

# ROTEM®

Control & Management

## Communicator



## User & Installation Manual

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# Take Control®

## **WARRANTY & LIMITATION OF LIABILITY**

1. ROTEM warrants that the product shall be free of defects in materials or workmanship and will conform to the technical specification for a period of 1 (one) year from the date of initial installation on site (the "warranty period").
2. Load cells are not covered by ROTEM's warranty.
3. ROTEM warrants that during said warranty period, any item/items or part/parts of equipment found defective with respect to materials or workmanship or which do not conform to the technical specification shall be repaired or replaced (at ROTEM's sole discretion), free of charge.
4. During the warranty period, in the event of an alleged defect, authorized resellers in relevant regions should be notified as soon as possible from the date of noticing the said defect, but no longer than thirty (30) days from such a discovery. The report shall include (1) a short description of the defects noticed (2) type of card / component and its matching serial number.
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1. ROTEM will not be responsible for any labor costs or expenses associated with replacement of defective items or other parts of the product or repair.
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ROTEM warns and alerts all users that the Product is inherently complex and may not be completely free of errors. ROTEM's products are designed and manufactured to provide reliable operation. Strict tests and quality control procedures are applied to every product. However, the possibility that something may fail beyond our control exists. Since these products are designed to operate climate control and other systems in confined livestock environments, where failure may cause severe damage, the user should provide adequate backup and alarm systems. These are to operate critical systems even in case of a ROTEM system failure. Neglecting to provide such a backup will be regarded as the user's willingness to accept the risk of loss, injury and financial damage.

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**Software Version: 2.16**  
**Document Version: 1.0**



## **ATTENTION!**

The COMMUNICATOR is designed to be the central communication center with the purpose of providing critical alarm warnings.

### **VITAL MAINTENANCE CHECKS REQUIRED ARE:**

1. Require daily (minimum weekly) alarm tests. **OPTIONS (Alarm Test)**
2. Monthly battery (minimum between flock) test.
  - a) Disconnect power to Communicator
  - b) Ensure Communicator announces alarms by voice and dial out.
  - c) Wait 1 hour, and confirm Communicator is still announcing alarm.
  - d) Restore power to Communicator.

# COMMUNICATOR

This manual is meant to be used by either any grower or its' authorized personnel.

## Description

ROTEM Communicator is a state-of-the-art alarm and communication center. The Communicator has a user friendly interface with an alfa-numeric keypad, 20 character X 4 line LCD and indicative LED.

## Main Features

- Supports several communication sources and can link to any / all ROTEM controllers simultaneously.
- Plugs in voice solution, supports incoming and outgoing phone calls in case of alarms and status reports. Voice messages can be edited according to personal preference.
- Plugs in analog modem can speed up to 56Kbit with V.92, USB, Data and Voice Functions.
- Plugs in cellular modem (GSM/GPRS) providing two-way wireless capabilities via GSM services
- Mobile originated and mobile terminated SMS messages.
- Pager Support
- 8 Digital Inputs
- 3 Dry Contact, Output Relays 5 Amp
- Battery Backup



## Table of Contents

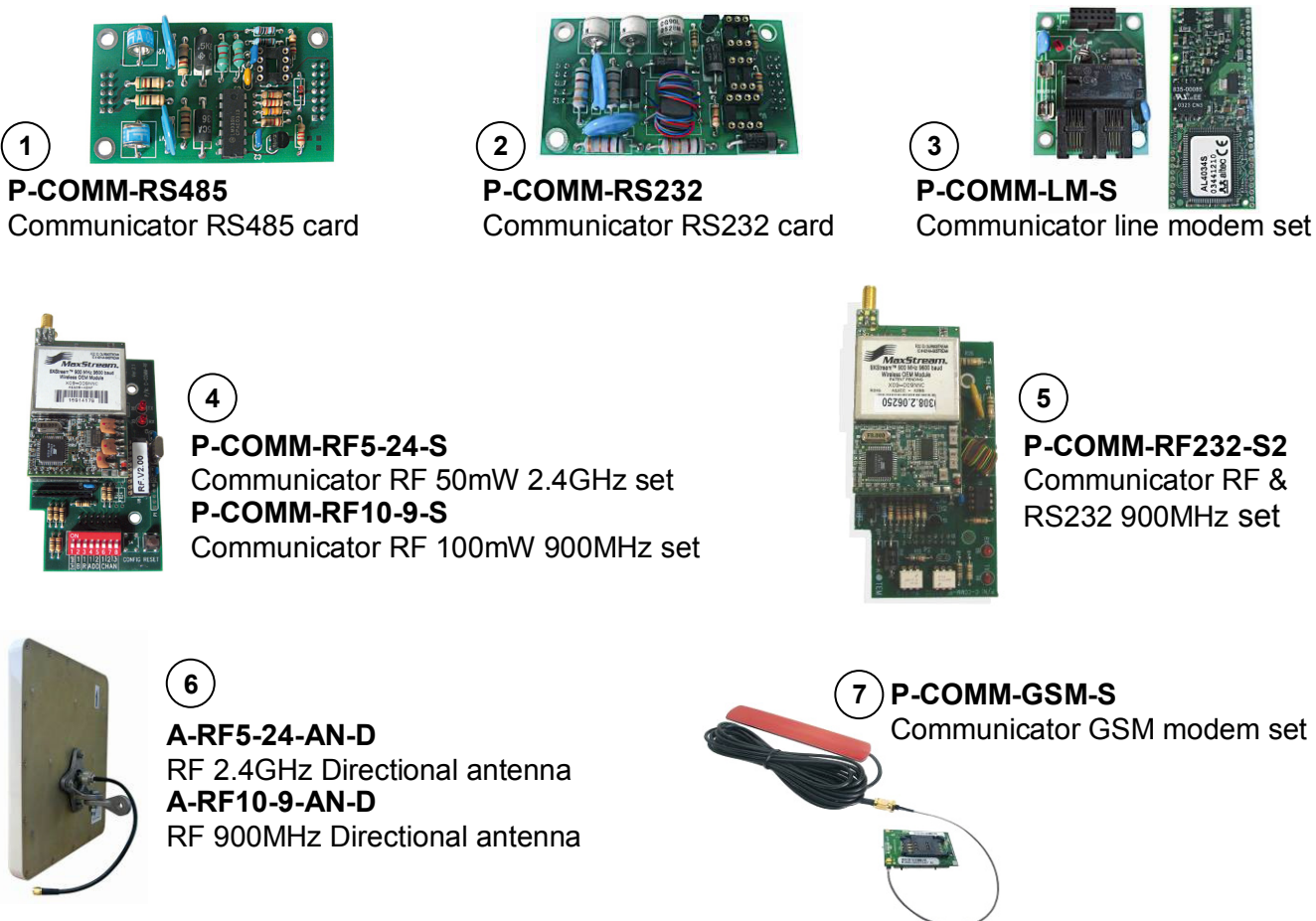
<b>What's in the Box?</b> .....	<b>1</b>
<b>ADDITIONAL PARTS UPON REQUEST:</b> .....	<b>1</b>
<b>User Interface</b> .....	<b>2</b>
<b>Front Panel</b> .....	<b>2</b>
<b>Hot Keys</b> .....	<b>4</b>
<b>Communicator Setup</b> .....	<b>5</b>
<b>Local Network</b> .....	<b>5</b>
1.1. MY FARM .....	5
1.2. CONTROLLER PORT .....	5
1.3. SERIAL PORT .....	6
1.4. TEST .....	7
1.5. NETWORK LIST .....	7
<b>Regional Setting</b> .....	<b>8</b>
<b>Security</b> .....	<b>8</b>
<b>Modem</b> .....	<b>9</b>
4.1. LINE MODEM .....	9
4.1.1. SETUP.....	9
4.1.2. <i>PAGER</i> .....	11
4.1.3. <i>DIAL OUT</i> .....	11
4.1.4. <i>PHONE LINE</i> .....	11
4.2. GSM MODEM.....	12
4.2.1. <i>SETUP</i> .....	12
4.2.2. <i>SIGNAL STRENGTH</i> .....	12
4.2.3. <i>SEND SMS - Test SMS service</i> .....	12
<b>Address Book</b> .....	<b>13</b>
5.1. CONTACT GROUP .....	13
5.2. OPTIONS .....	13
<b>Event Viewer</b> .....	<b>14</b>
6.1. APPLICATION .....	14
6.2. SECURITY .....	14
6.3. SYSTEM.....	14
<b>Alarm</b> .....	<b>15</b>
7.1. RESET .....	15
7.2. LOG.....	15
7.3. DISABLE ALARM .....	16
7.4. OPTIONS (Alarm Test).....	16
7.5. TEST (RELAY) .....	16
<b>Accessories</b> .....	<b>17</b>
8.1. DIGITAL INPUT .....	17
8.1.1. <i>SETUP</i> .....	17
8.1.2. <i>TEST</i> .....	17
8.2. RELAY.....	17
8.3. SAVE / RESTORE SETTINGS .....	18
8.3.1. <i>RESTORE</i> .....	18
8.3.2. <i>SAVE</i> .....	18

<b>System .....</b>	<b>19</b>
9.1. HARDWARE PROFILE .....	19
9.2. VOICE .....	19
9.3. POWER / BATTERY .....	20
9.3.1. BATTERY TEST .....	20
9.3.2. OPTIONS .....	20
9.4. TEST .....	20
9.4.1. RS232/RS485 TEST .....	20
9.4.2. RF TEST .....	21
9.4.3. PAGER TEST .....	21
9.4.4. DIAL OUT TEST .....	21
9.4.5. PHONE LINE TEST .....	22
9.4.6. GSM SIGNAL TEST .....	22
9.4.7. SMS TEST .....	22
9.4.8. ALARM RELAY TEST .....	22
9.4.9. DIGITAL INPUT TEST .....	23
9.4.10. RELAYS TEST .....	23
9.4.11. EEPROM TEST .....	23
9.4.12. VOICE TEST .....	23
9.4.13. BATTERY TEST .....	24
9.4.14. KEYBOARD TEST .....	24
<b>Send Text Message Commands and Status Requests .....</b>	<b>25</b>
<b>Voice Dial Out .....</b>	<b>26</b>
<b>Voice Dial In .....</b>	<b>27</b>
<b>Installation .....</b>	<b>28</b>
<b>Network Connection .....</b>	<b>32</b>
<b>RF Network Connection .....</b>	<b>36</b>
Option A with Platinum Plus RF (RCLP-RF) .....	36
Option B with Platinum Plus RF Remote .....	37
<b>Routing Considerations .....</b>	<b>38</b>
<b>Troubleshooting .....</b>	<b>39</b>
Hardware .....	39
Communication .....	40
Cellular Modem .....	41
RF Communication .....	41
Voice Card .....	42
Alarm .....	43
Line Modem .....	43
<b>RF .....</b>	<b>44</b>
<b>Alarm Code Numbers .....</b>	<b>48</b>
<b>USB Driver Installation .....</b>	<b>52</b>
<b>Locate Port Number of Rotem USB Device .....</b>	<b>54</b>
<b>Ordering Information .....</b>	<b>56</b>
<b>Serial DB9 cable for PC .....</b>	<b>58</b>
<b>USB cable for PC .....</b>	<b>58</b>
<b>SPECIFICATIONS .....</b>	<b>59</b>

## What's in the Box?

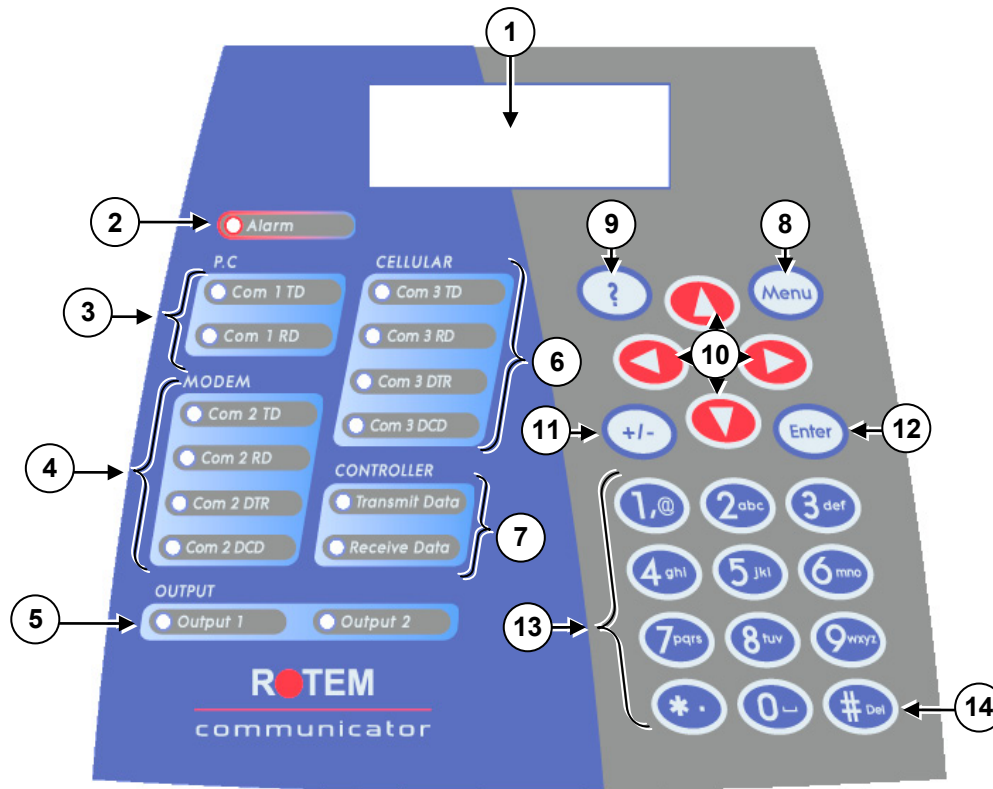


## ADDITIONAL PARTS UPON REQUEST:



## User Interface

### FRONT PANEL



### Available Keys

- ① LCD screen.
- ② Alarm LED – Indicates activation of alarms. The LED turns off after performing a 'Reset.' When the LED turns off, the controller shows to be in a Normal state, and all alarms are in reset mode in all houses.
- ③ P.C. LEDs – When lights are on:
  - Com 1 TD: indicates communication in PC TD.
  - Com 1 RD: indicating communication in PC RD.
- ④ Modem LEDs – When lights are on:
  - Com 2 TD: indicates communication in PC TD.
  - Com 2 RD: indicates communication in PC RD.
  - Com 2 DTR: indicating the modem communication is operating well.
  - Com 2 DCD: indicates communication in DCD.
- ⑤ Output LEDs – (This version does not support this feature)
- ⑥ Cellular LEDs – When lights turn on:
  - Com 3 TD: indicates communication existence in Cellular TD.
  - Com 3 RD: indicates communication existence in Cellular RD.
  - Com 3 DTR: indicates communication existence in Cellular DTR.
  - Com 3 DCD: indicates communication existence in Cellular DCD.



- ⑦ Controller LEDs – When lights turn on:
- Transmit Data: indicates controller is currently transmitting data.
  - Receive Data: indicates controller is currently receiving data.
- 
- ⑧ The 'MENU' key displays the main menu from the standard screen, and is used as an "Escape" key to exit menus you are currently viewing.
- 
- ⑨ The '?' key serves as a HELP key. Press the help key at any time to receive a short helpful explanation concerning the screen you are currently viewing.
- 
- ⑩ Arrow keys are used for navigating to the desired selection. In some cases they can also be used to change values.
- 
- ⑪ Use the '+/-' key to toggle choices, change values between positive and negative numbers, and make check-mark choices when checking or selecting options are needed.
- 
- ⑫ 'ENTER' key serves as a selective confirmation key.
- 
- ⑬ Use the number keys to insert numbers or text (for example: Address book enables to select both numeric and alphanumeric values). Note that the number '1' button can serve as a comma when needed.  
The '\*' key can be used for inserting decimals where necessary.
- 
- ⑭ The '#' key erases typing mistakes. It also enables the '**COLD START**' function.  
In order to perform COLD START, hold down the '#' key when powering on. (See **Table 1** for further explanation).
- 

## Abbreviations

Abbreviation	Meaning Description
RD	Receive Data
TD	Transmit Data
DTR	Data Terminal Ready
DCD	Data Carrier Detect
LED	Light Emitting Diode – an electronic device used to indicate the status of various functions on the front panel.

## HOT KEYS

The Communicator incorporates keys enable quick access information of different varieties (see **Table 1**).

ACTION	HOT KEY	EXPLANATION
<b>Local Network</b>	Press the ' <b>0</b> ' Key	In this window all the controllers that are connected to the system are displayed. (See <b>Fig. 2</b> )
<b>Password initialized System Lock</b>	Press the ' <b>9</b> ' key otherwise system will automatically lock after five minutes.	This security hot key will instantly lock the system based on the initialized password (refer to <b>Initial Setup</b> in the <b>Security</b> section).
<b>Cold Start</b>	<ol style="list-style-type: none"> <li>1. Disconnect the communicator by switching the battery off.</li> <li>2. Turn power on while holding the '#' key until the Cold Start screen appears.</li> <li>3. Select '<b>YES</b>' to restore to factory default settings. Select '<b>NO</b>' for usual power-up (settings and data will remain untouched).</li> </ol>	This procedure resets the communicator to original factory settings. The history and all control settings including update drivers for all devices will be erased. This should be performed when reinstalling or replacing software version, or if instructed by a ROTEM technician.
<b>Version</b>	Press the '?' key	Displays software and hardware version numbers.

Table 1: Hot keys summary

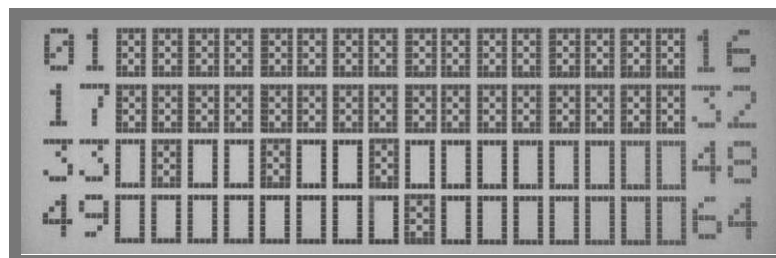


Fig. 1: Example of Hot Key 0

■ - Represents a controller is recognized

□ - No controller is recognized

- The letter '**F**' indicates that communication to that house has been lost. The '**F**' continues to appear even after the reset operation.





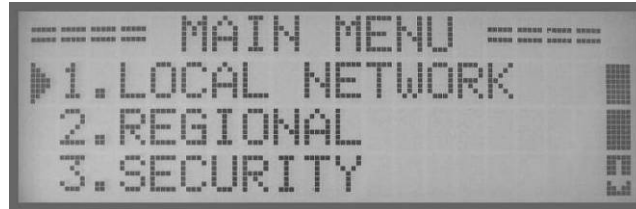
## Communicator Setup

### LOCAL NETWORK

Configure the **LOCAL NETWORK** as follows:

PRESS

*Menu*



PRESS

*Enter*

to view the **LOCAL NETWORK** menu.

- 1.1. **MY FARM** - Enter in the name you would like to give your farm/site using the alphanumeric keypad.

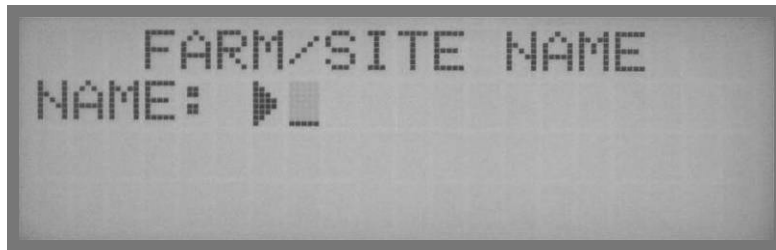


Fig. 2: MY FARM screenshot

- 1.2. **CONTROLLER PORT** – Define your basic applications and communication settings for the Communicator. Wrong definitions can result in alarms for missing controllers and communication from unidentified controllers.

- Set BAUD RATE by using *+/-*

Press *Enter* to finalize selection.

**IMPORTANT:** All controllers must be set to the same Baud Rate otherwise communication will not work properly. It is recommended to set the Baud Rate to 9600bps.

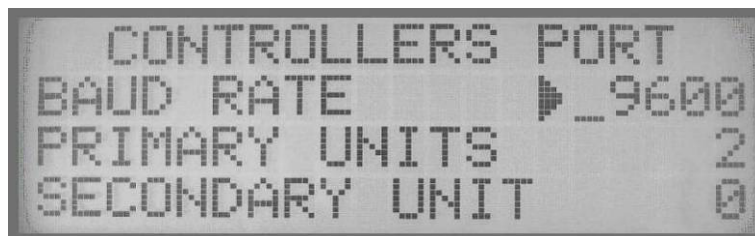


Fig. 3: CONTROLLER PORT menu screenshot

- Insert the number of master controllers in the PRIMARY UNITS line.
- Insert the number of slave controllers (such as: PigGuard) in the SECONDARY UNIT line (optional).
- Press *Menu* to exit, an automatic reset will occur in order to save changes.

\*Continue scrolling down to view the RF Configuration.

## ==RF CONFIG==

Configure the Communicator RF&RS232 set (P-COMM-RF232-S2).



Fig. 4: RF CONFIG screenshot

- **Channel (DIP 6, 7, 8):** Set the module's hopping channel number. A channel is one of three layers of addressing available to the XStream radio modem. In order for modules to communicate with each other, they must have the same channel number since each network uses a different hopping sequence. Different channels should be used to prevent modules from listening to transmissions from one another in the same network. Summary of all possible Jumper modes is listed in the table below.
- **Address (DIP 4, 5):** for future use. Note that it must be in OFF position.



### 1.3. SERIAL PORT

- Connects Communicator to PC software. Baud Rate must be identical to the one set on the PC communication software in order to establish communication. Note that this is also used for USB.



#### 1.4. TEST – Tests communication between Communicator and each controller individually.

- **RS232/RS485 TEST**



Fig. 5: RS232/RS485 TEST screenshot

- Insert the controller's number and press **Enter** to START and STOP the testing procedure.  
Good communication is signified by the Tx (transmitting data) and Rx (receiving data) boxes flashing alternately

- **RF TEST**

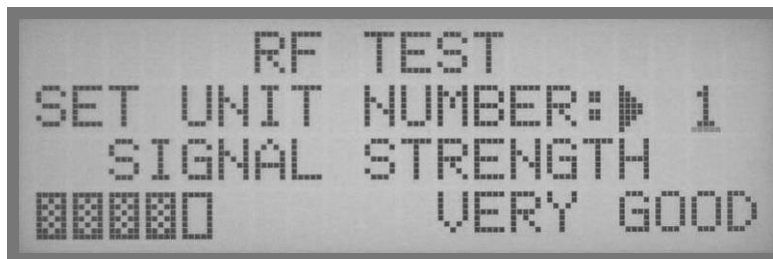


Fig. 6: RF TEST screenshot

- Set the controller's number in your network and press **Enter**
- Signal strength received can be one of the six following options: 'No Connection', 'Very Low', 'Low', 'Good', 'Very Good' and 'Excellent'.

**NOTE:** Decent communication can be achieved with even a low signal.

#### 1.5. NETWORK LIST – Detects number of controllers connected to Communicator.

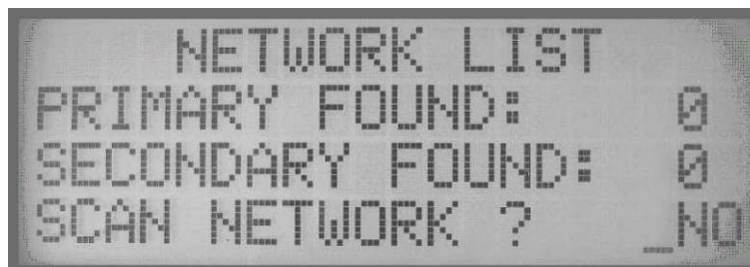


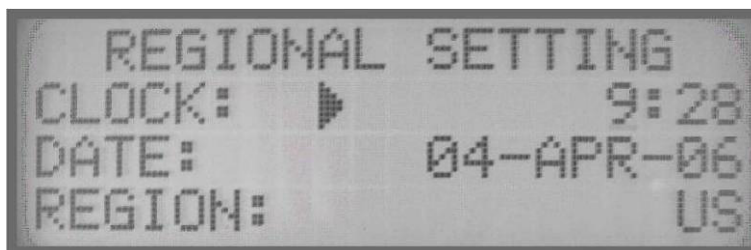
Fig. 7: NETWORK LIST screenshot

- Use **+/-** to change from 'NO' to 'YES' and press **Enter** to

scan the network for changes. The system will restart and rescan automatically. Make sure all controllers are found in the list.

## REGIONAL SETTING

The purpose of this setting is to adjust the Communicator to the local phone system's time and date.

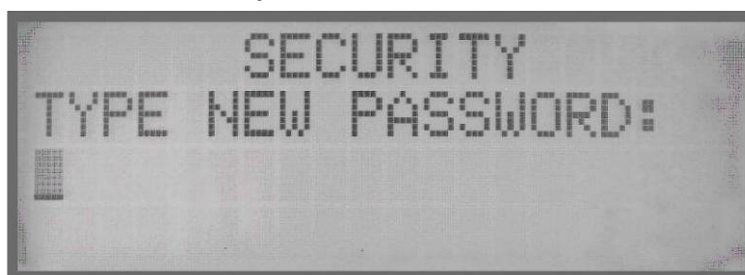


**Fig. 8: Regional Setting menu screenshot**

- Set time, date and region for the Communicator.

## SECURITY

Use the security feature to protect your Communicator.



**Fig. 9: Security option screenshot**

- Type password between 1-4 characters using the number keys.
- Retype for conformation and verify by selecting 'YES'. The system locks down automatically after 5 minutes.
- In order to perform an instant lockdown press key number '9' (from the main screen).
- In order to change or disable the security feature, type the password to unlock the system.
- Go to the security menu and type a new password. Verification of the new password is required.
- If you wish to disable the security feature leave the password empty and press the 'ENTER' key twice.



## MODEM

**RECOMMENDATION:** If a modem card has been purchased, ROTEM recommends purchasing a GSM card in order to ensure complete coverage in case there is a phone line failure. This way the alarm notification can be sent from the GSM modem.

### 4.1. LINE MODEM

#### 4.1.1. SETUP

- **Auto Answer:** Number of rings before auto answering. For example, if number '4' is set, the Communicator will answer a call after 4 rings.
- **Line Test:** Select 'YES' to monitor the phone line and activate an alarm in case of a disconnection.
- **Dial Delay:** When dialing a pager service, some services require additional tone menu browsing. Use this feature to set a delay between the phone number and the tone browsing. Each “,” will represent the number of seconds in delay between the phone number and the next browsing number.
- **Input Gain:** For factory use only. If your communicator is unable to connect your voice dial in phone line, consult your local dealer regarding this feature.
- **Voice Dial In:** This option allows the user to call in at anytime and receive information from the communicator regarding alarms. In order to receive the information in voice mode only, unlike data, follow these steps:
  - Call the controller. Wait 'X' rings ('X' presents the number of rings less than the parameter 'Auto Answer') and hang up.

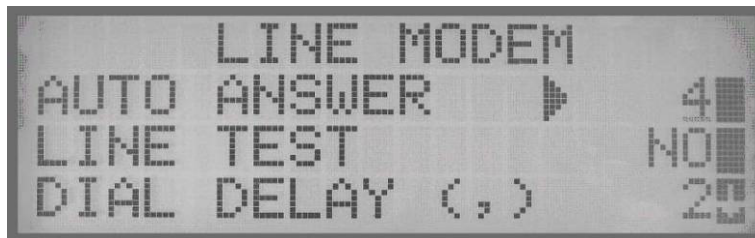


Fig. 10: Line Modem – SETUP screenshot

- Wait 5 seconds.
- Call again and follow the instructions given by the controller.

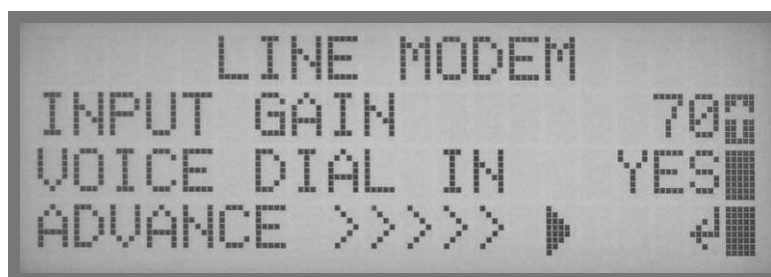


Fig. 11: Line Modem – SETUP screenshot

**NOTE:** Do not wait more than 1 minute between the two calls.

- If the '**Auto Answer**' parameter is set to zero (0), the Communicator will answer in voice mode.
- If the '**Auto Answer**' parameter is zero and the '**Voice Dial In**' parameter is set to '**Yes**', the controller answers in voice mode every time.
- **Advanced:** This screen is meant to be used in order to increase transfer rate between the communicator and a remote modem. The communicator can compress data and send it faster. Their value can be changed by using the '+/-' key.



Fig. 12: Line Modem - ADVANCED setup screenshot

The following features are available:

- **Modulation:** Auto or V34 transmitting the point during connect negotiation at which the modem has determined which modulation and rate will be used, i.e. before any error. Note that V34 option can solve the problem of working with old equipment computers.
- **Compression:** Enables or disables data compression performed by the modem, can be called hardware compression. It reduces the amount of time required to transfer data. Make sure the modem you are connected to can read and decompress the received data.
- **Data Flow:** In order to control the flow of data between the modem and the communicator.



#### 4.1.2. PAGER

- **Pager Setup** - ROTEM provides alarm codes when using the pager system (see **ALARM CODES** section). First, a code number is sent followed by its matching alarm.

There are two options available for PAGER SETUP: **Basic** or **Enhanced**.

If , for example, two alarms occur – the basic mode will send two different messages whereas the enhanced mode will send both alarms in one message.

- **BASIC**: Sends a page in the following format: '\_ \_ \_ # \_ \_ \_ #'. The first 3 digits stand for the house number and the last 3 digits stand for the message number.
- **ENHANCED**: This option enables to send full messages including their attributes all in one. It sends a page with the following format: ' \_ \_ \_ # \_ \_ \_ # \_ \_ \_ #', for example, 'House#Alarm#Attribute#Alarm#'.
- **Test (send page)** - Use this option to calibrate your pager connection. There is a delay between the service provider's answer and the time the message has been sent to the pager.

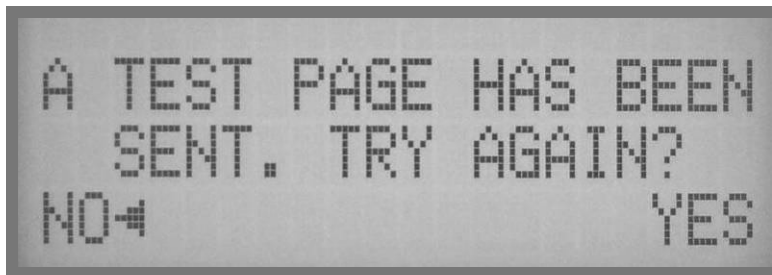


Fig. 13: Line Modem – PAGER TEST screenshot

**NOTE:** Test the connection and set the '**Dial Delay**' option from the **LINE MODEM - SETUP** menu in order to change the number of seconds before sending the message.

#### 4.1.3. DIAL OUT

- Verify the proper connection of the line to the communicator using **Dial Out**. Dial your number and answer the phone. You will hear test text over the phone and the screen will display the message 'OK'.

#### 4.1.4. PHONE LINE

- View the phone line voltage.

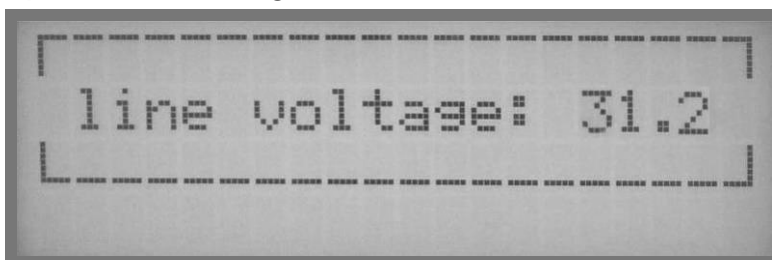


Fig. 14: Line Modem – PHONE LINE screenshot



## 4.2. GSM MODEM

### 4.2.1. SETUP

- Set command updates the SMSC address, through which mobile originated SMS' are transmitted. The service center address must be present to complete delivery of SMS.
- Most SIMs are delivered from the service provider with a service center already programmed into the SIM.
- A "+" should be entered in front of the SMS address, but is not required by all operators.

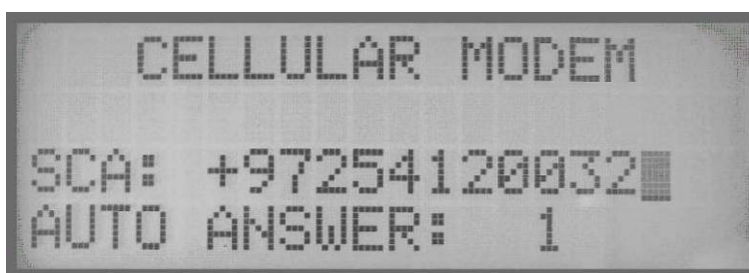


Fig. 15: Cellular Modem screenshot

### 4.2.2. SIGNAL STRENGTH

- Verify the signal is strong enough to send SMS.
- Verify both the cellular modem and the cellular provider are recognized.

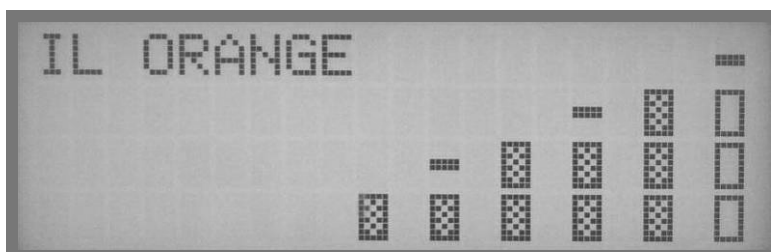


Fig. 16: Signal Strength screenshot

**NOTE:** If signal strength is not sufficient, refer to **RF** section for troubleshooting.

### 4.2.3. SEND SMS - Test SMS service

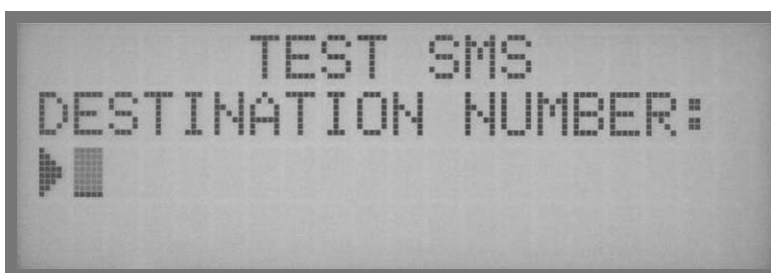


Fig. 17: Send SMS Test screenshot

- Insert a cellular phone number and press 'ENTER'.
- The Communicator will send the following test SMS message:  
"The communicator is ready to send you alerts using SMS".



## ADDRESS BOOK

### 5.1. CONTACT GROUP

- The **CONTACT GROUP** is a list containing 8 addresses for message delivery.
- CONTACT-1 is the highest priority address while CONTACT-8 is the lowest. The communicator sends a message to 'Contact 1'. If a reset was sent from any Contact the dial sequence will stop. Otherwise, it will keep rotating between the contacts until reset.
- Type in the name (note that the Number keys turn to alphanumeric) and phone number (note that the Number keys turn to numeric ones).
- Use the '+/-' key to change communication method from the '**USE**' list. Available communication methods:
  - **Idle**: Contact neutralized for temporary service rest (address remains)
  - **Voice**: Voice alert
  - **SMS**: SMS alert
  - **Voice + SMS**: Both Voice and SMS Alert
  - **Pager**: Pager alert

In order to set the changes press '**ENTER**' and select 'YES' for "**SAVE SETTINGS**".

### 5.2. OPTIONS

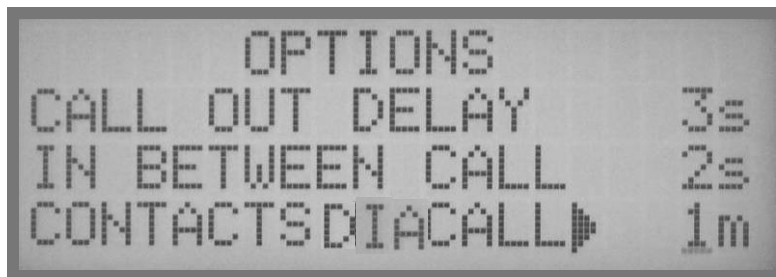


Fig. 18: Address Book – OPTIONS screenshot

- **Call Out Delay**: The time between activation of an alarm and the beginning of the dialout sequence.
- **In Between Calls**: The delay between each contact in the dialout sequence. This gives the required time to reply and acknowledge the alarm.
- **Contacts Redial**: The time between one dialout sequence to the other, after the alarm has been acknowledged but not reset.

## EVENT VIEWER

View events regarding the software, hardware and general system events.

### 6.1. APPLICATION

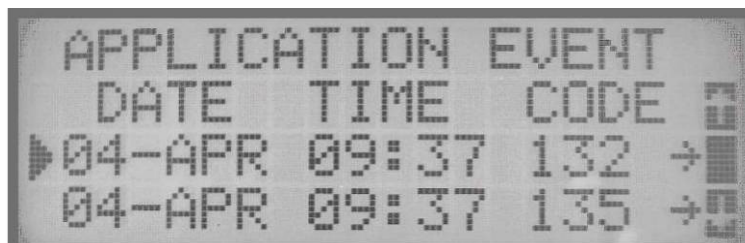


Fig. 19: Application Event screenshot

- The **APPLICATION** (History) view shows the date, time and code of the event related to application events.

Code	Event Description
0	Unresolved Event
1	Power Off
2	Power On
3	Cold Start
128	Call Answered
129	No Carrier
130	No Dial Tone
131	Busy Tone
132	No Answer
133	Call Error
134	Calling
135	Disconnected Call

### 6.2. SECURITY

*(This version does not support this feature)*

### 6.3. SYSTEM

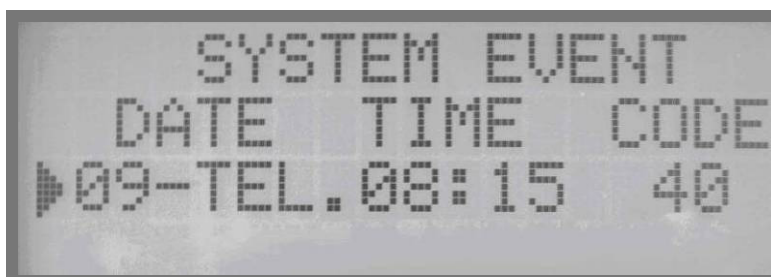


Fig. 20: System Event screenshot

- The **SYSTEM** (History) view shows the date, time and code of event related to system events.

**NOTE:** Used for error managing purposes.





## ALARM

Configure alarm options, reset and test the alarm system.

### 7.1. RESET

- Using the '+/-' key select the unit you would like alarms to be reset.  
**NOTE:** To reset Communicator internal alarms select zero (0).

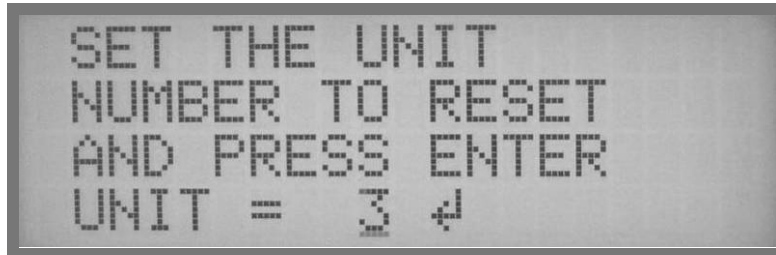


Fig. 21: Alarm – RESET screenshot

- Press 'ENTER' to reset all active alarms for that unit.

**IMPORTANT:** When an alarm has been reset, the system goes into delay mode and the alarm will appear again only at 12:00 AM on the next day.

### 7.2. LOG

- View the history of alarms. Select how you want to sort the alarm list by using the '+/-' key. Sort by: House (H), Date (D), or Code (C).

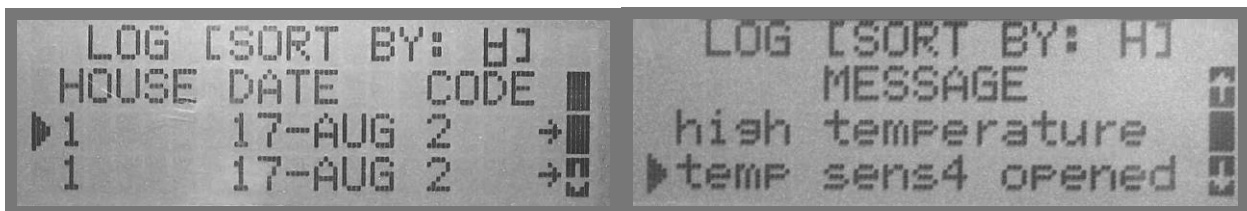


Fig. 22: Alarm – LOG screenshot

- Use the arrow keys to scroll through the alarm history list and sideways to view the alarm messages as shown below.

### 7.3. DISABLE ALARM

This feature's purpose is to display and enable the temporarily disabled alarm notifications.

**NOTE:** Alarms are disabled until 12:00pm the following day.

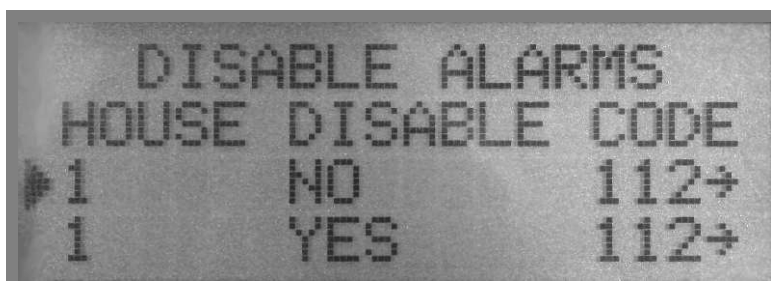


Fig. 23: DISABLE ALARMS screenshot

- Use **right** and **left arrow** keys to navigate to alarm messages/codes.
- To enable alarm use the '+'/'-' key and press **'ENTER'** to move onto next alarm.
- Press **'MENU'** to exit and select **YES** to accept settings.

**NOTE:** If 'NO' is selected for disable, next time DISABLED ALARMS menu is entered, alarm is no longer listed.

### 7.4. OPTIONS (Alarm Test)

- **Delay (sec):** Delay in seconds before alerting.
- **Reminder (min):** The time in minutes before re-alerting an active problem after reset, if the problem has not been solved.
- **Test:**
  - **Frequency:** Alarm Test can be performed on a weekly or daily basis.

**WARNING! DISABLING ALARM TEST IS HIGHLY NOT RECOMMENDED!**  
**FREQUENCY SHOULD BE SET TO DAILY OR WEEKLY!**

- **At:** Set time of day to perform alarm test
- **Day:** Select the day of the week to perform alarm test.

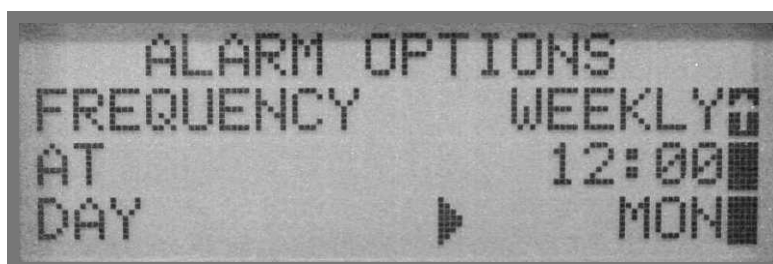


Fig. 24: ALARM TEST screenshot

### 7.5. TEST (RELAY)

*This version does not support this feature*



## ACCESSORIES

### 8.1. DIGITAL INPUT

#### 8.1.1. SETUP

The Communicator supports an 8 dry contact digital input card that can be programmed as a normally open / close dry contact input. These inputs can be connected to a wide variety of sensors such as generator operation, magnetic door or window, thermostat, etc.

- The '[N]' column allows two possibilities:
  - **0** – Represents the open contact (Normally Open). If there is a change from the usual state (closed state), an alarm occurs.
  - **1** – Represents closed contact (Normally Closed). If there is a change from the usual state (opened state), an alarm occurs.



Fig. 25: DIGITAL INPUT – SETUP screenshot

The above figure serves as an example of a digital input program. The programmed line No.1 is set as normally closed for the house door. The message for this program is “door opened”. If the door opens, the dry contact is disconnected and changes from 1 to 0. This change triggers the alarm and the message “door opened” is sent to all addresses programmed in Alarm/Options/Addresses.

#### 8.1.2. TEST

This screen enables testing of digital inputs plugged into the system. EMPTY squares represent open inputs and FILLED squares represent closed ones. If you connect a device to one of the inputs and it remains empty, it means a problem exists.

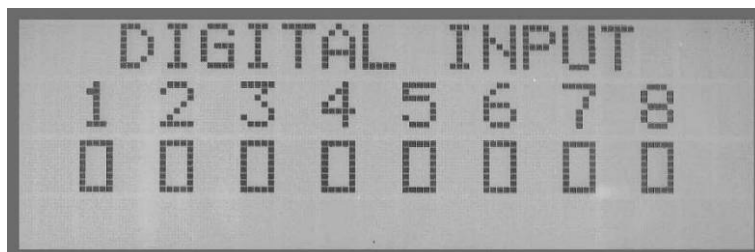


Fig. 26: DIGITAL INPUT – TEST screenshot

### 8.2. RELAY

*This version does not support this feature.*

## 8.3. SAVE / RESTORE SETTINGS

### 8.3.1. RESTORE

This feature can help restore previous software settings according to a specific restore point. If restore point was not created, the Communicator will inform you that there is no restore point.

- Use the arrow keys to select **'YES'** and press **'ENTER'**.



Fig. 27: MEMORY RESTORE screenshot

### 8.3.2. SAVE

- Use the arrow keys to select **'YES'** and press **'ENTER'** to create a new restore point.



Fig. 28: SAVE screenshot



## SYSTEM

### 9.1. HARDWARE PROFILE

The **HARDWARE PROFILE** list displays verification of hardware recognized by the Communicator. The system displays an -OK- for installed devices and -N/A- for not available or not recognized hardware.



Fig. 29: HARDWARE PROFILE screenshot

**NOTE:** If hardware is installed but not recognized by the system, refer to the **TROUBLESHOOTING** section for further assistance.

### 9.2. VOICE

- Adjust the Communicator voice settings.
  - **Volume:** Use the left/right arrow keys to lower/amplify the volume.
  - **Speed:** Use the left/right arrow keys to adjust the voice message speed.
  - **Test:** Press '**ENTER**' to hear a test voice message.

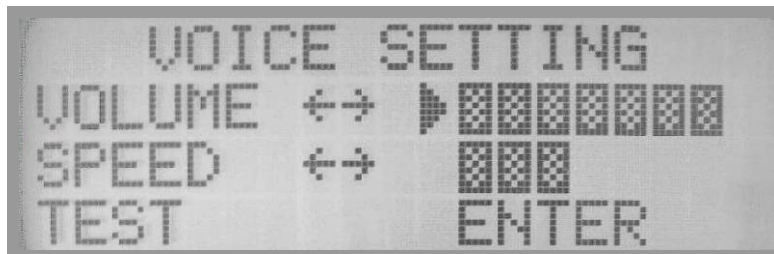


Fig. 30: VOICE SETTING screenshot

**NOTE:** The speed and volume cannot be adjusted during the test.



## 9.3. POWER / BATTERY

### 9.3.1. BATTERY TEST

- View the battery status by pressing '**ENTER**'. The charger starts working automatically if the battery is insufficient.

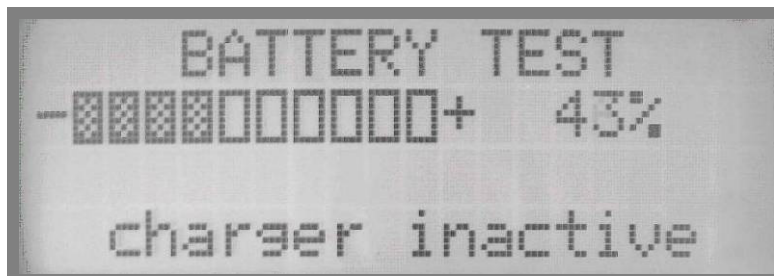


Fig. 31: BATTERY TEST screenshot

### 9.3.2. OPTIONS

- Enables user to set an alarm delay time in seconds for power failure notification. This alarm does not reset without acknowledgment.

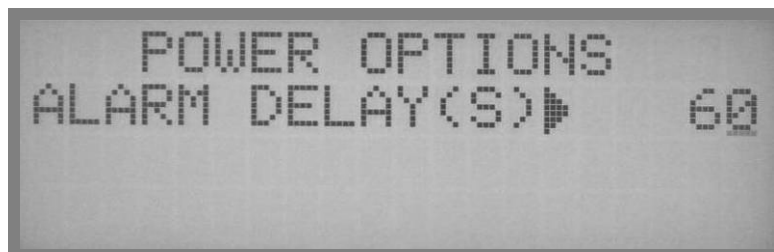


Fig. 32: POWER OPTIONS screenshot

## 9.4. TEST

The **SYSTEM – TEST** menu consolidates testing from all menus.

### 9.4.1. RS232/RS485 TEST

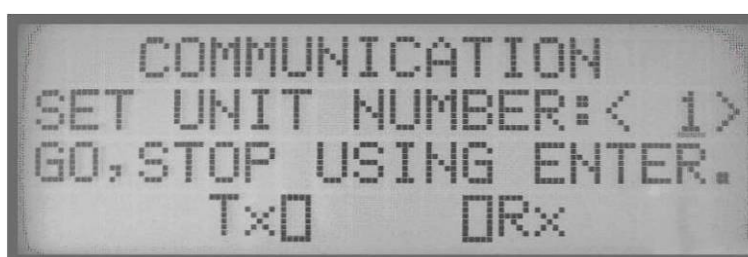


Fig. 33: SYSTEM – RS232/RS485 TEST screenshot

- Insert the controller's number and press '**ENTER**' to START and STOP the testing procedure.  
Good communication is signified by the Tx (transmitting data) and Rx (receiving data) boxes flashing alternately



#### 9.4.2. RF TEST

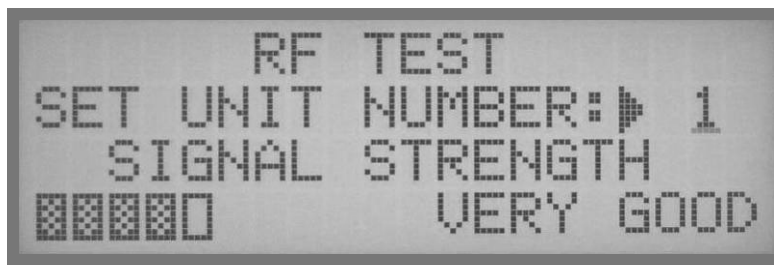


Fig. 34: SYSTEM – RF TEST screenshot

- Set the controller's number in your network and press '**ENTER**'.
- Signal strength received can be one of the six following options: 'No Connection', 'Very Low', 'Low', 'Good', 'Very Good' and 'Excellent'.

**NOTE:** Decent communication can be achieved with even a low signal.

#### 9.4.3. PAGER TEST

- Use this option to calibrate your pager connection. There is a delay between the service provider's answer and the time the message has been sent to the pager.

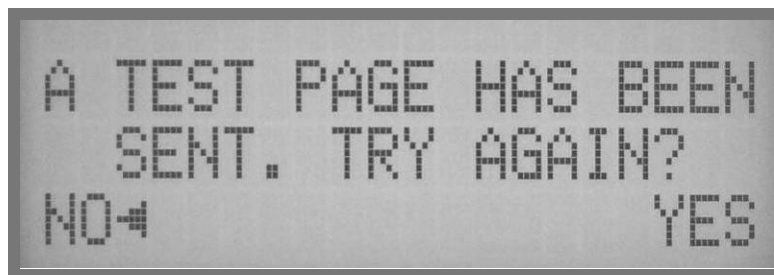


Fig. 35: SYSTEM – PAGER TEST screenshot

**NOTE:** Test the connection and set the '**Dial Delay**' option from the **LINE MODEM - SETUP** menu in order to change the number of seconds before sending the message.

#### 9.4.4. DIAL OUT TEST

- Verify the proper connection of the line to the communicator using **Dial Out**. Dial your number and answer the phone. Test text over the phone is heard and the screen will display the message 'OK'.

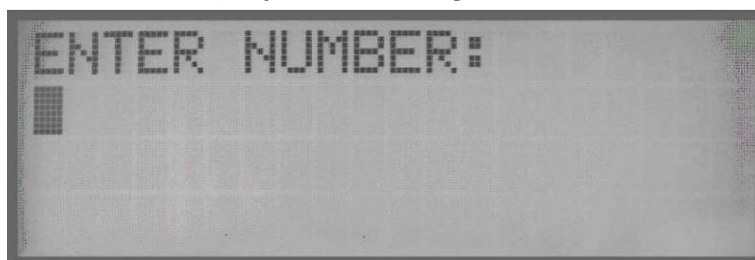


Fig. 36: SYSTEM – DIAL OUT TEST screenshot

#### 9.4.5. PHONE LINE TEST

- View the phone line voltage.

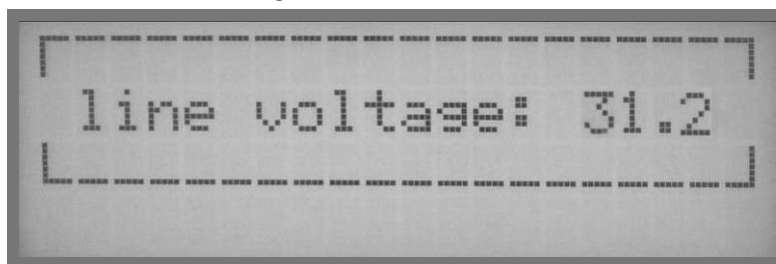


Fig. 37: SYSTEM – PHONE LINE TEST screenshot

#### 9.4.6. GSM SIGNAL TEST

- Verify the signal is strong enough to send SMS.
- Verify both the cellular modem and the cellular provider are recognized.

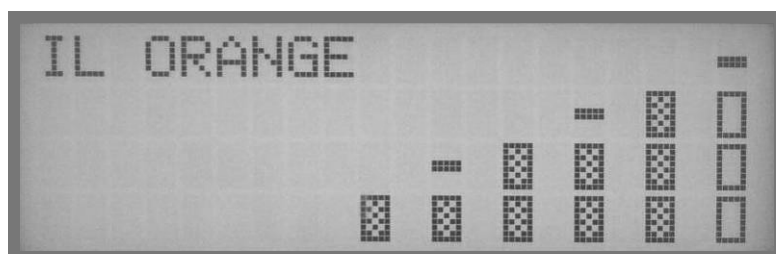


Fig. 38: SYSTEM – GSM SIGNAL TEST screenshot

**NOTE:** If signal strength is not sufficient, refer **RF** section for troubleshooting.

#### 9.4.7. SMS TEST

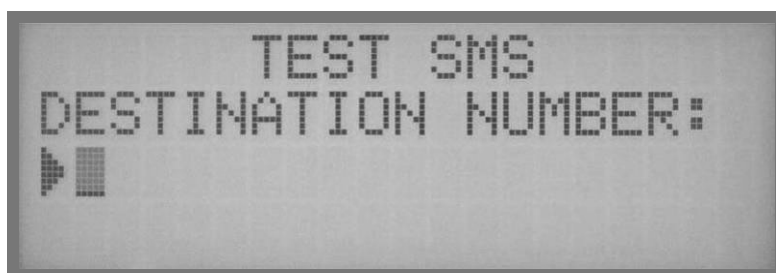


Fig. 39: SYSTEM – SMS TEST screenshot

- Insert a cellular phone number and press 'ENTER'.
- The Communicator will send the following test SMS message:  
"The communicator is ready to send you alerts using SMS".

#### 9.4.8. ALARM RELAY TEST

*This version does not support this feature.*





#### 9.4.9. DIGITAL INPUT TEST

Tests digital inputs plugged into the system. EMPTY squares represent open inputs and FILLED squares represent closed ones. If you connect a device to one of the inputs and it remains empty, it means a problem exists. (Refer to Troubleshooting)

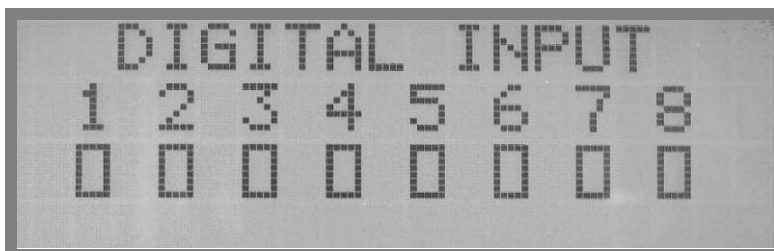


Fig. 40: SYSTEM – DIGITAL INPUT TEST screenshot

#### 9.4.10. RELAYS TEST

*This version does not support this feature.*

#### 9.4.11. EEPROM TEST

- Tests that the EEPROM operates properly. The EEPROM is a non-erasable memory device that saves all settings for Communicator.

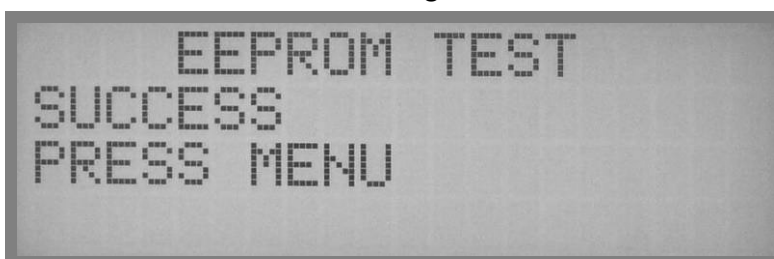


Fig. 41: SYSTEM – EEPROM TEST screenshot

#### 9.4.12. VOICE TEST

- Adjust the Communicator voice settings.
  - **Volume:** Use the left/right arrow keys to lower/amplify the volume.
  - **Speed:** Use the left/right arrow keys to adjust the voice message speed.
  - **Test:** Press 'ENTER' to hear a test voice message.

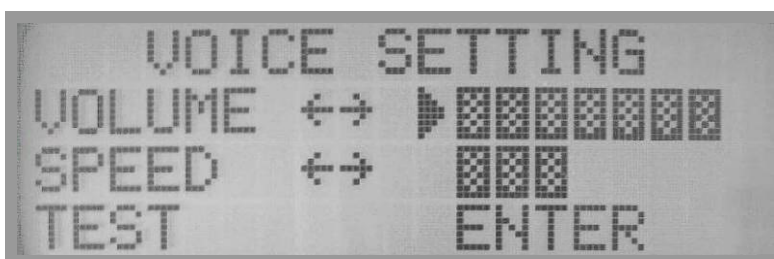


Fig. 42: SYSTEM – VOICE TEST screenshot

**NOTE:** The speed and volume cannot be adjusted during the test.

#### 9.4.13. BATTERY TEST

- View the battery status by pressing '**ENTER**'. The charger starts working automatically if the battery is insufficient.

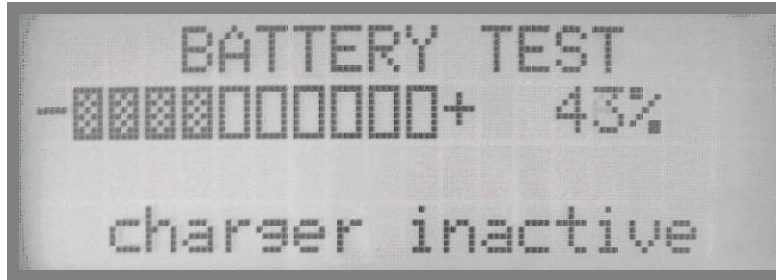


Fig. 43: SYSTEM – BATTERY TEST screenshot

#### 9.4.14. KEYBOARD TEST

- Test the keys on the front panel match the keys displayed on the screen.

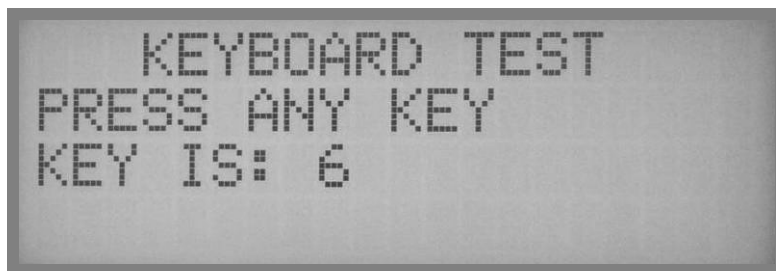


Fig. 44: SYSTEM – KEYBOARD TEST screenshot



## Send Text Message Commands and Status Requests

It is possible to send an SMS from a mobile phone to the Communicator device. It is done by using the following SMS message formats:

- **Siren Reset**

- If siren reset is requested, the following SMS message should be sent:

**!RX** > 'Send'

**R** = Reset

**X** = Represents house number (can be any positive number from 1-64)

**Send** – End the SMS message by pressing the '**Send**' key.

- To reset sirens for several houses use the following format:

**!RX#X#X** > 'Send'

# = sign separates between every house number.

'Send' – end the SMS message by clicking on 'Send' key.

- If all houses need siren resets use the following format:

**!RALL** > 'Send'

**ALL** – can be typed both in capital letters or small letters.

**Send** – End the SMS message by pressing the '**Send**' key.

- **Alarm Reset**

- If reset to all the alarms is desired, following SMS message should be sent:

**!C** > 'Send'

**C** = Communicator.

**Send** – End the SMS message by pressing the '**Send**' key.

- **Messages Acknowledgement**

For SMS message acknowledgement, the following SMS message should be sent (**NOTE: This selection is optional**):

- Request respond message for every sent SMS:

**!AON** > 'Send'

**A** = Acknowledgement.

**Send** – End the SMS message by pressing the '**Send**' key.

- Cancel respond message for every sent SMS:

**!AOFF** > 'Send'

**A** = Acknowledgement.

**Send** – End the SMS message by pressing the '**Send**' key.

## Voice Dial Out

This service is provided by the Communicator ONLY if the Address book is properly defined with contacts and the "VOICE" service selected per contact.

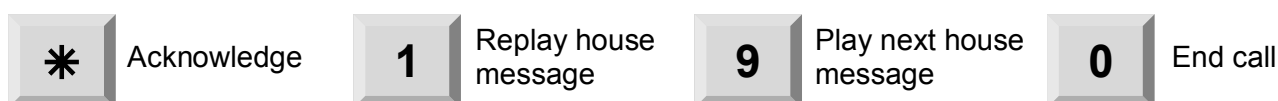
THE FOLLOWING IS THE SEQUENCE OF THE **ALARM MENU**:

**"Good <Morning / Afternoon / Evening> farm alert. Please, press 1 to listen."**



**"House <#> has <#> alarm message<s>."**

- Alarm messages for the first house are played and then the following options are available:



Enter Password (if acknowledging for the first time this call) and press \*

**"Please wait... Reset for house <#> successful. <Next Message / Goodbye>."**

Right after "Please wait" is heard, press \* to access the ALARM OPTIONS MENU

**"Entering alarm options for House <#>"**

- System reports alarm and then offers the following options:



**"Disable <confirmed / failed>!"** message is repeated and returns to **House Alarm Messages**

*If at any time an incorrect key is pressed or if nothing is pressed, the system repeats itself three times and then ends the call.*

## Voice Dial In

This option allows the user to call in at anytime and receive information from the communicator regarding alarms. In order to receive the information in voice mode only, unlike data, follow these steps:

- Call the controller. Wait '**X**' rings ('**X**' presents the number of rings less than the parameter 'Auto Answer') and hang up.

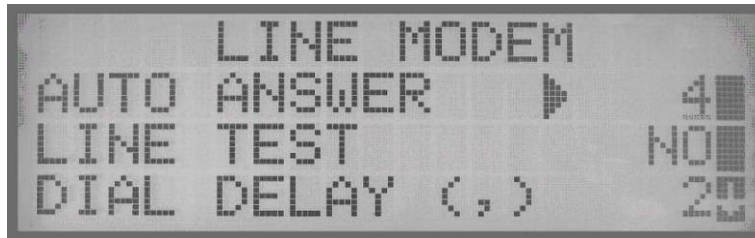


Fig. 45: Line Modem – SETUP screenshot

- Wait 5 seconds.
- Call again and follow the instructions given by the controller.

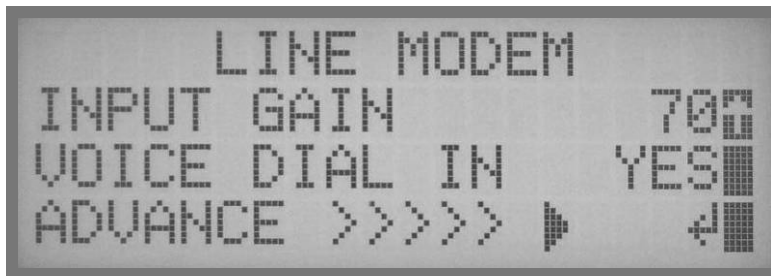


Fig. 46: Line Modem – SETUP screenshot

**NOTE:** Do not wait more than 1 minute between the two calls.

- If the '**Auto Answer**' parameter is set to zero (0), the Communicator will answer in voice mode.
- If the '**Auto Answer**' parameter is zero and the '**Voice Dial In**' parameter is set to '**Yes**', the controller answers in voice mode every time.

## Installation

1. Plug in the Communicator to a power source.
2. Go to **SYSTEMS** menu **Hardware Profile** selection. Make sure all the components are recognized by the Communicator

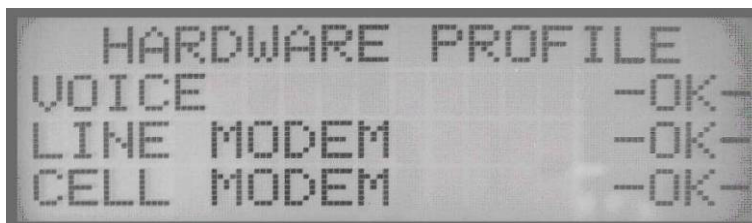


Fig. 47: Hardware Profile menu screenshot

3. Go to **BATTERY TEST** in the **SYSTEM** menu. Check for battery recognition and charging. As long as the communicator unit is plugged in, the charger inactive note will be displayed.

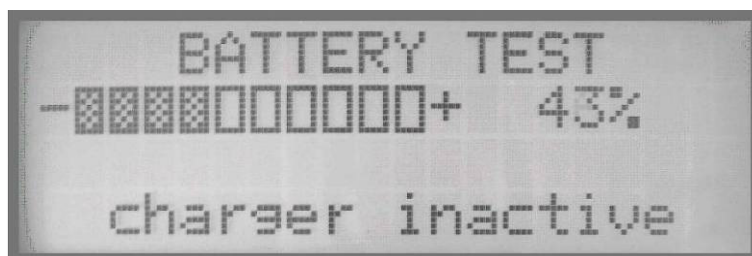


Fig. 48: Battery Test screenshot

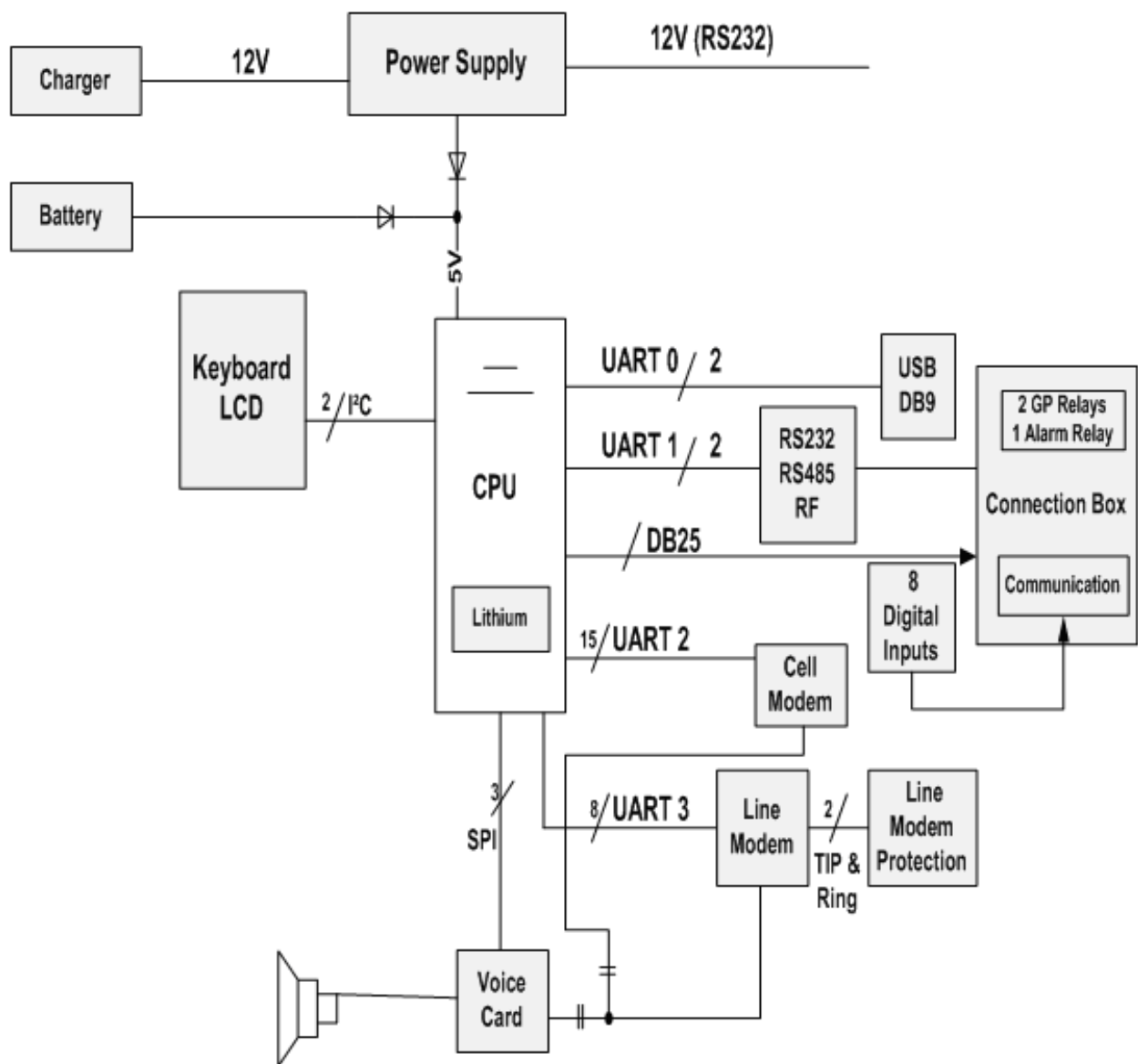
4. Connect controllers according to the **FUNCTIONAL BLOCK** diagram.
5. Install the communication software from the attached CD (for installation instructions, please refer to **USB driver installation** section).
6. Install the external connection box as shown in the **EXTERNAL COMMUNICATION BOX WIRING** diagram.

### ATTENTION!

- Do not keep the battery connected without electricity!
- Use an exclusive phone line for the Communicator!  
(Do not share a line for the Communicator with another phone)

**NOTE:** Sometimes using a phone line via private switchboard might cause problems, therefore it is recommended to use a different line to the communicator.





**Fig. 49: Functional block diagram**



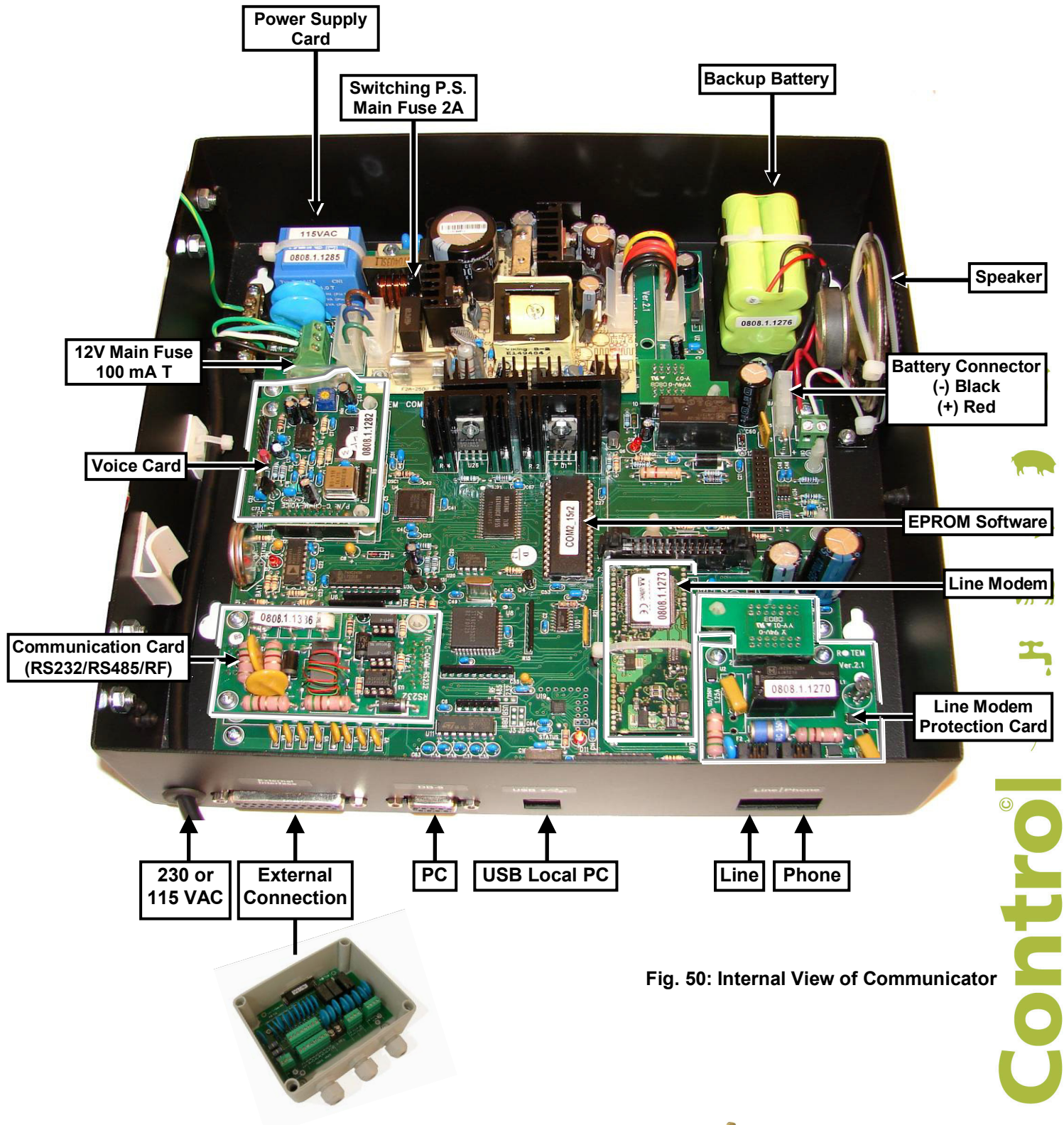
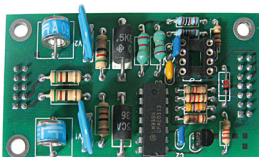


Fig. 50: Internal View of Communicator

**\*Connect the Local PC by using a COM Port or USB cable**



232 COMMUNICATION



485 COMMUNICATION



RF COMMUNICATION



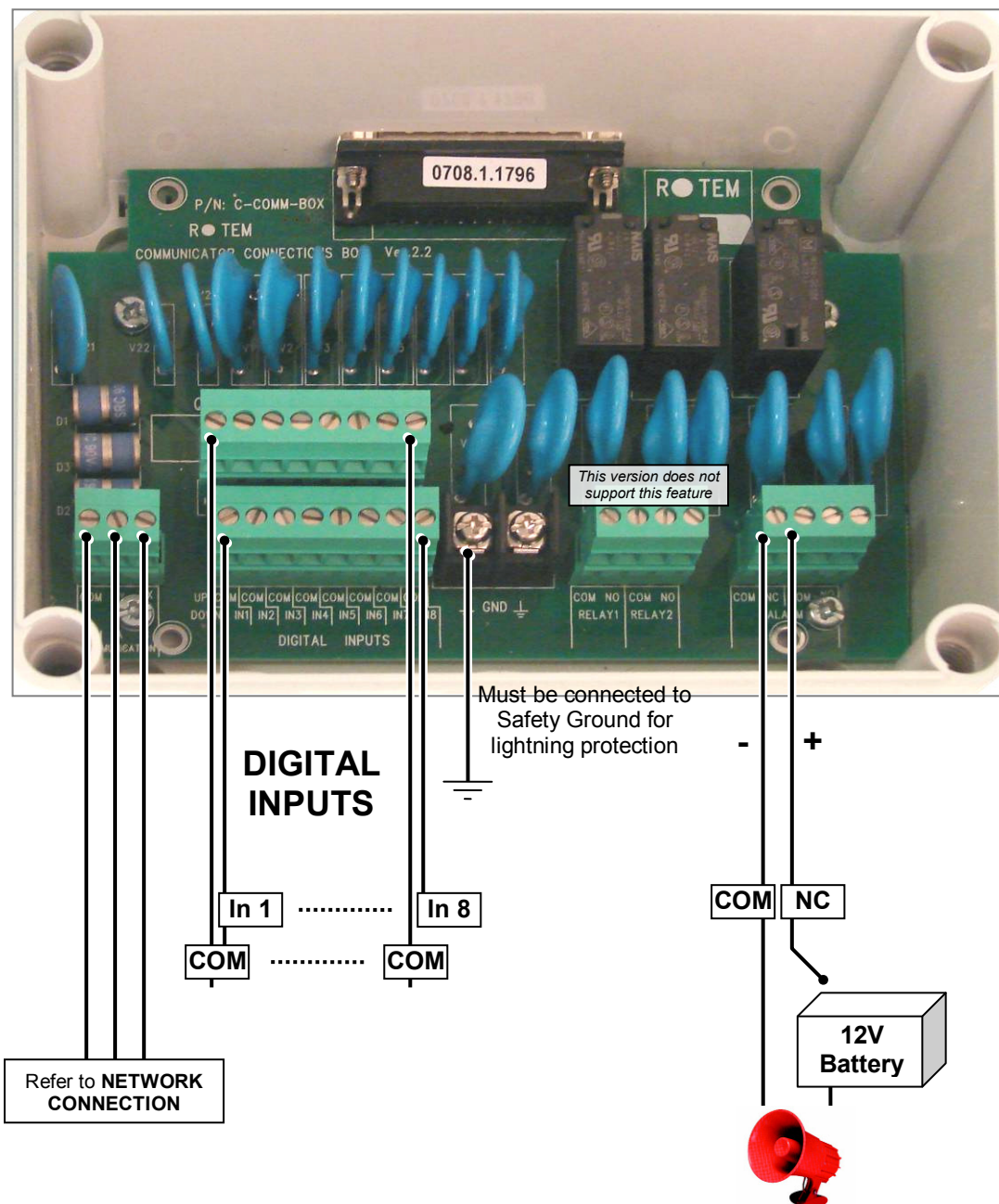
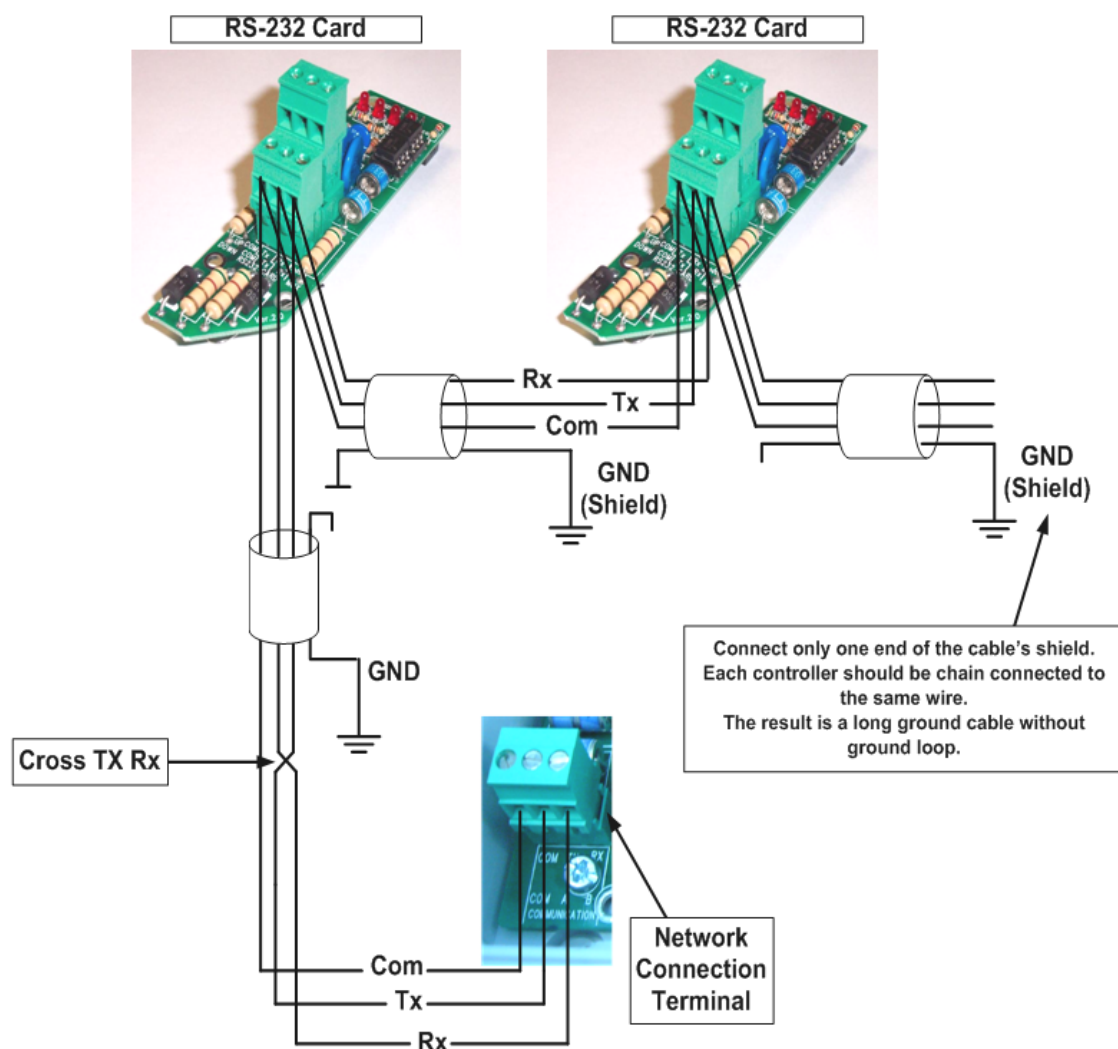


Fig. 51: External connection box wiring diagram

## NETWORK CONNECTION

### Connecting the External Connection box to Rotem's controllers via RS-232 Card



**Fig. 52: Connection with RS-232 card wiring diagram**

The cable between the external connection box and the controllers should be a 3 Wire Shielded Cable (at least 22AWG).

This cable is daisy-chained to all controllers and to the communication line of the external connection box in the following manner:

- The Black wire (COMMON) is connected to the COMMON in the communication terminal of the controller.
- The Red wire, TX in the connection box is connected to RX in the Controller.
- The Green wire, RX in the connection box is connected to TX in the Controller.
- The shield should be connected to the earth (Safety Ground).

*The shield (safety ground) should be connected only on one side!*





## Approximate Distances & Baud rate

For one controller:

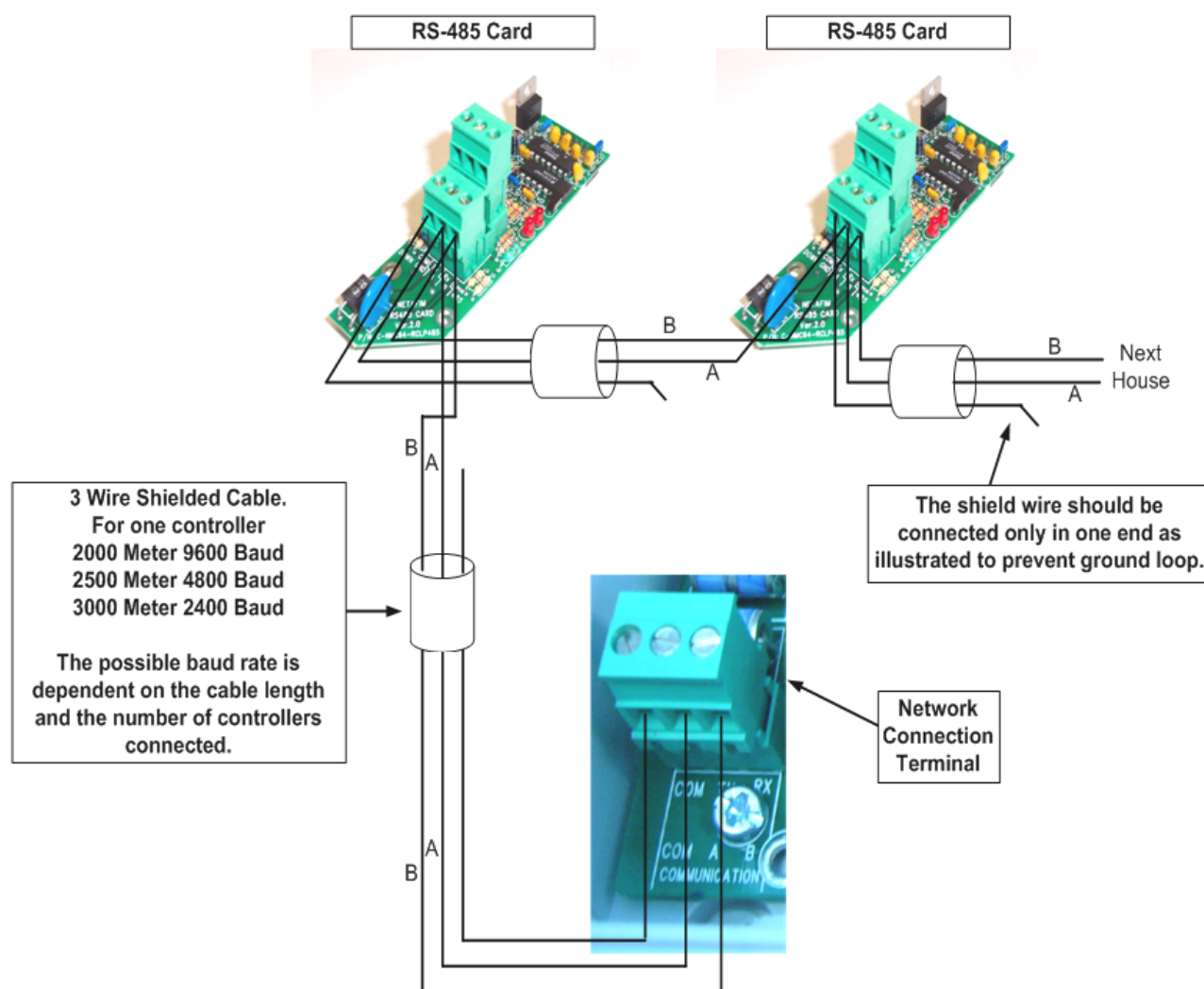
- ~2000 meters (~6500 feet) - 9600 Baud
- ~2500 meters (~8200 feet) - 4800 Baud
- ~3000 meters (~9800 feet) - 2400 Baud

For 10 controllers:

- ~1200 meter (~4000 feet) - 9600 Baud
- ~1800 meter (~6000 feet) - 4800 Baud
- ~2400 meter (~7870 feet) - 2400 Baud

*Baud rate depends on cable length and on the number of controllers.*

## Connecting the External Connection box to Rotem's controllers via RS-485 Card



**Fig. 53: Connection with RS-485 card wiring diagram**

The cable between the external connection box and the controllers should be a 2-wire shielded cable.

This cable is daisy-chained to all controllers and to external connection box as follows:

- Connect the shield to the COM terminal of the controller on one side and leave unconnected on the other side.
- Red wire to terminal A of the controller and terminal A of the external connection box.
- Green wire to terminal B of the controller and terminal B of the external connection box.





## Approximate Distances & Baud rate

For one controller:

- ~2000 meters (~6500 feet) - 9600 Baud
- ~2500 meters (~8200 feet) - 4800 Baud
- ~3000 meters (~9800 feet) - 2400 Baud

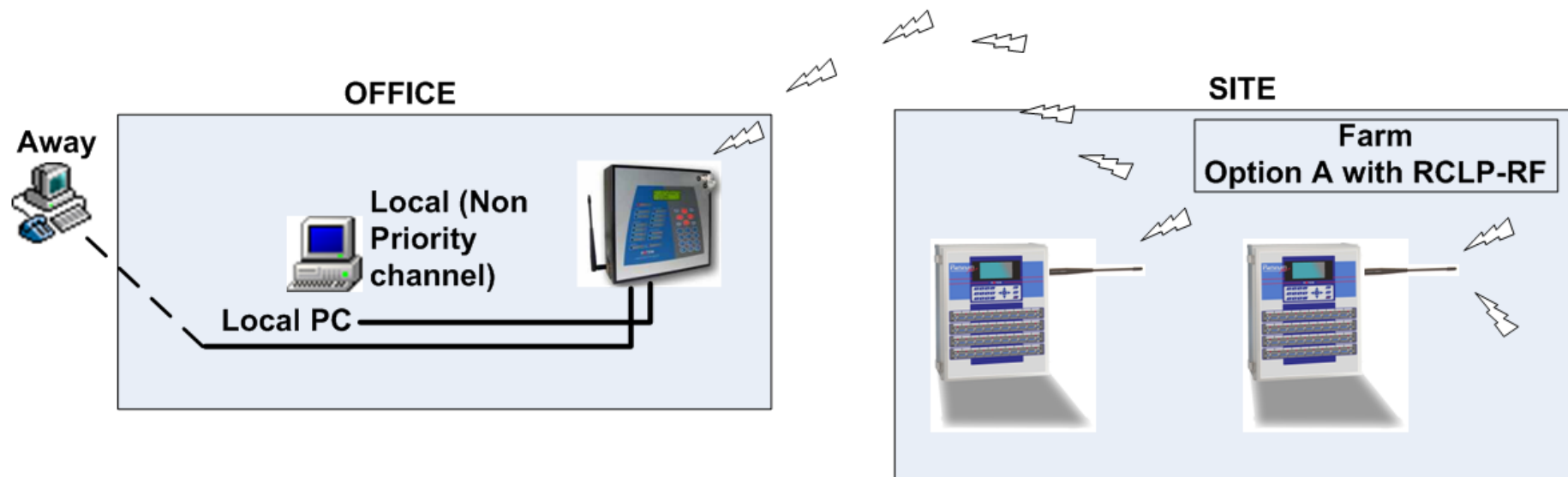
For 10 controllers:

- ~1200 meter (~4000 feet) - 9600 Baud
- ~1800 meter (~6000 feet) - 4800 Baud
- ~2400 meter (~7870 feet) - 2400 Baud

*Baud rate is dependent on cable length and number of controllers.*

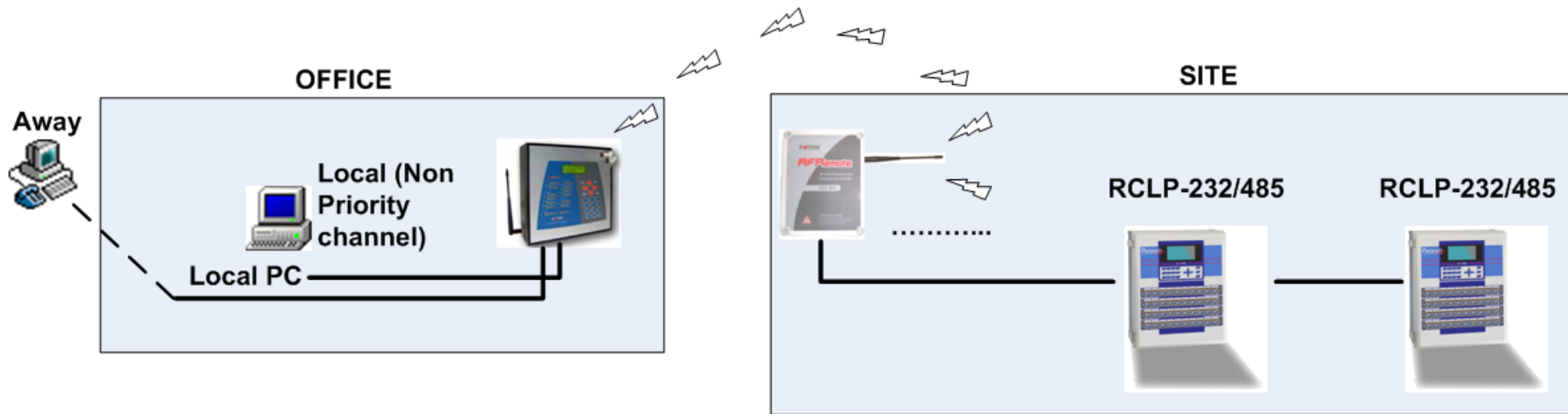
## **RF NETWORK CONNECTION**

### **Option A with Platinum Plus RF (RCLP-RF)**



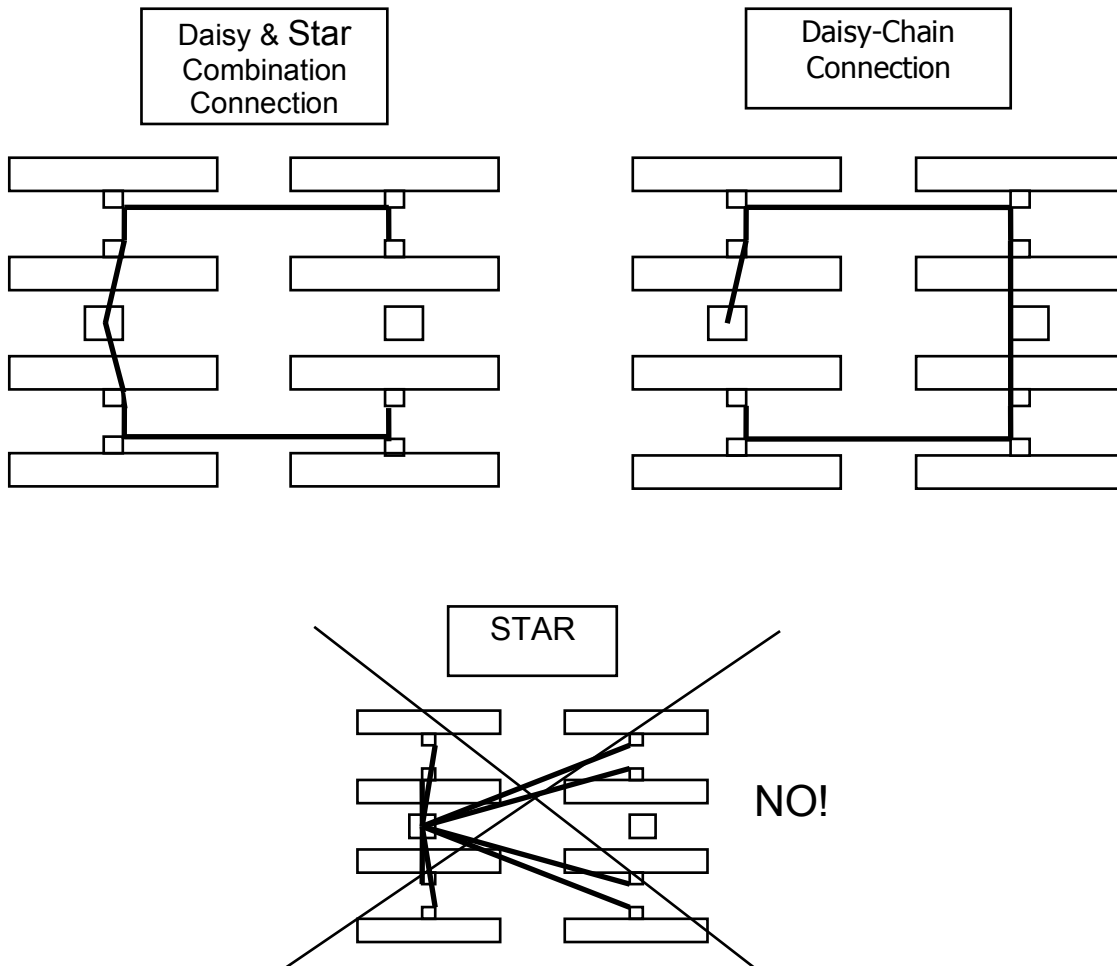


**Option B with Platinum Plus RF Remote**



## ROUTING CONSIDERATIONS

There are two common routing methods for running the communications connections: Daisy Chain (recommended) and Star connection (not recommended). The following are two recommended alternatives



## Troubleshooting

*Notice that a list of part numbers and their descriptions are located in the **Ordering Information** section.*

### Hardware

- **PROBLEM DESCRIPTION**

Connected hardware was not recognized in the hardware profile list under system Menu (voice, cell modem, Line modem).

- **Troubleshooting**

The Communicator lists O.K- for device installed and N/A- for not available.

1. Perform hardware reset by turning OFF the battery switch and unplugging the power source.
2. Reconnect the power and switch the battery ON so that the unit will rescan the hardware.
3. If this does not help, open the Communicator and check that the device is installed properly.
4. If still not operating, replace the device.

- **PROBLEM DESCRIPTION**

**Battery Failure** alarm is received

- **Troubleshooting**

1. Make sure the Communicator is connected to an electric power supply.
2. Check in menu **9.3.1** 'Battery Test' (see **Fig. 43**) the battery and charger status.
3. Open the Communicator's box and check the battery's wiring
4. If the wiring connections are ok, replace the battery pack. (Part number: SP-COMM-BAT).

## Communication

### • PROBLEM DESCRIPTION

Not all units found due to updating primary units. In other words, the number of controllers is not identical to the number of controllers after primary setting

#### ○ Troubleshooting

1. Make sure the Communicator is connected to an electric power supply.
2. Press hot key 0 and check if either some of the controllers are missing (empty squares), or all of them.
3. Go to LOCAL NETWORK – TEST and check communication card with missing unit.
4. Check baud rate on both sides if using communication card 232/485.
5. If RF communication card is being used, check Additional Channel Setting.
6. Go over the number of controllers and make sure there is no conflict between the units (make sure 2 units do not receive the same configuration number).
7. If all above are ok:
  - a) Make sure the wiring is ok for communication card 232/485.
  - b) Check signal strength for RF card.

### • PROBLEM DESCRIPTION

'Lost unit number' alarm

#### ○ Troubleshooting

1. Make sure the Communicator is connected to an electric power supply.
2. Press hot key 0 and check if either some of the controllers are missing (empty squares), or all of them.
3. Go to *Local Network – TEST* and check communication card with missing unit.
4. Check baud rate on both sides if using communication card 232/485.
5. If RF communication card is being used, check Additional Channel Setting.
6. Go over the number of controllers and make sure there is no conflict between the units (make sure 2 units receive the same configuration number).
7. If all above are ok:
  - a) Make sure the wiring is ok for communication card 232/485.
  - b) Check signal strength for RF card.

### • PROBLEM DESCRIPTION

No Local Communication with PC

#### ○ Troubleshooting

- Check that the serial port baud rate matches the PC baud rate.
- Go to Computer Port list. 'Com 1 RD' LED should flash on the front panel. Test the communicator through RotemNet software.

*If the LED does not flash, it is not the right computer port.*

- If using a USB cable, reinstall the driver from the CD (see **USB Driver Installation** section).



## Cellular Modem

- **PROBLEM DESCRIPTION**

Problem in signal strength

- **Troubleshooting**

- The modem has to be placed in a way that ensures sufficient signal strength.
  - To improve signal strength, the antenna can be moved to another position. Signal strength may depend on how close the modem is to a radio base station. You must ensure that the location, at which you intend to use the modem, is within the network coverage area.
- Reboot through unplugging the power.
  - If signal does not improve, insert SIM into the phone and check signal.
  - If the signal is weak, go to the provider.
  - If the signal is ok, change the module.
  - If no signal exists:
    1. Check antenna connection.
    2. Check connection to the module (GSM).
    3. Check the wiring. If there is a problem, contact the dealer

- **PROBLEM DESCRIPTION**

SMS Test failure in menu 4.2.3

- **Troubleshooting**

Check the signal according to the following:

- The modem has to be placed in a way that ensures sufficient signal strength.
  - To improve signal strength, the antenna can be moved to another position. Signal strength may depend on how close the modem is to a radio base station. You must ensure that the location, at which you intend to use the modem, is within the network coverage area

## RF Communication

- **PROBLEM DESCRIPTION**

No RF connection

- **Troubleshooting**

- Check the signal strength.
  - If it is weak, improve the antenna location.
  - If the strength does not exist:
    - a. Check the baud rate and the channel address and config. the address. Make sure that the baud rate attached to the unit matches the one connected to the RF.
- Check RF card configuration according to the following:
  - Try to change baud rate and channels on both sides respectively (refer to **RF** section).
- Improve the antenna's location.
- Replace P-COMM-RF10-9-S COMMUNICATOR RF.

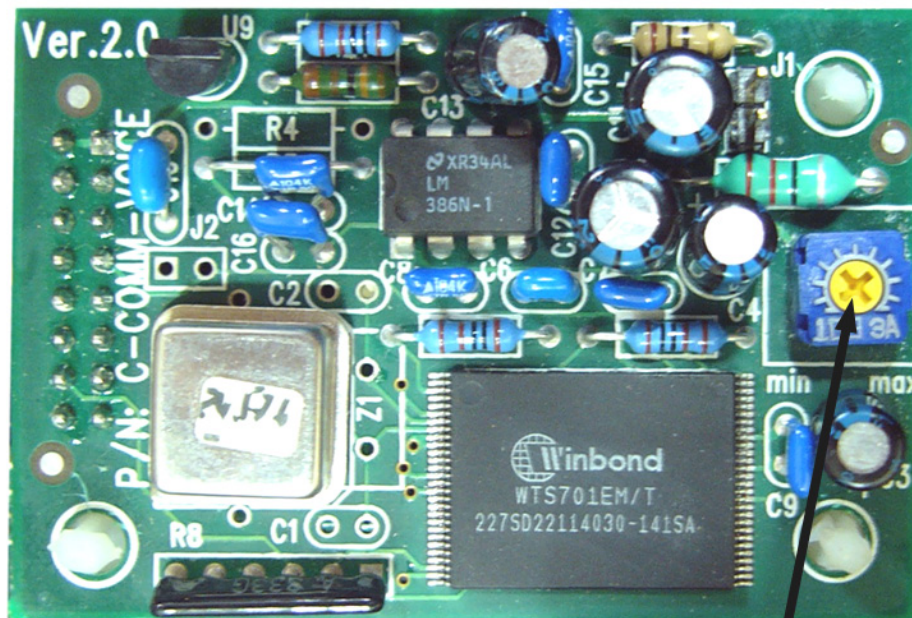
## Voice Card

### • PROBLEM DESCRIPTION

Voice does not function

### ○ Troubleshooting

1. Go to *System - VOICE TEST* menu and perform voice test.
2. Set the '**VOLUME**' and '**SPEED**' parameters as desired.  
*\*Do not forget to confirm by moving the cursor to the 'TEST' parameter and pressing 'ENTER'.*
3. Verify speaker cable is not disconnected.
4. Turn volume trimmer on voice card until desired volume is reached.
5. If none of the above helps, contact your dealer.



In order to adjust the volume, move the screw driver to the left for minimum or to the right for maximum.

Fig. 54: Adjusting the volume





## Alarm

- **PROBLEM DESCRIPTION**

No messages are being received from the Communicator

- **Troubleshooting**

1. Verify active alarms are not defined to the disable state.
2. Go over the contact group and make sure the users are not set to 'idle' and that the group is written correctly.
3. Make sure the devices that function to report are functioning properly.

- **PROBLEM DESCRIPTION**

Alarm LED is ON but the siren does not operate

- **Troubleshooting**

1. Check the siren's connection to the relay with battery (see **External box wiring** diagram).
2. Perform alarm relay test found in **SYSTEM – TEST – ALARM RELAY**.

## Line Modem

- **PROBLEM DESCRIPTION**

'No dial tone' alarm

- **Troubleshooting**

1. Verify that there is a line by using a phone connected to the phone jack.
2. Perform **PHONE LINE VOLTAGE** test, (SYSTEM – TEST – PHONE LINE). Voltage should be above 40V (normally it is 48V or more).
3. If it is above 40V, connect regular phone for testing.
4. If the line does not operate, the line is incorrect.
5. If the line is ok, perform power cycle for the Communicator (turn device off and then back on). Allow a few minutes until the Communicator recovers.

## RF

In order to configure RF communication, set the Baud Rate and channel on both sides of the RF.

- 1. Configuration (DIP 1):** In order to configure new parameters: move DIP switch to 'ON' state, arrange all parameters according to the following section, press reset, wait until LED RX is off. Move Config to OFF.
- 2. Baud rate (DIP 2, 3):** Baud rate is the communication bit rate between PC/controller and the RFC/RFR – the UART default baud rate is 9600bps. All states are summarized in the table.

DIP 2	DIP 3	Baud's state	Baud's rate
OFF	OFF	0	9600 bps
OFF	ON	1	2400 bps
ON	OFF	2	4800 bps
ON	ON	3	19200 bps

Table 2: Baud rate states

If RFR is being used and the connection is to several controllers in different distances, you should reduce baud rate until you establish connection without errors. The 19200 bps is not recommended for use.

- 3. Address (DIP 4, 5):** for future use. Note that it must be in OFF position.
- 4. Channel (DIP 6, 7, 8):** Set the module's hopping channel number. A channel is one of three layers of addressing available to the XStream radio modem. In order for modules to communicate with each other, they must have the same channel number since each network uses a different hopping sequence. Different channels should be used to prevent modules from listening to transmissions from one another in the same network. Summary of all possible Jumper modes is listed in the table below.

**NOTE:** It is very important to verify no communication disturbance occurs in neighboring farms.

Jumper 6	Jumper 7	Jumper 8	Channel
0	0	0	CHAN-0
1	0	0	CHAN-1
0	1	0	CHAN-2
1	1	0	CHAN-3
0	0	1	CHAN-4
1	0	1	CHAN-5
0	1	1	CHAN-6
1	1	1	CHAN-0

Table 3: Jumper modes summary



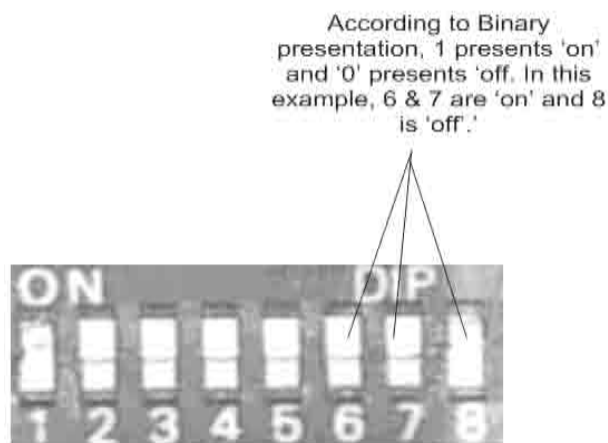
Dip Switch configuration procedure:

Rearrange DIP switches 2-8 according to following procedure:

- a) Move DIP switch 1 (config) to 'ON' position.
- b) Make any necessary changes in the DIP switch position.
- c) Press Reset.
- d) RX LED should be lit for 4-12 seconds.
- e) Return DIP switch 1 to off position.

The following will explain each DIP switch function:

*For every switch, upright mode is ON and down mode is OFF.*



Config.	2	3	4	5	6	7	8
	Baud Rate		Address		Channel		

Fig. 55: Channel explanation

## 5. Perform the configuration task:

**RF range:** RF performance (ranges) depends on the environmental conditions.

That is the reason for listing different ranges, although radio waves can pass through objects, allowing non line-of-sight communication, obstacles will absorb a portion of the signal greatly reducing the effective communication range (see **Table 4**).

SPECIFICATION	9XStream (900MHz Module)	24XStream (24GHz Module)
PERFORMANCE		
INDOOR/URBAN RANGE	Up to 1500' (450m)	Up to 600' (180m)
OUTDOOR LOS RANGE	Up to 7 miles (11 km) w/dipole antenna	Up to 3 miles (5 km) w/dipole antenna
	Up to 20 miles (32 km) w/high-gain antenna	Up to 10 miles (16 km) w/high-gain antenna

**Table 4: RF performance range**

In order to let radio waves travel to the greatest distances, the waves need to travel through as few obstacles as possible. Dense obstacles such as concrete, brick or any other heavy construction will inhibit signals more than light obstacles such as a few trees or a simple post. When trying to increase the range, several factors should be considered: **antenna height**, **frequency**, **antenna type** and **power output**.


**Antenna height** allows the signal to travel above obstacles and also reduce any interference from the ground. Lower frequencies travel further than higher frequencies, and directional antennas can focus energy, thereby increasing range in fixed installations.

**6. Long cable:** In general, it is best to keep the RF cable as short as possible. All cables have losses which are usually measured in dB loss per 100 ft. Some common cables and dB losses are listed in the table below.

Cable Type	Loss at 900MHz per 100' (loss per 100m)	Loss at 904GHz per 100' (loss per 100m)	Diameter Inches (mm)
RG-58	14.5 (47.4)dB	25.3 (83.2)dB	0.195 (4.95)dB
RG-174	25.9 (85.0)dB	44.4 (145.84)dB	0.100 (2.54)dB
RG-316	24.7 (81.0)dB	42.4 (139.0)dB	0.102 (2.59)dB
LMR-195	11.1 (36.5)dB	19.0 (62.4)dB	0.195 (4.95)dB
LMR-240	7.6 (24.8)dB	12.9 (42.4)dB	0.240 (6.10)dB
LMR-600	2.5 (8.2)dB	4.4 (14.5)dB	0.590 (14.99)dB

**Table 5: Potential Signal Strength Loss due to Antenna Cable Length**





As a summary, note the following:

**Factors that determine RF link range:**

- Ambient RF noise (interference)
- Line-of-sight obstacles
- Transmitting power
- Receiving sensitivity
- Antenna configuration

**Factors that affect antenna performance:**

- RF cable length
- Height of antennas off the ground
- Obstacles
- Radiation pattern
- Antenna Gain

## Alarm Code Numbers

**NOTE:** The '#' sign in the **Description** column represents an attribute number.

CODE No.	DISCRIPTION
0	Unknown Alarm
1	Low Temperature
2	High Temperature
3	Sensor (#) Low Temperature
4	Sensor (#) High Temperature
5	Emergency (#) Low Temperature
6	Emergency (#) High Temperature
7	Circuit Breaker High Temperature
8	Egg Room Low Temperature
9	Egg Room High Temperature
10	Temperature Sensor (#) Out of Range
11	Difference Between Outside Sensors
12	Low Relay Current
13	High Relay Current
21	Low Humidity
22	High Humidity
23	Egg Room Low Humidity
24	Egg Room High Humidity
31	Low Pressure
32	High Pressure
33	Emergency Pressure
34	Low System Pressure
40	Valve (#) Low EC
41	Valve (#) high EC
42	Valve (#) low PH
43	Valve (#) High PH
44	EC Pre-Control Valve (#) Low
45	EC Pre-Control Valve (#) High
46	EC Sensor (#) Failure
47	pH Sensor (#) Failure
48	EC Pre-Control Sensor Failure
49	EC Sensors High Difference
50	pH Sensors High Difference
51	Emergency Wind Speed
52	High Ammonia
53	Weather Station Lost



Take Control<sup>®</sup>



CODE No.	DISCRIPTION
54	Low Oxygen
55	Oxygen Sensor Failure
56	Radiation Factor Is 0
82	Feeder (#) in Overtime
83	Female Auger in Overtime
84	Male Auger in Overtime
85	Auger (#) In Overtime
89	Low Feed In Female Bin
90	Low Feed In Male Bin
91	Low Feed in Bin (#)
92	Feed Container Overflow
93	Feed Shortage
101	Water Overflow
102	Water Shortage
103	Water meter (#) Leak *
104	Valve (#) High Flow
105	Valve (#) Low Flow
106	Valve (#) No Flow
107	System Stopped by Flow Alarm
108	Negative Flow
109	Low Water Pressure
111	Temperature Sensor (#) Shorted
112	Temperature Sensor (#) Opened
113	Zone (#) Temperature Failure
114	Outside Temperature Failure
115	Temperature Sensor (#) Failure
116	Humidity Sensor (#) Failure
117	Pressure Sensor Failure
118	Emergency Sensor (#) Shorted
119	Emergency Sensor (#) Opened
120	Circuit Breaker Temperature Failure
121	Emergency Card (#) Temperature Failure
122	Average Sensors Failure
123	Indoor Pressure Sensor Failure
124	Outside Pressure Sensor Failure
125	Outside Temperature Sensor Shorted
126	Outside Temperature Sensor Opened
127	Short Circuit
128	Indoor Humidity Failure
129	Outside Humidity Failure
130	Fogger Overflow
131	Feed Bin (#) Failure

CODE No.	DISCRIPTION
132	Feed Container Failure
133	Scale (#) Failure
134	Incompatible Hardware
135	Bird Scale (#) Failure
136	Clock Failure
137	Damper (#) Failure
138	Memory Failure
139	Potentiometer (#) Failure
140	Fertilizer (#) Failure
141	Switch Card (#) Failure
142	Relay Card (#) Failure
143	Analog Input Card (#) Failure
144	Digital Input Card (#) Failure*
145	Analog Output Card (#) Failure
146	Scale Card (#) Failure
147	Alarm Card Failure
148	Remote Output Key Failure
149	Remote Unit (#) Failure
151	Remote Unit (#) Error
152	Scale Card Plug Failure
153	Vent (#) Failure
154	Curtain (#) Failure
155	Extension Box (#) Error
156	Generator Activated
157	GSM Modem Not Powered
158	GSM Modem SIM Not Present
159	GSM Modem Not Registered to Cellular Operator
160	GSM Modem RF Signal Low
161	Emergency Card (#) Battery Failure
162	Emergency Card (#) Low Battery
163	Low Battery
164	Battery Failure
165	Power Failure
166	MAIN Battery Low
167	BACKUP Battery Connected
168	Emergency Power Down
169	Idle Mode Due to Low Power
171	BUS Failure
172	Lost Communication Port
173	Lost Communication To Controller (#)



CODE No.	DISCRIPTION
174	No Dial Tone
175	Remote Unit (#) Communication Failure
176	Single Net Communication Off
177	Secondary unit missing
178	Extension Box (#) Communication Failure
179	Single Net Host Error
181	Dosing Channel (#) Leak
182	Dosing Channel (#) Failure
183	Dosing Booster Protection Activated
184	Irrigation Without Drainage
185	Fresh Tank Empty
186	Drainage Tank empty
187	EC Emergency High
188	EC Emergency Low
191	Pressure sensors difference
192	Auxiliary (#) Activated
193	Emergency Card (#) Active
194	External Pause Activated
195	External Alarm (#) Activated
196	Fail Safe Active
201	Emergency Temperature Settings Error
202	Insufficient Number of Tunnel Fans
203	No Ventilation Mode Defined
204	Sensor (#) Defined Error
205	Temperature Sensor Not Defined
206	Switches Changed
207	Memory Failure Check All Settings
208	Egg Sensor Conflict
209	Outside Sensor Conflict
210	Poultry Inventory Not Defined
211	Outside Temperature Error
212	Alarm Definition Conflict
213	Insufficient Air Supply
214	Soft Minimum Sensor Error
231	Alarm Test

## USB Driver Installation

### R- USB Driver version 5.00

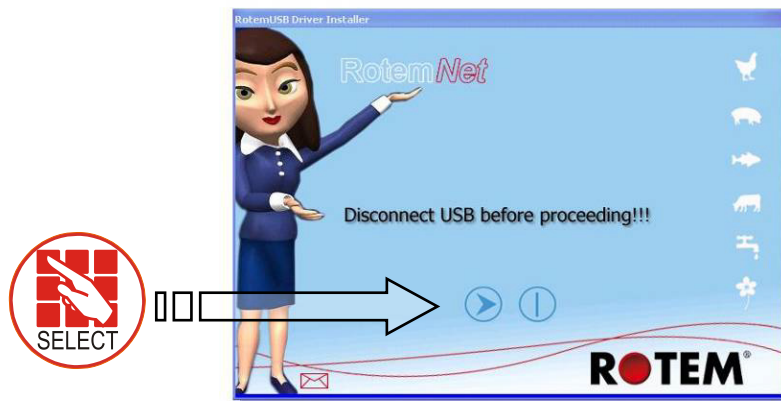
Before plugging in the USB cable between the host computer and the R-USB, follow the next steps to install the VCOM driver (**Figure 56 - Figure 64**):

1. Install the USB driver by clicking the **USB Driver Installation** icon.



**Figure 56: USB Driver Installation icon**

2. **Figure 57** is displayed. Click the **Play** button.



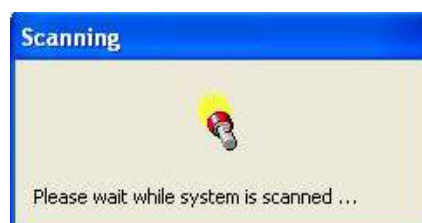
**Figure 57: Install Driver Start Menu**

3. In **Figure 58**, Click **INSTALL** if the desired installation location has been selected, otherwise, click **Change Install Location...** and then proceed to **INSTALL**.



**Figure 58: Install location**

4. **Figure 59** shows that the system is scanning for existing drivers, if any.



**Figure 59: Scanning screenshot**



5. If the drivers have been found, **Figure 60** appears. The user is asked to remove the conflicting drivers before continuing, select **Yes**. If there are no previous drivers on the computer (New installation or new computer) then this step is not required.

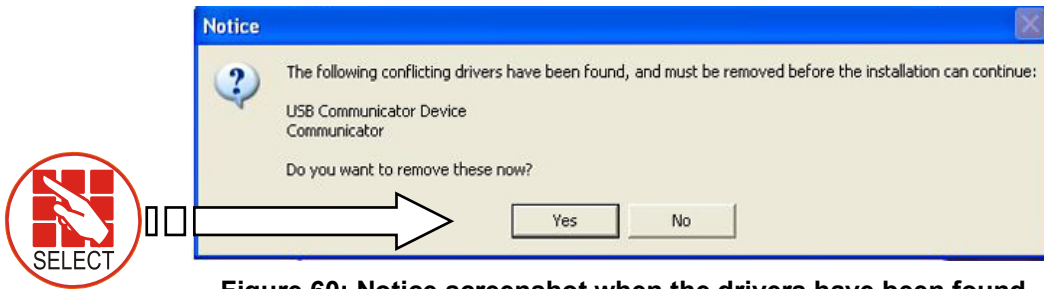


Figure 60: Notice screenshot when the drivers have been found

6. **Figure 61** is seen; the driver files are being copied.



Figure 61: Copying Driver Files

7. **Figure 62** is shown. Select **YES** to restart the computer.

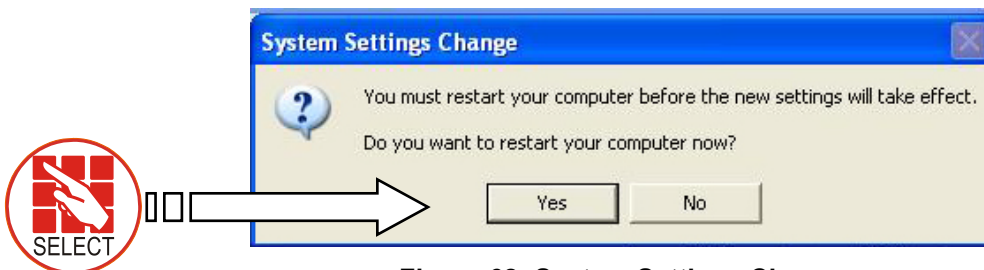


Figure 62: System Settings Change

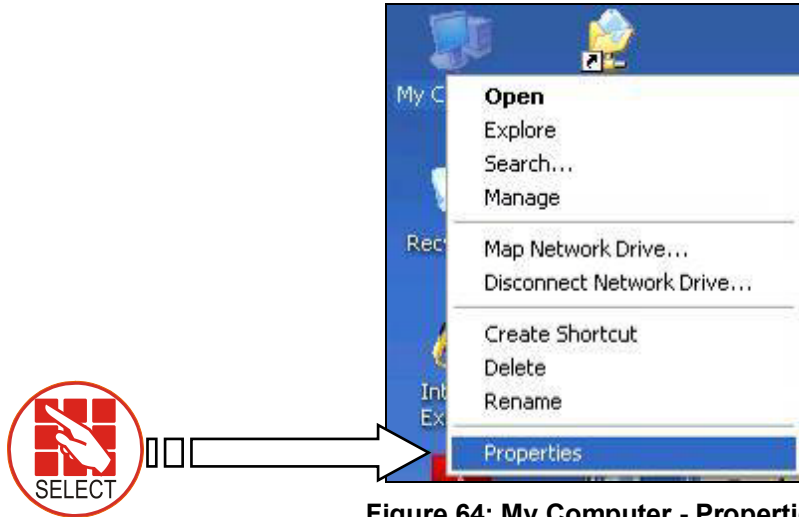
8. After a restart has been completed, connect the USB cable between the host computer and the R-USB. Connect the R-USB to its plug and finally connect the USB cable to the R-USB.
9. Windows opens a **Found New Hardware** message in the right bottom of the screen.



Figure 63: Found New Hardware

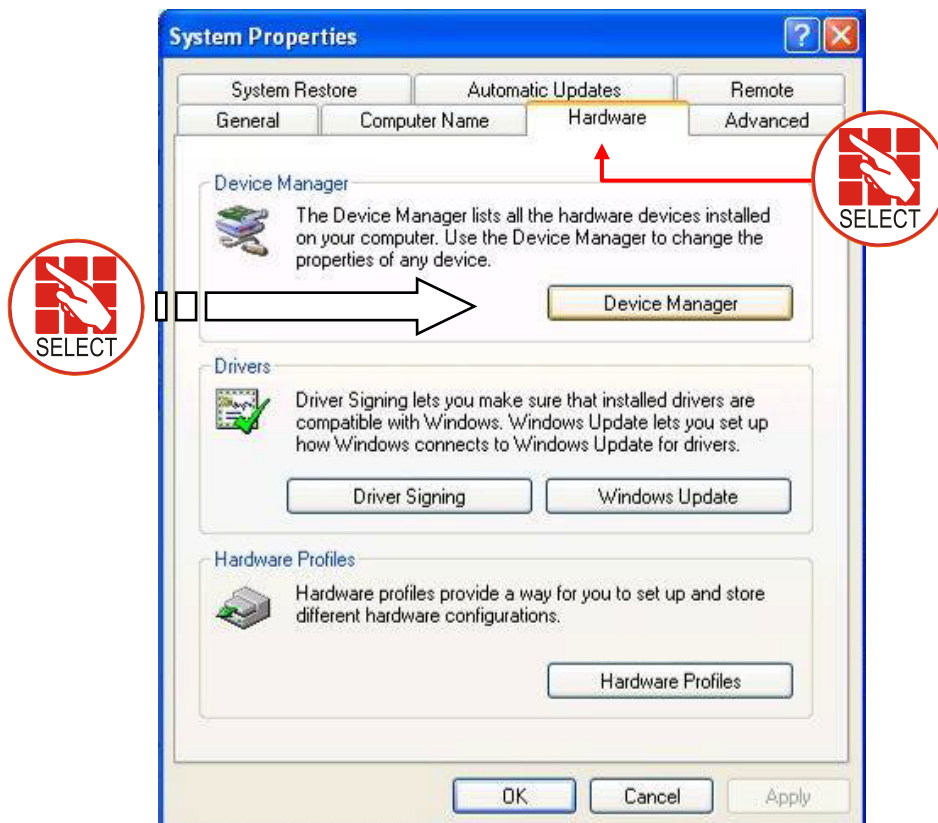
## LOCATE PORT NUMBER OF ROTEM USB DEVICE

1. To check which port number the R-USB is connected to, right click **My Computer** → **Properties** as shown in **Figure 64**



**Figure 64: My Computer - Properties**

2. In the **HARDWARE** tab, select **Device Manager**

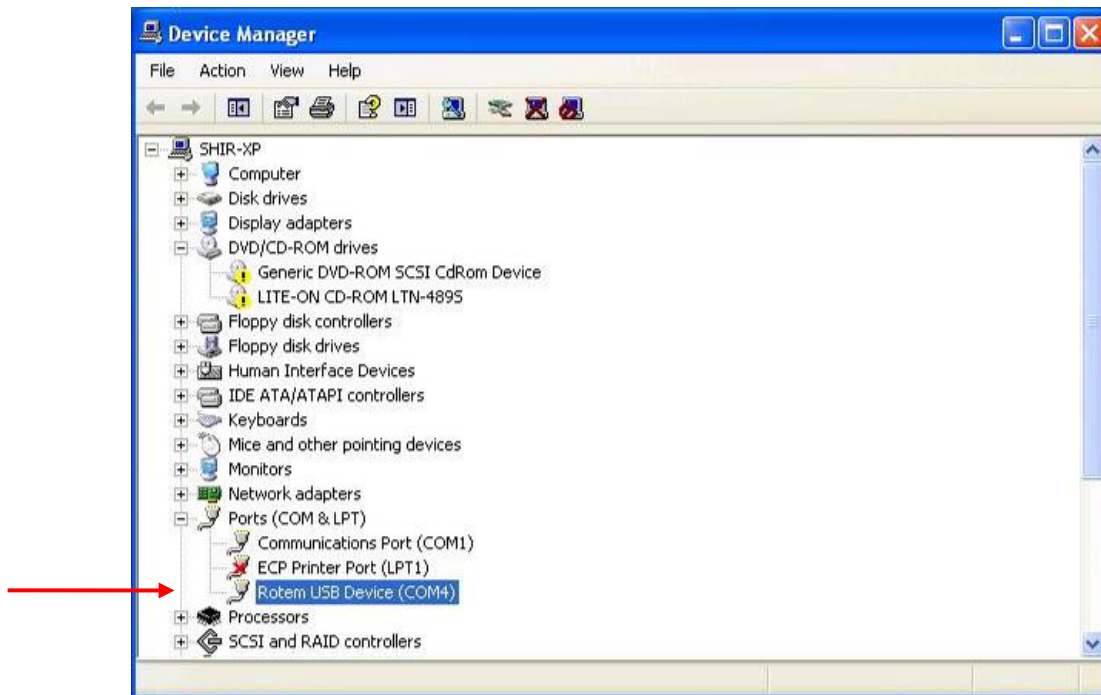


**Figure 65: Hardware – Device Manager**



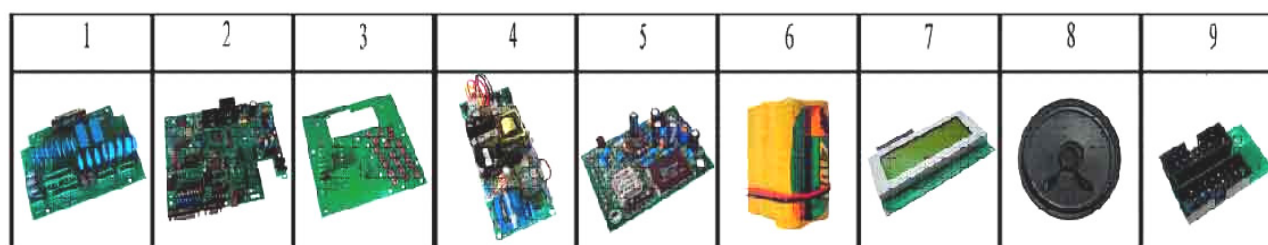
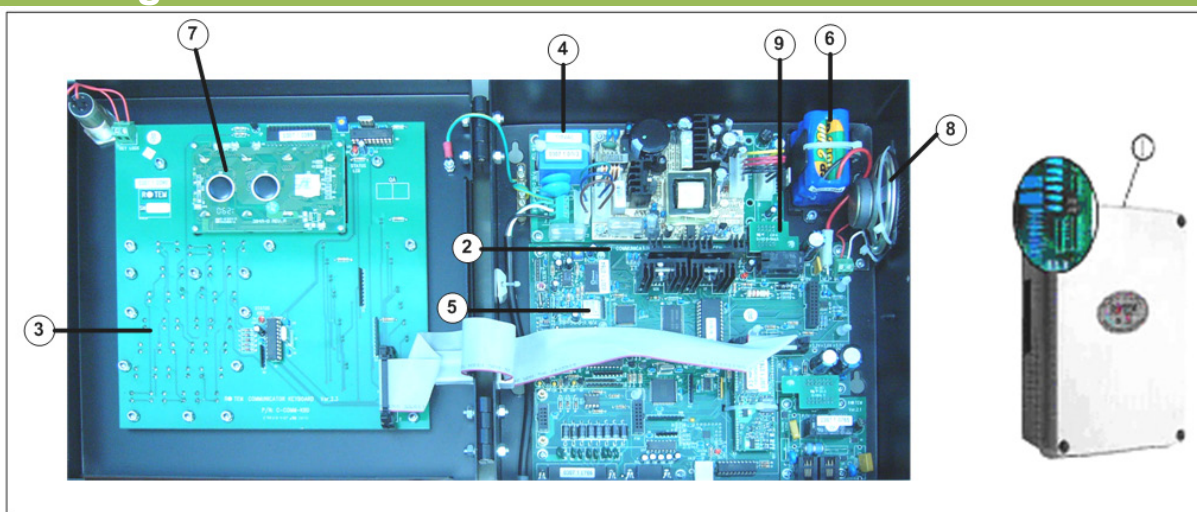


3. The **Device Manager** list is displayed and the Rotem USB Device (*in this example*) is shown to be connected to the Communication port number 4 (**COM4**)



**Figure 66: Device Manager – identify port number**

## Ordering Information



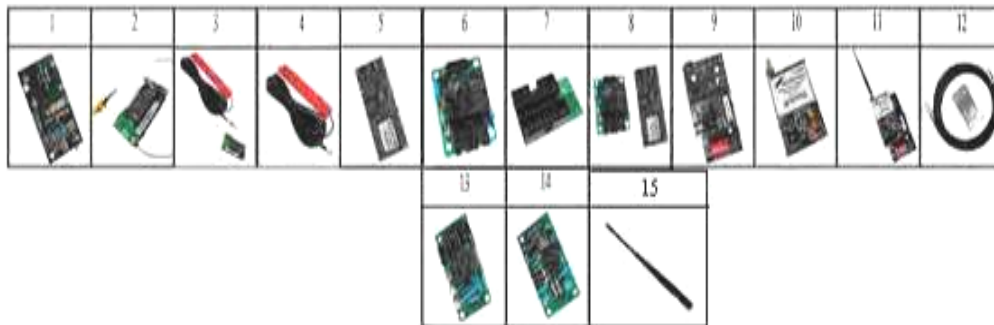
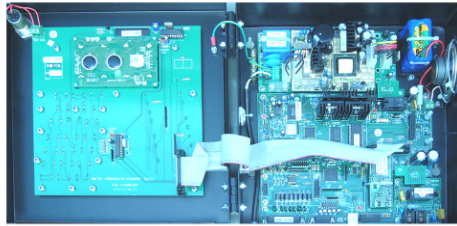
The **basic unit** included the attached parts list  
Basic unit Part #: P-COMM-V1

#	Part #	Description
1	C-COMM-BOX	COMMUNICATOR CONNECTION BOX CARD
2	C-COMM-CPU	COMMUNICATOR CPU CARD
3	C-COMM-KBD	COMMUNICATOR KEYBOARD CARD W/O DISPLAY
4	C-COMM-PS-V1	COMMUNICATOR POWER SUPPLY CARD 115V
5	C-COMM-VOICE	COMMUNICATOR VOICE CARD
6	SP-COMM-BAT	COMMUNICATOR BATTERY PACK
7	SP-COMM-LCD	COMMUNICATOR DISPLAY
8	SP-COMM-SPEAKER	COMMUNICATOR VOICE SPEAKER
9	C-COMM-RJM10	COMMUNICATOR POWER TO CPU JUMPER CARD
10	C-COMM-LM-RJM10	COMMUNICATOR PROTECT TO CPU JUMPER CARD
11	SP-COMM-F	COMMUNICATOR FLAT CABLE

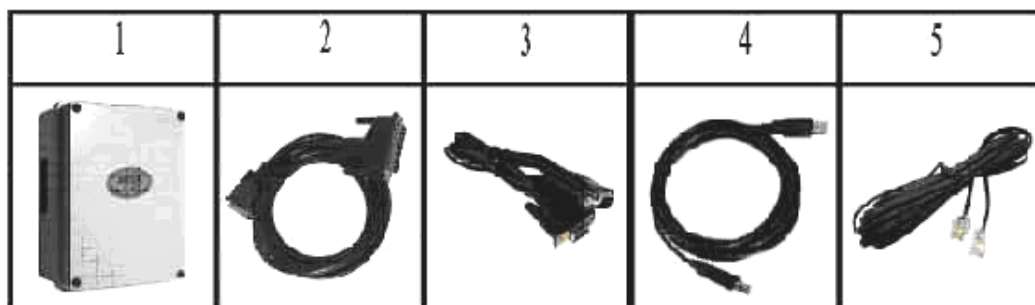
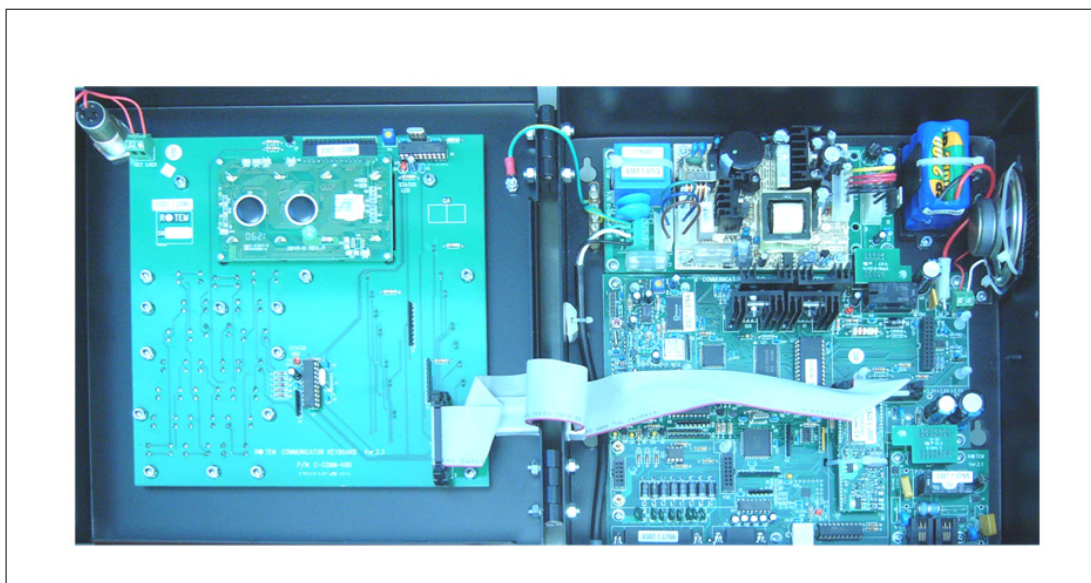


There are three part numbers for kits that include the following parts:

#	Part #	Description
1	P-COMM-232-S-V1	COMMUNICATOR SET 115Volt(LM,RPLP,RS232) Communicator basic unit + Line Modem, RPLP-1, and RS-232 Card.
2	P-COMM-RF-S-V1	COMMUNICATOR SET 115Volt(LM,RPLP,RF,C15) Communicator basic unit + Line Modem, RPLP-1, and RF Card with 15 meter (50 feed) cable and Antenna.
3	P-COMM-485-S-V1	COMMUNICATOR SET 115Volt(LM,RPLP,RS485) Communicator basic unit + Line Modem, RPLP-1, and RS-485 Card.



#	Part #	Description
1	C-COMM-GSM-AD	COMMUNICATOR GSM ADAPTOR CARD W/O MODULE
2	C-COMM-GSM-M	COMMUNICATOR GSM MODULE ONLY
3	P-COMM-GSM-S C-COMM-GSM-S	Assembled COMMUNICATOR GSM MODEM SET Spare COMMUNICATOR GSM MODEM SET
4	A-COMM-GSM-AN	CALL ANTENNA
5	C-COMM-LM-M	COMMUNICATOR LINE MODEM MODULE ONLY
6	C-COMM-LM-PRO	COMMUNICATOR LINE MODEM PROTECT CARD
7	C-COMM-LM- RJM14	COMMUNICATOR PROTECT TO CPU JUMPER CARD
8	P-COMM-LM-S C-COMM-LM-S	<b>Assembled</b> COMMUNICATOR LINE MODEM SET <b>Spare</b> COMMUNICATOR LINE MODEM SET
9	C-COMM-RF-AD	COMMUNICATOR RF ADAPTER CARD W/O MODULE
10	C-COMM-RF10-9-M	COMMUNICATOR RF 100mW 900MHz MODULE ONLY
11	P-COMM-RF10-9-S	<b>Assembled</b> COMMUNICATOR RF 100mW 900MHz SET <b>Spare</b> COMMUNICATOR RF 100mW 900MHz SET
12	A-RF-AN-2-C6-58 A-RF-AN-2-C15-58 A-RF-AN-2-C23-58	RF 6M RG58 CABLE &CLIP FOR 2dBi ANTENNA RF 15M RG58 CABLE &CLIP FOR 2dBi ANTENNA RF 23M RG58 CABLE &CLIP FOR 2dBi ANTENNA
13	C-COMM-RS232	COMMUNICATOR RS232 CARD
14	C-COMM-RS485	COMMUNICATOR RS485 CARD
15	A-RF10-9-AN-2	RF 900MHz 2dBi ANTENNA



#	Part #	Description
1	A-COMM-BOX	Communicator Connection box
2	A-COMM-C-CB	Cable for connection box
3	A-COMM-C-PC	Serial DB9 cable for PC
4	A-COMM-C-USB	USB cable for PC
5	A-COMM-LM-C	COMMUNICATOR LINE MODEM TELEPHONE CABLE



## SPECIFICATIONS

### Power supply

Mains Voltage	Single Phase	230 VAC	(Outside the US & CANADA)
		115 VAC	0.5A (US & CANADA)
Mains Frequency			50/60HZ
Maximum Power Consumption			40W

### Main Fuse

Main Fuse (12V)	125/250V	100mA T
Main Fuse (Switching P.S)	125/250V	2A T

### Connection Box peripheral

### Digital inputs

8 Digital Inputs	Dry Contact	5V/2mAmp
------------------	-------------	----------

### Relays outputs

N.C/N.O. (OMI) Blue Small Low Power Relay	5Amps	250VAC
---	-------	--------

### Alarm output

N.O and N.C (Double) (OMI) Pilot Duty	5Amps	250VAC
---------------------------------------	-------	--------

### Housing

Metal Box Dimensions (LxWxH)	262x262x80mm
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### Ambient climate

Operating Temperature Range	0 to +50 C°	(32 to 125 F°)
Operating Humidity Range		0% to 95%
Storage Temperature Range	-10 to +70 C°	(14 to 158 F°)

