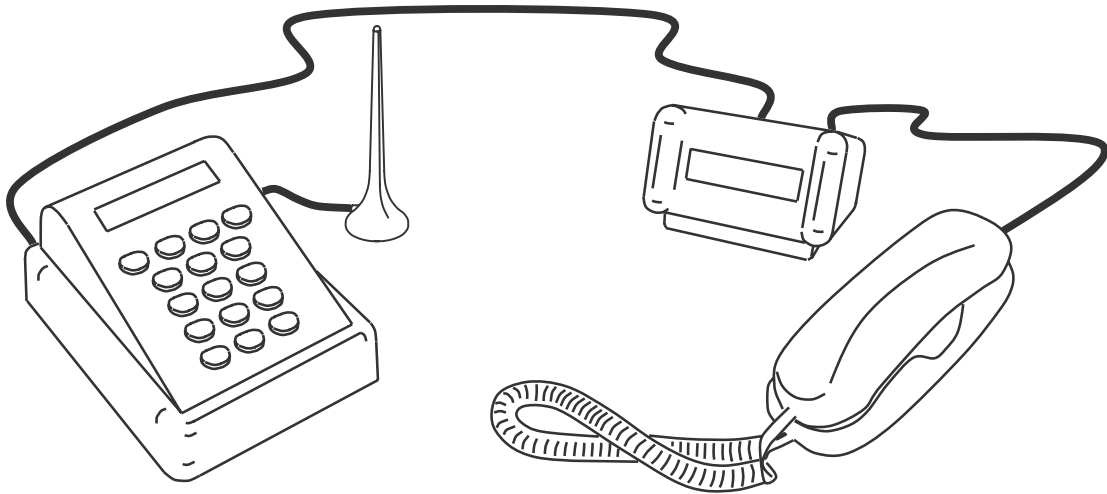


BluTel



Operator Manual

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1. Blutel overview

1.1 General

Blutel is a portable, operator-assisted GSM payphone to be used for selling talk time to users on the street or in telecentres. Dealers throughout Africa make use of the Blutel to sell air time to payphone operators, who in turn sell talk time to payphone customers on the street. Blutel payphones can be used throughout the world where GSM networks and SIM cards are available.

2. Using this manual

This manual describes the different components, setup, use, and maintenance of the Blutel GSM assisted payphone unit.

2.1 Overview of contents

When you start using a Blutel unit, you must follow the steps in this manual to make sure that your unit is

- unpacked and checked,
- correctly set up,
- used and cared for, and
- troubleshooted when necessary.

3. Inside your Blutel package

When opening up the Blutel telephone package, the following components are included:

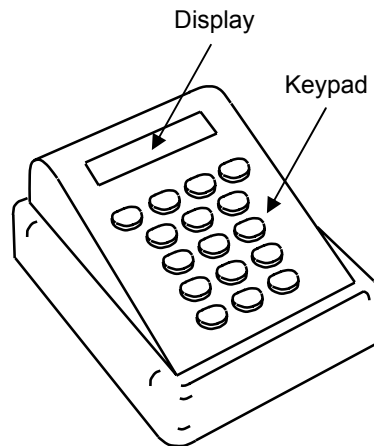
Item	Name	Description
1	Main unit	Large unit with connectors, keypad and display window
2	RDU	Small unit with connectors and display window only (optional)
3	GSM antenna	Antenna with cable and connector
4	RDU cable	Flat cable with telephone connectors both ends (optional)
5	Battery cable	Cable with battery clips and DC jack
6	AC/DC source	AC/DC power source with cable and DC jack

Note: The Blutel package does not include a standard plain telephone handset – this may be ordered separately from your distributor or purchased at most telephone dealers.

Each of the Blutel unit components is described below. If you are a first time user, please take the time to read through these descriptions carefully before attempting to set up and use the Blutel unit.

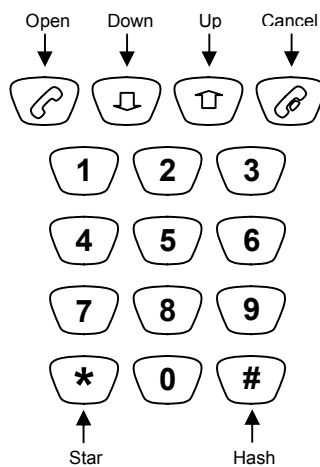
3.1 Main unit


The Blutel Main unit provides an easy-to-use interface to the phone operator. A Main unit has a keypad, display window, and connectors on the side and at the rear of the unit.






3.1.1 Keypad

The keypad on the front of the Main unit has the following buttons:



The “OPEN”  button is used to open a line for calls, to add credit for a customer during a call, or to act as a “yes” or “accept” button on some of the unit’s functions.

The “CANCEL”  button is used to close a line after or during calls, is used to return to the main menu from any menu, or acts as a “no” or “cancel” button on some of the unit’s functions. Whenever you want to cancel a value that you have entered into the unit, press the cancel button.

The “UP”  and “DOWN”  buttons are used to move up or down through the Main unit’s menu options.

The “STAR” * button acts as a decimal point when entering credit onto the unit.

The “HASH” # button displays incoming SMS messages to the operator and also acts as a “delete” key that deletes the last digits that were typed.

Digit buttons from 0 through 9 are used to enter numbers into the unit. Numbers entered into the unit are used for credit values, as passwords, or to set the date and time on the unit.

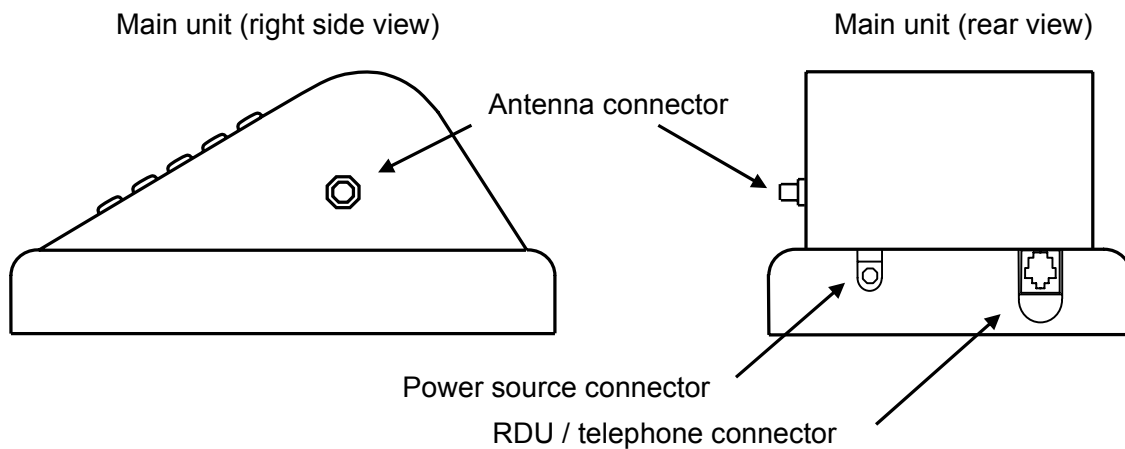
3.1.2 Display

A Main unit has a display with 2 lines and 16 characters each, and an illuminated background. The display is used to display call information, purse information, and Main unit status. More on display information is given in section 5 (Using your Blutel unit).

3.1.3 Connectors

There is an antenna connector, DC power source connector, and a RDU / telephone connectors on the Main unit. These are shown in the diagram below.

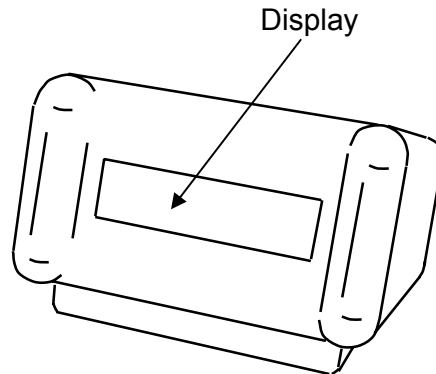
The antenna connector is located on the side of the Blutel Main unit and is known as an “SMA” connector. Be careful when using this connector since connectors like these can break easily when not used with care.



The DC power source connector is located at the rear left of the unit.

A RDU / telephone connector at the right rear of the Blutel Main may be connected either to a Blutel RDU or a plain telephone handset.

3.2 Blutel RDU unit



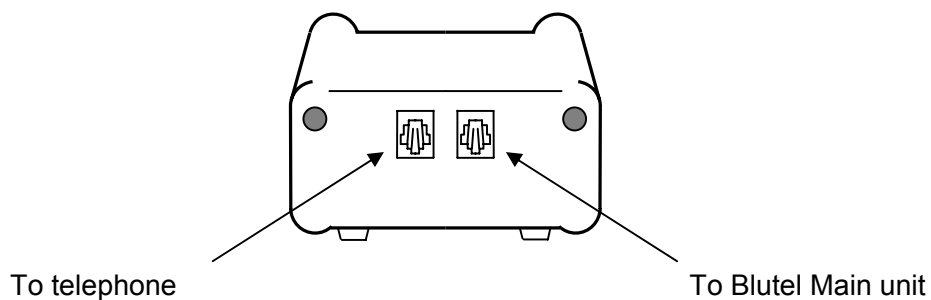
A RDU unit is used to display call information to the customer. This also allows the customer to talk in privacy. The RDU may be placed up to 10 metres away with the correct cable.

3.2.1 Display

The display of the RDU has two lines with an illuminated background so that customers can make full use of the display any time of day or night. Useful information such as call credit, the number dialed, call status (dialing, connected, call ended) is displayed.

3.2.2 Connectors

RDU unit (rear view)

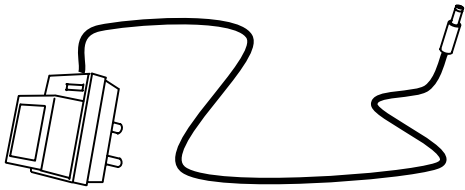


The RDU has two similar connectors at the rear. Do not confuse these connectors since the connector on the right-hand side (from the rear) is the Blutel Main connector and the connector on the left-hand side (also from the rear) is the telephone handset connector.

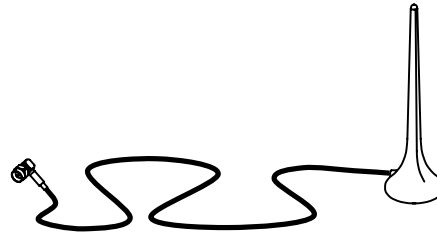
3.3 Accessories

The following are included as accessories to the Blutel unit:

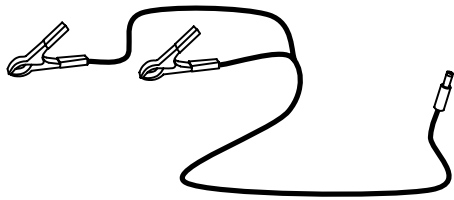
- Antenna
- Battery cable
- AC/DC source
- RDU cable (optional)



AC/DC power source



GSM dual-band antenna



Battery cable



RDU cable

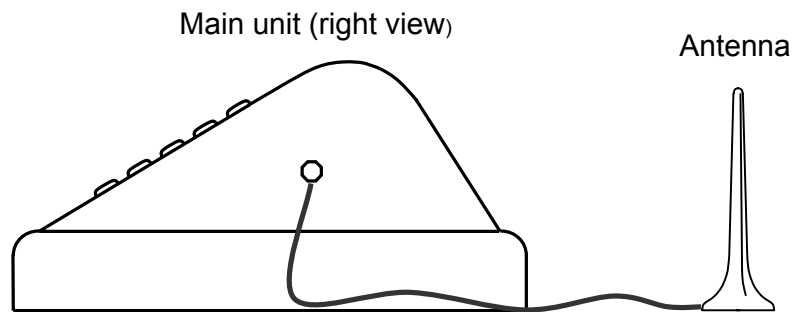
4. Connection instructions

A Blutel RDU unit is not necessary for the Main unit to still function. A Blutel Main unit may be connected:

- Through the Blutel RDU unit to a plain telephone handset, or
- Directly to a plain handset when a Blutel RDU is not used.

Follow the steps as outlined below to set up your Blutel unit.

4.1 GSM antenna to Main unit



Gently tighten the connector in a clockwise direction.

⚠ DO NOT ATTEMPT TO FASTEN THE ANTENNA CABLE CONNECTOR TOO TIGHTLY AS BOTH CONNECTORS MAY GET DAMAGED.

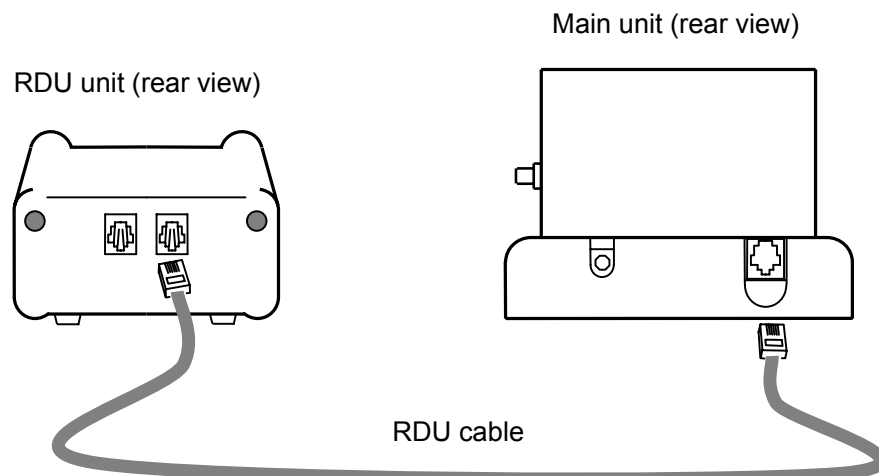
Always place the antenna as far as possible from the Main unit, RDU unit, handset, and power cable. This is to prevent the strong signals from the antenna from creating a buzzing noise when customers are making calls.

😊 TIP: When fastening the antenna cable connector, do not use any tools such as pliers or spanners, but use your fingers only. If reception is bad, adjust the location of the antenna rather than attempting to tighten the connector too much.

4.2 Blutel Main to RDU

Use the RDU cable to connect the Blutel Main and Blutel RDU as shown in the diagram below.

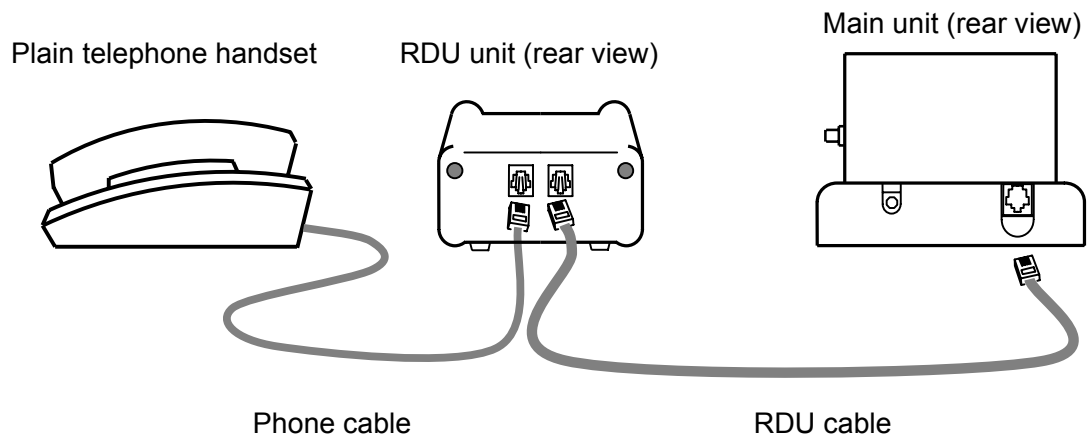
ⓘ ALWAYS USE THE CONNECTOR ON THE RIGHT-HAND SIDE OF THE RDU (FROM THE REAR OF THE RDU) FOR THE MAIN



😊 TIP: To keep your Blutel product in good shape, regularly clean all the cable connectors using only a damp cloth. Do not use any cleaning agents such as Ammonia since this may result in permanent damage of the connectors. Also, do not unplug the cable from the Main or RDU if not necessary, as less frequent unplugging may extend the lifespan of the connectors.

4.3 Plain handset to Blutel RDU unit

Use the cable on the plain telephone handset and connect the handset to the Blutel RDU by inserting the cable connector into the receiving connector on the left-hand side of the RDU.

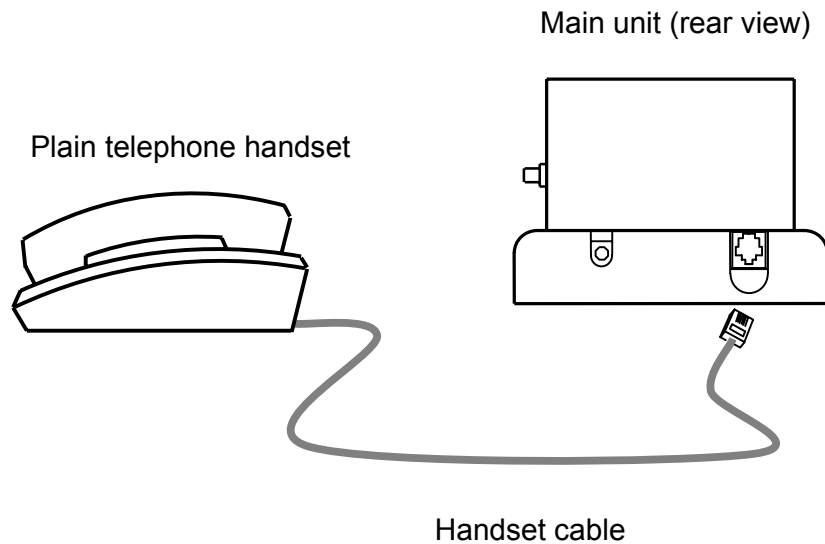


⚠ ALWAYS USE THE CONNECTOR ON THE LEFT-HAND SIDE OF THE RDU (FROM THE REAR OF THE RDU) FOR THE TELEPHONE

😊 TIP: To ensure that your customer always has good quality sound, make very sure that the connector on the telephone cable is clean and without corrosion (clean with a damp cloth only, do not use Ammonia or other cleaning agents). A dirty or corroded connector will cause a scratchy sound on your handset and your customers will not return to use your Blutel unit when the sound quality is bad.

4.4 Telephone handset directly to Blutel Main unit

Connect the handset to the Blutel Main by inserting the cable connector into the connector at the rear of the Main.

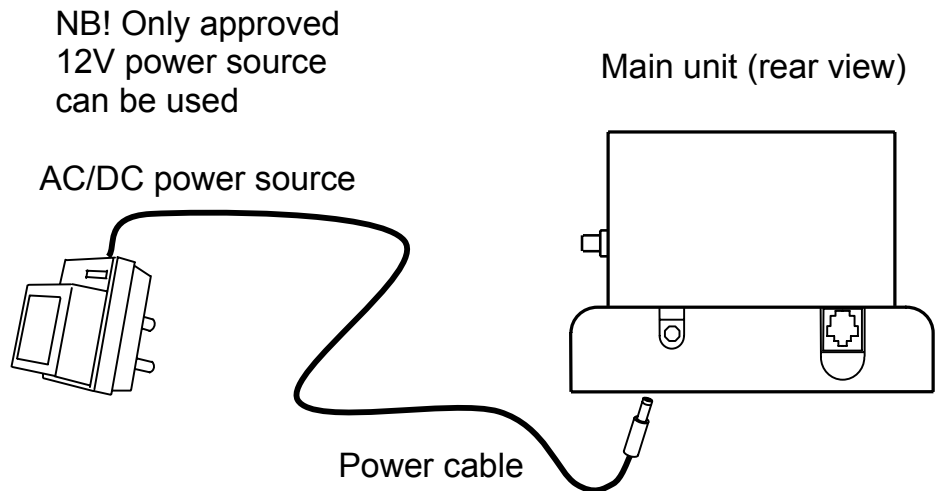


☺ TIP: Since you are not using a RDU in this configuration, show your customer the credit status on the Main display by letting your Blutel Main unit's display face the customer during calls.

4.5 Main unit to AC/DC power source

Plug the DC jack plug at the end of the power cable into the receiving jack on the Blutel Main unit as shown in the diagram below.

⚠ NEVER CONNECT THE BLUTEL UNIT DIRECTLY TO AN AC POWER OUTLET AS THIS WILL CAUSE PERMANENT AND SEVERE DAMAGE TO THE UNIT



⚠ ONLY USE AN APPROVED POWER SOURCE WITH THE BLUTEL UNIT IN ORDER TO PREVENT DAMAGE TO THE UNIT

😊 TIP: When using a power source, ensure that the DC jack plug is clean and that it fits tightly into the receiving DC jack on the Blutel Main unit. If the DC jack plug does not fit properly into the receiving jack, the unit will reset and drop calls.

4.6 Main unit to battery

Plug the DC jack plug at the end of the power cable into the receiving jack on the Blutel Main unit as shown in the diagram below.

⚠ USE HIGH QUALITY SEALED LEAD-ACID OR HIGH QUALITY LEAD-ACID BATTERIES ONLY

5. Using your Blutel unit

5.1 Starting up

- Upon startup (when you switch on the power), your **Main** unit should display the following (the text V4.09b may be different):

```

      I N I T I A L I Z I N G
V 4 . 0 9 b
  
```

- The **Main** should display a number of dots that increase from left to right on the screen as the unit is testing itself:

```

      I N I T I A L I Z I N G
. . . . .
  
```

- After a successful startup, the **Main** unit should show the HOME screen:

Network provider name Time of day

 ↓ ↓

```

G S M    N E T            1 4 : 2 3    ||
C R :    $    0 . 0 0                    ||
  
```

 ↑ ↑

 Customer credit Signal quality

- The **RDU** should also display an initialization screen (the text V4.0 may be different):

```

      I N I T I A L I Z I N G
      V 4 . 0
  
```

- The **RDU** will also have changed by now and should show:

```

      M E T E R    R E A D Y
      V 4 . 0
  
```

Once you have passed the above screens, you may assume that your unit has enough DC power on both the Main and RDU. Now proceed to the next steps.


The credit amount shown on the display shows how much credit a customer has. During a call you will see that the credit value reduces over time according to specific call rates. Some screens may show the decimal point “.” and some may not.

The signal quality shows how strong the signal is from the GSM tower at the location that you have chosen. The more bars there are, the better quality signal your Blutel receives.

☺ TIP: If you do not see a full signal, first adjust the location of your antenna for a better signal. Should this not improve the signal quality, check your antenna for a broken cable or connector - do not tighten the antenna connector too tightly! A broken antenna, cable, or an antenna too close to your unit may cause a very loud noise on the telephone handset.

- *The RDU should also display an initialization screen when communication between the Main and RDU units is functional:*

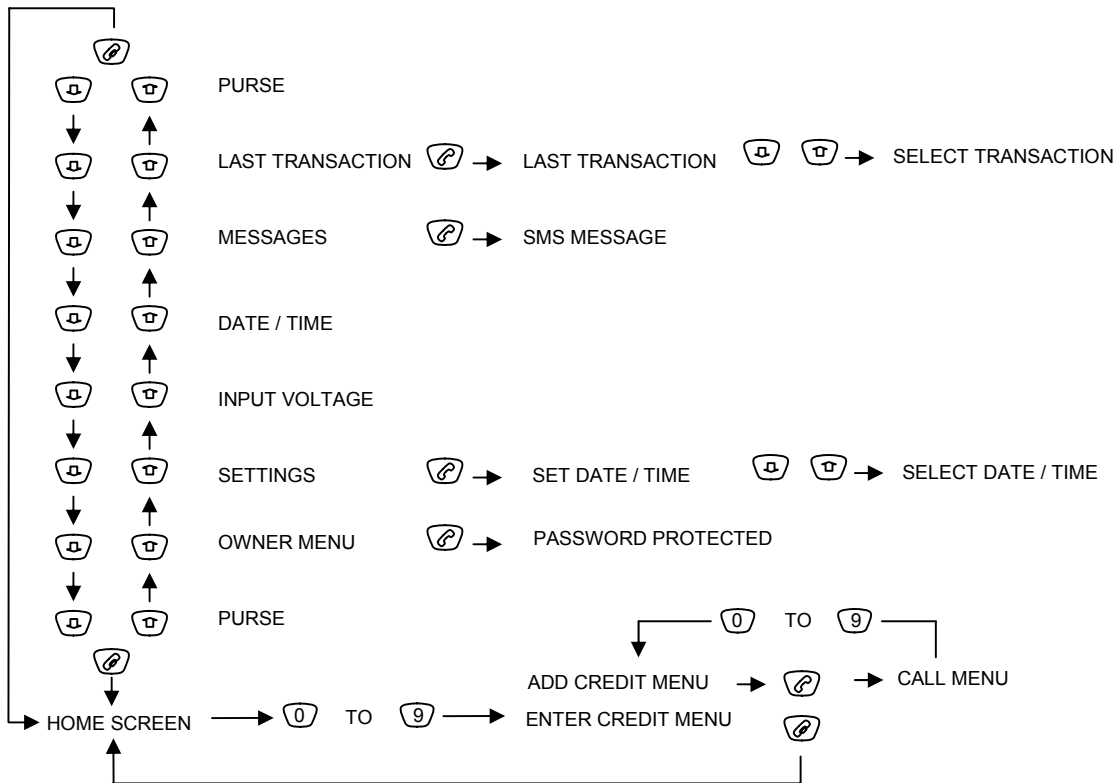
G S M	N E T	1 4	:	2 3
C R :	\$ 0 . 0 0			

☺ TIP: The screen you see above is called the HOME screen. Whenever you see a screen that you do not know, remember to press the CANCEL  button as many times as necessary to return to the HOME screen. From the HOME screen, you can get to any other screen.

5.2 Using the menu functions on the Blutel unit

The Blutel uses a menu that you can easily access. Some of the menu functions are not used by the operator and are reserved for the manager of the unit.

Below you see a summary of the menu options that you can access. From the HOME screen you will be able to access any of the menu options by pressing the UP or DOWN buttons, as shown. For the last transaction, messages, settings and owner menu you may press the OPEN button to access more menus. The last transaction menu and settings menu allows you to use the UP and DOWN buttons to access the last level of the menu.



5.2.1 Entering credit

- First make sure that you see the HOME screen by pressing the CANCEL button on the keypad (P).



G	S	M		N	E	T		1	4	:	2	3	
C	R	:		\$		0	.	0	0				

- When you start entering credit (for example \$ 4.50), the screen will automatically show:

E	n	t	e	r		A	m	o	u	n	t	:
\$		0	.	0	4							



- You can then enter the rest of the digits from the keypad to give:


E	n	t	e	r		A	m	o	u	n	t	:
\$		4	.	5	0							


- Once you have entered the correct credit amount, you have to open the Blutel unit for the customer. This is simply done by pressing the OPEN button  after you have entered credit.
- Now press the OPEN button  to open the unit. The screen is now:

R	e	a	d	y		\$	4	.	5	0
---	---	---	---	---	--	----	---	---	---	---

Have you typed in the wrong digits? There are 2 ways of fixing a mistake when using the Blutel unit, namely:

- By pressing the CANCEL button  on the keypad, or
- By pressing the HASH button .

The CANCEL  button will simply cancel all the digits and allow you to re-enter the credit amount.


The HASH  button will act as a delete button and will remove the last digits that you have typed one by one until the screen is clear.

5.2.2 Adding credit during calls

While a call is in progress, you may want to add credit for your customer, follow the instructions below.

- Start entering the amount of the credit. The amount of additional credit appears on the top line of the screen:

A	D	D	:	\$	1	.	0	0
				\$	0	.	5	0



- Now press the OPEN button  to add the credit. The unit will show the additional credit on the bottom line of the display:

C	O	N	N	E	C	T	E	D
				\$	1	.	5	0

5.3 Frequently used menu functions

5.3.1 Purse

You can read the purse as follows:



- At any time when a call is not in progress make sure that you see the HOME screen on the Blutel Main.
- From the HOME screen, press the UP button  or the DOWN button . The following screen will show:

P	U	R	S	E
\$	8	7	9	. 0 0

This is the value of the purse of your Blutel unit. When the purse is empty, you have to recharge it by asking the owner or manager to do so.

5.3.2 Battery level

You can read the battery level as follows:

- At any time when a call is not in progress make sure that you see the HOME screen on the Blutel Main.
- From the HOME screen, press the UP button  4 times or the DOWN button  5 times until you see the screen that shows:

I	N	U	T	V	O	L	T	A	G	E
1	5	.	1	V	H	I	G	H		

The value on the bottom left (15.1V in this case) is the available voltage level of your battery.

Next to the battery level is an indication of how well charged the battery is. There are 3 different levels, namely:

- HIGH: this means that the battery is still in good condition and does not need to be recharged;
- GOOD: you should consider to recharge your battery when the battery level is still in this range;
- LOW: You must definitely recharge your battery to prevent damage to the battery.

Below the LOW level, the Blutel unit will tell you to replace the battery.

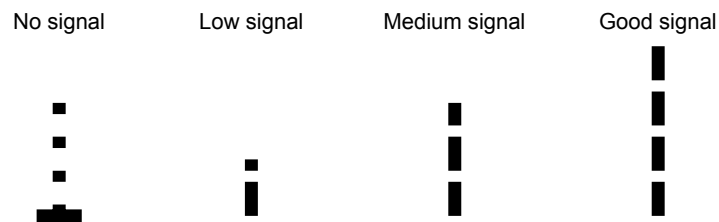
- Press the CANCEL button  to return to the HOME screen.

 THE BLUTEL UNIT WILL NOT ALLOW YOU TO USE BATTERY LEVELS BELOW 9.5V SINCE THE UNIT DOES NOT FUNCTION AT LEVELS BELOW 9.5V.

☺ TIP: You should always recharge your battery before it reaches the LOW level on the screen. Your battery will last much longer (almost two times longer) if you regularly recharge your battery and do not leave it to reach the LOW level.

5.3.3 Signal quality



- *On the HOME screen, the signal quality is indicated on the right-hand-side of the screen as follows:*



5.4 Additional menu functions



5.4.1 Check and set date and time

You can check the time and date on your Blutel unit by following the steps below:

- At any time when a call is not in progress make sure that you see the HOME screen on the Blutel Main.
- From the HOME screen, press the UP button  5 times or the DOWN button  4 times until you see the screen that shows:

D	A	T	E		T	I	M	E				
0	4	/	0	2	/	1	0	0	7	:	2	3

To adjust the time, you have to do the following:

- At any time when a call is not in progress make sure that you see the HOME screen on the Blutel Main.
- From the HOME screen, press the UP button  3 times or the DOWN button  6 times until you see the screen that shows:

S	E	T	T	I	N	G	S
---	---	---	---	---	---	---	---



- Press the OPEN button  to see the screen:

S	E	T		T	I	M	E
	h	h	:	m	m		

and set the time by pressing the buttons in 24 hour mode. To set the time to 6:38 PM, you will type the digits "1838" in that order.

- Press the OPEN button  to confirm the time.

To adjust the date, you have to do the following:

- At any time when a call is not in progress make sure that you see the HOME screen on the Blutel Main.
- From the HOME screen, press the UP button  3 times or the DOWN button  6 times until you see the screen that shows:

S	E	T	T	I	N	G	S
---	---	---	---	---	---	---	---

- Press the OPEN button  2 times to see the screen:



S E T D A T E y y / m m / d d
--

and set the date by pressing the buttons for the year, month, and day. To set the date to 10 February 2004, you will type the digits "040210" in that order.

- Press the OPEN button  to confirm the date.

5.4.2 Show the last transactions

The Blutel unit saves the last 5 transactions for later viewing. You may view these transactions as outlined below:



- At any time when a call is not in progress make sure that you see the HOME screen on the Blutel Main.
- From the HOME screen, press the UP button  8 times or the DOWN button  2 times until you see the screen that shows:

L A S T T R A N S A C T I O N
--

- Press the OPEN button  to show the last transaction.

0 8 4 7 6 5 1 2 3 4 0 0 : 1 8 \$ 0 . 5 0



The last number dialed is shown on the top line of the screen and the duration and cost are shown on the bottom line of the screen.

- You can see any of the last 5 transactions by pressing the UP  or DOWN  buttons.



5.4.3 Read the SMS message inbox

When you see a message alert on the screen, you can read the SMS message by following the steps below.

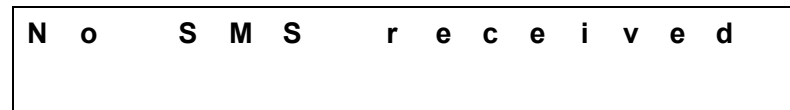
Option 1: Reading messages from the menu

- *At any time when a call is not in progress make sure that you see the HOME screen on the Blutel Main.*
- *From the HOME screen, press the UP button  6 times or the DOWN button  3 times until you see the screen that shows:*





- *Press the OPEN button  to read the SMS message.*
- *Press the CANCEL button  to return to the HOME screen.*

If there is no message, the Blutel unit will tell you that there are no SMS messages received by showing the screen:



Option 2: Reading messages from the keypad

- *At any time when a call is not in progress make sure that you see the HOME screen on the Blutel Main.*
- *From the HOME screen, press the HASH button . The screen will show the SMS message immediately.*
- *Press the CANCEL button  2 times to return to the HOME screen.*

6. Troubleshooting

This section covers some common problems that you may encounter, as well as ways to fix some of these problems where possible.

6.1 Common symptoms

Common symptoms appear when using the unit in the field. You may not see messages on the Blutel unit's screen. Please make notes of the symptoms before you send the unit back to the factory or dealer.

What you see or hear	What you must do first to solve problem	What you must do second if problem persists
Loud buzzing noise when making a call	<ol style="list-style-type: none"> 1. Move antenna away from handset and unit 2. Check antenna cable 3. Check antenna 	<ol style="list-style-type: none"> 1. Change antenna cables if faulty 2. Return unit to factory for repairs
No sound at handset	<ol style="list-style-type: none"> 1. Try different handset 2. Check telephone cable 3. Check RDU cable 	<ol style="list-style-type: none"> 1. Replace handset if faulty 2. Return unit to factory for repairs
No calls go through	<ol style="list-style-type: none"> 1. Check signal quality 2. Adjust antenna location 3. Check antenna cable 4. Ensure SIM is enabled 	<ol style="list-style-type: none"> 1. Replace antenna if faulty 2. Have SIM activated if required 3. Return unit to factory for repairs
Main unit does not come on	<ol style="list-style-type: none"> 1. Check AC/DC power source 2. Check AC/DC power cable 	<ol style="list-style-type: none"> 1. Replace AC/DC source 2. Return unit to factory for repairs
RDU does not come on but Main unit is on	<ol style="list-style-type: none"> 1. Check RDU cable 2. Check battery voltage 	<ol style="list-style-type: none"> 1. Replace RDU cable if faulty 2. Return RDU to factory with main unit for repairs
Low signal quality	<ol style="list-style-type: none"> 1. Adjust antenna location 2. Check antenna cable 	<ol style="list-style-type: none"> 1. Replace antenna if faulty 2. Return unit to factory for repairs
RDU only shows READY	<ol style="list-style-type: none"> 1. Check RDU cable 	<ol style="list-style-type: none"> 1. Replace RDU cable if faulty 2. Return RDU to factory for repairs

6.2 Common messages

Common messages appear on the screen of the Blutel unit during use or during startup. You should first follow the guidelines before you send the unit back to the factory for repairs.

What you see on the Blutel Main screen	What you must do first to solve the problem	What you must do when problem persists
ACCESS CODE ?	<ol style="list-style-type: none"> 1. Enter access code 2. Check if access accepted 3. Access default = 1111 	<ol style="list-style-type: none"> 1. Return unit to supplier for repairs
ENTER SIM PIN	<ol style="list-style-type: none"> 1. Enter the SIM PIN 2. Check if PIN accepted 	<ol style="list-style-type: none"> 1. Return unit to supplier for repairs
NO NETWORK	<ol style="list-style-type: none"> 1. Check antenna cable 2. Check antenna 	<ol style="list-style-type: none"> 1. Return unit to supplier for repairs
NO GSM MODULE ?	<ol style="list-style-type: none"> 1. Unplug power supply 2. Leave for 5 seconds 3. Insert power supply 	<ol style="list-style-type: none"> 1. Return unit to supplier for repairs
SIM BLOCKED	<ol style="list-style-type: none"> 1. Remove SIM card 2. Replace with original SIM card 	<ol style="list-style-type: none"> 1. Return unit to supplier for configuration
SIM PUK		<ol style="list-style-type: none"> 1. Return unit to supplier for configuration
ERROR: SIM not inserted	<ol style="list-style-type: none"> 1. Unplug power supply 2. Leave for 5 seconds 3. Insert power supply 	<ol style="list-style-type: none"> 1. Return unit to supplier for repairs
EEPROM ERROR		<ol style="list-style-type: none"> 1. Return unit to supplier for repairs
POWER TOO LOW CHANGE SUPPLY	<ol style="list-style-type: none"> 1. Charge battery 2. Replace power source 	<ol style="list-style-type: none"> 1. Return unit to supplier for repairs