Operator Manual
for
5860
(5.8G Digital Cordless Phone)

Revision History

Version	Date	Initialised by	Changes
01	17Feb2004	Kw Sit due to request from Dick Si	Creation from Concept documents

Table of Contents

1   Introduction
5860 is a 5.8G Digital Cordless phone system which allow multiple handsets and bases.

2   Feature List

Features	Ability	Comments, short description
Max # of handset	6	
Max # of base	4	
Battery	3*AAA	600mA Battery pack
Battery level indication	Yes	
Battery low warning	Yes	
Power Consumption	9 hour talk 130 hour standby	
Range	50 M indoor 300 M outdoor	
Out of range warning	Yes	Based on RSSI measurements. Please be aware that this feature is very difficult to optimise to satisfactory performance for the user.
LCD	3 row, 16 digit, 5x7dots alphanumeric + 1 line icons	Also support double height fonts
Back-lighted LCD	Yes	
Back-lighted keypad	Yes	
CLIP	FSK(I + II) CLIP 20 call logs with names	The CLIP list is placed in the base, and can be accessed by one handset at a time. Caller party name, absence reason and message waiting are also decoded. NameLength : 48 chracters stored. NumberLength : 22 digits stored. 7-10-11 display format supported.
Call Waiting Deluxe		Able to access special network function during type II CID reception.
Stutter dial tone detect	Yes	
Last Number Redial	5 levels	Redial list
Memory dialing	Phone book 40 entries	Phone book in handset (With number matching with the CLIP). Name Length = 16 characters stored. Number Length = 22digits stored.
Ring Melody	6	Polyphonic (midi). Placed in code (size of all melodies max 30Kbyte).
Ring Melody	3	Polyphonic (midi). Placed in eeprom (eeprom size depends on melody) (eeprom driver limits the size of a melody to 4Kbyte pr. melody).
Ring Volume	6 + Off	
Handset Msg LED	Yes	
Ear-piece volume control	Yes	During call.

Mute	Yes	
Pre-fix dialing	Yes (Optional)	Number placed in eeprom to be dialled as extension at every call. Eeprom selectable. The NumberLength = 22 digits max.
Base Ringer	Yes	Requires a buzzer. Not polyphonic.
Page key	Yes	
Call barring	Yes	Users can enter a phone number, which is then not able to be called. Exception for emergency numbers.
Intercom call	Yes	Call by handset name.
3-party Conf.	Yes	Line, and two handsets
Walkie Talkie	Yes (optional)	Eeprom selectable.
Headset jack	Yes	
Belt clip	Yes	Mechanical
HS speakerphone	Yes, (Optional)	Switching algorithm, eeprom selectable.
Distinctive Ring	Yes	Output different ring tone for different caller.
Real time clock	Yes	Updated by CLIP and also manual adjustable
Clock Alarm	Yes	Including Clock
Multi-language	Yes	Support 8 languages.
FLASH function	Yes	User programmable flash time
Tone pulse selection	Yes	
Handset power on/off	Yes	
Fast/Slow charge	Yes	Able to switch to slow charge to avoid overheat
Auto answer on/off	Yes	User selectable function
Direct call	Yes	Sometimes called baby call.
Call timer display	Yes	Can be disabled by users
Key tone selection	3+Off	
Key lock	Yes	by press and hold '#'
Handset name	Yes	Display the name of a handset and also use handset name for starting intercom call.
Reset to default	Yes	Able to reset user selectable features to default values.
Handset settings menu	Yes	
Base settings menu	Yes	
Auto registration	Yes	By placing handset in base station cradle.
Any key answer	Yes	

3 Important Safety Instructions

BEFORE USING YOUR TELEPHONE EQUIPMENT, BASIC SAFETY PRECAUTIONS
SHOULD ALWAYS BE FOLLOWED TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK
AND INJURY TO PERSON, INCLUDING THE FOLLOWING

1. **Read and understand all instructions.**
2. **Follow all warnings and instructions marked on the product.**
3. **Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.**
4. **Do not use this product near water, for example, near a bath tub, wash bowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.**
5. **Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.**

6. **Slots and openings in the cabinet and the back or bottom are provided for ventilation. To protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on the bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.**

7. **This product should be operate d only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your dealer or local power company.**

8. **Do not allow anything to rest on the power cord. Do not locate this product where the cord will be damaged by persons walking on it.**

9. **Do not overload wall outlet extension cords, as this can result in the risk of fire or electric shock.**

10. **Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock. Never spill liquid of any kind on this product.**

11. **To reduce the risk of electric shock, do not disassemble this product. Instead, when some repair work is required, take the unit to a qualified technician. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the appliance is subsequently used.**

12. **Unplug this product from the wall outlet and refer se rvicing to qualified service personnel under the following conditions:**
    a. When the power supply cord or plug is damaged or frayed.
    b. If liquid has been spilled into the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally by following the operating instructions. Adjust only those controls, that are covered by the operating instructions because improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
    e. If the product has been dropped or cabinet has be damaged.
    f. If the product exhibits a distinct change in performance.

13. **Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electrical shock from lightning.**

14. **Do not use the telephone to report a gas leak in the vicinity of the leak.**

15. **This power unit is intended to be correctly oriented in a vertical or floor mount position.**

16. **Plug the adaptor to the socket-outlet which near the equipment and shall be easily accessible.**

SAVE THESE INSTRUCTIONS

4   Safety Instructions for Handset Battery Pack

CAUTION:

Danger of explosion if battery is incorrectly replaced. Use only an approved battery pack in the handset of your Cordless Telephone. To reduce the risk of fire or injury, always do the following when replacing, discarding, or charging battery, When handling the batteries, be careful not to short the battery with conducting materials such as rings, bracelets, and keys. The Battery or conducting material may overheat and cause burns. Use only the following type and size of battery pack:

FOR HANDSET UNIT:
GP60AAAH3BMXZ 3.6V 600mAh GPI INTERNATIONAL LIMITED

CONTAINS NICKEL-METAL HYDRIDE BATTERY. BATTERY MUST BE RECYCLED OR DISPOSED OF PROPERLY

1. **Do not dispose of the battery in a fire. The cell may explode. Check with local codes for possible special disposal instructions.**

2. **Do not open or mutilate the battery. Released electrolyte is corrosive and may cause damage to the eyes or skin. It may be toxic if swallowed.**
3. **Exercise care in handling batteries in order not to short the battery with conducting materials such as rings, bracelets and keys. The battery or conductor may overheat and cause burns.**
4. **Charge the batteries provided with or identified for use with this product only in accordance with the instructions and limitations specified in this manual.**
5. **Observe proper polarity orientation between the battery(ies) and battery charger.**
6. **Do not mix old and new batteries in this product.**
7. **Do not mix batteries of different sizes or from different manufacturers in this product.**

<center>SAVE THESE INSTRUCTIONS</center>

Install and Charge the Battery Pack

1   Open the battery compartment by sliding the cover down.
2   Plug the Battery Pack connector into the Handset socket, then place the battery pack and wires in the compartment.
3   Slide the battery cover back into place
4   If you are wall mounting the phone, locate the wall bracket supplied with your phone.

5   Snap the bracket into place on the back of the Base. Next, carefully line up the slots on the wall mount bracket with the studs on the telephone wall plate, and carefully mount the telephone on the wall.
6   Connect the power supply to a live outlet. Make sure the outlet is not controlled by a switch. **DO NOT** connect the telephone line cord to the phone jack until the Handset is fully charged.

7   Place the Handset in the Base cradle. The Handset and Base communicate with each other automatically. This is the **Registration** process, and it may take up to 60 seconds.
8   Allow the Handset to charge for **a day for the initial charge**. The **CHARGE** indicator on the Base will glow while the Handset is charging. For subsequent charges, **8** to **10** hours is sufficient.

5   Setup and Power Up

5.1   Normal Power Up

- Connect the telephone line to the base units and the telephone sockets on the wall
- Connect the power adaptor between the base units and the power sockets
- Plug in the battery pack into the handset compartment
- If the handset units show battery low/empty condition, place the handsets on the base charging cradles for some time before usage.

5.2   Handset Power On/Off

- At any time in the idle mode, Long Press C / ✉ / ⏻ to make handset power off. There is no further response in the handset, except Long Press C / ✉ / ⏻ again.

- During Handset Power Off, Long Press C / ✉ / ⏻ to turn on the handset again.

Basic Function Access Elements

5.3   Handset
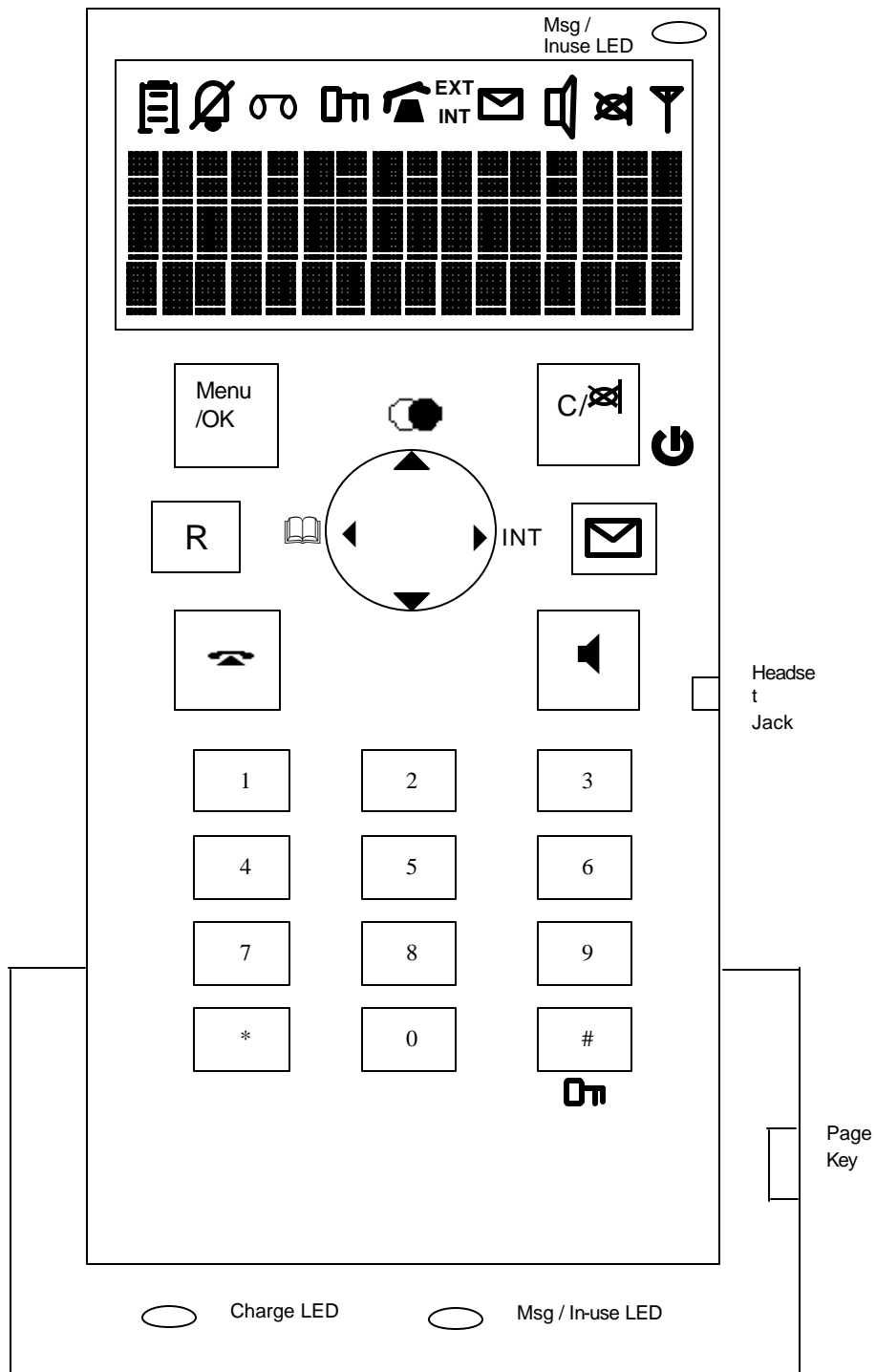
Figure 1

5.3.1 Hard key functions

The following functions shall be available via the existing keys:

Key Symbol	Key Description
☎	On/Off hook
Menu/Ok	Menu / Ok
▲ / ◉	Move Up (browsing/editing) / Access re-dial list / Insert pause.
▼	Move Down (browsing/editing)
◀ / 📖	Move Left / Access Phone Book
▶ / INT	Move Right / Internal Call key
◀	Hands-free if it is enabled Change Volume if Hands-free is disabled
C / ⊠ / ⏻	Clear/Delete / Mute Mic / On/Off function
[0..9],[A..Z]	Numeric/Alphanumeric Keys
*	* / Change to DTMF
# / 🔒	# / Keypad Lock function
R	Flash function
✉	Access to CID records

Table 1

5.3.2 Icons used

Icon Symbol	Icon Description
🔋	Battery status symbol
☎	Indication of online states (line is seized)
EXT	Indication of incoming external call
INT	Indication of incoming internal call
📶	Aerial information
✉	"Message Waiting"
🔊	Hands free mode on
⊠	Microphone muted
🔕	Ringer volume off
☍	AM icon (not used for this model)
🔒	Keypad locked

5.3.3 Top Text Line

The top Line is used for the name of the handset and Menu wording.

5.3.4 Center Text Line

The center line is used for Missed Call and critical battery status.

5.3.5 Bottom Text Line

The bottom line of the dis play is used for clock/date -information, PP-number and alarm status.

5.3.6 Msg/Inuse LED

- This will be on whenever an external call is ongoing.
- Flashes with the ringer cadence from the line when an incoming external call is received.
- Flashing when "Message Waiting" has been received.

5.4 Base

5.4.1 Page Key

This is used for Paging

5.4.2 Msg/Inuse LED

It has the same function as Msg/InUse Led in Handset

5.4.3 Charge LED

This LED in placed on FP.
- Indicates if a PP is placed in the charger.

6 Standby

6.1 PP is not registered at any FP (before registration and after power up)

```
Not   Registered
```

6.2 PP is registered, but the PP is searching for a FP

The text "Searching" is shown and the aerial icon is flashing. The PP cannot make or receive calls in this state.

```
Searching
```
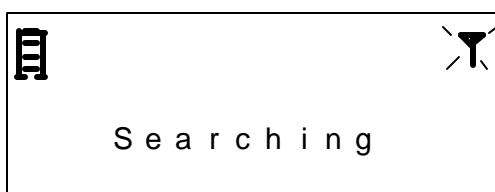
Note : For above two cases, the Arial Icon blink is $T_{ON} = T_{OFF} = T15$.

6.3 PP registered and Located to a FP:

The PP index and name (if it has one) will be shown. If the date and time are set in the base, it will also be shown. The aerial icon is steady on. Calls can be setup to and from the PP.

```
┃                              ▼
          K e n n e t h

1            1 4 : 1 5   2 2 / 0 4
```
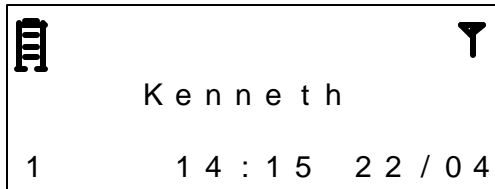
The time is displayed in 24-hour format. The symbol (:) separating the hours from the minutes is steady on. The time/date will always be shown if time is set in the base.

6.3.1 Icons

6.3.1.1 Battery low/Battery critical

The icon will act the same way in both cases. The special case about critical is shown later in this section.

```
┃                              ▼
          K e n n e t h

1            1 4 : 1 5   2 2 / 0 4
```

6.3.1.2 Ringer off

```
┃Ø                             ▼
          K e n n e t h

1            1 4 : 1 5   2 2 / 0 4
```
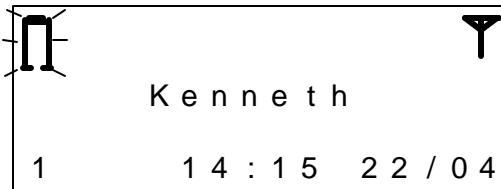
6.3.1.3 Keyboard locked

```
┃          On                  ▼
          K e n n e t h

1            1 4 : 1 5   2 2 / 0 4
```
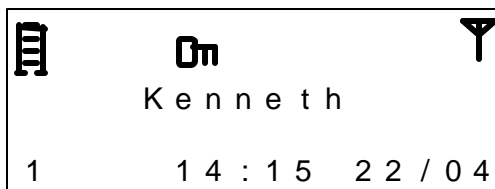
6.3.1.4 Icon Blink Cadence Definitions

Battery	Battery Low/Critical	0.5 Sec	0.5 Sec
Arial	Not Registered	0.5 Sec	0.5 Sec
	Searching	0.5 Sec	0.5 Sec
	Out Of Range indication	2 Sec	0.5 Sec

6.3.2 Top Text Line

6.3.2.1 Handset-Name Set

```
                              Y
        K e n n e t h

1           1 4 : 1 5    2 2 / 0 4
```
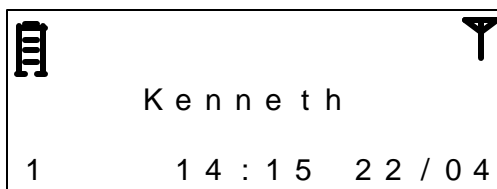
6.3.2.2 Handset-Name Not Set

```
                              Y


1           1 4 : 1 5    2 2 / 0 4
```
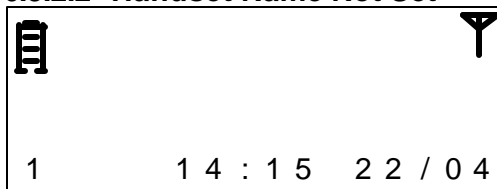
6.3.3 Middle Text Line

6.3.3.1 No new calls

```
                              Y
        K e n n e t h

1           1 4 : 1 5    2 2 / 0 4
```

6.3.3.2 New calls

```
                              Y
        K e n n e t h
        N e w   C a l l
1           1 4 : 1 5    2 2 / 0 4
```
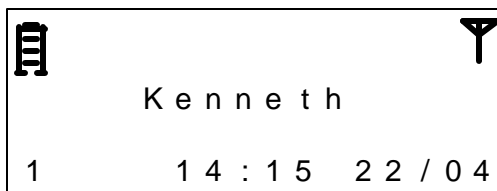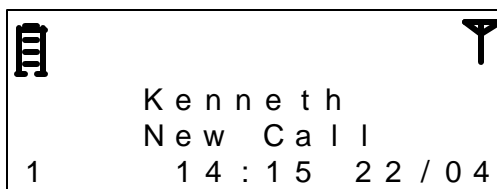
6.3.3.3 Critical battery

Have priority above Missed Call information.

```
┌─────────────────────────┐
│ ▯                     Y  │
│        K e n n e t h      │
│  ≥ C h A r g e   B a t t e r y ≤ │
│  1        1 4 : 1 5   2 2 / 0 4 │
└─────────────────────────┘
```
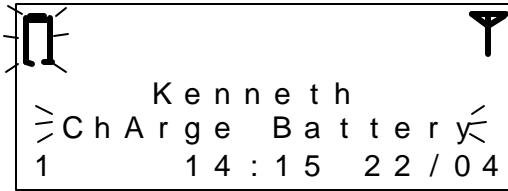
6.3.3.4 Alarm

Have priority above all other information in Bottom Text Line

```
┌─────────────────────────┐
│ ▯                     Y  │
│        K e n n e t h      │
│      ≥ A l a r m ≤        │
│  1   A     1 4 : 1 5   2 2 / 0 4 │
└─────────────────────────┘
```
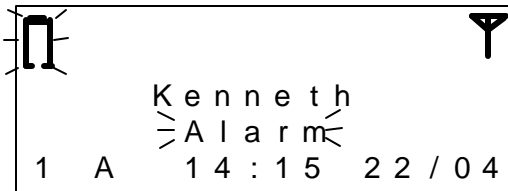
6.3.4   Bottom Text Line

6.3.4.1 Clock Set

```
┌─────────────────────────┐
│ ▤                     Y  │
│        K e n n e t h      │
│                           │
│  1        1 4 : 1 5   2 2 / 0 4 │
└─────────────────────────┘
```

6.3.4.2 Clock Not Set

```
┌─────────────────────────┐
│ ▤                     Y  │
│        K e n n e t h      │
│                           │
│  1        - - : - -   - - / - - │
└─────────────────────────┘
```

6.3.4.3 Alarm Set

```
┌─────────────────────────┐
│ ▤                     Y  │
│        K e n n e t h      │
│                           │
│  1   A     1 4 : 1 5   2 2 / 0 4 │
└─────────────────────────┘
```
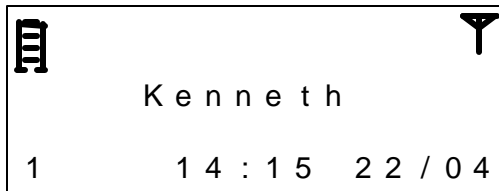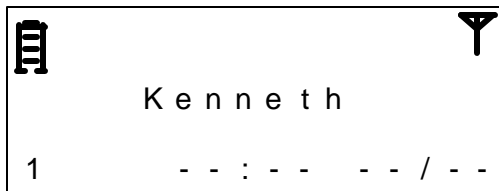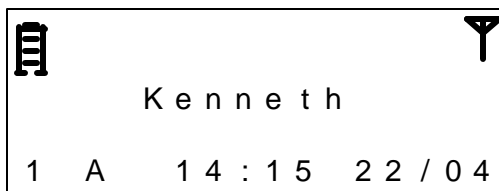
7 Registration

The handset will only be active at one base station at a time. It is possible for the user to choose which base the handset should lock to in the the registration menu.

Registration to a new base can be made by registration menu or by Auto registration

7.1 Auto Registration

Placing a PP in the cradle of a FP will automatically initiate a registration of the PP to this FP. The PP initiates a registration through the Air interface similar to a manual registration. For an automatic registration AC -code = [0000].

8 Call handling

8.1 Outgoing External Call

8.1.1 Post dialing

Press [☎] and the 'Phone' icon will be on.
The 'EXT' icon will be on after the PSTN line is connected.
The 'Msg/Inuse LED' in both handset and base will be on.
Dial the number. If the number is longer than max length of the display, the digits will appear in the second line.
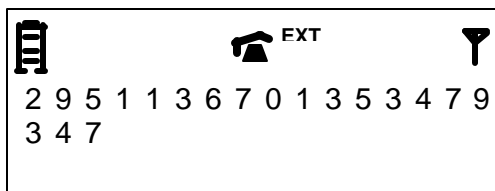
8.1.2 Pre-dialing

A user may enter the number before seizing the line as shown;

```
2 9 5 1 1 3 6 7 0 1 3 5 3 4 7 9
3 4 7
```
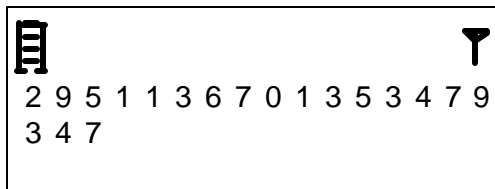
The digits will be cleared after T3 of no key press.
Press [C] to delete the last input digit. Long press on the [C] key clear all digits.
After the desired number is entered, press [☎] to seize line and the entered number will be dialed out.
When you press the [◉] key long ("Insert Pause") a 'P' is inserted at the current cursor position.

8.1.3 Redialing

During standby mode and no digit has been entered, press [◉] will show the last dialed number.

```
2 3 7 8 9 0 0 1
```
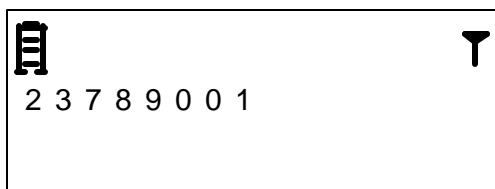
The entries is sorted in chronological order. If the number is in the phonebook, it will be represented with name as well.

```
A l f r e d   L e e
9 3 4 2 1 2 6 7
```
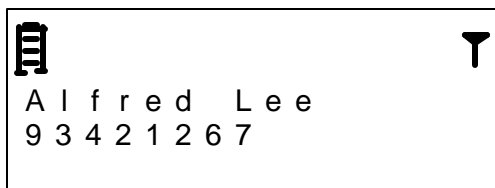
If the number is longer than the length of the display, the character '..' will be shown at the end of the number indicating there are still more digits at the right.

```
A l f r e d   L e e      ?
9 3 4 2 1 2 6 7
```
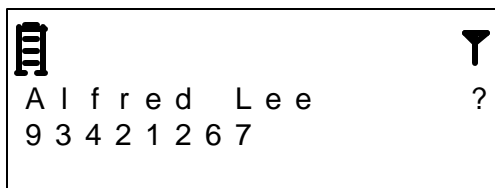
User can browse other redial numbers by pressing [?] and [?]. When 'wrapping' (going from last entry to first or first entry to last) a double beep will be sounded.

Press [☎] to dial the number for that entry or press [OK] to append the number to the pre-dial buffer.

Alternatively, redialing may also be done after the external line is connected. After seizing the line, press [⬤] and the last dialed number will be shown. Similarly, press [?] and [?] to select and then press [☎] to dial out the selected number. the redial-number will be appended to the digits already dialed.

8.1.4   Display during call

- The 'Phone' icon will be on.
- The 'EXT' icon will be on after the PSTN line is connected. (In c ase that another handset is connected with the PSTN line, an error tone will be generated and handset returns to idle.)
- The 'Msg/Inuse LED' will be on in both handset and base.
If the number is longer than the maximum digits in display, the digits will appear in the second line.
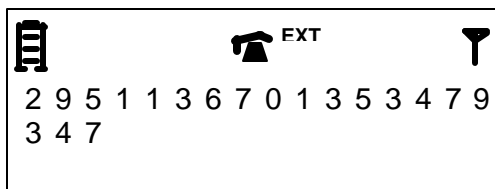
- Press [R]-key to flash the line to perform some PABX function and a digit 'R' will be shown on the LCD. Long press [⬤] to add a pause and a digit 'P' will be shown.
The number is dialed after the 'Flash' will not be stored in the redial memory.

- After T9 of no further key press, the call timer will be shown in the second line while the dial number shown in the first line.
The max time that can be shown is 9:59:59. When reaching this the timer will stop.
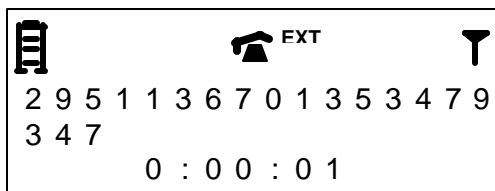
8.1.5   Terminating a call

To terminate the call, press [☎]. The 'Msg/Inuse LED' in both handset and base will go off. The last call time will remain for T10.
Putting the handset on cradle can also terminate the call. In that case, the call time will also be displayed for T10.

0 : 1 0 : 3 1

8.1.6 Temp tone dial

A user may like to change to DTMF dialing during the call if the call has been setup for pulse dialing.
Pressing [*] for more than T1, during active call, activates DTMF dialing. This is only enabled for the duration of the present call.
A digit 'd' will be shown on the display, indicating the 'Change to DTMF' command is sent out.

8.2 Incoming external Call

When receiving an external call, all handsets will ring. The 'EXT' icon will flash. The In -use/Msg LED in both handset and base will flash according to the ring cadence.

```
EXT

1          1 4 : 1 5    2 2 / 0 4
```
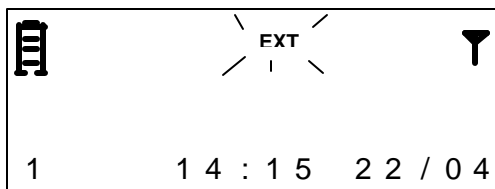
If the network provider support caller ID, the caller's number will be shown. (See the section of Caller ID operation for details.)
Press [☎] to seize line.

User may like to reject the call by press and hold [C] for T1. In doing so, the ring tone in handset will stop and the 'EXT' icon will remain flashing until the incoming call is dropped. During this time, pressing the [☎] will still seize line.

If auto -answer function is enabled, the line can also be automatically connected after the handset is lifted up from base. For preventing accidental line disconnection, in this case the users cannot press [☎] to go on -hook within T11.

8.3 Internal Call Control

Internal call is initiated from a PP by depressing the [INT] key from the idle state.

```
INT
> B o b   W o n g
  H e l e n   K w o n g
  V i n c e n t   L e e
```
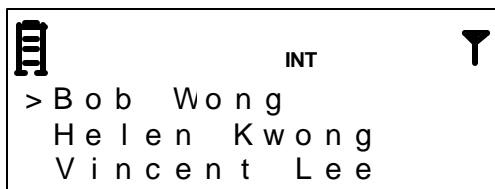
A name list is displayed and with the [▲][▼] – keys select the PP you want to call.
Pressing the [☎] to call the selected PP.

The called PP will ring with the 'INT' icon flashing.

When the other PP takes the call the internal connection is established and the Call time is displayed.

```
┌─────────────────────────────────────┐
│  ▤            ☎ INT          ▼       │
│                                      │
│           0 : 1 0 : 3 1              │
│                                      │
└─────────────────────────────────────┘
```
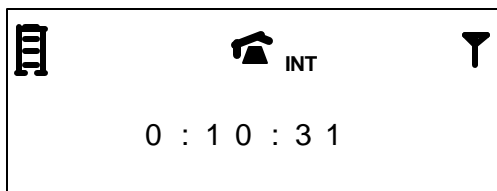
To release an internal connection, press [☎]. The connection is released on both PP's and they return to Idle display. The release may be initiated from both sides. After call release the call time is displayed for T10.

8.4   Transferring External Call

Transferring an external call is in the following called "Call Transfer" (CT) .

Start condition is that a PP is in an active external call.

A CT may either be attended or unattended. The two types of transfer is initiated in the same manner :

CT is initiated from PP1 by pressing [INT] Key. PP1 is making an internal call and the PSTN connection is put on hold.

Attended CT :

PP1 is waiting for one of the other PP's to answer the call. When the other PP (PP2) answers the call, the two PP's now have a connection with the external line on hold. The PP initiating the CT, may press R to start a 3 -party conference, Ext line – PP1 – PP2.

If PP1 and PP2 is in a connection with the line on hold, and PP2 is releasing the internal call to PP1, PP1 retrieves the line by pressing [☎] once.

If PP1 and PP2 is in a connection with the line on hold, and PP1 is releasing the connection the line is transferred to PP2 automatically.

If no PP answer the CT attempt from PP1, the call is retrieved by PP1 pressing [☎] key twice, first press is to terminate the internal call and second is to retrieve the external connection on hold.

Unattended CT :

PP1 is releasing the connection to the base after initiating the internal call and the other PP's are being paged. PP1 is not paged, since it is the initia tor of the CT. When a PP answer the Call the external call is automatically transferred to this connection.

If no PP's answers the CT, PP1 is called back by the FP after T12.

8.4.1   CLIP Transference

Attended CT :

When PP1 releases its connection to complete the CT, the CLIP, if present, is transferred to PP2.

CLIP is displayed as for a normal external call with CLIP.

Unattended CT :

When PP2 takes the call the CLIP, if present, is transferred to PP2.

CLIP is displayed as for a normal external call with CLIP.

8.4.2 Call Time Display

The counter will start local in the HS at 0, show the call time of HS not from the line.

8.5 Conference Call

Start condition is that a PP is in an active external call.

The way to make a conference is similar to the description for "Attended Call Transfer". The conference state is indicated by an audible signal in the earpiece on both PPs and on the external PSTN connection.

8.5.1 Conference Call Status

- The second internal party is unable to make an outgoing call (en-bloc dialling, standard dialling).

- No additional handset may be added to a conference call in progress between the two internal parties and the external participant.

- When initiated a call transfer, it is not possible to switch between the parties.
  INT - INT - EXT conference --> only controlled by on / off hook keys.

Display during a conference call:
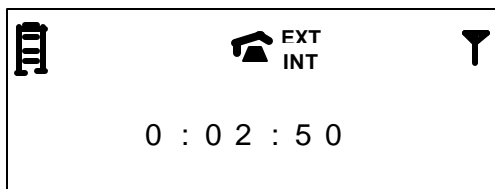
8.5.2 Conference Call Termination

Conference Call is terminated when one of the PP's involved presses the [☎] key.

The other parties involved stay connected and the status change to an external call. The operation of CLIP transference is similar to the Attended Call Transfer described in 8.4.1 CLIP Transference.

Conference termination is indicated by an audible sound.

If both involved PP's presses [☎] key, the first step is to terminate the conference and the second step is to release the external connection.

8.6 Handset Speakerphone (Optional)

- If Handset speakerphone option is available in the normal internal/external Call, press ◀ to start handset speakerphone. The operation is similar to

press ☎ which turns on the receiver, instead of the handset speakerphone.
- During Speakerphone mode, press ◀ to toggle between speakerphone and normal talk mode

Press ☎ again to stop speakerphone and go on-hooked again.

8.7 Headset

When Headset is plugged in during internal/external Call, the audio will be routed to the headset instead of the receiver.

HEADSET OPERATION

Your cordless Handset is equipped with a 2.5 mm. Headset Jack for use with an optional accessory headset. Contact the local store to choose a suitable headset, refer contact to page 49.

Once you have a compatible Headset, locate the headset jack located on the side of the Handset. First, remove the protective rubber cover. Plug the headset cord into the jack. Do not force the connection.

When a Headset is connected, the microphone on the Handset is muted to limit the effect of background noise.

Your cordless Handset is also equipped with a Belt Clip. Align the pins located on the inside edge of the clip with the notches on the sides of the Handset. The belt clip should snap securely into place.

8.8 Audio

Audio can be routed to three different outputs in the handset device: earpiece, speakerphone and headset (through the jack-stick). The following rules will apply:

1. When hands free mode is on, the audio will always be routed to the speakerphone.

2. When the hands free mode is off, if a headset is plugged into the jack stick, audio will be routed to the headset.

3. If no headset is plugged in, and the hands free mode is off, the audio will be routed to the earpiece.

8.8.1 Setting the handset volume

While in call and the audio is routed to the earpiece, press 'up' or 'down'.
If press 'up', the volume level will be increased one step and a menu showing the current level will be shown.
If press 'down', the volume level will be decreased one step and a menu showing the current level will be shown.
In the menu there is a timeout of T3, the display will then return to show call info.

8.8.2 Setting the hands free volume

While in call and the audio is routed to the speakerphone, press 'up' or 'down'.
If press 'up', the volume level will be increased one step and a menu showing the current level will be shown.
If press 'down', the volume level will be decreased one step and a menu showing the current level will be shown.
In the menu there is a timeout of T3, the display will then return to show call info.

8.8.3 Setting the Headset volume

While in call and a headset is connected and speakerphone is off, press 'up' or 'down'.
If press 'up', the volume level will be increased one step and a menu showing the current level will be shown.
If press 'down', the volume level will be decreased one step and a menu showing the current level will be shown.
In the menu there is a timeout of T3, the display will then return to show call info.

8.9 Muting

During External/Internal Call Conversation, press C / ⊠ / ⏻ to mute the microphone input. The ⊠ icon is turned on.

Press C / ⊠ / ⏻ again to unmute. The ⊠ icon is turned off.

8.10 Out Of Range Warning

The "Out Of Range" warning is alerted through a distinctive sound in the Speaker in idle and through a sound in earpiece when in an active call.

```
┌─────────────────────────────┐
│ ▤                        ⟩▼  │
│                             │
│      K e n n e t h          │
│                             │
│ 1        1 4 : 1 5   2 2 / 0 4 │
└─────────────────────────────┘
```
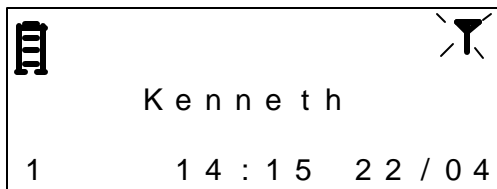
9 Caller ID operation

9.1 Incoming call indication

If the network provider supports clip information, the caller's number will be shown during incoming call.
If the network does not send out the date-time information and the clock in the base has not been updated, the date-time digits will show '--:-- --/--'.

```
  ▮            \   /              ▼
              ͗ EXT ͗
              /  ǀ  \
J o h n   S m i t h
2 3 5 7 7 4 9 0
            - - : - -   - - / - -
```
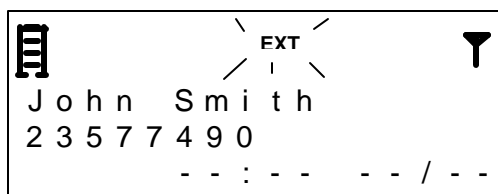
If the caller's number matches with a phone book entry, the name stored in the phone book will be displayed instead.
When the LCD cannot display all information in one screen, the 'Up/down' icon will be shown and users can press [?] and [?] to view the content.

9.1.1   Rules for displaying call information

General:
Name on Line 1, number on Line 2. Name and number can be substituted with reason for absence. Reason for absence can be either "Unavailable" or "Private".

1. CLIP and corresponding directory entry available:
Number and name from the phonebook will be displayed.

2. CLIP and no corresponding directory entry available:
CLIP will be displayed. (truncated, if CLIP exceeds the line)

3. Reason for absence of CLIP:
Reason for absence of CLIP will be displayed.

9.2   Call waiting

Call waiting is sounded when an internal call is active between two handsets.

To accept the waiting call, first the ongoing call has to be finished by a push on the on-hook key before the waiting call can be accepted via off-hook key (follows normal incoming call procedure).

9.2.1   Signaling call waiting

Call waiting is supported for new external call when in active external or internal call.

A beep is generated in the earpiece when receiving an incoming external call during active external or internal call.
Additionally to acoustic signaling there will be a call waiting screen with the CLIP information.

9.2.2   Accepting call waiting /off hook CLIP

The off hook clip will be shown for T13 at most, and then the display will return to original clip.

If the user toggles back and forth between two external calls by using the flash function, the PP does not try to model the state of the exchange. The CLIP information will not be shown in this case, as the PP cannot surely decide which caller is the one available at the line all the time.

CLIP -> OFFHOOK-CLIP (T13) -> CLIP -> (FLASH-Key) No CLIP

9.3 Call Waiting / Call Waiting Deluxe

Call Waiting

When you receive a Call Waiting alert tone in the earpiece (or Handset Speakerphone), the 'waiting' call can be answered by pressing the **FLASH** key. Pressing FLASH clears the second line in the display. If the 'waiting' call is not answered, the display will return to normal ongoing call presentation after 15 seconds.

Call Waiting Deluxe (Call Waiting ID)

When the handset is in conversation and receiving a type 2 caller Id number, a special "CallWaiting Deluxe" menu becomes available.

From this menu the user has several options.
The options in the menu will change dependent of the state of the current call:

Call Waiting state (when you are in conversation and receive Call Waiting ID information):
? Forward call (to voicemail, for example)
? Play an Announcement (that you are currently on another call)
? Drop the incoming call
? Answer call (terminating the first call)
? Put current call on hold while answering the 'call waiting' call
? Conference

Held Call state (conversation with call on hold):
? Return to the call on hold
? Drop the call on hold
? 3-way conference with both callers

Conference Call state:
? Drop First call
? Drop Last call

When in conversation and receiving a type 2 CID the menu can be accessed by pressing the [Menu] - key on the handset.

Display example where the handset is in CallWaitingState:

```
> F o r w a r d   C a l l
  A n n o u n c e m e n t
  D r o p   C a l l
```
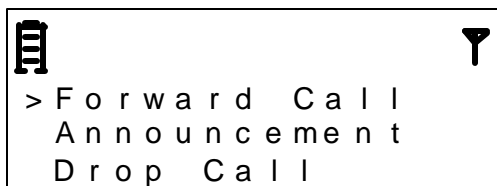
Use the ? and ? scroll keys to highlight the desired action.
The action can be selected by pressing the [Ok]-key.
After selection the handset returns to normal call display.

The "CallWaiting menu" can be aborted by pressing the [C]-key.

The type "CallWaiting Deluxe" is always accessible while in external conversation.
The switching functionality though is depending on support from the PSTN service provider.

For more information on Call Waiting options, contact BellSouth Customer Support.

9.4 Stutter Dial Tone Check

The unit can also detect Dial tone and/or Stutter dial tone in order to determine the message waiting status (ie the message waiting LED indicator)

10 Other Features

10.1 Identification of a parallel line occupancy (for a not seized line)

If the line is not seized by the system, line occupancy (for example through seize by a parallel switched device) is detected.
All the handsets reflect this situation by turning on 'In use LED'.

10.2 Identification of line occupancy (for a seized line)

The Ext icon appears at all the handsets if one at the same base registered handset seizes the line. (Display shown for both occupancy by parallel equipment and for occupancy by parallel handset.)

10.3 Battery low warning

Battery condition is checked all the time when handset is on.

Battery charging Icon behaviour during Charging. If discharging, reverse.
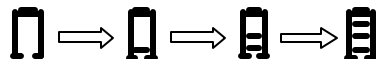
When the battery status is battery low/Battery Critical, the empty battery icon blinks. No further operation is allowed. It is in Standby condition. The handset should be placed on base cradle for charging.

10.4 Display illumination (Back-lighted LCD/Keypad)

Display illumination is activated:

• when any key is pressed

• when an incoming call (internal, external)

• when alarm.

Switching off:
• After T2 the display illumination is switched off. (Any of the above actions will restart the timer)

10.5 Key Lock

This is accessed by Long Press # key during the idle mode.
During Key lock mode, there is no response to all keys, except Talk key during external/internal incoming call or except emergency call sequence(eg 110).
During Key Lock mode, Long Press # key to disable key lock.

10.6 Paging

Pressing the "Paging key" at the base unit transmits a page call to all handsets.

The page call is signalled at the handsets with the selected ringer melody used for internal connections.

The page call could be ended as follows:
• Pressing the off -hook key at the handset.
• Pressing the hands free key.
• After T3.
• Pressing the "Paging key" o f the base again.

Paging Display:
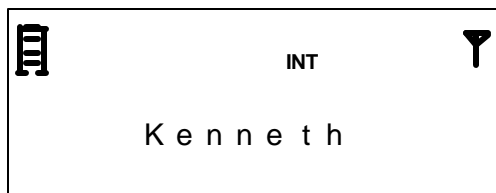
The PP name is displayed and the INT icon is displayed.

All called handsets are thereafter switched to standby mode.

Remark:

If any internal or external l inking is active, a page call can't be started.

The page call must be acoustically signalised even if the ringer volume is set to 0. In this case the ringer volume will be 3.

If any other key (except off-hook or hands free on handset or paging key on base station) is pressed during paging call, nothing happens.
External incoming call terminates the paging call.

11 Menu Setting

Press Menu/OK Key during Standby to access Main Menu.
The Main Menu has the following selection structures.

Menu Level 1	Menu Level 2	Menu Level 3	Menu Level 4
Phonebook	Edit Entry	Special Ring	No
			Melody 1
			Melody 2
			Melody 3
			Melody 4
			Melody 5
			Melody 6
			Melody 7
			Melody 8
			Melody 9
	Delete Entry	No	

			Yes
	New Entry	Special Ring	No
			Melody 1
			Melody 2
			Melody 3
			Melody 4
			Melody 5
			Melody 6
			Melody 7
			Melody 8
			Melody 9
Call List	Copy to Phonebook		
	Delete Entry	No	
		Yes	
	Delete List	No	
		Yes	
Audio Settings	Ringer Volume		
	Ringer Melody	External Melody	Melody 1
			Melody 2
			Melody 3
			Melody 4
			Melody 5
			Melody 6
			Melody 7
			Melody 8
			Melody 9
		Internal Melody	Melody 1
			Melody 2
			Melody 3
			Melody 4
			Melody 5
			Melody 6
			Melody 7
			Melody 8
			Melody 9
		Paging Melody	Melody 1
			Melody 2
			Melody 3
			Melody 4
			Melody 5
			Melody 6
			Melody 7
			Melody 8
			Melody 9
		Alarm Melody	Melody 1
			Melody 2
			Melody 3
			Melody 4
			Melody 5
			Melody 6

			Melody 7
			Melody 8
			Melody 9
	Tones	Key Tones	Off
			Pattern 1
			Pattern 2
			Pattern 3
			Off
		Confirmation Tones	On
			Off
		Warning Tones	On
			Off
		Call Waiting Tones	On
			Off
		Range Alarm	On
			Off
Set Alarm	On		
	Off		
Set Time			
Auto Talk	On		
	Off		
Any Key Answer	On		
	Off		
Direct Call	On		
	Off		
Display	Handset Name		
	Call Display	Time	
		Number	
	Language	English	
		German	
		French	
		Italian	
		Dutch	
		Spanish	
		Portuguese	
		Turkey	
Advanced Settings	Reset Handset Change PIN		
	Register Handset		
	Select Base	Automatic	
		Base 1	
		Base 2	
		Base 3	
		Base 4	
	Deregister Handset	Base 1	
		Base 2	
		Base 3	
		Base 4	
Base settings			
	Audio	Ringer Volume	

		Ringer Melody	Melody 1
			Melody 2
			Melody 3
			Melody 4
			Melody 5
			Melody 6
			Melody 7
			Melody 8
			Melody 9
	Base Reset	Reset To Default	Yes
			No
	Additional Features	Dial Mode	Tone
			Pulse
		Flash Time	80ms
			100ms
			120ms
			180ms
			250ms
			300ms
			600ms
			800ms
		Prefix Dial No	
	Call Barring	Number	On
			Off
	Base PIN		
Walkie Talkie			
Call Deluxe			

12 Phone Book directory

The local directory can both be accessed pressing [📖] and through the Menu.
If the directory is empty, pressing [📖] should output error tone.

12.1 Browse Directory

The entries is sorted in alphabetic order.

If a melody is attached to the number, a melody icon will be shown to the right.
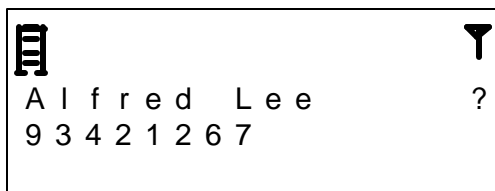
Users may like to press a digit [1] – [0] and [?][?] key to locate the desired entry.
For example, press [8 TUV] to locate the entry with the name started with 'T'. Press
[8 TUV] again to locate the name started with 'U'. If [6 MNO] is then pressed, the
name started with 'M' will be shown.

12.2 Use Number

Press [☎] to dial the number for that entry or press [OK] to append the number to the pre-dial buffer.

Recalling a number from the directory after line seizure is also possible by pressing [📖/◀]. The procedure is similar as before except that pressing [OK] or [☎] would dial out the number for that entry.

12.3 Edit Entry

To edit the current entry in the phone book directory, the user select "Edit Entry" from the menu. The procedure is similar as "New Entry" except the previous data is available. We need to edit the Name/Number/Special_Ring for the record.

12.4 Delete Entry

To delete the current entry in the phone book directory, the user select "Delete Entry" from the menu. After press Menu/OK again, the user needs to double confirm Yes/No again before actual deletion.

12.5 Store Entry

To make a new entry in the phone book directory, the user select 'Store Entry' from the menu.

12.5.1 Enter Name

When no name have been put in, 'Enter Name' will be displayed.

```
┌─────────────────────────────┐
│ ▤                         ▼ │
│                             │
│     < E n t e r   N a m e > │
│                             │
│ 1           1 4 : 1 5   2 2 / 0 4 │
└─────────────────────────────┘
```
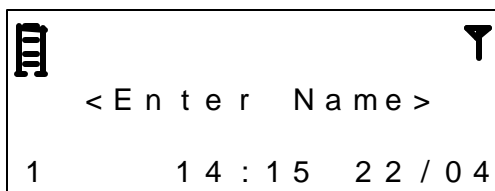
The character can be entered by pressing a digit '1' to '0' for different number of times. After T8 of no key press, the cursor will be advanced by one position. Once a digit is entered, the word 'Enter Name' is cleared.

```
┌─────────────────────────────┐
│ ▤                         ▼ │
│                             │
│ A l F A e d _               │
│                             │
│ 1           1 4 : 1 5   2 2 / 0 4 │
└─────────────────────────────┘
```
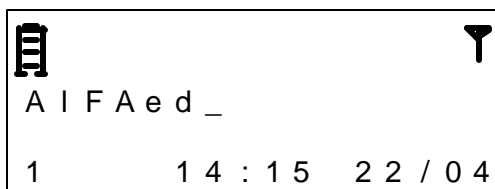
When editing the name, users may also like to move the cursor using [📖/◀] or [? /R].

```
┌─────────────────────────────┐
│ ▤                         ▼ │
│                             │
│ A l f A̲ e d                 │
│                             │
│ 1           1 4 : 1 5   2 2 / 0 4 │
└─────────────────────────────┘
```
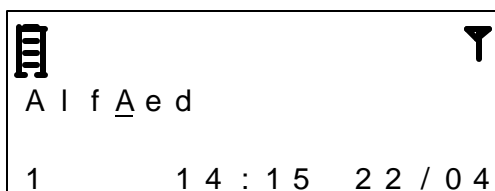
Press [OK] after the name is correctly entered.

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12.5.2 Enter Number

If no number is in the pre-dial buffer the user have to enter both number and name. If a number in pre-dial, the user will only have to enter name. The number in pre-dial is automatically copied to directory.

When no number have been put in, 'Enter Number' will be displayed.

```
A l f A e d
< E n t e r   P h o n e   N o >
1         1 4 : 1 5    2 2 / 0 4
```
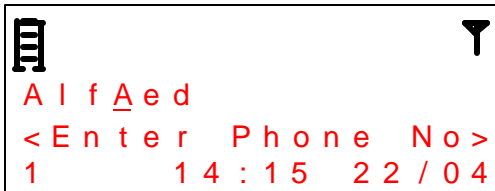
Once a digit is entered, the word 'Enter Number' is cleared.

```
▤                              ▼

A l f A e d
9 3 4 5
1            1 4 : 1 5    2 2 / 0 4
```
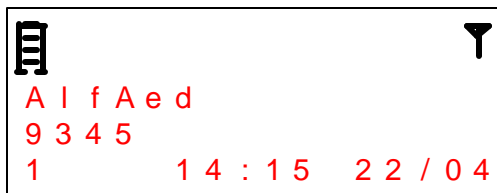
Press [C] to clear the last digit. Press [OK] to confirm the entered number. Then the user is required to enter name.

12.5.3 Distinctive Ringing

The handset is able to give specific ringer melody for different caller. The user can then select a specific ringer melody for that entry by pressing [▢/◀] or [▶ /INT].

```
▤                              ▼

  S p e c i a l    R i n g ?
   ? N o   S p e c i a l ?
    ?   M e l o d y   1    ?
    ?   M e l o d y   2    ?
    ?   M e l o d y   3    ?
    ?   M e l o d y   4    ?
    ?   M e l o d y   5    ?
    ?   M e l o d y   6    ?
    ?   M e l o d y   7    ?
    ?   M e l o d y   9    ?
```
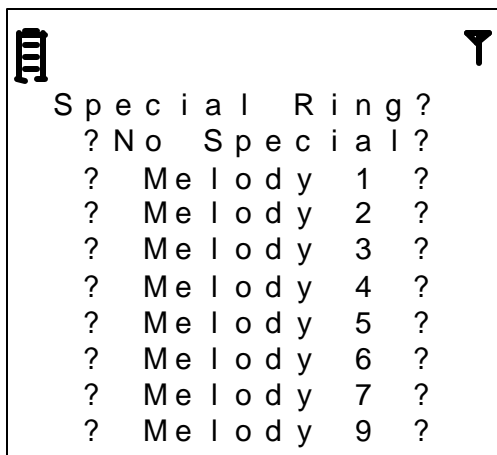
If any melody type is selected other than 'No Special', a 'Melody' icon will be indicated at the right when displaying the recall memory. See 'Recall memory'

13 CLIP list

This list is kept at the base station and can be accessed by the PP via the menu clip list menu. Only one PP can access the list at a time.

All received CLIP information is stored in the CLIP List in the following manner :

The list will be ordered according to when the call took place (newest first, oldest last).

If a new unanswered call comes from a subscriber that is already logged in the list, the CLIP information will be inserted as the newest entry, and the previous entry from that subscriber will be removed from the list.
When the CLIP list is full and a new entry needs to be made, the oldest entry will be removed from the list, to make place for the new information.

The CLIP list can both be accessed pressing [✉] and through the Menu.
If the list is empty, pressing [✉] should output error tone.

13.1 Browse CLIP List

Press UP and Down to browse the list

13.2 Use the Record

Press Talk to dial out the number on the record

13.3 Copy to Phone Book

Press MENU/OK to select "Copy to PhoneBook". It goes to Phone Book edition mode with the CLIP name/number as the entry of PhoneBook name/number.

13.4 Delete Entry

Press MENU/OK to Select "Delete Entry". It needs to double confirm before deletion.

13.5 Delete List

It deletes all read/old CLIP records. Press MENU/OK to Select "Delete List". It needs to double confirm before deletion.

14 Setting the ringer volume

The ringer volume is set in the menu. The external melody will be played when entering the menu and each time the level is changed to give an audible indication of the current level.
The ringer melody is set in the menu. The current selected melody will be played when entering the menu and each time the level is changed.

14.1 Setting the handset ringer volume to zero

It is possible to set the ringer volume to zero. In this case no melody will be played. The 'ringer off' icon will be set on when the setting is accepted.
Notice that User selectable Ringer Volume is for External and Internal Ringer Only. Paging/Alarm Ringer is in fixed level.

15 Setting the melody – External/Internal/Paging/Alarm

There will be a ringer a specific melody for both internal and external calls.
The external melody is used if the number is not found in the phonebook and requires a specific melody to be used.
The ringer melody is set in the menu. The current selected melody will be played when entering the menu and each time the selection is changed.
The melody will be played in the menu with the current ringer volume. If the ringer volume is set to zero, the melody will be played with volume 1 (lowest volume).

16 Setting Key Tone

There is distinctive key tone pattern.
The tone pattern is set in the menu. The current selected pattern will be played when entering the menu and each time the selection is changed.

17 Setting Alert Tone On/Off

The Alert tone includes Confirmation/Warning/Call Waiting/Out of Range Tones. The alert tone can be set as On/Off in the menu.

18 Alarm Setting

After selecting 'Set Alarm' in the menu, users will be required to set the alarm on/off by pressing [📖/◀] or [▶ /INT].

```
目                            Y
 A l a r m          ?   O n ?
                    ? O f f ?
 T I m e           0 7 : 3 0
```
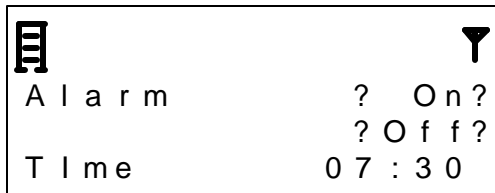
Press [?] to change the time for activating the alarm.

```
目                            Y
 A l a r m               O n

 T I m e           0 7 : 3 0
```
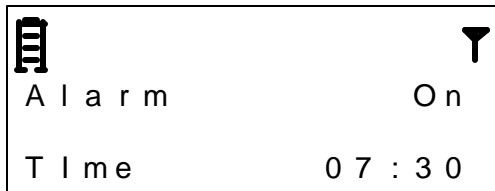
Enter the time in 24-hour mode and then press [OK] to confirm the setting. If alarm is set to on and the time in the handset is valid, an alarm icon will be on during standby mode.

```
目                            Y
          K e n n e t h

 1   A     1 4 : 1 5   2 2 / 0 4
```
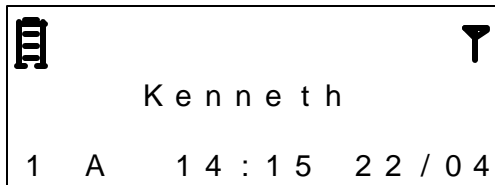
When the set time is reached, the alarm tone will be sounded and the following screen can be seen:

```
目                            Y
            A L A R M

 1         1 4 : 1 5   2 2 / 0 4
```

Users are able to stop the alarm by pressing any key.

19 Setting Date-Time

The date-time information will be lost after the base has lost its power.

There are two ways to update the 'Date-time' information. If the telephone network provides the date-time information in the caller ID message, receiving a caller ID message can update the date-time information.

The other way is to select 'Date-Time' from the menu and then users can enter the date and time in the format of 'DD/MM' and 'HH: MM'.
If the date-time information has not been updated before, the following screen can be seen.

```
▤                              ▼
D a t e          [ _ - / - - ]

T i m e          [ _ - : - - ]
```

If the date-time information has already been there, users can still change the date and time information as follows;

```
▤                              ▼
D a t e          [ 2 2 / 0 4 ]

T i m e            1 4 : 1 5
```

Press [?] to change the time in 24 hours format.

```
▤                              ▼
D a t e            2 4 / 0 5

T i m e          [ 1 4 : 1 5 ]
```

The clock starts running as soon as the time and/or the date has been set.
Remark: The base distributes the data to all registered and reachable handsets when it receives it.

20 Auto Talk

This is a PP setting. When enabled the PP answers an incoming call by pressing any key. When in an active call the key has normal operation.

21 Any Key Answer

This is a PP setting. When enabled the PP answers an incoming call by pressing any key. When in an active call the key has normal operation.

22 Direct Call

This is a PP setting. Select "Direct Call" Setting in Menu. Then set On/Off. If Set On, set the Direct call number. If Direct call number is set, press any key in standby and then dial out the direct call number.

23 Handset Name Setting

This is a PP setting. Select "Display" and "Handset Name" Setting in the Menu. Then set the Name character for the handset. If the name is programmed, the standby will display the handset name in the middle text line.

24 Call Display Setting

This is a PP setting. Select "Display" and "Call display" setting in the menu. Select either "Time" or "Number". If Time is selected, there is Call time display during the call and certain time after the call. If Number is selected, there is no call time display, just the number.

25 Language Setting

This is a PP setting. Select "Display" and "Language" in the menu. Then select "appropriate" language. After selection, the menu wording will be changed to corresponding language.

26 Reset Handset

All handset parameters are reset to default values. It can be accessed by "Advanced Setting" and "Reset Handset". See table of default values.

27 Change Handset Pin

It can be accessed by "Advanced Setting" and "Change Pin".

28 Register Handset

It can be accessed by "Advanced Setting" And "Register Handset".
After selection, put the handset on the corresponding base station.

29 Select Base

One handset can register to maximum 4 base. We can set handset to use one fixed base or select any one of the available bases automatically.
It is set by selecting "Advanced Setting" and "Select Base"

30 Deregister Handset

This can be accessed by selecting "Advanced Setting" and "Deregister Handset". It allows de-register the handset to certain base.

31 Base Ringer Volume

The procedure of changing base ringer volume is the same as changing the handset ringer volume

32 Base Ringer Melody

The procedure of changing base ringer melody is the same as changing the handset ringer melody

33 Base Reset

This is a FP setting to reset base parameter. It is accessed by "Base Setting" and "Base Reset". See the table of default values for detail.

34 Change Dial mode

After selecting 'Dial Mode' from the menu, users can choose Tone or pulse dialing mode.

```
┌─────────────────────────────┐
│ ▤                        ▼   │
│                              │
│    D I a l   M o d e         │
│                              │
```
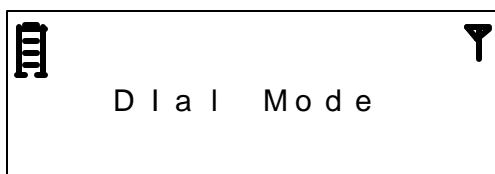
```
? T o n e   ?
? P u l s e ?
```

35 Change Flash Time

This is as FP setting to change the Flash time. It is accessed by "Base Setting" and "Additional Features" and "Flash Time"

36 Prefix dialing (Optional)

The FP may be setup to add a pre-fix number to every number dialed on the PSTN Line.

The Prefix dialing feature is eeprom selectable.

The Prefix dial number may be setup through a base menu. When selecting the menu the Base PIN must be supplied prior to getting access to altering the prefix dialing number.

The Prefix dial number base menu is only available if the feature is enabled via the eeprom.

37 Call barring

It shall be possible to enter a phone number that will not be possible to be called afterwards.

38 Change Base PIN

It can be accessed by "Base Setting", and "Base Pin".

39 Walkie Talkie (Optional)

It will be possible to put handset in walkie/talkie-mode. This enables the user to make a call between two handsets without being locked to a base.

39.1 Entering Walkie Talkie -mode

Walkie talkie-mode is entered through a menu in the handset.
After choosing "Walkie talkie" the user is prompted for groupID.
The handsets need to have same groupID to be able to connect to eachother.

39.2 Making a call

To make a call in walkie talkie-mode, the user hook off with [☎] or [Int/OK].
Handsets need to have the same groupID to be able to call eachother.
When hooking off in this mode, all other handsets with same groupID within range will ring.

39.3 Exit Walkie Talkie -mode

Walkie talkie-mode is terminated through the menu. The handset will return to idle.

40 Factory default Values

Functional Settings	Possible Range	Factory Default
Handset Paramters		

Phone Book	- 40 records - 22 digits per record - 16 characters per record	Null
Audio Setting – Ringer Volume	Off + 1 to 6	3
Audio Setting – Ringer Melody – External	1 to 9	1
Audio Setting – Ringer Melody – Internal	1 to 9	2
Audio Setting – Paging Melody	1 to 9	3
Audio Setting – Alarm Melody	1 to 9	4
Audio Setting – Key Tones	Off + 1 to 3	1
Audio Setting – Confirmation to ne	On/Off	On
Audio Setting – Warning Tone	On/Off	On
Audio Setting – Call Waiting Tone	On/Off	On
Audio Setting – Out of Range Tone	On/Off	On
Alarm Setting	On/Off + Alarm Date/Time	Off + Null
Auto Talk	On/Off	On
Any Key Answer	On/Off	On
Direct Call	On/Off + 22 digits	Off
Display – Handset Name	16 characters	Null
Display – Call display	Time / Number	Time
Display – Language	English/French/Spanish/ Germany/Italy/Dutch/ Portuguese/Turkey	English
Advanced Setting – Pin		0000
Advanced Setting – Select Base	Automatic, 1 to 4	Automatic
Base Parameters		
Call List	- 20 records - 22 digits per record - 48 characters per record	Null
Time Setting	Date/Time	Null
Base Setting – Audio – Ringer Volume	Off + 1 to 6	3
Base Setting – Audio – Ringer Melody	1 to 9	5
Base Setting – Additional Feature – Dial mode	Tone/Pulse	Tone
Base Setting – Additional Feature – Flash Time	100/300/600ms	100ms
Base Setting – Additional Feature – Prefix	Off + 22 digit	Off
Base Setting – Call barring	Off + 22 digit	Off
Base Setting – Base Pin		0000

41 General Operation Notes

41.1 Graphics used

Handset volume

Speaker volume

```
 ▤                              Y
 Speaker  Volume
 Low  ▁▁▃▄▅▆  HIgh
```
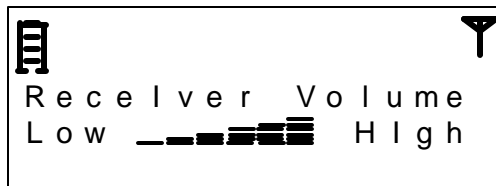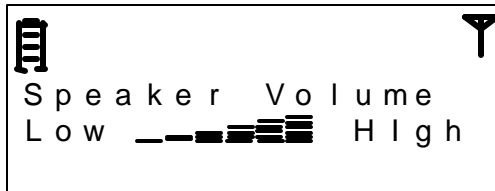
Ringer volume handset (Level 0 to 6, 0 for off).

```
 ▤                              Y
 RInger  Volume
 Low  ▁▃▄▅▆▆  HIgh
```

```
 ▤                              Y
 RInger  Volume
 OFF
```
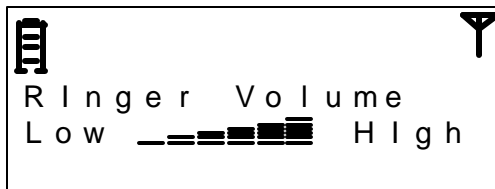
41.2 Display

41.2.1 Menu

All texts in menus are left aligned with a one digit offset to make room for an arrow that points at the active menu item.

All menu/shortcut functions have to be activated when the handset is in idle mode. User may enter the menu by pressing [Menu].

```
 ▤                              Y
 >
   DIrectory
   Handset  Menu
```

To change the item for selection, press [?] or [?] until the desired menu-item is active. A user may then press [OK] or [▸] to confirm the selection.
At any stage of menu operation, a user may go back one level in the menu by pressing [C]. Pressing and holding [C] for T1 at any time can return to standby immediately.

41.2.2 Detailed display of numbers/names

When showing clip, if the number and name is too long to be displayed on screen, as much as possible will be shown and it will be possible to scroll up and down to see the rest.

In phonebook and redial list if number is too long, '..' will be added to the end to indicate that the number is longer than the display. There is no way to see the whole number unless it is copied to pre-dial editor.

41.2.3 GUI timeout control

All local procedures are terminated automatically after a period T3 has elapsed following the last entry.

Advisory and confirmation messages are displayed for a period T4 and error messages for a period T5. By pressing any key the message disappears.

41.2.4 Navigation

The lists, menus and editors are navigated by using navigation hard-keys (up and down keys).

When in menu, right-key accepts the active menu-item and left-key steps one step back.

41.2.5 Base Settings

The base station itself monitors the menu settings in the base. If more than one handset tries to change a menu item at the same time, only the first handset is authorized to continue with the procedure. In the remaining handsets the procedure is rejected.

The base menu will only be available at the PP if it is registered to a Giant base.

41.3 Visual signaling

41.3.1 Prompts

Prompts consist of a cursor and an input request. In some cases (e.g. PIN/date/time entry), they also remain visible in the display after the user has pressed a key. In other cases (e.g. name and number entered in the directory) the input overwrites the prompt.

41.3.2 Warnings / confirmation prompts concept

Warnings are centered in the display and allow the user to cancel the action (pressing any key).

An example of a confirmation prompt could be when the entire directory is deleted.

41.4 Acoustic signaling

41.4.1 Ringing tones

Same ringing tones as 2G4 LowCost will be used in the base.

Handset will use polyphonic ringer melodies.

41.4.2 Acoustic signaling of incoming calls

Signalling of external incoming calls has first priority.

Calls are signalled acoustically (ringer) and visually (display). Menu will be cancelled as a result (e.g. navigating through the menu, editing procedures).

Only when an incoming call arrives while the PP is already engaged in a call, the PP will not ring but call waiting will be signalled.

41.4.3 Acoustic sounds

Same acoustic sounds as 2G4 LowCost will be used in both handset and base (Positive and negative confirmation tones).

41.5 Editors

This section defines the principles for inputting data:

• Editor for inputting fixed masks (e.g. Date/Time/PIN).

• Editor for inputting numbers and text (e.g. Name/Directory; …).

41.5.1 Time/Date Editor

the time/date editor has a fixed number of digits and a fixed format.

For the editor the following rules apply:

The cursor position is displayed by means of a flashing underscore.

The fixed editing area is always enclosed in square brackets.

```
Set  Handset  TIme
Date          [ _ - / - - ]
TIme          [ _ - : - - ]
```
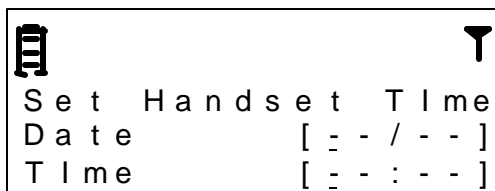
Editors must have a default. If no valid default '-' will be displayed.

41.5.1.1   Entering the editor

Upon entering the editor, the cursor is always positioned at the first digit.

41.5.1.2   User Input

The editor is organized with a wrap around and is always in overwrite mode.

41.5.1.3   Moving the cursor

The hard key [📖/◀] enables navigation to the left side in the editor field

The hard key [▶ /INT] enables navigation to the right side in the editor field

41.5.1.4   Reaching the end of an editable area

In mask editors a wrap around is implemented, i.e. once the last position has been reached, the cursor returns to the first and overwrites it if necessary.

41.5.2 PIN editor

A PIN (Personal Identification Number) can consist of between 4 and 8 digits. Entry of the PIN is concealed, i.e. asterisks are displayed as wildcards. Consequently, "-" characters are entered for digits that have not yet been entered.

The cursor position is displayed by means of a flashing underscore.
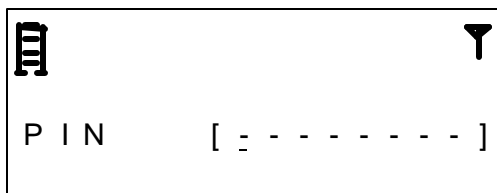
If the PIN was entered incorrectly and OK ke y is pressed, an advisory message is displayed for a period of T5 and a negative confirmation tone is sounded. PP returns to the menu from where it started.

41.5.2.1   Entering the editor

Upon entering the editor, the cursor is always positioned at the first digit.

41.5.2.2   User Input

In System PIN characters that have already been entered can be deleted by pressing the [C] key. In system PIN the default "-" character is represented again at any press of [C] key.

41.5.2.3   Moving the cursor

It is not possible to move the cursor in this editor.

41.5.2.4   Reaching the end of an editable area

Once the last position has been reached, the cursor becomes hidden. Only if the [C] key is pressed will the last digit be deleted and the cursor will appear.

41.5.3 Number and Name Editor

This editor is used for inputting numbers and text (e.g. for editing directory entries).

41.5.3.1 Entering the editor

Upon entering the cursor is always positioned at the first position in the editor.

41.5.3.2 User Input

If text or a number is entered, the character is inserted at the current cursor position. The cursor moves one position to the right.

Deleting of a character takes place by pressing the [C] key. The character to the left of the cursor is deleted. If cursor is at the first position in the editor, the character at the cursor position is deleted.

A long key press on the [C] key results in the whole text or number being cleared.

If editor is empty, a key press on the [C] key leaves the editor.

41.5.3.3 Moving the cursor

The hard key [▯/◀] enables navigation to the left side in the editor field.

The hard key [▶ /INT] enables navigation to the right side in the editor field.

41.5.3.4 Reaching the end of an editable area

In the case of name and number editors no more characters are accepted when the max number of characters defined is reached (negative confirmation beep, no overwriting).

The same applies to input between the individual characters (= input mode).

If cursor is at last position, a deleting operation at the last position deletes the current character. Another press on the [C] key deletes the character to the left of the cursor.

41.5.4 Text Input

Several characters have been assigned to all of the keys in the alphanumeric 12-key keypad; these characters can be called up by pressing the relevant key more than once.

The function implemented here is time-controlled: each time a key is pressed before a timeout of T8, the next character assigned to the key is displayed in the current input position.

When the key is held down for a period longer than T6, a rotation with a timer of T7 is started within the character set; the required character is then selected by releasing the key being held down in time.

When a period of T8 has elapsed without another key being pressed, the character currently being displayed is automatically accepted and the input position moves on to the next position.

When a new key is pressed before T8. The current character is accepted, the cursor is moved to the next position the first character on the new key is displayed on the cursor position.

41.5.4.1 Text Input Mode Switching

In editors the pressing [▲] key toggles between capital, lower case letters and numeric mode.

The toggling between capital, lower case letters and numeric mode is context (editor mode) dependant.

Editor mode	Strokes at [▲] key	
	First	Second
Small letters (a)	abc -> Abc	Abc -> 123
Capital letters (A)	Abc -> 123	123 -> abc
Numeric mode (123)	123 -> abc	abc -> Abc

Note: Table is only valid for input in multitap mode (keys are pressed without key press tim eout)

The modes "abc" and "123" will be permanent states. The "Abc" mode will be temporary, after a character in capital letter mode has been entered ("A") the device switches into small letter mode ("bc").

Pressing the [▲] key a second time switches to number input (provided that lower case letters is the adjusted mode).

That is the following input modes are available:

No.	Mode	Description
1	abc	Keypad input mode is alphanumeric and lowercase.
2	Abc	Keypad input mode is alphanumeric. Only the next character entered will be upper case, automatic switchover to lowercase ("abc") mode will occur after the first capital character has been accepted.
3	123	Keypad input mode is numeric.

Lower case letters are set by default.

Exceptions: Upper case letters are automatically activated in an editor for the first letter after a blank line and at the start of text and after punctuation marks (.!?:¿¡). The editor stays in upper case if a blank is put in after a punctuation mark.

Upper case letter mode is cancelled if no upper case letters exist for the selected character. If the initial, automatically capitalized character of a line or word is deleted,

the "new" initial character is not automatically converted to upper case letters (for example, "Peter" changes to "eter" and not "Eter").

If a character is inserted in front of the initial, automatically capitalized character of a line or word, the "new" initial character is automatically capitalized and the "old" character remains as a capital letter (e.g. " Be" changes to "ABe" and not "Abe").

41.6 Timers

Name	Value	Description
T1	2 sec.	Time for long key press.
T2	10 sec.	Display illumination time.
T3	30 sec.	User inactive. Cancel user action.
T4	2 sec.	Time for confirmation messages to be shown.
T5	5 sec.	Time for error messages to be shown.
T6	1,5 sec.	Start character rotation time.
T7	1 sec.	Character rotation time.
T8	1 sec.	Character accept time.
T9	5 sec.	Time after which to show call time.
T10	5 sec.	Time for post call info.
T11	3 sec.	Minimum off-hook time when lifting handset from base.
T12	30 sec.	Call back after blind transfer.
T13	30 sec.	time for off-hook clip to be shown.
T14	2 sec	Arial Icon On-time for "Out of Range" warning indication.
T15	0,5 sec	Arial Icon Off-time for "Out of Range" warning indication.
T16	120 sec	Timeout for registration.

42 Consumer Information

1. This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the back of this equipment is a label that contains, among other information, a product identifier in the format US:DDKW400BWWI58XX. If requested, this number must be provided to the telephone company.

2. An applicable certification jacks Universal Service Order Codes (USOC) for the equipment is provided (i.e., RJ11C) in the packaging with each piece of approved terminal equipment.

3. A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC part 68 rules and requirements adopted by the ACTA. A compliant telephone cord and modular plug is provided with this product. It is designed to be connected to a compatible modular jack that is also compliant. See installation instructions for details in section (2).

4. The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. The REN for this product is part of the product identifier that has the format US:DDKW400BWWI58XX. The digits represented by 00 are the REN without a decimal point (e.g., 03 is a REN of 0.3). The REN is separately shown on the label too.

5. If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

6.   The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

7.   Please follow instructions for repairing if any (e.g. battery replacement section); otherwise do not alternate or repair any parts of device except specified.

8.   Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

9.   This equipment is hearing aid compatible.

NOTICE:

1) If your home has specially wired alarm equipment connected to the telephone line, ensure the installation of this phone does not disable your alarm equipment. If you have questions about what will disable alarm equipment, consult your telephone company or a qualified installer.

2) According to telephone company reports, AC electrical surges, typically resulting from lightning strikes, are very destructive to telephone equipment connected to AC power sources. To minimize damage from these types of surges, a surge arrestor is recommended.

Should you experience trouble with this equipm ent, please contact Customer Support for service information. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

43 WARNING: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CAUTION: To maintain compliance with the FCC's RF exposure guidelines place the base unit at least 20 cm from nearby persons.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential inst allation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Verge Customer Support: 1-800-211-7837

44 Limited Warranty

WHAT DOES OUR WARRANTY COVER?
   *   Any defect in material and workmanship.

FOR HOW LONG AFTER THE ORIGINAL PURCHASE?
   *   To the original purchaser only – ONE YEAR.

WHAT WILL VERGE DO?
   *   At our option, repair or replace your unit.

HOW DO I ARRANGE FOR SERVICE, WHETHER IN OR OUT OF WARRANTY?
   *   **Call Customer Support for Return Authorization at 1 -800-211-7837.**

* Carefully pack your unit. Include all accessories provided with the product. We recommend using the original carton and packing materials.
* Include a copy of the sales receipt or other evidence of date of original purchase (if purchase was within the last 12 months).
* Print you name, address and phone number, along with a description of the defect, and include this in the package.
* Include payment for any service or repair not covered by warranty, as determined by Verge.

WHAT DOES OUR WARRANTY NOT COVER?
a) Batteries
b) Damage from misuse, neglect or acts of nature (lightning, floods, power surges, etc.)
c) Products which may be have been modified or incorporated into other products
d) Products purchased and/or operated outside of the US, its territories, or Canada
e) Products services by the owner or a service facility not expressly authorized by Verge
f) Products purchased more than 12 months from the current date
g) Units purchased in "AS IS" condition, or units purchased as "Distressed Merchandise"

HOW DOES STATE OR PROVINCIAL LAW RELATE TO THIS WARRANTY?
* This warranty gives you specific rights. You may also have other rights which vary from state to state or province to province.

For service information, in and out of warranty, call **Customer Support** at:

1-800-211-7837

Verge c/o Wave Industries
123 SE 2nd Avenue
Portland, OR 97214