WINNER

GSM single/dual channel gateways

USER'S MANUAL

WINNER, GSM 850/1900 MHz, 900 /1800 MHz, 800/1900 MHz
SIM cards and Wavecom Module embedded
Single/ double Fixed Cellular Gateway Units

VERSION   V5 – 04/04/04
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Dear Customer:
Thank you for purchasing one of our WINNER GSM single/ dual channel gateway units.

The information in this manual does not constitute a warranty of performance, although the information has been compiled and checked for accuracy by Eurotech Communication Ltd. All our products are developed and produced by an experienced staff, who aspire to achieve customer satisfaction, utility value, quality and reliability of products.

Eurotech Communication Ltd reserves the right to update this publication without notice.

Trademarks:

EUROTECH is a registered trademark.

Warranty policy:

The WINNER GSM gateway product you have purchased is under warranty for 1 year from the date of purchase by original purchaser. In case of defects in materials or workmanship Eurotech Communication Ltd. will replace free of charge. This warranty applies to hardware/ software and does not include SIM cards.
This warranty will not be honored if the device has been mishandled in any way.

Approvals:

The WINNER GSM gateway products are approved for connection to all telecommunications services via a PBX, telephone line or even a personal extension.

ISO 9001: 2000 approved, they also feature a modern user-friendly design, provide maximum control and economy of operation and aid in radiation prevention.

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Overview

This user's manual will help you best install your WINNER GSM gateway unit, and provide you with the basic guidelines for handling any problems that might arise.

In general, the WINNER GSM single/dual gateways provide a flexible and cost efficient connection between your telephone system and the GSM mobile networks. In essence the device acts as a router that is programmed to choose the Least Cost Route when you make a call from your PSTN line to a cellular phone. The GSM gateway connects to a trunk line and bypasses the telephone company thus significantly reducing overhead costs of telephone calls.

Connect to your PBX or landline phone or even to a specific phone extension (special order), and you will save money on all calls by bypassing the telephone network and obtaining direct access to the GSM networks.

The embedded 'Wismo Quik' Wavecom Module and SIM cards which act as 'Smart' user Id cards that encrypt voice and data transmissions and store data about the specific user and personal phone settings, together make the GSM gateway a cell phone in itself. The WINNER gateways are therefore an essential tool for cutting overhead costs of telephone bills as they allows direct access to the GSM networks and cuts costs of airtime and interconnections.

The WINNER GSM gateways are intended for middle to large enterprises but can be installed on regular phone lines in your home or home office.

There are certain features that may be relevant to the product you have selected and some that are not. At any rate all are discussed in the following manual.

The WINNER GSM single/ dual channel units, when used with the appropriate telephone equipment (antenna, adapter, SIM cards, telephone PSTN line or PBX) will function as an ordinary landline and support the following features:
❖ Cost-saving routing of incoming calls
❖ 'Follow Me' call forwarder to your personal mobile
❖ GSM and PSTN interconnection via internal LCR
❖ Caller ID, LCD, RTC
❖ Fax, Data, SMS Transmission – Optional
❖ Internal Battery Backup – Optional
❖ FXO/ FXS interface
❖ Polarity Reverse
❖ Outstanding voice performance and echo cancellation

The WINNER - GSM Dual Channel Gateway unit: Main features and Benefits
o Can use up to SIMs (up to four SIM cards per GSM channel enabling two outgoing simultaneous calls to any four operators

Packing list:

When you receive your WINNER device please inspect the package to verify that you have the following:
1. One WINNER GSM single/ dual channel gateway unit
2. Adapter
3. Antenna
4. RJ-11 cable
5. User's manual
6. Guarantee

Safety Guidelines:

For the safe and efficient operation of your WINNER gateway unit, please observe the following guidelines:

❖ Please read the installation instructions and safety guidelines in this user's manual carefully before installing the unit
❖ Do not handle the equipment before disconnecting it from the electrical outlet
❖ Do not use any cleaning agents or detergents on the exterior or interior surfaces. If you intend to clean the device, disconnect from electrical outlet and use only a damp cloth
❖ Do not position device in a damp place; do not expose to water
❖ Do not expose to extreme temperatures: optimal operating temperatures -5° C to + 50°C.
❖ Position equipment in a stable environment; any sudden fall or sharp movement may damage the device
❖ Do not cover or stick any foreign objects in devices' openings or ventilation holes
❖ Do not operate your WINNER device while any person is within 0.02m of the antenna. A person or object within 0.02 m of the antenna could impair call quality and may cause the phone to operate at a higher power level than necessary.
❖ **Warning: Potentially Explosive Atmospheres:**
❖ Do not operate your WINNER near blasting caps, or in a blasting area, to avoid the possibility of triggering an explosion
❖ Do not operate a WINNER transmitter in a hazardous atmosphere: an explosion or fire may result
❖ The telephone interface is not designed for outdoor application: RJ-11 cable must not be run to an outdoor telephone; this minimizes equipment exposure to coupling and directs lightning surges.

General user information:

Placement of the device: the WINNER GSM gateway unit is designed for installation on a vertical surface but may be mounted also on a wall.
If you wish to mount the device on a wall follow these steps:
1. Remove the black metallic strip used for hanging the unit on the wall by sliding it out from the back of the WINNER unit
2. Place the metallic strip on the wall to indicate the location of the screws
3. Hold the strip on the wall and drill wholes for the screws to go into the wall through the metallic strip
4. Place the unit onto the wall by sliding the metallic strip back into its place.

Interference to Medical and Personal Electronic Devices

Most electronic equipment is shielded from RF energy. Nevertheless, RF energy from the WINNER transmitter may affect inadequately shielded electronic equipment. We therefore advise to consult the manufacturer(s) of your medical and personal electronic device(s), (for example a pacemaker or hearing aid) to determine if they are adequately shielded from external RF energy.

Do not install a WINNER gateway unit in a health care facility, if regulations posted in the area restrict the use of cellular phones. Hospitals and health care facilities may be using equipment that is sensitive to external RF energy.

Antenna Considerations:

Use only the supplied or approved antenna. An unauthorized antenna, modifications or attachments could affect call quality.

Installation STAGES and Procedures

The installation procedure consists of the following steps:
STAGE 1: Identifying potential sources of interference
STAGE 2: Assessing the subscriber site
STAGE 3: Testing the location for signal strength
STAGE 4: Installing the system – please note differences in single/ dual channel units
STAGE 5: Programming of SIM cards
STAGE 6: Testing prior to departing site.

STAGE 1 - Identifying potential sources of interference

The electronic circuitry of some telephones may be insufficiently shielded to operate properly with the WINNER gateway units. When making or receiving a phone call, if your hear a "humming" sound or noise in the earpiece of the telephone connected to the WINNER, or if any other party hears the hum or noise, move the telephone away from the WINNER. If moving it farther away has no effect, try using a different telephone.

The WINNER is a two-way radio and as such, some occasional interference is unavoidable. For best results, choose an electrical outlet away from obstructions. Do not place the WINNER near items which may increase static, such as:
- Electrical appliances
- Lamps
- Microwaves
- TVs
- Fax Machines 4 Feet (1.2 meters)
- Computers 4 Feet (1.2 meters)
- Refrigerator
- Vacuum cleaner
- Light dimmers
- Fluorescent bulbs
- Motors
- Fans

STAGE 2 : Assessing the Subscriber Site

    i.   The WINNER GSM gateway must be installed indoors:

    ii.   Basement installation is not recommended, it can be done, but you must use an external antenna

    iii.   Installation in a place in which the temperatures may not exceed the

    iv.   specified operating temperature range (see safety guidelines above)

    v.   You should make sure that there is sufficient air movement

    vi.   Installation in higher locations is preferred i.e. near windows and outer walls

STAGE 3: Installing the system:

1)   Inspect the package, you should see: a unit gateway, an antenna, an adapter, a user's manual. Please note: the WINNER unit comes without the SIM card(s)!

2)   Connect the antenna at a distance greater than 1 meter from the unit. Location of the antenna is important in order to get best performances, thus once you turn the power on, make sure you have best reception and clear conversation with the unit.

3)   Insert SIM card into the unit:

A)   In case of single channel unit, insert the SIM card in the designated slot (on the right side panel) adjacent to the antenna connection you will see a thin mettalic black colored drawer. Use a small pointed object such as the point of a ballpoint pen into the little hole on the right side of that drawer/slot to open the drawer, then insert the SIM into that drawer (SIM face up) and close the drawer firmly.

In case of dual channel unit, there are up to four SIM card slots on the bottom side of the unit for each module. The SIM card slots are numbered from the top down as #1, #2, #3 and #4.

Insert SIM #1 for the first Provider, this is the default provider, the main provider.

Insert SIM #2 for the Second Provider.

Insert SIM #3 for the Third Provider

Insert SIM #4 for the Forth provider

For 'Up to 8' SIM cards 1- 4 for each module place each according to provider (no.1 to 4) as described above.

4)   Connect the gateway unit to a PBX telephone network or telephone line with the RJ-11 cable (provided with unit) on the left side panel.

5)   On the left side panel you will find the POWER socket. Connect the adapter (provided with unit) to the electrical outlet and then to the electrical socket.
Note: The power input is 90 –260 VAC and the output is 12 VDC 1.2 Amp

6)   Wait 30 seconds for the unit to startup.

7)   Connect a landline ordinary telephone to the RJ-11 connector (pin 3 and 4 are used for Tip and Ring)

8)   In case of WINNER GSM single channel unit: place an outgoing call to test the system. If the LCD shows the number you have dialled; the device is in correct operation mode OK. If you see the operator/ provider name on the LCD try to make an outgoing call. You should see the number dialed on the LCD, then make a call into the unit from another telephone, cellular or landline, you should see the ID caller on the LCD.

In case of dual channel unit (2 to 4 SIM) the following information and programming steps are relevant:
Once you connect the power adaptor to the connector (next to the RJ-11 connector) the unit should power up and the LCD should show the first #1 Operator/ Provider name after initialization.
Note: please wait for about 30 seconds to power up!

Stage 4 Programming of SIM cards WINNER GSM Dual channel up to 8 SIMs:
For cases where you use more than 1 SIM only!
Otherwise skip the following; you are finished and can now use your WINNER GSM single channel unit.

Now the unit is working, we need to verify that each prefix is setup according to the correct SIM.

First, connect a landline phone to the RJ-11 cable of the particular channel you want to test the device.
On the V-8002 / D1 or D2, each channel has it own RJ-11

To start programming the WINNER you need to pick up the handset of the landline phone and press the star key 3 times " * * * ".
LCD should indicate "Programming Mode" (it is now in programming mode).
In order to scroll through "Programming Mode" menu press "#".
To enter the sub menu press "*".

1. Adding or editing the SIM Prefixes:
Step 1: Pick up the handset of the landline phone and press   " * * * ", LCD should indicate "Programming Mode".
Step 2: After 1 second LCD should show "1. SIM Prefixes", press "*" to get into the sub menu, LCD will indicate "Select SIM#1".
To scroll between the SIM's press "#". For choosing the SIM you wish to add prefixes press "*".
Step 3: If there are not any prefixes the LCD will indicate "SIM#3 is empty" and after 1 second the LCD will indicate:
"ADD? *-yes, #-no".
If there are prefixes programmed, (for example: SIM number 3) the LCD will indicate "SIM#3: *Prefix"*, you can view all the prefixes by pressing the pound key "#".
Step 4: At the end of the prefixes LCD will indicate "ADD? *-yes, #-no".
To add new prefix press "*" the LCD will indicate "Add SIM#3:", press your prefix and "*" to input. LCD will indicate (again) "Add SIM#3: " if you wish to insert another prefix press your prefix, if you do not wish to insert press "*" again.

Returning to the main menu press "#" until LCD will indicate "1. SIM Prefixes".

2. CLEARING Prefixes: Allow you to delete all prefixes in any specific SIM:
Step 1: Pick up the handset of the landline phone and press   " * * * ", LCD will indicate "Programming Mode"
Step 2: After 1 second LCD will display "1. SIM Prefixes", press "#" until LCD will indicate "2. CLEAR Prefixes"
Step 3: press "*" to roll into the sub menu. The LCD will indicate "Select SIM#1".

To scroll between the SIM's press "#", For choosing the SIM card whose prefixes you wish to delete press "*".
For example: SIM number 3 LCD indicates "SIM#3 is empty", after 1 second the LCD will indicate "2. CLEAR Prefixes".
All The prefixes which were inserted in the specific SIM will be deleted automatically.

3. AnsSuperVision: <u>To change the voltage on line:</u>
Step 1: Pick up the handset of the landline phone and press   "* * * ".
 LCD will indicate "Programming Mode". After 1 second LCD will display
  "1. SIM Prefixes", press "#" until LCD will indicate "3. AnsSuperVision".
Step 2: Press "*" to roll into the sub menu, the LCD will indicate "# - Choose / * - Save".
After 1 second LCD show "Disable", To scroll between options in the sub menu
press "#", to choose press "*".

4. AnsSprVisTimer: <u>To change the Timer:</u>
Step 1: Pick up the handset of the landline phone and press "* * * ",
LCD will indicate "Programming Mode". After 1 second LCD will display "1. SIM Prefixes", press "#" until LCD will indicate "4. AnsSprVisTimer"
Step 2: press "*" to scroll into the sub menu, the LCD will indicate
"# - Change / * - Exit". After 1 second the LCD will display "100msX01", to change the value press "#", LCD show "0-9 –Edit / * - Exit".
If you want to edit press 0 – 9 (digits on phone need to consist of 2 digits), if you don't press "*" to exit.

5. Min Digits: <u>Allow you to control in which form the call will be transmited (Minimum COUNTER):</u>
Step 1: Pick up the handset of the landline phone and press "* * * ",
LCD will indicate "Programming Mode". After 1 second LCD show "1. SIM Prefixes ",
press "#" until LCD will indicate "5. Min Digits"
Step 2: press "*" to roll into the sub menu, the LCD will indicate "# - Change / * - Exit".
After 1 second LCD show "Min: 07", to choose press "#",
LCD will display "Min: (02-08) ".
Step 3: Choose digit between 02 to 08 (digit on phone have to be 2 digits), if you don't press "*" to exit.

6. Max Digits: <u>Allow you to control in which form the call will be transmitted (Maximum COUNTER):</u>
Step 1: Pick up the handset of the landline phone and press   "* * * ",
LCD will indicate "Programming Mode".
After 1 second LCD will display "1. SIM Prefixes", press "#" until LCD will indicate
"6. Max Digits"
Step 2: Press "*" to roll into the sub menu, the LCD will indicate "# - Change / * - Exit".
After 1 second LCD will display "Max: 09 ". To choose press "#".
Step 3: LCD will indicate "Max: (05-20)", you have to choose digit between 05 to 20 (digit on phone have to be 2 digits), if you don't press, "*" to exit.

7. InterDigit tmr: <u>Allow you to control in which form the call will be transmited (By TIMER):</u>
Step 1: Pick up the handset of the landline phone and press " * * * ".
LCD will indicate "Programming Mode".
After 1 second LCD will indicate "1. SIM Prefixes", press "#" until LCD indicates
"7. InterDigit tmr"
Step 2: Press "*" to scroll into the sub menu, the LCD will indicate:
 "# - Change / * - Exit". After 1 second LCD will display "50msX200", to choose press
"#", LCD will display "50msX   (001-200)", you have to choose digit between 001 to 200
(digit on phone have to be 3 digits), if you don't press "*" to exit.

8. IgnoreFirstDig: <u>Allows you to choose first digit to ignore:</u>
Step 1: Pick up the handset of the landline phone and press " * * *",
LCD will indicate "Programming Mode". After 1 second LCD will display "1. SIM Prefixes",
press "#" until LCD indicates "8. IgnoreFirstDig".
Step 2: Press "*" to roll into the sub menu, the LCD will indicate "# - Change / * - Exit".
After 1 second LCD will indicate "Digit: ". To choose digit press "#" until LCD displays the
digit that you need and press "*" to choose.

9. S/W Version : Indicates the Software version.

10. Data Mode : <u>**Must be off when being used for 'Voice' only.**</u>

11. Pre_Dialling: <u>Allows you to write string that will be transmitted with number phone:</u>
Step 1: Pick up the handset of the landline phone and press " * * * ".
LCD will indicate "Programming Mode". After 1 second LCD show "1. SIM Prefixes", press
"#" until LCD will indicate "11. Pre_Dialling"
Step 2: Press "*" to roll into the sub menu, the LCD will indicate "# - Change / * - Exit".
After 1 second LCD show "String: ", press "#" write your string and press long "*",
(until LCD will indicate "11. Pre_Dialling" .

12. Setup CID : The option to block the Caller I.D in your gateway (will not show the
caller number on your LCD).

STEP 6: Testing prior to departing site.
In case of more than 1 SIM: make calls to each provider and see the call progress on the
LCD, You should see Provider's and the dialed number, if all works 'OK' then you are
done.

General technical information
Electrical
-     Power supply: 12 VDC +/- 5% 1,2 A
-     720 mA average in GSM 900 at Tx power max 2W
-     920 mA average in GSM/GRPS 900 at Tx power max 2W
-     100 mA in idle mode

Physical
-     Absolute maximum dimension: 165 x 127 x 30 mm
-     Weight: 600 g
-     Casing: Complete shielding-stainless steel
-     Mounting: 4 screw holes
-     Operating temperature range: -5°C to + 55°C

Optimal storage temperature: -35°C to +85°C

Analog Telephone/Analog PBX interface
-     Tip/Ring Voltage –48V
-     Line current   25ma
-     Ringing   Voltage 140 Vpp

Load 3REN
Crest Factor 1.25
Frequency   20 Hz
Cadency   2s/4s
-     Answer supervision - Reverse polarity
-     DTMF compliancy
-     Dial Tone 400 Hz

Busy Tone 400 Hz, cadency 500ms/500ms
GSM circuit Data Features
Data circuit asynchronous, transparent and non transparent up to 14,400 b/s
Automatic fax group 3 (Class 1 & 2)
Alternate speech and fax
MNP2, V.42bis

Telephone Line Characteristics

DC Characteristics

Ringing Voltage:	-70 V DC typical
On hook voltage:	-58 V DC typical
Off hook Voltage:	-24 V DC typical
Off hook Loop current:	27mA @ 600 Ohm programming resistive
Input Impedance:	480 Ohms to 720 Ohms, 600 ohm typical

DTMF Dialing:

Detection level:	-25dBm to +3dBm
On time:	50msec.
Off time:	12 characters

Ringing Signal:

Feeding type: Balanced signal
Distortion: Less than 5%
Ring drive capability   3 type A
Minimum ring Voltage: 40 Vrms – crest factor 1.2
Frequency: (20 Hz)

Normal dialing tone:

Frequency: 400Hz
Level: 2dB
Cadence:

Congestion / Busy Tone:

Frequency: 400Hz
Level: 2dB
Cadence: 500ms 20% signal
500ms 20% pause

Enviromental characteristics

Compliance:
The WINNER complies to the following requirements:

Temperature
We claim -5° to 70° (Israeli Standard Institute Approval is in process).

Humidity
5% to 95%

Safety
(Testing at Israeli Standard Institute Approval is in process)

Packing
Per EuroTech standard

Transportation
Transport conditions are according to EuroTech Standards.

Storage Condition
Storage conditions are according to class 1.1, ETS 300 019 –1-1 (-20°C +80°C)
-25°C to +65°C

Mounting

Wall Mounting
In case you wish to mount on wall see instructions above in General Information.
configuration the WINNER attached to the wall with one screw.

Desk – Top Mount

In desk top mounting configuration on four rubber standoffs, it should be mounted at least .5 meter from the telephone set.

Packing

Each WINNER package contains:
One WINNER unit, metal box.
One Omni antenna or an external antenna (optional)
This booklet which includes a user manual.

Labels

Each WINNER labeled as the following :
Product ID: located at the box side(in future units).
The label contains product model number, Serial number, Date and code identified as WWYY
(1'st two digits identify the chronological week in the year, 2nd tow digits identify the year), Hardware and Software
version.   For Example: Logo, Model No, Serial No, Rev.
HardwareX/SoftwareY:0X/0Y , Date: onth/Year

Manufacturing

At *EuroTech Communication* we bear in mind at all times manufacturing at high Quality and cost effective are the
most significant considerations in the design for Manufacturing of the WINNER.

Shipment

All goods will be sold FOB, customer will pay for delivery from factory.
Customer will advise on the way the products will be shipped.
Customer will take care of shipment including all necessary payments for insurance, delivery, custom, etc. as FOB requires.

Reliability

The WINNER Field Quality goal is and will be determined by reliability prediction and actual ALT results.
Our target is: 0.5-1.0% per month, This goal is susceptible to changes.