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SERVICE MANUAL

Repair for Mobile Phones

XENIUM DUAL BAND – W@P

LEVEL 1

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SERVICE Manual

Last updates :

DATE	MODIFICATION	PAGE
23/10/00	CREATION	
Revision 2 : 23/07/01	REVIEW OF RADIO TEST PLAN	PAGE : 17, 18, 19
Revision 3 : 17/12/01	ADDENDUM IN PART LIST	PAGE : 30

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1.0   PURPOSE

This document establishes the functional test and inspection procedures for the first level service repair of the XENIUM DB-W@P transceiver.

2.0   SCOPE

The test plan is applicable to all levels of service repair of the XENIUM DB-W@P transceiver.

3.0   REFERENCE
none

4.0   GLOSSARY/ACRONYM LIST

Window or Bezzel	Protective plastic over the LCD display
SW	Software
PN	Hardware Configuration of the Mobile
CN	Matrix for Types of SW used on the different hardware
HW	Hardware
ASC	Authorized Service Center
NSC	National Service Center
Test SIM Card	Used for functionality of PHILIPS Mobile Phones
Test SIM Card « SP »	SIM Card used to simulate the user interface and enable radio tests

5.0   TEST EQUIPMENT AND TOOLS

Equipment / Tools
Production Test SIM Card   - Part No. : 4311 255 00781
Test SIM Card « SP »   - Part No. : 4311 255 00782
RF Cable   - Part No. : 941-555-1 (AMP)
Digital Multimeter   - Recommended Model : Fluke
                                  Specification with current reading in mA.
Digital Radiocommunication Tester.

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6.0   TEST AND INSPECTION PLAN

The test plan is derived from the Product Test Reference of XENIUM DB-W@P.

6.1   User Interface Test

Use the Test SIM Card « SP »/ Production to test the transceivers as follows :

- ♦   On/Off button
- ♦   LCD Backlight
- ♦   Keyboard Test
- ♦   Buzzer Test
- ♦   Vibrator Test
- ♦   Audio Test
- ♦   Antenna Test (levels 5 & 10)
- ♦   LCD
- ♦   LED Test (On/Off)
- ♦   IMEI
- ♦   Tester Status/Eeprom Status

With a fast Charger connected with the PRODUCT's bottom connector , check the full scrolling from one mode to the next when charging IGN (Ignition) – Battery.

6.2   RF Test

The radio test must be performed with a Digital Radio Test Set connected to the RF connector with the specific RF cable.

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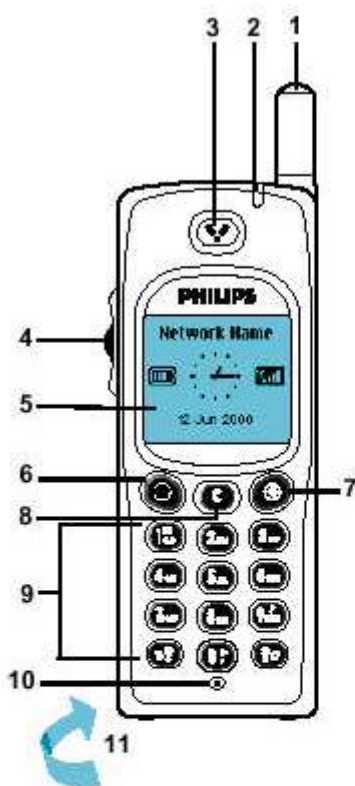| CUSTOMER SERVICES | **SERVICE REPAIR SUPPORT** | PCC/VY/691/E/XENIUMDB998LVL1/0038/FT/FT |
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7.0   BEFORE STARTING

7.1   Description of the transceiver

I   Antenna

2   LED
- *Green flashing slowly* - means the phone is registered with a network.
- *Green flashing quickly* - means a call has been received but not yet answered.
- *Red flashing* - means the battery is low.

3   Earpiece

4   Pilot Key
It allows fast and easy access to the different menus and allows you to

confirm your choice → ▯.
- During a call, it controls the volume.
- In the Names list, menus or lists it scrolls up or down.
- When entering a name or number, it is used to move the cursor left or right.
- To return to the previous menu by pressing and holding it. To validate by pressing and holding it in an editor screen.

5   Graphic display

6   ⊚ Green key symbol
- Press to accept a call or dial a number.
- Press and hold in idle screen to launch the WAP browser.
- Press in WAP mode to select the left option box displayed at the bottom of the screen.

7   ⊚ Red "Hang up" and "On / Off" key symbol
- Press to switch your phone on, press and hold to turn your phone off.
- Press to end a call.
- Press in WAP mode to select the right option box displayed at the bottom of the screen.

8   Cancel key ⓒ
Navigation mode:
- Press this key to return to the previous menu.
- Press and hold it to return to the idle screen.
Edition mode:
- Press this key to delete a character.
- Press and hold it to delete all the characters.

9   Alphanumeric keypad
Standard phone keypad. It can also be used for entering alphabetic characters and activating hotkeys.

10   Microphone

II   Battery and micro SIM card
See page 3 for installation.

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7.2 Description of the Display
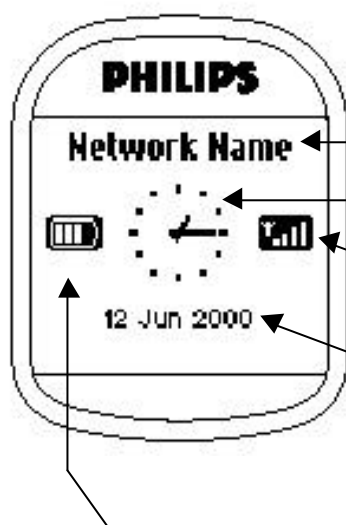
Network Name : Indicates the Network on which your phone is registered.

Clock : Indicates the hour.

Indicates the **Quality of Reception.** When all 4 bars appear, the reception quality is at its best.

Indicates the **Date**.

**Battery Level :** The bars indicate the battery level. (4 bars means full, no bars means recharging is needed).

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7.3   Using the carousel

The carousel is a circular loop of icons displayed on the screen. These icons provide access to the different menus and sub menus used to operate your phone.
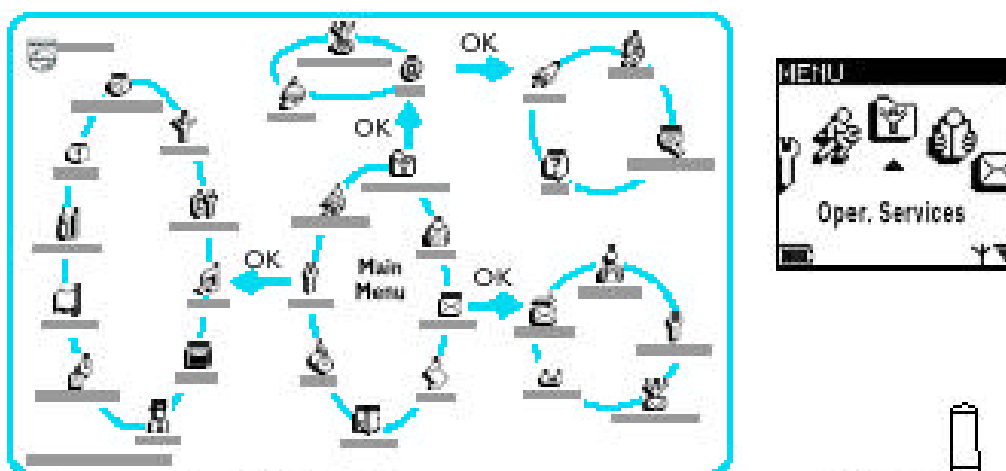
You can use the Pilot Key in 3 ways:

- by moving it upwards
- by moving it downwards
- by pressing it in

When you switch on your phone, the idle screen appears. To access the main menu, press the Pilot Key.

When you move the Pilot Key the carousel moves across the screen:

- upwards the icons scroll clockwise.
- downwards the icons scroll anti clockwise.

The Pilot Key provides access to all the menus used to operate your phone. To select a function, place the icon above the cursor ▲ and press the Pilot Key.

With the Pilot Key you can select or adjust all the functions of your phone (see Menu Memory Jogger cards and see the manual for details of menus pages 24 and 25).

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7.4   Inserting the MICRO-SIM Card

The mobile supports only the mini "plug-in" SIM card.
Push the metal retaining clip to the right and lift the cardholder. Slide in the SIM card between the retaining clip and the plastic tongue with the cut corner of the card at the top left. Close the cardholder and push the retaining clip to the left.
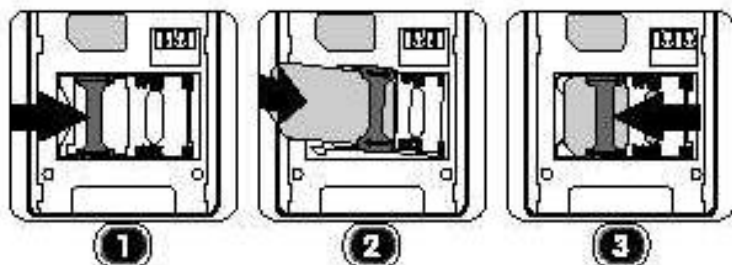
7.5   Inserting the battery

Place the battery on the back of the phone (connectors downward, the top near the arrow inside the case).

Then push the battery into place in the direction of the antenna.

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7.6   Removing the battery

Press the locking button located alongside the antenna while pushing the battery in the direction of the arrow.

Remove battery.
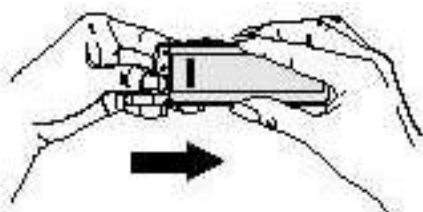
7.7   Charging the battery

Plug the battery into the transceiver.
Plug the charger into the connector at the base of the transceiver.
Plug the transformer unit into the main AC power sockets.
The battery charge symbol indicates the state of the charge process :

- Bars moving   -   means the battery is being charged
- Steady   -   means the battery is fully charged

If the battery is totally discharged, the battery icon will show and start scrolling 2 to 3 minutes only after connecting the charger.

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7.8   W@P Introduction

The purpose of W@p (Wireless Application Protocol) is to enable easy and fast delivery of relevant information and services to mobile users. However, mobile Internet does not mean navigating on the Internet with a wireless device but rather to access to some services in a mobile context.

The W@P architecture was designed to enable standard Internet servers to provide services to wireless devices. The W@P wireless protocol is based on Internet standards such as HTTP and TLS but has been optimized according to the constraints of the wireless terminals: low memory capacity, small screen size and   of the network: limited bandwidth.

The W@P architecture is made up of 4 technological parts which are necessary for accessing W@P services on a mobile phone. These are:
> W@P navigator or browser
> Mobile operator network
> W@P gateway / W@P server

Web server
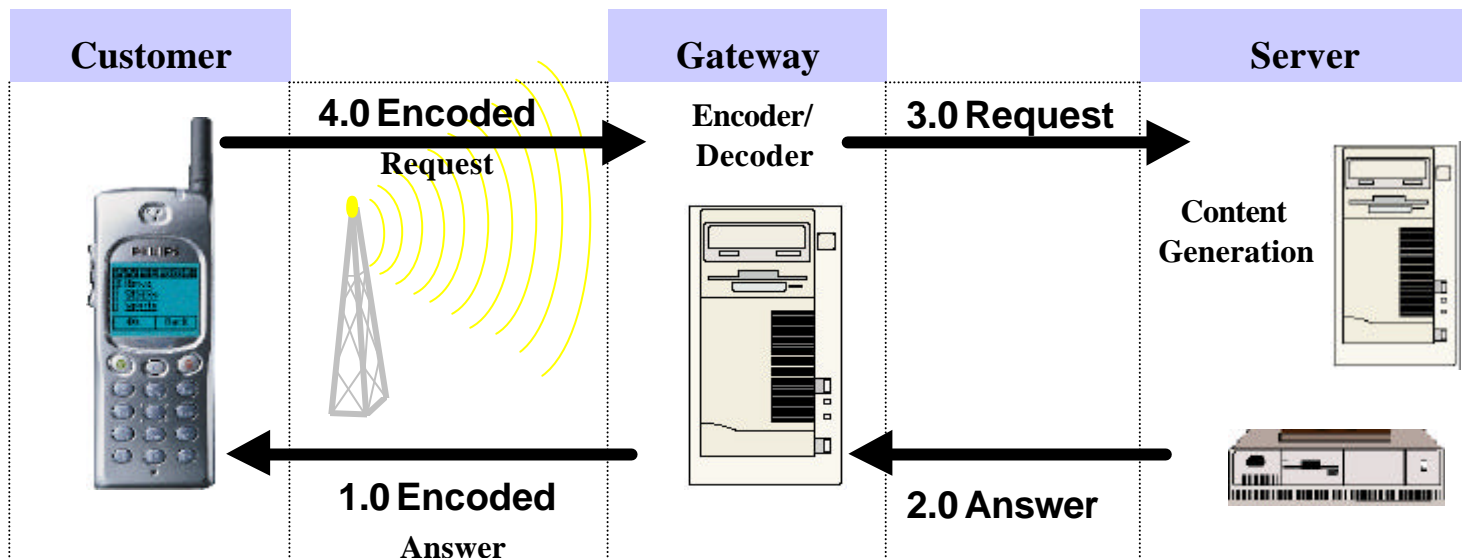
* Subscription

The customer has to contact his Network Operator to inquire about his subscription and the options he can subscribe to. Generally the customer just have to request his W@P access to his provider and he will not be charged for that.

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* W@P parameters

Parameters have to be set in the mobile phone in order to access W@P services . However, there are two cases depending on the commercial offer:

* Transceiver sold via an operator package(with subscription included):
- Parameters cannot be accessed from the W@P settings menu of the mobile phone: The transceiver is W@P locked. The W@P connections will always be made from the operator W@P homepage and search engines will be available. The customer will have to ask for a password from his/her operator to unlock the W@P settings.

- Parameters can be accessed from the W@P settings menu of the mobile phone:
The customer changes the W@P parameters according to his/her own convenience.

* Retail transceiver(without subscription included):
- Phones are configured by the manufacturer with no W@P parameter. The end user has to ensure that the W@P functionalities and a data/fax options have been subscribed.
The end user has also to set the W@P parameters by asking for them from his/her operator or by using parameters of another company (available on Internet, newspaper etc.)

Detailed parameters

Phone Number (or dial-up number) : to establish a connection with the Internet Service Provider
Login (or User Name)   : if requested by your ISP
The password   : if requested by your ISP
IP address for the Gateway   : for communications between Internet Service Provider and Gateway
      & Port Number (for a secure or non secure connection)
Home page address(or URL address): for communications between Gateway and Web server

Please note that it is important to respect small and capital letters according to your operator instructions.
It is also possible that your provider does not require the Login and/or Password.

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8.0　TEST PROCEDURES

8.1　Initial Functional check for TCD998 XENIUM

8.1.1　Insert the Test Production Card into the SIM Reader at the back of the cellular phone and clip a charged battery on the phone.

8.1.2　Press the «ON» button for 2 seconds at least and the LCD will show a message which contains information of FA (Final Adjustment) status and 12NC.

8.1.3　Follow the instructions as mentioned below :

Step	Procedure	Observation
1	Press Key 1 Press Key 1 again.	Continue Buzzer signal Left corner displays 1 　　　　　　　　00
2	Press key 2 (Audio loop local effect) Press key 2 again	"LocalEffect" " XX XX XX" " XX XX" Left corner displays 2 　　　　　　　　01
3	Press key 3 Audio loop test (Speak to Mic and listen echo from Speaker) Press key 3 again	"AUDIO xx xx xx xx" "EEP xx xx xxxx " Left corner displays 3 　　　　　　　　02
4	Press key 4 (LEDs Test) Check for the Backlight function in the same time. Press key 4 again	Red and green LED blinking Left corner displays 4 　　　　　　　　03
5	Press Key 5 (Checkerboard test) Press Key 5 again	Checkerboard 1 pixel on Left corner displays 5 　　　　　　　　04
6	Press Key 6 (Inverted Checkerboard) Press Key 6 again	Checkerboard 2 pixel on Left corner displays 6 　　　　　　　　05
7	Press Key 7 Press key 7 again	All pixels and hard icons on Left corner displays 7 　　　　　　　　06

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8	Press key 8 (Eeprom Status) Press Key 8 again	"EEPROM STAT" (Must be Good) H-XXXX-XXXX (Eeprom Status) L-XXXXXX-XX SimLk XXXXX (Sim lock Status) Left corner display 8 07
9	Press Key 9 Product information Compare information with label printed on back case Press key 9 again	"PROD INFO" "XXXXXXXXX" (PN Number) VY made in Le Mans SA made in Singapore EO made in Shenzhen Left corner displays 9 08
10	Press key 0 Press key 0 again	"ADC MEASURES" "XXXX XXXX" "XXXX XXXX" Left corner displays 0 09
11	Press * (IMEI Test) Compare IMEI with label printed on back case Press * again	**"IMEI TEST"** " XXXXXX/ 50 / XXXXXXX" for (TCD989/J) 06 made in Singapore 50 made in Le-Mans 69 made in China Left corner displays * 12
12	Press # (FA Status) Press # again	"FA/12NC" FA GOOD (Must be good) X XXXXXXXXXXX (12NC) Left corner displays # 13
13	Press C Press C again	Key without Test Left corner displays C 15
14	Go to the UP with the Scanswitch (Melody Test) Go to the UP again	User Melody Left corner displays 0A

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15	Go to the DOWN with the Scanswitch (Memory Test)	"MEMORY TEST" "XXXXXXX" "XXXXXXX" "RAM OK"
	Go to the DOWN again	Left corner displays 0B
16	Press the Scanswitch	"PAGE" "SELECTION" "XX"
	Press the Scanswitch	Left corner display OK 0^E
17	Press Green button	" MANUAL TEST" " GOOD "
	Press Green button again	Left corner displays 0F
18	Press Red button	" MANUAL TEST" " BAD "
	Press Red button again	Left corner displays 10

8.1.4 If any of these steps failed functional, please refer to Chapter 10.

8.1.5 Perform visual check on battery connectors, car kit connectors and casing. If corrosion or deform send to NSC for repair.

8.1.1 If the product is good, it is considered as a NFF (No Fault Found) product.

All the NFF products must be directly returned to the customer.

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8.2   RF TEST

8.2.1   The Test SIM Card "SP" must be inserted into the phone before starting the tests.

8.2.2   Set the equipment as shown on the picture in chapter 6.2.

8.2.3   Set in the offset field of the radio tester a – 0.3 dBm lose for GSM Test.

8.2.4   The following operations must be done:

- Synchronization/Registration
- Call set up from the mobile
- Voice loopback (to check the sound quality)
- Call release
- Call set up from tester
- Call release from tester

8.2.5   The following parameters must be checked in TCH loop mode :

Emission parameters :

- Power level
- RMS phase error
- Peak phase error
- Frequency error
- Power ramping

Reception parameters :

- Rx level
- Rx quality
- BER (Byte Error Rate)
- FER (Frame Error Rate)

Generally the test sequences built inside the testers will be used to check the mobile. You must assess that the test sequences limits comply with the standard specifications.

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8.2.6   Radio test plan

Find below all the measurements which have to be done by test sequences.

Synchronization/Registration   To be checked
Call set up from the mobile   To be checked
Voice loopback (to check the sound quality)   To be checked
Call release   To be checked
Call set up from tester   To be checked
Call release from tester   To be checked
Dualband handover   To be checked

	Power level	Measurements	GSM Channels			DCS Channels		
			Low	Mid	High	Low	Mid	High
TX measurements	High level	Power level	X		X	X		X
		RMS phase error	X		X	X		X
		Peak phase error	X		X	X		X
		Frequency error	X		X	X		X
		Power ramping	X		X	X		X
		Timing advance			X			X
	Mid level	Power level	X		X	X		X
		RMS phase error						
		Peak phase error						
		Frequency error						
		Power ramping						
		Timing advance						
	Low Level	Power level	X		X	X		X
		RMS phase error						
		Peak phase error						
		Frequency error						
		Power ramping	X		X	X		X
		Timing advance						

	RF Level	Measurements	GSM Channels			DCS Channels		
			Low	Mid	High	Low	Mid	High
RX measurements	-80.0 dBm	Rx level	X		X	X		X
		Rx qual						
		BER (Byte Error Rate)	X		X	X		X
		FER (Frame Error Rate)						
	-102.0 dBm	Rx level	X		X	X		X
		Rx qual	X		X	X		X
		BER (Byte Error Rate)	X		X	X		X
		FER (Frame Error Rate)	X		X	X		X

BER Measurements on 104 frames = 8200 bits minimum

☙ When using a wired test solution (via RF cable), don't forget that it is mandatory to measure the power level radiated by the antenna (powermeter recommended). It is the only way to ensure good contact between antenna and main board.

This warning doesn't apply when using an antenna coupler.

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8.2.7   GSM Specification (900 Mhz)

Test parameter	Channel	Level	Standard specifications	Typical values
EMISSION				
Phase Error RMS	1, 62, 124	5, 10, 15	0 to 5 degrees	-
Phase Error Peak	1, 62, 124	5, 10, 15	-20 to +20 degrees	-
Frequency Error	1, 62, 124	5, 10, 15	-90 Hz to +90 Hz	-
Power Ramping	1, 62, 124	5, 10, 15	Mask	Good
Modulation	1, 62, 124	5, 10, 15	Mask	Good
Switching Transients	1, 62, 124	5, 10, 15	Mask	Good
Timing Advance	1, 62, 124	5, 10, 15	+/- 1.00 bit	-
Power Reading				
Output Power Average	1, 62, 124	Level 19	5 +/- 5 dBm	5,3 dBm
	1, 62, 124	Level 15	13 +/- 3 dBm	13,3 dBm
	1, 62, 124	Level 10	23 +/- 3 dBm	23,3 dBm
	1, 62, 124	Level 5	33 +/- 2 dBm	32,1 dBm
RECEPTION				
Rx Level	1, 62, 124	-102 dBm	4 to 12	8
Rx Qual	1, 62, 124	-102 dBm	0 to 1	0
Rx Level	1, 62, 124	-80 dBm	26 to 34	30
Rx Qual	1, 62, 124	-80 dBm	0	0
TCH LOOP SENSITIVITY				
BER	1, 62, 124	-80 dBm	0%	0%
FER	1, 62, 124	-80 dBm	0%	0%
BER	1, 62, 124	-102 dBm	< 2.44%	-
FER	1, 62, 124	-102 dBm	0%	0%

Typical values of fluctuant measured data cannot be defined, so a " - " sign is used to signify it

If a phone is out of the specifications, it must be sent to the Repair Center.

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8.2.8   PCN Specification (1800 Mhz)

Test parameter	Channel	Level	Standard specifications	Typical values
EMISSION				
Phase error RMS	512, 700, 885	0, 5, 10	0 to 5 degree	-
Phase error Peak	512, 700, 885	0, 5, 10	-20 to +20 degree	-
Frequency Error	512, 700, 885	0, 5, 10	-180 Hz to + 180 Hz	-
Power Ramping	512, 700, 885	0, 5, 10	Mask	Good
Modulation	512, 700, 885	0, 5, 10	Mask	Good
Switching Transients	512, 700, 885	0, 5, 10	Mask	Good
Timing Advance	512, 700, 885	0, 5, 10	+/- 1.00 bit	-
Power reading				
Output Power	512, 700, 885	Level 0	30 +/- 2 dBm	29,1 dBm
	512, 700, 885	Level 5	20 +/- 3 dBm	20,3 dBm
	512, 700, 885	Level 10	10 +/- 4.0 dBm	10,3 dBm
	512, 700, 885	Level 15	0 +/- 5.0 dBm	2,5 dBm
RECEPTION				
Rx Level	512, 700, 885	-102 dBm	4 to 12	8
Rx Qual	512, 700, 885	-102 dBm	0 to 1	0
Rx Level	512, 700, 885	-80 dBm	26 to 34	30
Rx Qual	512, 700, 885	-80 dBm	0	0
TCH LOOP SENSITIVITY				
BER	512, 700, 885	-80 dBm	0%	0%
FER	512, 700, 885	-80 dBm	0%	0%
BER	512, 700, 885	-102 dBm	< 2.44%	-
FER	512, 700, 885	-102 dBm	0%	0%

Typical values of fluctuant measured data cannot be defined, so a " - " sign is used to signify it

If a phone is out of the specifications, it must be sent to the Repair Center.

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8.3   W@P Test procedure

With regard to the mobile phones only four things can prevent the W@P applications to operate properly :

- The Mobile Phone is not W@P able
- Registration problem (W@P & data/fax options should be needed depending on the operator)
- A bad configuration (wrong W@P parameters)
- The mobile has a deficient Radio part.

So that's why to solve W@P problems the following process must be observed.

- ➤ Ensure about the W@P capability of the mobile phone.
- ➤ Interrogate the customer regarding his operator registration.
- ➤ Check with the customer that all the needed parameters are stored in the phone memory
                                                (a quick test has to be performed to check memory reliability)
- ➤ Perform a functional and a radio test of the mobile phone.

The W@P Test procedure as to be performed only if the customer complains about W@P applications.

8.3.1   Functional and radio test

Before starting the W@P procedure it must be assumed that the functional test and the radio test have been done successfully.
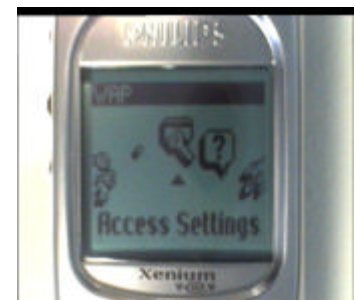
(Refer to chapters 8.1 & 8.2)

8.3.2   W@P parameters settings (to be checked using the Operator Simcard)
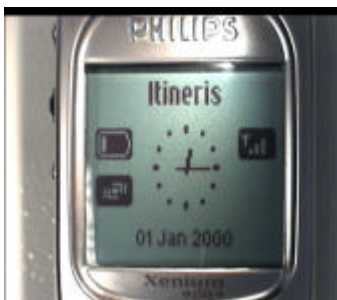
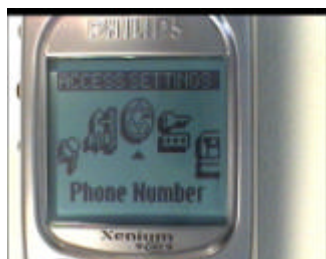|		
Press the pilot key to access the menu	Turn the pilot key left or right to find W@P and press the pilot key	Turn the pilot key left or right to find Access Settings and press the pilot key

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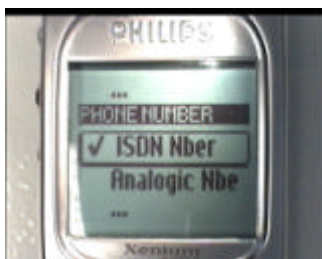| CUSTOMER SERVICES	**SERVICE REPAIR SUPPORT**	PCC/VY/691/E/XENIUMDB998LVL1/0038/FT/FT
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Phone number parameter:
　　　　This parameter is the phone number required to perform a data transmission to the Internet Service Provider (ISP) and given by the operator. ISP use either analogue or numeric interfaces to connect to the subscriber. If the operator uses a digital interface but the phone number is set in the analogue area of the phone, data connection will fail (and vice versa).
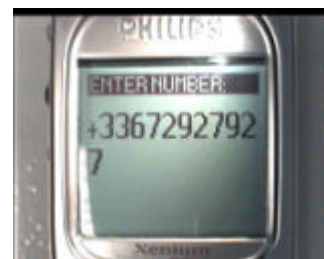
The phone number is set as follows:

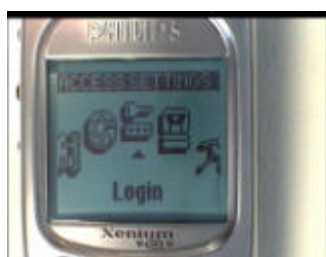| Press the pilot key to set the phone number	Turn the pilot key left or right to select ISDN or Analogue and press the pilot key	Enter the phone number

Login parameter:
　　　　This parameter is provided by the operator and is set as follows:

Press the pilot key to set the login	Enter the login

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Password parameter:

This parameter is provided by the operator and is set as follows:
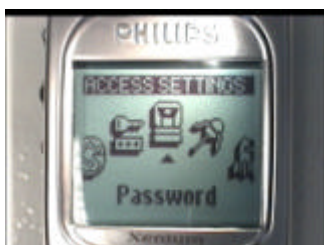
Press the pilot key to set
the password

Enter the password
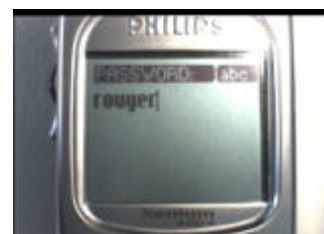(when a password has been
recorded once, nothing appears
when going back again in this
menu)

Gateway parameter (IP):

An IP address is used to recognize computers connected to a network. It is made up of 4 * 3 digits (8 bits) and separated by points. Each computer has its own IP address. For W@P application, IP address is used to access the gateway. This parameter is provided by the operator and is set as follows:
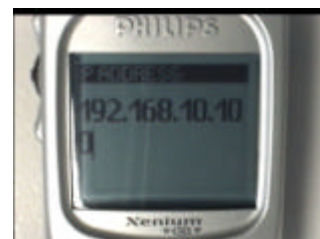

Press the pilot key to set
the gateway (IP
parameter)

Two gateways can be
selected. Press the pilot
key

Select main or back up
and press the pilot key

Enter the IP parameter

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Home page parameter (URL):
This parameter is a string of characters (ASCII) used to identify the protocol (eg: HTTP), the location of the server (eg: WAP.Philips.com), the port number (optional if = 80) and the access path (eg:/glossair/glossair.htm).The end user can use the operator's home page or set up another one in the mobile phone. The URL can be set as follows:

Press the pilot key to set
the home page
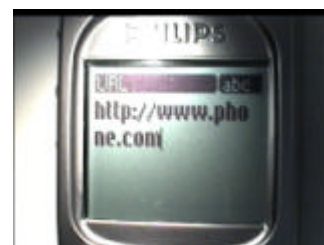
Enter the home address

8.3.3   W@P Application launch

The phone is now ready to access to the W@P Gateway. Please launch the W@P application to ensure it works properly.

8.3.4   Memory reliability

After recording the W@P parameters :

> Turn off the mobile
> Remove the battery
> Wait 5 seconds
> Clip the battery again
> Turn on the mobile
> Check that the parameters still present.

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8.3.5   W@P Error messages

Error messages may be displayed on the mobile phone screen. Some of these are listed next:

Network not responding:

This error message is displayed for various problems, such as:
Network cannot be reached (not enough reception bars).
Login and/or password are wrong.
Subscription does not allow W@P access

Server not responding:

Could be due to:

Bad IP address (gateway parameter).

Internet server is not enabled:

Could be due to:

Bad IP address (gateway parameter).

Not acceptable:

Could be due to:

Bad home page address (URL)

An internal gateway error prevents the gateway from fulfilling your request:

Could be due to:

Bad home page address (URL)

PROCEED http://phone.com

Could be due to:

Bad home page address (URL)

Error content exit size XXXX bytes:

Could be due to:

Too much data are coming to the phone.
Operator dependent.

Try later:

Could be due to:

Network cannot be reached (not enough reception bars).
Busy network.

Bitmap error:

Could be due to:

The content is not W@P; the image can not

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be displayed.

Note: The phone can not be switched off with ON/OFF key when W@P application is used. **It has not to be considered as a bug.**

8.3.6   W@P Exchange criteria

Exchanges for W@P problems should be **extremely rare** because the chances of having a defective mobile phone is small compared to the misuse of the customers. W@P is a software application and must be considered as such. From a hardware point of view, the Flash memory may have to be changed if W@P parameters cannot be saved but the probability of encountering this problem is near to zero.

The mobile phone has to be considered as a defective one only if the memory test or the functional & radio tests are wrong.

The points which have to be checked carefully with the customers are listed next:

* W@P parameters (phone not W@P locked) ➔ These parameters are very critical. If a letter, a sign or a number is wrong, W@P connection will fail.

* Covered area ➔ The end user should access W@P services with only 1 reception bar. In practice, it is assumed that more than 2 bars are required. For testing purpose, the help desk/ASC/NSC operator will have to ask the end user to test the phone in a well covered area (minimum of 3 bars).

* WAP phone ➔ A WAP phone is mandatory in order to access W@P services. However, the   subscription is operator dependent.

* Call barring ➔ Call barring has to be cancelled (menu: outgoing/data calls)

* Hourglass icon ➔ If the end user can see the transmitting icon (after the hourglass icon) on the mobile   phone, it means Internet access was successful. Hence, the mobile phone is working correctly.

* Roaming ➔ If the end user is in a foreign country, he may not be able to use the W@P feature or may have to change the W@P parameters (for example, use the analogue number instead of the ISDN one). The customer has to contact his/her operator for further information.

* Number of attempts ➔ W@P services may be accessed after several attempts depending on the covered area or the network status (busy). Obviously, this is not a case for exchange and the help desk/ASC/NSC operator will have to make sure that the end user has tried several times before diagnosing the problem.

* Impossible to display W@P pages ➔A W@P page may be displayed on the mobile phone screen of a competitor and not by the Philips transceiver. The help desk /ASC/NSC operator will have to explain

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that the W@P navigators are different. Sometimes, contents of particular pages can be decoded by a navigator and not by another (idem for Netscape and Internet Explorer).

8.4 Charging IGN (Ignition) – Battery

8.4.1 Plug the connector of the charger into the round socket set at the base of the transceiver
The battery symbol should indicate the state of charge :

- Bars moving   - means the battery is being charged.
- Steady   - means the battery is fully charged.

If the battery is totally discharged, the battery icon will start scrolling 2 to 3 minutes only after being connected to charger.

8.4.2 Remove the charger by unplugging the connector from the round socket at the base of the transceiver.

8.4.3 Remove the battery.

8.4.4 Lift the bottom left side of Production Test SIM Card with tweezers.

8.4.5 Gently slide the card out away from the grooves of the Product

9.0 ASSEMBLY / DISMANTLEMENT PROCEDURES

During dismantlement and assembly operations, an antistatic bracelet must be used.

9.1 Dismantlement

9.1.1 Unscrew the ANTENNA
9.1.2 Take the product, remove BATTERY
9.1.3 Remove the SIM card

9.2 Assembly

9.2.1 Check the REAR HOUSING on the product
9.2.2 Check the LABEL on the back
9.2.3 Screw the ANTENNA

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10.0 DEFAULTS SETTINGS

10.1   Reset customer parameters.

To reset customer parameters, a GSM String . This Gsm String is *#RSAV*# or *#7728*#.

So, the defaults settings of the manufacturer are activated.

10.2   Use of the GSM string *#RSAV*# or *#7728*#.

Procedure to follow :

- Turn on the mobile (a SP SIM card is not necessary).
- Enter the Gsm String *#RSAV*# or *#7728*#.
- You can see "Reset" but the customer parameters are not reset yet.
- Turn off the mobile.
  When you will turn on, the defaults settings will be activated.

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12.0 SOLUTIONS IN CASE OF PROBLEMS DURING THE TESTS

If for any reasons the phone needs to be disassembled (on level 2 only) to fix a defect detected during the test procedure, a complete functional test and a RF test must be done.

12.1   The phone does not switch on.

- Check the tactile feeling of the "ON/OFF" button.
- Remove the battery. Check that both the contacts of the phone and those of the battery are not damaged.
- Clean the contacts.
- Plug the battery again, making sure that it is securely fitted. Charge the mobile until the icon has stopped flashing.
  Then unplug from the charger and attempt to switch the mobile on.

If it still does not switch on, send the mobile for repair.

12.2   Charge does not start or no detection of the charger.

- Check the charger contacts for dust or missing pins.
- Check the mobile connector.
- Remove the battery. Check that both the contacts of the phone and those of the battery are not damaged.
- Check the charger individually with a reference mobile. If the charger works properly try to charge the customer mobile with a reference battery.

If neither of the battery and the charger can be incriminated, send the mobile for repair.

12.3   The display shows "No SIM card. Please insert your SIM card." or "SIM FAILURE"

- If the SIM card cannot be inserted, check for any foreign part and try to remove it.
- Check the SIM Card connector. All the contacts must be at the same level. Make sure that there is no dust on the connector contacts and the SIM card contacts.
- If the test SIM card can be detected but the message "SIM Failure" remains on the customer's card, his card must be damaged. Ask him to contact his network operator.

Otherwise send the mobile for repair

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12.4   Display problems

Contrast, icons and matrix of the display can be checked with the test SIM card by pressing keys "5", "6" and "7" .
If everything works in test configuration it then means that a phone setting is disabled or does not suit well. It can be solved in the phone menu.

Otherwise send the mobile for repair

12.5   Buzzer problems

Buzzer tone can be checked with the test SIM card by pressing key "1" and "2".
- If it does not sound properly send the mobile for repair.

12.6   No sound in Loudspeaker

The sound from the loudspeaker can be checked with the test SIM card by pressing key "3".

- Check the microphone and the earpiece, If the failure cannot be found out, send the mobile for repair.

12.7   Communication problems

- Sound quality can be checked in audio loop test (sound distortion, whistling, echo, …)
- If the mobile passes the radio tests successfully, we can assume that the phone works properly. The customer must check the coverage area of his network operator or that he does not use the phone in a radio shadow (outside the coverage area, in a tunnel or between tall buildings, …)

- If the mobile does not pass the radio tests, send the mobile for repair.

12.8   Defective antenna

- If the antenna is broken or curved => replace it

12.9   Keyboard problems

-The keyboard can be checked with the test SIM card.
- If a key or a row does not respond, check the keyboard.

12.10   Problems to send SMS messages

Check the Center number. It may be empty or wrong.

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13.0 RECOMMENDED PART LIST – TCD998 XENIUM DB-W@P

13.1 Common parts – out of warranty

REFERENCE	DESIGNATION	POSITION	REPAIR LEVEL
3122 427 20940	Fast Charger Europe	9210	1
3122 427 21200	Fast Charger UK	9210	1
4311 254 21630	RF Protection X15	9105	1
4311 257 61140	Antenna ass'y family X	0906	1
4311 258 75070	VIBRA Battery X16DB Black	9241	1
4311 258 75340	Battery Chrome X16DB	9241	1
4311 258 75350	Battery Graphite X16DB	9242	1
4311 258 76120	Ultra slim battery black	9242	1

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ANNEX 1

IRIS REPAIR CODING SYSTEM

Symptom code   The code '0000' is used for No Fault Found

Condition code

1-Constant
2-Intermittent
4-Two hours after switch on.

		1 NO ACTION	2 LEVEL	3 QUALITY	4 NOISE	6 PHYSICAL PROBLEMS	7 SPECIAL FUNCTIONS	8 OTHER CONDITIONS
1	GENERAL	**Power problem** 117 Short autonomy 119 Does not switch on 11B Switch on/off recurrent 11X Other Pow Sup problem	**Charging problem** 121 Does not charge battery	**Display function problem** 13G Character/pixel absent 13B No backlight 13B No backlight		**Physical damage** 166 Damaged plug or socket 169 Defective antenna 16G Broken LCD	**General function problem** 171 Faulty clock function 178 Faulty memory function	**Special requirements** 185 Upgrade to be done only 18Z Symptom not available
2	COMMUNICATION	**No reception** 21A Interrupted communication	**220 Reception level problem**	**Transmission problem** 291 No emission 234 No radio link between Handset & Base	**240 Noisy communication** 244 Echo		**Special communication problem** 277 No ringing (dial) tone 278 No buzzer ring 279 Not registering	
5	AUDIO	**510 No audio**	**Audio level problem** 521 Low audio level			**560 Poor Audio recording** (answering)	**Poor special audio function** 57A Hands-free problem	
6	MECHANISM	**No mechanical** 61B Vibrator not operable 61D Pilot/compass key not operable			**Mechanical noise** 648 Foreign parts inside			
7	DATA PROCESSING	**No data processing operation** 715 No keyboard operation 72B No subscription					**Special data processing function problem** 774 Defective CLI 775 Tarif update failure	**SIM card problem** 781 Simblock 782 IMSI 783 Does not read SIM card 785 SIM Error 48xx

Each returned product must have an IRIS code to identify the failure.