USER'S MANUAL
GWFM101

WIRELES GATEWAY FOR THE COMPUTERIZED SWINE FEEDING SYSTEMS AND TECHNICAL MANAGEMENT

GESTAL$_{FM}$

BY JYGA CONCEPT INC.

BEFORE OPERATING THIS EQUIPMENT PLEASE READ THESE INSTRUCTIONS CAREFULLY

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SECTION 1 SAFETY WARNINGS AND PRECAUTIONS

1.0 ENVIRONMENTAL CONDITIONS

- Indoor use only.
- Temperature must be 0 to 40°C (32 to 104°F).
- Altitude up to 2000 meters.
- Installation category II.
- Pollution degree 2.

1.1 CLEANING THE UNIT

- This unit is not type rated for exposure to water, DO NOT clean with low or high flow of water.
- Use damp cloth to clean the unit.
- DO NOT use benzene, thinner or other organic solvents and disinfectants. These may cause deformation or discoloring.

SECTION 1 SAFETY WARNINGS AND PRECAUTIONS

1.2 SAFETY WARNINGS

The symbol below highlights a WARNING OR CAUTION:

Figure 1-1. Warning and Caution

- **A WARNING** identifies situations or actions that may affect user safety. Disregarding a warning could result in user injury.
- **A CAUTION** points out special procedures and precautions that user must follow to avoid equipment damage.

The symbol below highlights a Burn Hazard Warning.

Figure 1-2. Burn hazard warning

The symbol below highlights an ELECTRICAL SHOCK HAZARD WARNING

Figure 1-3. Electrical shock hazard warning

Failure to follow these instructions could result in death or serious injury.

Before operating this equipment please read these instructions carefully

SECTION 1 SAFETY WARNINGS AND PRECAUTIONS

1.2 SAFETY WARNINGS (CONT...)

For U.S.A

This equipment has been tested and found to complywith 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 installation.
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 correct the interference by one or more of the following measures:
Reorient or relocate the receiving antenna.
Increase the seperation 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.
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

For Canada

THIS DIGITAL APPARATUS DOES NOT EXCEED THE CLASS B LIMITS FOR RADIO NOISE EMISSIONS FORM DIGITAL APPARATUS AS SET OUT IN THE INTERFERENCE-CAUSING EQUIPMENTSTANDARDENTITLED "DIGITAL APPARATUS," ICES-003 OF THE DEPARTMENT OF COMMUNICATIONS.

Before operating this equipment please read these instructions carefully

1.2 SAFETY WARNINGS AND PRECAUTIONS CONT...

IMPORTANT SAFETY INSTRUCTIONS

WARNING: When using this product, basic precautions should always be followed, including the following:

1. Read all instructions before using this product.
2. To reduce the risk of electrocution, keep all connections dry and off the ground. Do Not touch the plug with wet hands.
3. DO NOT MAKE ANY MODIFICATIONS TO THE UNIT!
4. DO NOT operate the unit if it has broken, is missing parts, or any unit without the protective covers.
5. ALWAYS unplug the unit from the power source before any operation in the electronic and motor case . Each operation in the electronic and motor case must be carried out by a technician or a qualified electrician.
6. The fuses must be changed by a qualified technician or an electrician and the value of the new fuses must be **exactly** the same one as that replaced.
7. If replacement of the plug is necessary, use only identical replaments parts.
8. ALWAYS make sure the electronic and motor cases are closed hermetically before washing.

DANGER: KEEP water spray away from electrical wiring or fatal electrical shock may result.

1.3 SAFETY PRECAUTIONS

1. When cleaning, make sure the electronic and motor cases are closed to prevent causing damage to the unit.

ELECTRICAL SHOCK HAZARD WARNING:
Do not submerge the unit in water. Disregarding a warning could result in death, serious, user injury or equipment damage.

SECTION 1 SAFETY WARNINGS AND PRECAUTIONS

SAVE THESE INSTRUCTIONS

1.4 GROUNDING INSTRUCTIONS

This product must be grounded. If it should malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This product is equipped with a cord having an equipment-grounding conductor and a grounded plug. The plug must be plugged into the appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.

DANGER:
Improper connexion of the equipment-grounding conductor can result in a risk of electrocution. Check with a qualified electrician or service personnel if you are in doubt as to whether the outlet is properly grounded. Do not modify the plug provided with this product. If it will not fit the outlet, have a proper outlet installed by a qualified electrician. Do not use any type of adapter with this product.

1.5 EXTENSION CORD USE

Using an undersized extension cord will cause a drop in the line of voltage, resulting in a loss of power and overheating. Always use an extension cord with an electrical rating equal to or greater than the rating of the product.

- Use only 3-wire extension cords that have 3-prong grounded type plugs and 3-pole cord connectors that accept the plug from the product.
- Use only certified waterproof extension cords.
- Use only extension cords having an electrical rating equal to or greater than the rating of the product.
- Do not use damaged extension cords.
- Examine extension cord before using and replace if damaged.
- Do not abuse extension cord and do not yank on any cord to disconnect.
- Keep cord and extension cord away from the animals accessibility. The animals could nibble at them and this could result in electrocution and death.
- Keep cord away from heat and sharp edges.
- Always disconnect the extension cord from the receptacle before disconnecting the product from the extension cord.

1.6 OVERLOAD PROTECTION DEVICE

The electric motor is also equipped with an overload protection device which will automatically shut off the motor in the event that the motor draws excessive current or overheats. This device will automatically reset itself and resume normal operation after a short period of time

Note: If the fuses are damaged, they must be changed by a qualified technician or an electrician and the value of the new fuses must be **exactly** the same one as that replaced.

SECTION 2GETTING STARTED AND TECHNICAL SPECIFICATIONS

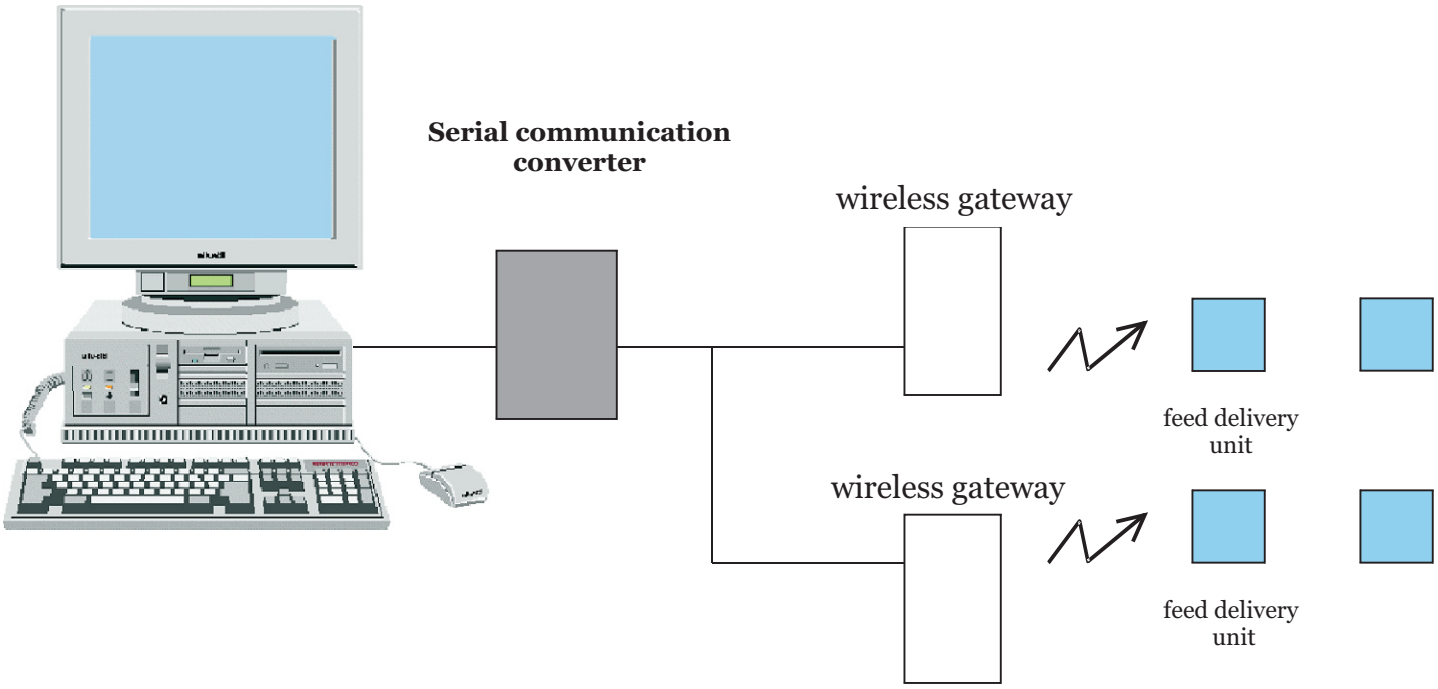
2.0 OVERVIEW OF THE GESTAL$_{FM}$ SYSTEM

The **GESTAL$_{FM}$ System** is a computerized feeding system and technical management.
This system offers many possibilities to optimize the productivity of each sow and the follow-up of the herd.
The **GESTAL$_{FM}$** is designed to be used in the farrowing unit.

A complete installation of the **GESTAL$_{FM}$ System** consists of a computer with the system's program, a RS232/RS485 serial communication converter , one or more wireless gateway and the feed delivery units:

The computer can be a PC compatible computer . It is generally installed in an office. It controls the operation of all the **GESTAL$_{FM}$ System** and collects the information generated by the wireless gateways and the feed delivery units

The feed delivery units of the **GESTAL$_{FM}$ System** and the wireless gateway or the wireless gateways are installed in the feeding zone of the animals. They are equipped with a transceiver/transceiver at low power radio frequency(RF) to communicate between them.The communication range between the two units varies according to the presence of metallic obstacles or the presence of a noise source or other causes. Thiscommunication range will normally vary from 20m to more than 30m.



Before servicing GESTAL$_{FM}$ SYSTEM, be sure you have read and understood in detail the contents of this manual. It is important that you read and strictly adhere to the aspects of safety contained in this manual.

SECTION 2 GETTING STARTED AND TECHNICAL SPECIFICATIONS

2.0 OVERVIEW OF THE GESTAL$_{FM}$ SYSTEM(CONT...)

.Periodically, the communication network maintains itself to find the most effective ways of communication. This capacity enables him to be optimized and "to cure itself" in the event of equipment damage.

The computer communicates with thewireless gateways by its Rs232 communication port. The wireless gateways communicate with the computer by their Rs485 communication port. A type RS232/RS485 serial communication converter series enters the computer and thewireless gateway(s) to allow the data exchange

An installation of a GESTAL$_{FM}$ System consists of one or more wireless communication zone . Each RF communication is composed of a number of feed units and a wireless gateway which can all communicate together: directly or indirectly. If it is not possible with the computer to communicate with one or more feed units starting from a wireless gateway, one must add a wireless gateway close to those

Before servicing a wireless gateway of the GESTAL$_{FM}$ SYSTEM, be sure you have read and understood in detail the contents of this manual. It is important that you read and strictly adhere to the aspects of safety contained in this manual.

SECTION 2GETTING STARTED AND TECHNICAL SPECIFICATIONS

2.1 INSTALLATION AND GETTING STARTED

WARNING:

- Before operating this equipment please read instruction carefully.
- Always keep thewireless gateway unplugged from the power source during its installation. Plugging the unit to the the power source is the last stage of the installation.It has to be done only when the feed delivery unit has been installed solidly on its support and that nothing is blocking its operation.
- DO NOT MAKE ANY MODIFICATIONS TO THE UNIT.
- Do not operate if the unit has broken, is missing parts, or any unit without the protective covers.
- Follow the product manufacturer's instructions. Failure to do so could cause personal injury or equipment damage.
- The warranty shall be void and of no force of effect in the event a covered product has been modified in design or function, or subjected to abuse, misuse, mishandling or unauthorized repair.

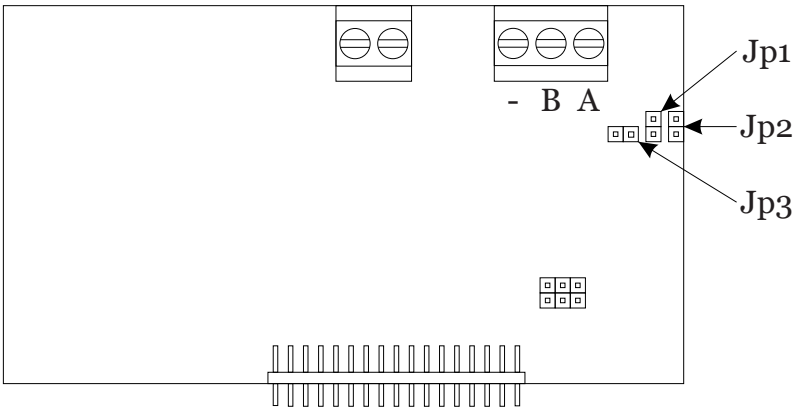
1. To select a location where to install the wireless gateway. It must be fixed at the wall or the ceiling. All the distributors of a communication zone must be able to communicate with it. This communication can be direct between the wireless gateway or indirect by using the capacity of the feed delivery units to act as relay for the data transmission.

   It is recommended to choose a location in the center of the communication zone. The network will offer more possibilities in terms of communication ways during its maintenance process.

   When choosing the site acknowledge the fact that the **GESTAL$_{FM}$** and the wireless gateway are equipped with a transceiver/transceiver at radio frequency (RF) of low power to communicate between them. The range of communication between twounits varies according to the presence of metal obstacles or the presence of a noise source or other causes. This range of communication will generally vary 20m to more 30m.
2. Using 4 screws, fix the case of the wireless gateway .

3. To open the lid of the case and to connect the cable of communication between the wireless gateway and the RS232/RS485 converter.

   Inside the case of a wireless gateway, you can find the folowing electronic circuit :



SECTION 2GETTING STARTED AND TECHNICAL SPECIFICATIONS

2.1 INSTALLATION AND GETTING STARTED (CONT..)

To connect theRs485 communication circuit as shown below. Connect point “A” of the RS232/RS485 serial communication converter with point "A" of the wireless gateway. Do the same way with points "B" and "-"

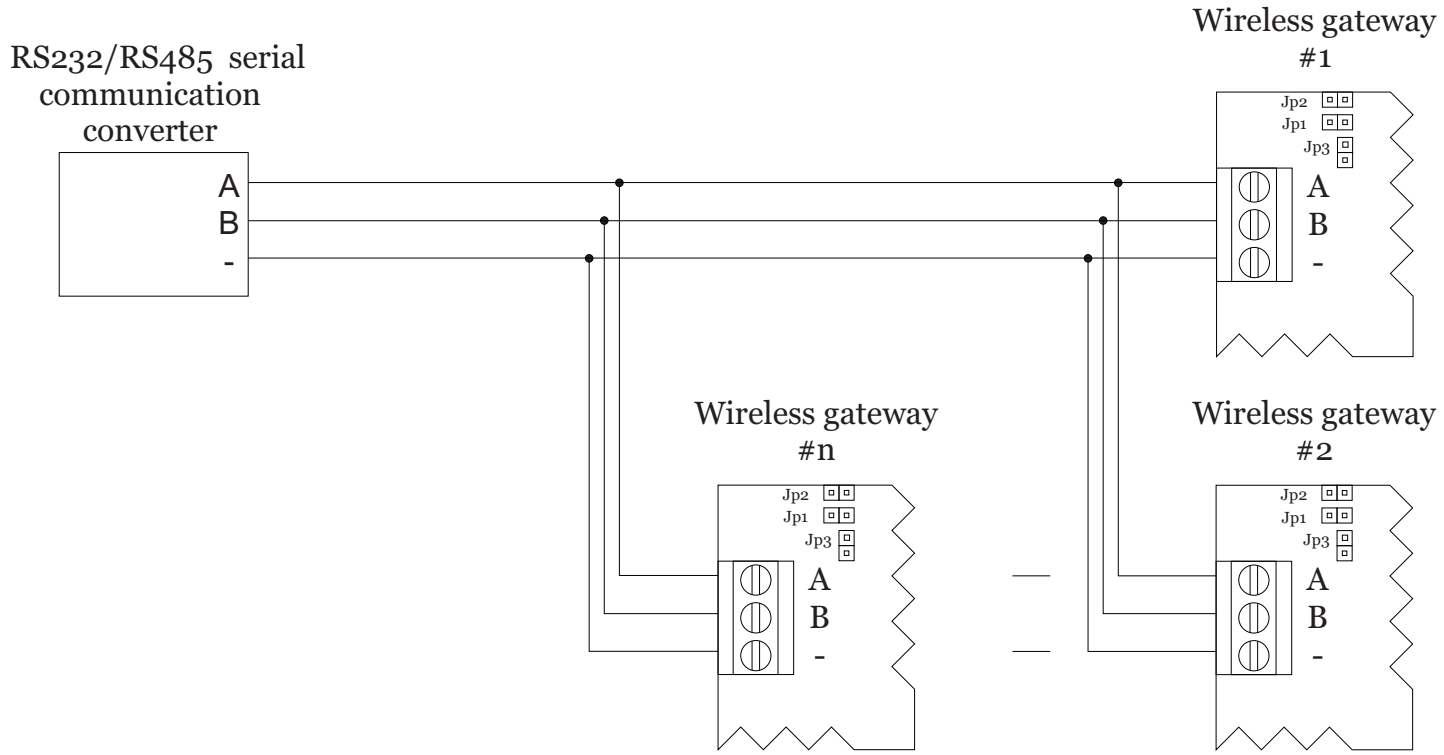
.

If the installation of the system requires the use of more than one wireless gateway, assemble the communication circuit in parallel.

For the wiring of the network it is to recommend to use a 18 awg cable.

On the control electronic circuit of the wireless gateways, there are three connexion points: JP1, Jp2 and Jp3. Connectors can be used to short-circuit the two contacts of these points of connection.

Never install a connector in Jp2 and Jp3. Only Jp1 on the wireless gateway furthest away from the RS232/RS485 serial communication converter must have a connector to short-circuit these contacts.



4. Hermetically close the wireless gateway case and connect the unit in the outlet. The access point RF will then start to create its RF network.

5. For the following installation procedure of the **GESTAL$_{FM}$**, , please refer to the software manual.

SECTION 4GETTING STARTED AND TECHNICAL SPECIFICATIONS

2.2 TECHNICAL SPECIFICATIONS

RATED ELECTRICAL CURRENT	25mA
ELECTRICAL REQUIREMENT	120v, 60Hz
UNIT DIMENSION	6” X 6” X 4” (L X l X H)
NET WEIGHT	1.7Kg
FUSE RATE F1, F2 ET F3	2A
ELECTRONIC ENCLOSURE	ABS, waterproof and dust proof
OPERATIONAL TEMPERATURE	0 to 40 Celsius degrees (32 to 104 Fahrenheit degrees)

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