the side of the transceiver. For best results, be sure to use the AT-92 with your DIAMONDTEL 92 Phone.

### **3. AC/DC POWER SUPPLY AD-92 (FZ-1035A)**

The AC/DC POWER SUPPLY allows you to operate the phone from your home or office's 120V AC outlet (in door use only).

Do not use the AC/DC POWER SUPPLY for any other purposes.

Due to possible transmitting or receiving interference, it is not recommended to operate your DIAMONDTEL 92 within a two (2) foot area of the AD-92 while the AD-92 is connected to your DIAMONDTEL 92.

### **4. DATA INTERFACE BOARD (DIB-92)**

Allows operation of FAXSIMILE or Computer Modem with DIAMONDTEL 92.

## **OPERATION NOTES**

Signals are weakened by excessive distance, obstructions (such as being inside a tunnel), and reflecting signals.

### **DON'TS**

**DON'T** use this equipment in an extreme environment where the temperature or humidity is high.

**DON'T** attempt to install or disassemble this equipment. There are no user-serviceable parts inside.

**DON'T** abuse the control unit; avoid striking or shaking it, and don't hold it by the coiled cord.

**DON'T** expose this equipment to rain or spill beverages on it.

### **DO'S**

**DO** use the equipment under conditions where temperatures are within -30°C to +60°C.

**DO** refer any servicing to an authorized DiamondTel service center, (see limited warranty).

**DO** handle the control unit with care.

**DO** take immediate action if the equipment becomes wet. Turn power off and refer servicing to qualified DiamondTel service personnel.

**NOTE:** Damage due to moisture intrusion is not covered by limited warranty.

### **OTHER**

The following instructions and remarks should be strictly observed for your safety and to reliable operation.

1. Use only BAT-92 Battery Packs. Other types of batteries may burst causing personal injury and damage.
2. Do not charge a battery pack at temperatures below 45°F or more than 110°F.
3. It is recommended that the battery pack be completely discharged through normal use at least once each month and then fully charged. This will insure that the battery pack will provide the maximum amount of operational time.

## DIAMONDTTEL 92 PROGRAMMING SEQUENCE

**NOTE:** Programming should be performed by dealer or phone service carrier. Incorrect programming will make your Diamondtel 92 unusable. Correction of programming errors is not covered by limited warranty.

- A. **BATTERY MUST BE CHARGED BEFORE PROGRAMMING.**
- B. Press "PWR" to power Unit up. Allow wake-up cycle to finish
- C. Press "CLR" and hold down while inputting 19514226 (3 times only).
- D. Release "CLR".

Note: Step "C" must be done within 10 seconds of power up.

0911112  
(no limit)

- I. You are now ready to input programming data.
- II. You must press "SN" (SEND) to commit date to program and cycle to next step.
- III. An ">" next to the step number indicates cellular system supplied data.

#	DISPLAY	DESCRIPTION	EXAMPLE	DIGIT LIMITS
1.	►DUAL NO	DUAL NUMBER	0 = Single / 1 = Dual	1
2.	►NO1	FIRST PHONE #	7082989223	10
3.	►SID1	SYSTEM ID	00000 to 32767	5
4.	LU1	LOCAL USE	1 or 0	1
5.	EX1	MIN MARK	1 or 0	1
6.	►IPCH1	INITIAL PAGING CHANNEL	0333 or 0334	4
7.	►ACCOL C1	ACCESS OVERLOAD	00 to 15	2
8.	►GIM1	GROUP ID MARK	00 to 15	2
9.	T INC1	CUMULATIVE TIMER INCREMENT	0 to 7	1
Note: "0" on Step 1 (single number) will skip Step 10— 17.				
10.	►NO2	SECOND PHONE #	7086994420	10
11.	►SID2	SYSTEM ID	00000 to 32767	10
12.	LU2	LOCAL USE	1 or 0	1
13.	EX2	MIN MARK	1 or 0	1
14.	►IPCH2	INITIAL PAGING CHANNEL	0333 or 0334	4
15.	►ACCOL C2	ACCESS OVERLOAD	00 to 15	2
16.	►GIM2	GROUP ID MARK	00 to 15	2
17.	T INC2	CUMULATIVE TIMER INCREMENT	0 to 7	1
18.	SEC	SECURITY CODE	0000 to 9999	4
19.	►DIX	DISCONTINUOUS TRANSMISSION	1 = on / 0 = off	1
20.	INHIBIT	ROAM INHIBIT	1 = on / 0 = off	1
21.	C DTMF	CONTINUOUS DTMF	1 = on / 0 = off	1
22.	DIS CU RESET	DISABLE CUMULATIVE TIMER	1 = on / 0 = off	1
23.	DIS IGN SENSE	DISABLE IGNITION SENSE	1 = on / 0 = off	1
24.	DIS OWN TEL	DISABLE OWN TEL # DISPLAY	1 = on / 0 = off	1
25.	SID LO	SID LOCKOUT	00000 to 32767	5
26.	DUAL HS	DUAL HANDSET	1 = on / 0 = off	1
27.	RJ-11	RJ-11 OPTION	1 = on / 0 = off	1

### NOTES:

1. To exit programming at any time or to complete programming press "END". Not pressing "END" will result in errors and incorrect programming.
2. ITEMS 9 & 17 "timer increments" in seconds,  $0 = 60 / 1 = 30 / 2 = 20 / 3 = 15$   
 $4 = 12 / 5 = 10 / 6 = 06 / 7 = 01$
3. ITEM 27 RJ-11 OPTION must be installed. If not installed set to "0".

### ADDITIONAL INFORMATION

#### SECURITY / LOCK CODE PROGRAMMING

- \*\* The "SECURITY CODE" must be known to change or recall the UNLOCK code if it is forgotten. It is the PROGRAMMERS RESPONSIBILITY to inform the user of the "SECURITY CODE" which you entered in step 18 during programming.
- \*\* To change the unlock code, press "FCN" key followed by "7", then input your programmed 4 digit security code.
- \*\* Once your 4 digit security code has been entered, your current UNLOCK code will then be shown.
- \*\* If you wish to change your UNLOCK code, you should enter a new 3 digit code at this time.
- \*\* FOR SAFETY - DO NOT USE 911 AS YOU UNLOCK CODE.

#### 911 EMERGENCY NUMBER FEATURE

You may dial "911" even when the phone is locked.

## **WARNINGS**

1. Electronic control systems and/or guidance systems, such as electronic fuel injection system, electronic cruise control system, and especially electronic anti-skid braking system, may be prone to malfunction due to the lack of protection from radio frequency emissions.  
If the vehicle contains such systems, they should be checked most carefully after installation of the mobile telephone.  
In determining if such electronic circuits perform normally when the radio is transmitting, consult the dealer for the make of vehicle.
2. The mobile telephone should not be used in transportable mode inside a vehicle, for safety reasons.
3. The mobile telephone should never be used during air travel.
4. Conform to the following standards for radio installation in a vehicle fueled by liquefied petroleum gas:
  - a. Any space containing radio equipment shall be isolated by 3 seal from the space in which the LP-gas container and its fittings are located.
  - b. Remote (outside) filling connections shall be used.
  - c. The container space shall be vented to the outside.
5. Turn off the mobile telephone when using jumper cables or a car battery charger.
6. When you are in a construction area, look for and observe warnings against mobile transmission. To prevent radio transmission, turn off your telephone.
7. If the transceiver is mounted in the trunk, take care not to damage it or the control cables when loading or unloading baggage.

## **SAFETY INFORMATION**

Please observe the following safety precautions:

1. Turn off the telephone when in the vicinity of a vehicle that is refueling or within 500 feet of blasting operations.
2. Do not touch the antenna during conversation.
3. When operating your DIAMONDTEL 92, we advise you not to let anyone touch or be near the unit's antenna during transmission. Contact with the antenna during transmission could alter the performance of your DIAMONDTEL 92.
4. Do not make adjustments to the vehicle antenna system without first switching off the telephone.
5. It is strongly recommended that the driver use the telephone only with the hands-free option. Otherwise the driver should find a safe place and pull over before operating the telephone.
6. The radio and its accessories contain no user-serviceable parts. Refer all repairs to qualified DIAMONDTEL service personnel.
7. Do not attempt to install the radio in a vehicle yourself. Refer to a fully qualified technician.
8. Pressing any key on the keypad may produce a loud tone in the handset. Be sure that the handset is away from your ear before pressing the keys.
9. The mobile telephone should never be used during air travel.
10. You may wish to remove your vehicle external cellular antenna to avoid theft or damage (e.g., in car washes).
11. Fans, power accessories, window de-icers, or other radios may alter the operation of your car telephone. Consult the accessory manufacturer for elimination of radio interference from accessories.

## **SAFE DRIVING RECOMMENDATION FOR USERS OF CELLULAR MOBILE TELEPHONE**

### **(As recommended by the AAA)**

- READ the literature on the safe operation of your unit.
- KEEP both hands on the steering wheel and the phone in its cradle whenever the vehicle is in motion.
- PLACE calls only when the vehicle is stopped. Use on-hook dialing and recall dialing of frequently used numbers to reduce the time to call.
- WHEN talking from a moving vehicle is unavoidable, drive in the slower lane. Keep conversation brief.
- IF conversation requires taking notes or complex thought, stop the vehicle in a safe place and continue your call.
- WHENEVER you use a mobile telephone, you should exercise caution.

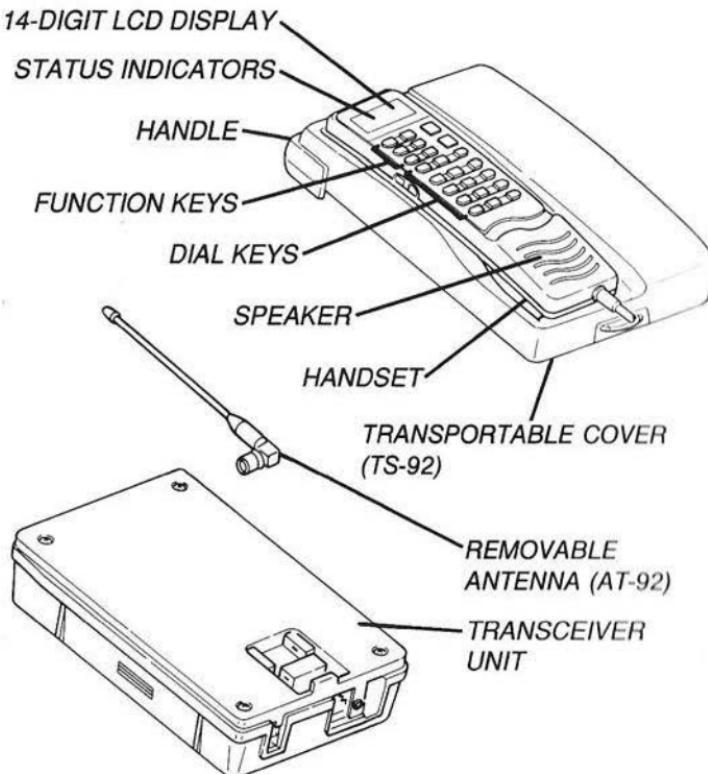
## **INSTALLATION**

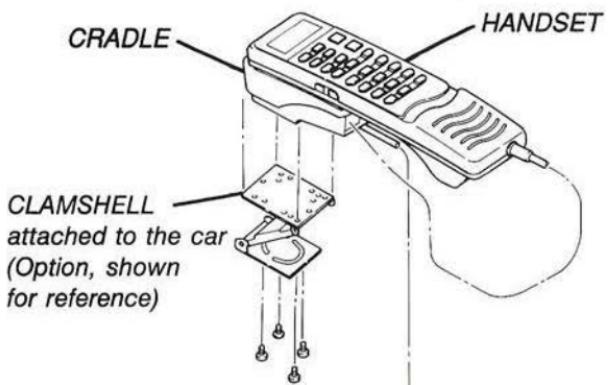
Your DIAMONDTEL 92 is a sophisticated, cellular telephone. It is designed to be used as a portable telephone operating from its own internal battery supply or as a mobile telephone connected to a 12-volt DC vehicle power source.

This section of your User Manual describes the DIAMONDTEL 92 controls as well as the various indications that appear on the liquid-crystal display (LCD).

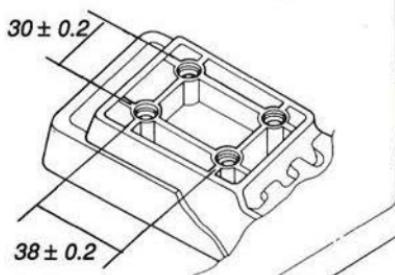
Subsequent sections of this manual describe special operating features and provide other important and useful information.

### **MODEL DIAMONDTEL 92**

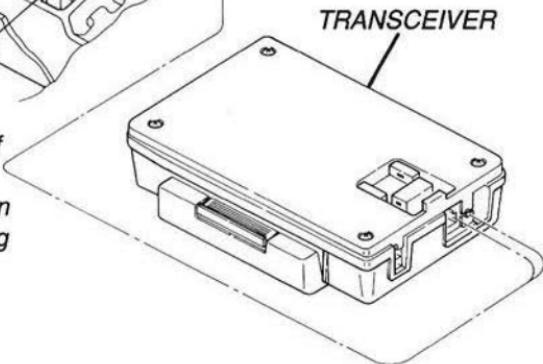




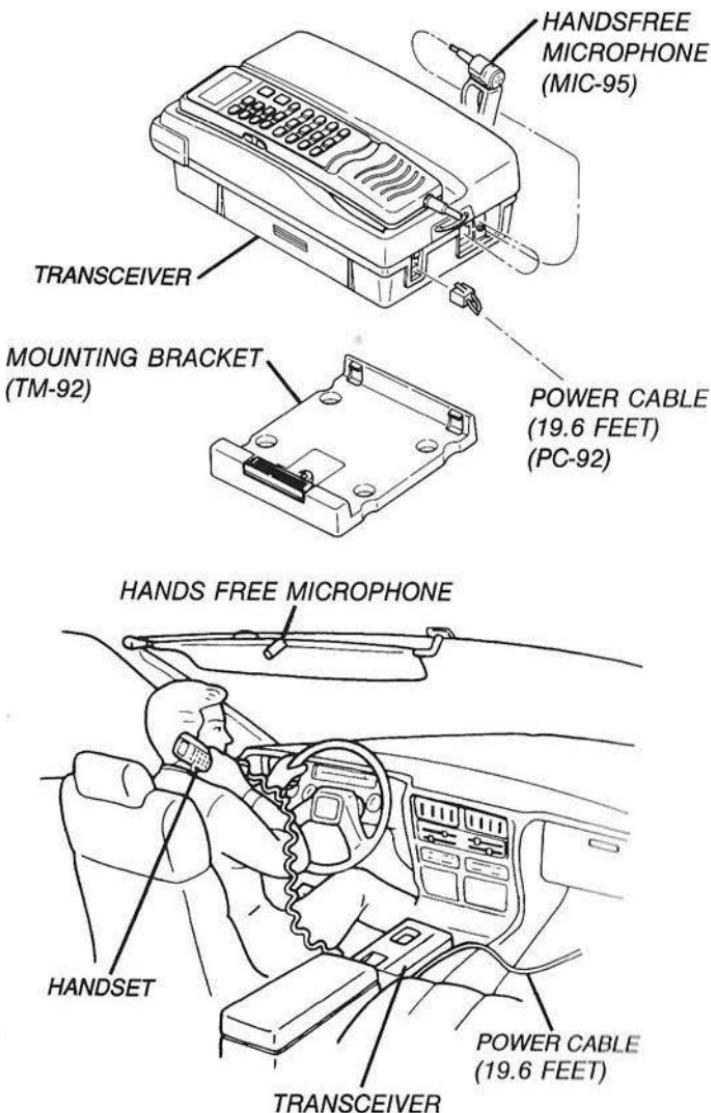
1. Separate the handset, cradle, remote cable, and clamshell (Option)

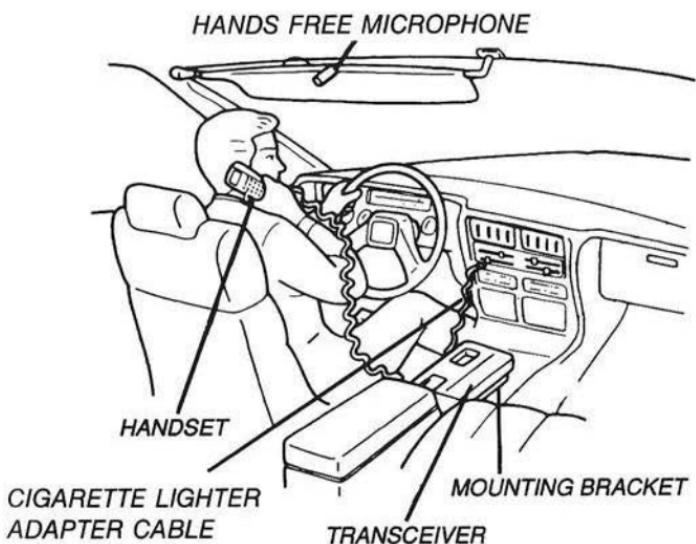
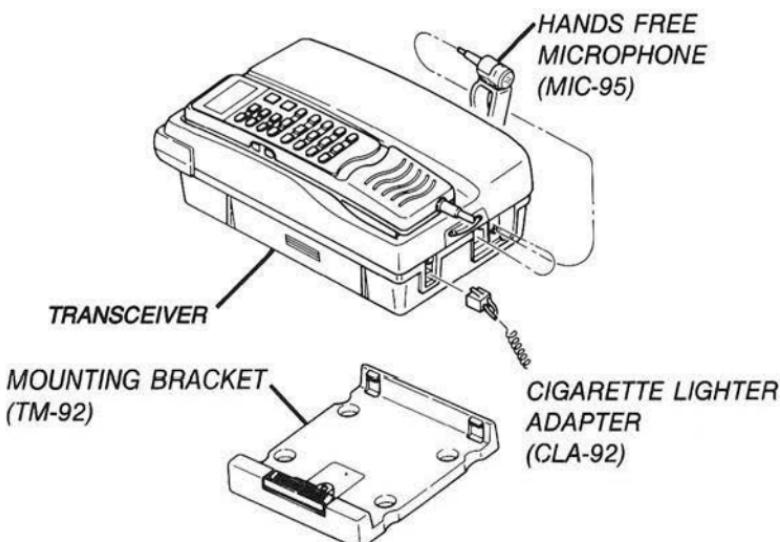


Bottom view of  
CRADLE  
(Shows location  
of M4 mounting  
screws)

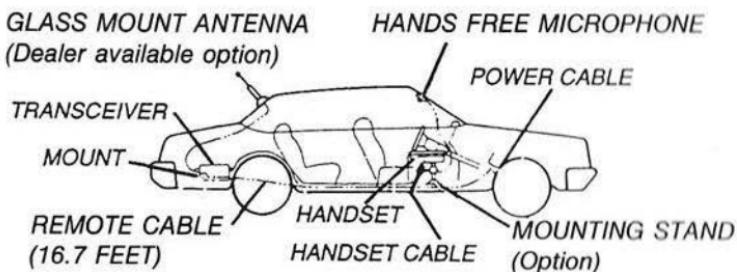
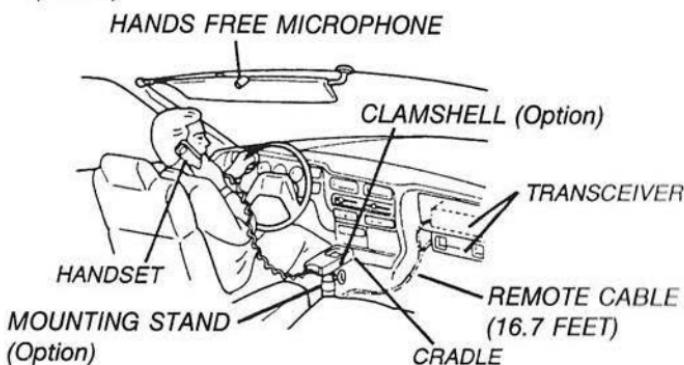
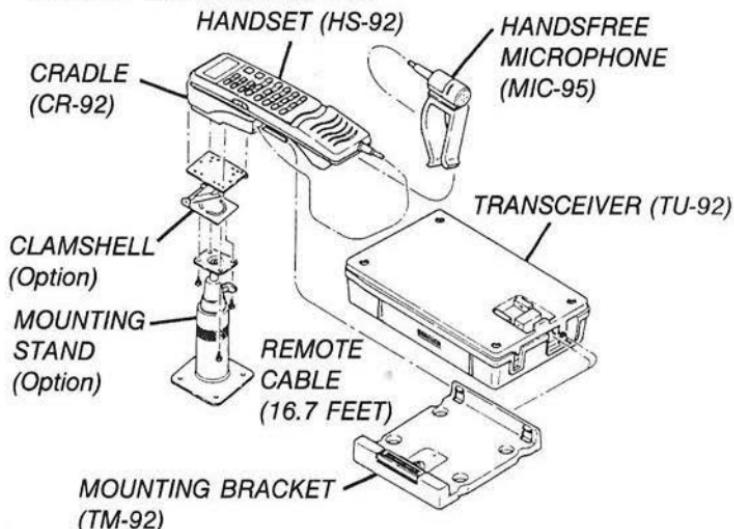


## DIAMONDTTEL 92 INSTALLATION SUGGESTIONS





## MOBILE CONFIGURATION



## WIRING INSTRUCTIONS - IN-CAR INSTALLATION

**CABLING INSTALLATION-**Route the interconnecting cable between the Transceiver and the Cradle Unit from the vehicle trunk to the passenger compartment if required. Attach the connectors to the respective units and dress the excess cable in the vehicle trunk. The Handset connector is attached to the cradle. Route the power cable from the vehicle trunk or passenger area to the engine compartment.

**CAUTION:** The DIAMONDTEL 92 mobile telephone operates only in a 12 Volt negative ground system. Positive ground vehicles will require isolation of transceiver from vehicle ground and then observe polarity during installation.

### ILLUSTRATION OF POWER CABLE

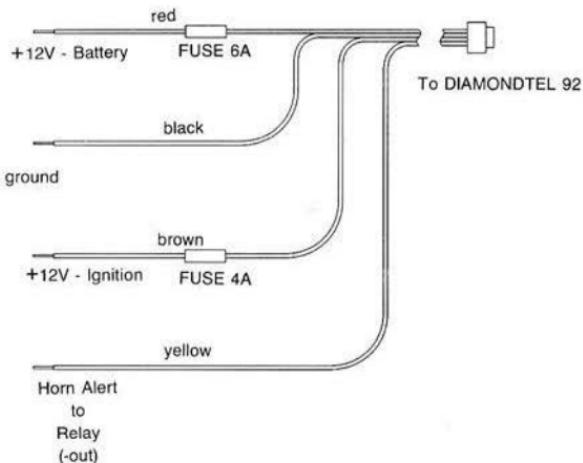


Fig. 1

Attach the red lead to the positive (+) battery terminal with the inline 6A fuse provided, and the black lead to the negative (-) battery terminal as shown in Fig. 1. Attach the brown lead to the vehicle ignition switch with the inline 4 amp fuse provided, and the yellow lead to the vehicle horn button, as shown in Fig. 2.

**CAUTION:** Do not wire the yellow horn lead directly to the vehicle horn. Excessive current will cause circuitry damage to the mobile telephone, therefore, a horn relay is recommended in this situation.

**Note:** It is recommended that a diode be installed across the vehicle relay to suppress any arcing that may occur in the horn relay.

#### INSTALLATION SCHEMATIC REPRESENTATION

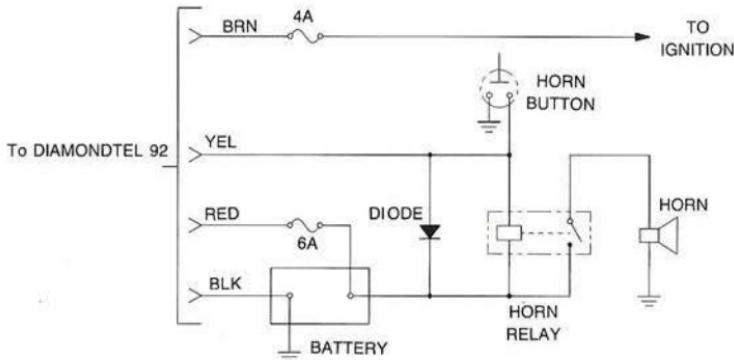
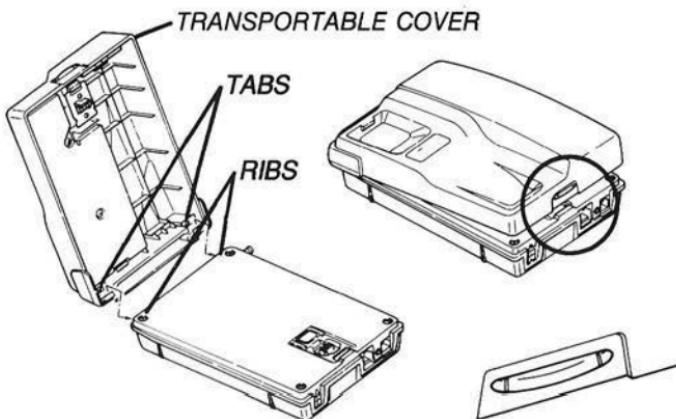


Fig. 2

#### INTERFERENCE WITH VEHICULAR ELECTRONICS

Electronic fuel injection systems electronic anti-skid braking systems, electronic cruise control systems, etc. are typical of the types of electronic devices which may be prone to malfunction due to the lack of protection from radio frequency energy present when transmitting. If the vehicle contains such equipment consult the dealer for the make of the vehicle and enlist his aid in determining if such electronic circuits will perform normally when the radio is transmitting.

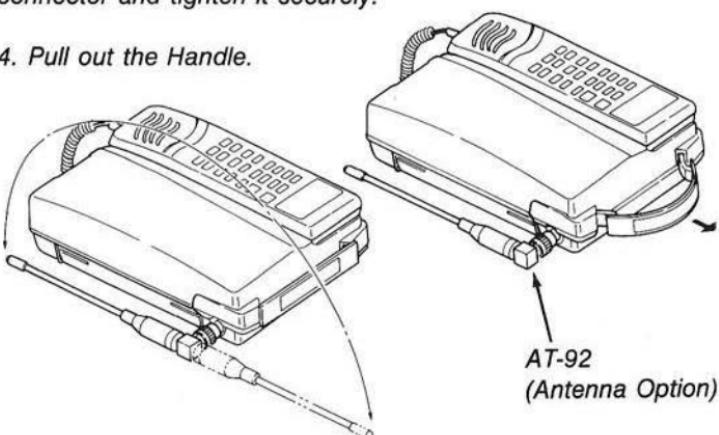
## ATTACHMENT OF TRANSPORTABLE COVER



1. Place the Transportable cover hook under the rib on the Transceiver.
2. Press the Transportable cover down the Transceiver.
3. Screw the Antenna on to the connector and tighten it securely.
4. Pull out the Handle.

*Securely  
Locked position*

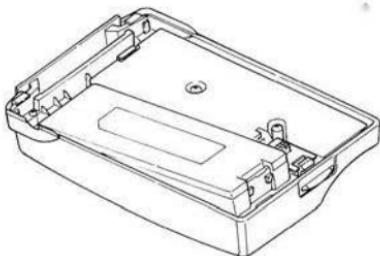
*Not securely  
locked-may become  
detached.*



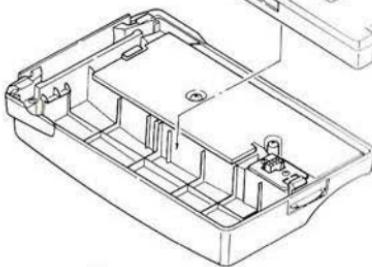
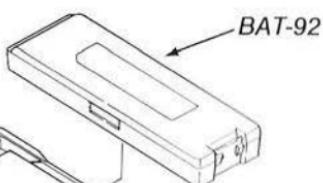
## REMOVAL AND INSTALLATION OF BATTERY (BAT-92)



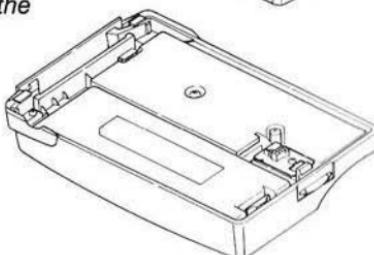
*Push the lock button and lift the Transportable Cover to separate the unit.*



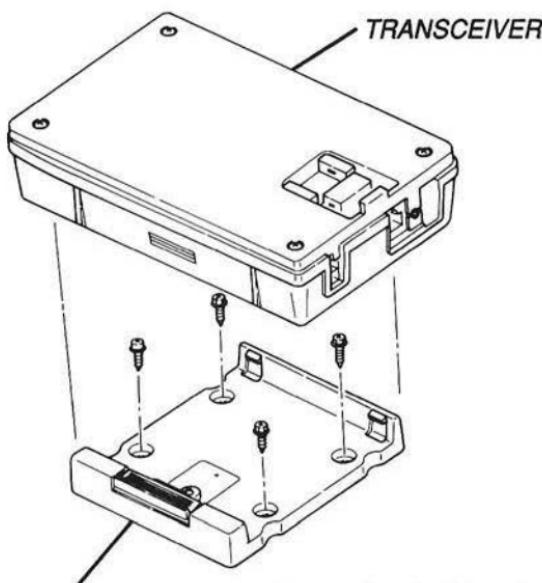
*Press the locking tab on the Battery and pull it out of the Transportable Cover.*



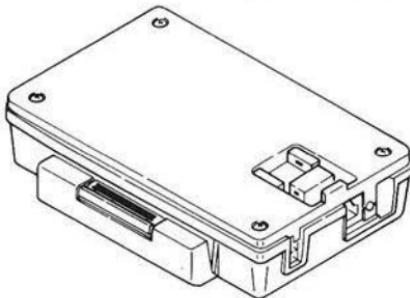
*Insert the rounded end of the Battery into the Handle side of the Transportable Cover make sure label on the Battery is visible, then snap the Battery in place.*



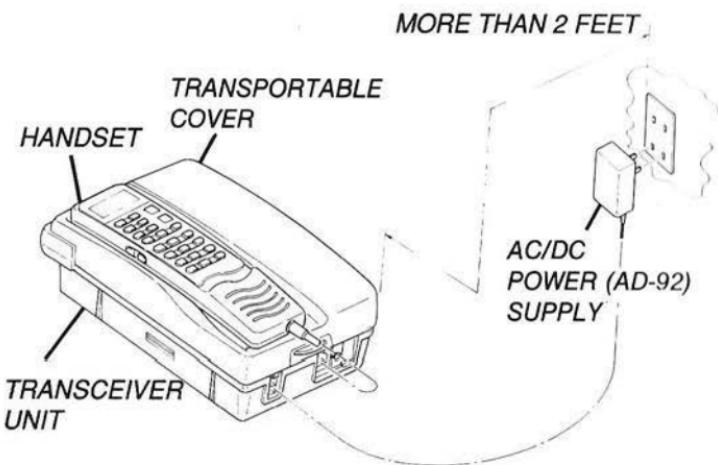
## ATTACHING TRANSCEIVER TO MOUNTING BRACKET



- 1. Ensure that the Mounting bracket is firmly mounted to a flat surface.*
- 2. Fit the Transceiver to the Mounting bracket as shown in the figure.*
- 3. Press the Transceiver into the Mounting bracket until it snaps in place.*



## AC/DC POWER SUPPLY - (AD-92)



**NOTE:** To reduce the chance of interference, a distance of 2 feet should be maintained between the AD-92 and the DIAMONDTEL 92 Cellular Telephone.

## **DATA INTERFACE USER'S GUIDE (DIB-92)**

The following is the explanation for the connection of the data interface (option) to the data communication set (Fax, Personal computer modem) of DIAMONDTEL 92

### **1. Before using the data communication set:**

Before use or installation, be sure to verify that the optional data interface is installed in the DIAMONDTEL 92. The NAM programming for the DIAMONDTEL 92 will be required at the dealer in order to use the data interface. Refer to the user's manual when installing the DIAMONDTEL 92.

#### **a) Installation in a vehicle:**

Connect one side of the D/I cable (the cable that extends the distance between the DIAMONDTEL 92 and the cradle) attached to the data interface to the DIAMONDTEL 92.

Connect the data communication set to the I/F cable terminal of the cradle with the modular cable attached to the data communication set.

**NOTE:** In this application your DIAMONDTEL 92 should be mounted in your vehicle to prevent damage to the phone and for your safety.

#### **b) Transportable use:**

Connect the data interface terminal of the DIAMONDTEL 92 to the data communication set with the modular cable attached to the data communication set.

**NOTE:** Do not connect the data Interface terminal of the DIAMONDTEL 92 to the telephone circuit. The telephone circuit AND/OR the DIAMONDTEL 92 will be destroyed, and such damage is not covered by THE LIMITED WARRANTY.

The Distance between the DIAMONDTEL 92, the data communication set and AC/DC power supply should be long as possible so that interface between the components is kept at a minimal level.

## 2. Interface Action With External Equipment (P.C., Fax, Etc.)

Please read all instructions in your DIAMONDTEL 92 manual carefully and be familiar with all other operational functions before using this feature.

Select "DTX OFF" (FCN + 5) when you wish to use the data interface with external equipment.

The data interface can not be used to place or receive phone calls via external equipment. Phone calls must be placed or reviewed via the DIAMONDTEL 92 handset.

It is suggested that you refer to your owner's manual of your external equipment for its' proper operation.

Data transfer to external equipment is only possible when the external equipment is in an "OFF HOOK" mode. When this condition is present, the DIAMONDTEL 92 handset LCD display will show "DATA PATH ON".

Communication with external equipment is possible only while your DIAMONDTEL 92 is in the handset or hands free mode. If you select "FCN + \* + 8" you may put the handset "ON HOOK". The call and data transmission will automatically end when the data communication is terminated.

If you wish to terminate at any time, press "END" key.

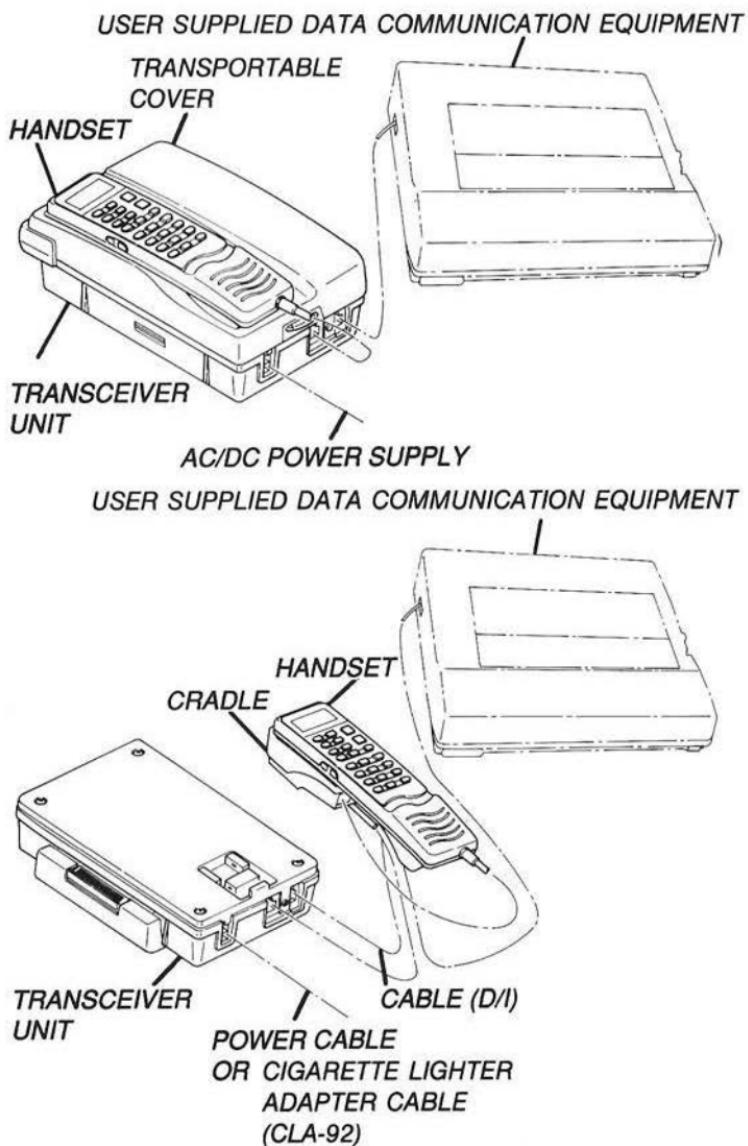
The speed of communication with external equipment will vary depending on the external equipment or software within those devices.

To assure good data communication, the signal strength indicator on your DIAMONDTEL 92 must show more than 5 of 6 bars while "IN USE".

As a traffic safety measure it is highly recommended that you select a place to pull out of traffic and park your vehicle while using the data interface feature with your external equipment.

**NOTE:** Also see pages 79 through 81 for more information.

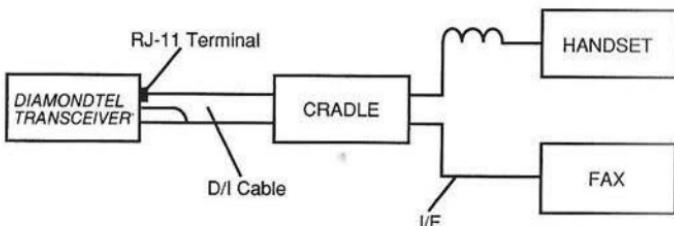
## **OPTIONAL DATA INTERFACE (DIB-92)**



## INSTALLATION FOR OPERATION WITH FAX MACHINE

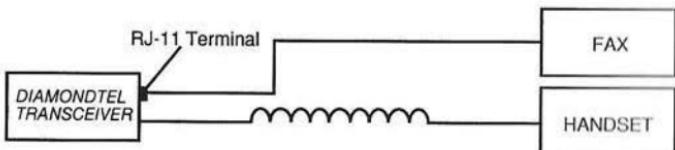
1. Be sure to verify that the RJ-11 Data interface option is installed in DIAMONDTTEL 92. Also NAM programming by the dealer is required in order to use the data interface.

### 2.1 Mobile Mode Installation



- Connect the D/I cable between the cradle and the RJ-11 terminal of DIAMONDTTEL 92.
- Connect the I/F cable between the cradle and the Fax machine.

### 2.2 Transportable Mode



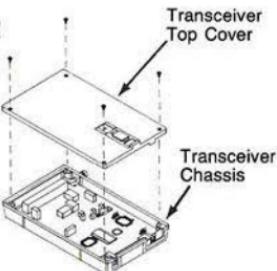
Connect the modular cable between the RJ-11 terminal of the DIAMONDTTEL 92 and the Fax Machine.

**NOTE:** Do not connect the RJ-11 Data interface terminal of DIAMONDTTEL 92 to the Telephone line. This may damage the DIAMONDTTEL and/or telephone line.

To minimize the interference between the components, the distance between Antenna, Fax Machine, and AC/DC Power Supply should be as long as possible.

## INSTALLATION OF DIB-92 INTO DIAMONDTel 92 TRANSCEIVER

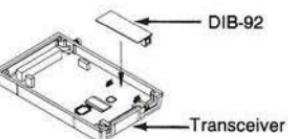
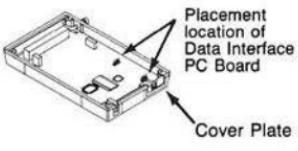
1. Place Transceiver on a solid work surface.
2. Using a #1 point phillips screwdriver remove 4 screws which hold the Transceiver Top Cover in place. Be careful not to lose the 4 screws which hold the Top Cover in place.
3. Lift cover from Transceiver.



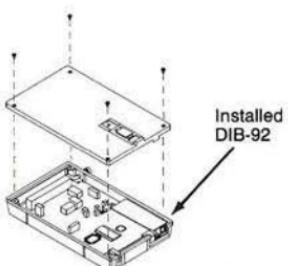
**Caution:** All components within this unit are prone to damage by electro-static discharge. Proper steps should be taken when handling the Data Interface Board to prevent damage by static discharge.

Damage due to static discharge is not covered by limited warranty.

4. Remove the loose Cover Plate from the only covered connector slot.
5. Looking into the DiamondTel 92 Transceiver, locate the DIB-92 interface plug connector on the Transceiver PC Board.
6. Place DIB-92 over these connector pins and gently insert (mate) DIB-92 to the connector on the Transceiver PC Board.
7. After DIB-92 is properly installed, replace Top Cover of DiamondTel 92 on the Transceiver.



**Caution:** Do not overtighten screws. Damage can be caused to the screw heads and transceiver case which is not covered under warranty.



### Disclaimer:

This operation should be done by a qualified person who possesses required skills and uses devices that prevent electro-static discharge damage to semiconductor devices in this product. Damage to either the DIB-92 or DiamondTel 92 unit itself, during this operation, is not covered by the limited warranty.

## **USING RJ-11 DATA INTERFACE WITH FAX MACHINE**

- A. Please refer to DIAMONDTEL 92 and Fax Machine's owner's manual for proper operation.
- B. In order to send or receive Fax, the DIAMONDTEL 92 Handset's keys must be used for entering Data (ie: Phone number, etc.) or answering incoming call.
- C. DIAMONDTEL 92 can only be operated in manual mode.

### Transmitter Side Actions

#### 1. Automatic Reception

1.1 Place manuscript in the Fax Machine. Using the DIAMONDTEL 92 handset, dial the number and push the "SND" key.

1.2 After hearing a whistle put your Fax Machine in "Off Hook" mode. (if using DIAMONDTEL 92, the message "Data Path On" will appear in LCD window.) push Fax Machine's start key.

1.3 When Data Communication is finished, push "END" key and put your Fax Machine in "On Hook" mode.

#### 2. Manual Reception

2.1 Place the manuscript in the Fax Machine. Using the DIAMONDTEL 92 handset, dial the number and push the "SND" key.

### Receiver Side Actions

Call is answered by a Fax machine.

**NOTE:** Not applicable for automatic reception by DIAMONDTEL 92 with Fax Machine.

2.1 Call is answer by the receiving party.

<u>Transmitter Side Actions</u>	<u>Receiver Side Actions</u>
2.2 Tell the receiver party to prepare for receiving Fax.	2.2 Tell the sender party to prepare for sending Fax.
2.3 After hearing a whistle put your Fax Machine in "Off Hook" mode (if using DIAMONDTEL 92, "Data path On" will appear in the LCD window) and push the Fax Machine's "Start" key.	2.3 Put your Fax Machines in "Off Hook" mode (if using DIAMONDTEL 92, "Data Path On" will appear in the LCD window) and push Fax Machine's "Start" key.
2.4 When Data Communication is finished, Put your Fax Machine in "On Hook" mode and continue conversation.	2.4 When Data Communication is finished, Put your Fax Machine in "On Hook" mode and continue conversation.

**NOTE:** When "FCN + \* + 8" is pushed, "On Hook RJ-11" function toggles between "On" and "OFF". If this function is set in "ON" mode, communication will automatically end after Transmit/Receive Fax is finished. If in "OFF" mode, you may continue your conversation after Data Communication is finished.

If you wish to terminate data communication at any time, press "END" key.

The speed of communication with external equipment will vary depending on the external equipment or software within those devices.

To assure good data communication, the signal strength indicator on your DIAMONDTEL 92 must show more than 5 or 6 bars while "IN USE".

As a traffic safety measure it is highly recommended that you select a place to pull out of traffic and park your vehicle while using the data interface feature with your external equipment.

- \* Installation for operation with Modem same as installation instruction for operation with Fax Machine.

## **USING RJ-11 DATA INTERFACE WITH MODEM**

### **1.0 Transmitting Data**

- 1.1 Using the DIAMONDTEL 92's handset dial the number, and push the "SEND" key.
- 1.2 Using the Computer keyboard, put your modem in "Off Hook" mode. To connect to the receiving modem, send an originate command (dialing command). (refer to your communication is software manual).

— data communication —

- 1.3 When the data communication is finished, put your modem in "On Hook" mode.
- 1.4 Terminate the connection by pushing the "END" key on the DIAMONDTEL 92's handset.

### **2.0 Receiving Data**

- 2.1 After you receive a verbal request, using the computer keyboard. Put your modem in "Off Hook" mode.
- 2.2 Put your modem in receiving mode (answering command). (refer to your communication software manual).

—data communication—

- 2.3 When the data communication is finished, put your modem in "On Hook" mode.
- 2.4 Terminate the connection by pushing the "END" key on the DIAMONDTEL 92's handset.

**NOTE:** It is possible to receive data using DIAMONDTEL 92 in handsfree or handset mode.

## **MEMORY DIRECTORY**

P1	24
P2	25
P3	26
01	27
02	28
03	29
04	30
05	31
06	32
07	33
08	34
09	35
10	36
11	37
12	38
13	39
14	40
15	41
16	42
17	43
18	44
19	45
20	46
21	47
22	48
23	49

## **MEMORY DIRECTORY (CONT.)**

50	75
51	76
52	77
53	78
54	79
55	80
56	81
57	82
58	83
59	84
60	85
61	86
62	87
63	88
64	89
65	90
66	91
67	92
68	93
69	94
70	95
71	96
72	97
73	98
74	99

**NOTES:**

**LIMITED THREE-YEAR  
WARRANTY**  
**DiamondTel® Cellular Subscriber Products**

**WHO GETS THE WARRANTY.**

This warranty is extended by Mitsubishi Electronics America, Inc. (MELA), Mobile Electronics Division, to the original consumer purchaser, and is valid only within the United States of America.

**WHAT WE WILL DO.**

If your DIAMONDTEL Cellular Subscriber Product ("Product"), consisting of the handset and transceiver, fails under normal use and service because of a manufacturing defect in materials and workmanship within THREE YEARS from the date of purchase, DIAMONDTEL will at its option either repair or replace the Product. In the event DIAMONDTEL repairs or replaces the Product, the repair or replacement Product will be warranted under the terms of this limited warranty for the remainder of the three year period mentioned above. You should understand that repair may include the replacement of Product, parts or components with functionally equivalent reconditioned Product, parts or components.

Accessories are covered by a limited 6 month warranty. Accessories consist of but are not limited to the coil cord, mounting hardware, transportable kits, antennas, chargers, batteries, installation cables, harnesses, plugs, jacks and other peripheral hardware.

**HOW TO OBTAIN SERVICE.**

In order to obtain warranty service you must bring or return the Product to an authorized DIAMONDTEL Warranty Service Center (WSC). Service will be provided during normal business hours by an appointed DIAMONDTEL WSC. In order to obtain the name or address of a "WSC" ask your salesperson or call the number printed at the bottom of this page. In the case of a Product installed in a vehicle, the vehicle must be driven to the WSC, so the Product can be examined in its installed condition. The Product in all cases must be accompanied by the following information. Your Name, Address, Telephone Number and Cellular Telephone Number, the name of your cellular carrier. Your bill of sale bearing the serial number of the Product indicating the date of purchase, installation (if applicable) and reasonable proof of those dates, and a description of the problem you are having with the Product.

**WHAT IS NOT COVERED.**

This warranty does not cover Product programming, reconfiguration of lock codes, security codes, call restrictions, removal, reinstallation, installed system analysis, failure of equipment not supplied by DIAMONDTEL, nor does it cover failures of the Product due to misuse (including use in other than the normal and customary manner), neglect, accident; or improper installation, improper repair, alteration, modification or adjustment. Since the cellular system on which the Product is to operate is provided by a carrier independent from DIAMONDTEL, we will not be responsible for the operation, availability, loss of air time, coverage or the range and clarity of the system.

**THERE ARE NO OTHER EXPRESS WARRANTIES, WHETHER WRITTEN OR ORAL, OTHER THAN THIS PRINTED LIMITED WARRANTY. ALL IMPLIED WARRANTIES INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS LIMITED WARRANTY. IN NO EVENT SHALL DIAMONDTEL BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO LOSS PROFIT OR COMMERCIAL LOSS, TO THE FULL EXTENT THOSE DAMAGES CAN BE DISCLAIMED BY LAW.**

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations of the duration of implied warranties, so the preceding limitations may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.

MITSUBISHI ELECTRONICS AMERICA, INC.  
MOBILE ELECTRONICS DIVISION  
DIAMONDTEL CELLULAR SERVICE

800 BIERMANN COURT, MOUNT PROSPECT, ILLINOIS 60056-2173 / 1-708-298-9223



**Mitsubishi Electronics America, Inc.**

 MITSUBISHI ELECTRONICS AMERICA, INC.  
© Copyright 1990 Mitsubishi Electronics America, Inc.  
Contact Mitsubishi Electronics America,  
800 Biermann Court, Mt. Prospect, IL 60056-2173