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. 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.

3. 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.

4. ROTEM's sole liability under this warranty is the repair or replacement of the defective item of product.

5. Load cells are not covered by ROTEM’s warranty.

Conditions and Limitations

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.

2. This warranty shall not cover: (i) product or part therein which has been modified (without prior written approval of ROTEM), or (ii) product or part therein which has not handled or installed by an authorized reseller of ROTEM or (iii) product or part therein which has either been handled or installed not in strict accordance with ROTEM's instructions, (iv) products which were used for a function other than the agriculture industry.

3. This warranty will not apply in the following cases: (i) if all components of the product are not originally supplied by ROTEM (ii) the defect is the result of an act of nature, lighting strikes, electrical power surge or interruption of electricity (iii) the defect is the result of accident, misuse, abuse, alteration, neglect, improper or unauthorized maintenance or repair.

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.

In no event will ROTEM be liable to a user or any third party for any direct, indirect, special, consequential or incidental damages, including but not limited to any damage or injury to business earnings, lost profits or goodwill, personal injury, costs of delay, any failure of delivery, costs of lost or damaged data or documentation, lost or damaged products or goods, lost sales, lost orders, lost income.

Except for the above express warranty, ROTEM makes no other warranties, express or implied, relating to the products. ROTEM disclaims and excludes the implied warranties of merchantability and fitness for a particular purpose. No person is authorized to make any other warranty or representation concerning the performance of the products other than as provided by ROTEM.

Software Version: 3.07
Document Version: 4.3
ATTENTION!

The Communicator is the central communication center and provides critical alarm warnings. THEREFORE IT IS CRITICAL THAT YOU CARRY OUT THE FOLLOWING MAINTENANCE CHECKS ACCORDING TO THE RECOMMENDED SCHEDULE:

1. Daily (minimum weekly) alarm tests. Refer to Setting the Test Schedule, page 20.
2. Monthly battery (minimum between flock) test.
   a) Disconnect power to Communicator
   b) Ensure Communicator transmits SMS and voice alarms.
   c) Wait one hour, and confirm that Communicator continues to transmit alarms.
   d) Restore power to Communicator.
3. Test the Alarm Backup Batteries monthly (refer to page 45).

WARNING! Communicator does not support pre-paid SIM cards. Use a regular card only!

CAUTION Use an exclusive phone line for the Communicator!

NOTE: Sometimes using a phone line via private switchboard might interfere with communication. Rotem recommends using a different line to the Communicator.

CAUTION As a backup to the Communicator, Rotem recommends installing an Emergency Light and Siren system. If the Communicator is unable to transmit alarms via SMS or the telephone (for example there is a complete power failure), the Emergency Light and Siren system sounds an alarm.
## 11.1 Hardware

- Communication to Controllers/PC
- Cellular Modem
- RF Communication
- Voice Card
- Alarm
- Line Modem
- Battery

## 11.2 Communication to Controllers/PC

## 11.3 Cellular Modem

## 11.4 RF Communication

## 11.5 Voice Card

## 11.6 Alarm

## 11.7 Line Modem

## 11.8 Battery

## 12 Specifications

## 13 Compatibility Issues with the Communicator CPU

## 14 Appendix A: Replacing Communication Cards and Modems

### 14.1 Replacing the RS-232 Card

### 14.2 Replacing the RF-Card

### 14.3 Installing a GSM-S or GSM-W Card

### 14.4 Installing a 3G Cell Modem Card

## 15 Appendix B: Pager Codes

## 16 Appendix C: Communicator / Controller Connectivity

## 17 Appendix D: Ethernet Card/RotemNet Setup

### 17.1 Setting Up an Internet Connection Using an Ethernet Card

### 17.2 Setting Up a Network Using RotemNet

#### 17.2.1 Local Network

#### 17.2.2 Remote Network
1 FRONT MATTER

This section includes information on the manual and general information.

1.1 Introduction

Rotem manuals provide easy-to-use information regarding the installation, operation, long/short term planning and parts listing (this manual may not deal with all of the above subjects). The table of contents is an outline of the relevant information in this manual.

Read this manual before operating your Rotem product. Using this equipment for any other purpose or in a way not within the operating recommendations specified in this manual will void the warranty and may cause personal injury. If you have any questions or comments regarding your product please contact your local Rotem dealer.

1.2 Conventions

**NOTE:** Notes provide important details regarding specific procedures.

**CAUTION** Cautions alert you to potential damage to the controller if the procedures are not followed carefully.

**WARNING!** Warnings alert you to potentially hazardous situations that if not avoided could result in death or personal injury.

1.3 Contact Information

Rotem Control and Management: Email: support@rotem.com  URL: www.rotem.com

1.4 Document Information

<table>
<thead>
<tr>
<th>Revision Level / Date</th>
<th>Section Affected</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0 / April 2016</td>
<td>3.2.5</td>
<td>Removed 100 mWatt, removed most P/Ns</td>
</tr>
<tr>
<td>4.1 / April 2016</td>
<td>2.3/14.4</td>
<td>3G support</td>
</tr>
<tr>
<td>4.2 / May 2017</td>
<td>3.3.2</td>
<td>Edited text</td>
</tr>
<tr>
<td>4.3 / January 2018</td>
<td></td>
<td>Version 3.07</td>
</tr>
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2 INTRODUCTION TO THE ROTEM COMMUNICATOR

ROTEM Communicator, Version 3.06 is a state-of-the-art alarm and communication center used by famers to monitor and control their Rotem Controllers and accessories.

The Communicator has a user friendly interface with an alfa-numeric keypad, 20 character by 4 line LCD and indicative LED.

- Precautions
- Main Features
  - Choosing Communication Cards
  - User Interface

2.1 Precautions

Observe the following precautions when using your unit.
- Keep the controller as far as possible from heavy contactor boxes and other sources of electrical interference.
- Do not connect communication wire shields, which go from one house to another at both ends. Connect them at one end only. Connection at both ends can cause ground loop currents to flow, which reduce reliability.
- The COM connection for communications is not the shield wire. The COM, RX and TX wires must connect to each other at all controllers.

### 2.2 Main Features

- Supports connectivity of several contacts simultaneously on various communication devices (such as dial-up, internet, GSM, USB, 3G cell modem)
- Voice Solution Plug-in: Supports incoming and outgoing phone calls for alarms and status reports. Voice messages can be edited according to personal preference.
- Remote access via dial-up connection
- Send and receive functional text messages (GSM/3G networks)
- Pager support
- 3 dry contact, output relays 5 Amp

| 8 digital inputs |
| Battery backup |

### 2.3 Choosing Communication Cards

The Communicator supports the following cards:

- **Line modem**: Supplies remote communication and voice alarms via a phone line.
- **GSM-S/GSM-W**: Supplies text alarms and text messages only.
- **3G Cell Modem**: Supplies text alarms and text messages only.

**NOTE:** GSM cards do not support voice, but if equipped with a SIM card, they support the Voice Dial-In function (Configuring the Telephone Modem, page 26).

**NOTE:** Use the GSM functions to set up a 3G Cell modem.

The Communicator has positions for two cards. Before ordering a unit, the user along with a dealer must define which cards meet his needs and are supported by local infrastructure.

### 2.4 User Interface

The following sections detail how to access and use the Communicator user interface.

- Front Panel, page 9
- Menu Tree, page 10
### 2.4.1 Front Panel

**LED Function**

<table>
<thead>
<tr>
<th>LED</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC Com 1 TD/RD</td>
<td>PC is transmitting/receiving data to/from the Communicator</td>
</tr>
<tr>
<td>Modern Com 2 TD/RD</td>
<td>Modern is transmitting and receiving data</td>
</tr>
<tr>
<td>Modem Com 2 DTR/DCD</td>
<td>Data transmitter ready/Data carrier detect (technician only)</td>
</tr>
<tr>
<td>Cellular Com 3 TD/RD</td>
<td>Cellular modem is transmitting and receiving data</td>
</tr>
<tr>
<td>Controller Transmit Data</td>
<td>Controller relays are transmitting and receiving data</td>
</tr>
<tr>
<td>Receive Data</td>
<td></td>
</tr>
<tr>
<td>Output 1 Output 2</td>
<td>Non-functional</td>
</tr>
</tbody>
</table>

**Menu:** Displays the main menu and is used as an "Escape" key

**Arrows:** Used to navigate to required selections and changing values

**Enter:** Selection confirmation

**Number keys:** Insert numbers or text. Click * to insert a decimal point

**#:** Erase typing mistakes and use for Cold Starts (Refer to Installation)

**?/?:** Toggle choices, change values between positive and negative numbers, and mark selections
## 2.4.2 Menu Tree

### Table 1: Menus

<table>
<thead>
<tr>
<th>My Farm</th>
<th>Alarm</th>
<th>History</th>
<th>System</th>
</tr>
</thead>
<tbody>
<tr>
<td>Farm Name</td>
<td>Reset</td>
<td>Alarm</td>
<td>Test</td>
</tr>
<tr>
<td>Address Book</td>
<td>Test Schedule</td>
<td>User Events</td>
<td>Digital Input</td>
</tr>
<tr>
<td>Status Report</td>
<td>Disabled Alarms</td>
<td>System Events</td>
<td>Relay</td>
</tr>
<tr>
<td>Controllers</td>
<td>Options</td>
<td></td>
<td>Save / Resetting</td>
</tr>
<tr>
<td>Password</td>
<td></td>
<td></td>
<td>Language</td>
</tr>
<tr>
<td>Time &amp; Date</td>
<td></td>
<td></td>
<td>Advanced Setup</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Technician Tools</td>
</tr>
</tbody>
</table>

### Table 2: Sub Menus

<table>
<thead>
<tr>
<th>Test</th>
<th>Save/Resetting</th>
<th>Advanced Setup</th>
</tr>
</thead>
<tbody>
<tr>
<td>Battery</td>
<td>Signal Strength</td>
<td>Restore</td>
</tr>
<tr>
<td>GSM</td>
<td>Send Text MSG</td>
<td>Save</td>
</tr>
<tr>
<td>Radio RF Signal</td>
<td>Dial Out</td>
<td>RF/Wired Network</td>
</tr>
<tr>
<td>Hardware Profile</td>
<td></td>
<td>Battery</td>
</tr>
<tr>
<td>Wired RS232/485</td>
<td></td>
<td>Internet</td>
</tr>
<tr>
<td>Network List</td>
<td></td>
<td>COM/USB</td>
</tr>
<tr>
<td>Voice</td>
<td></td>
<td>Line Modem</td>
</tr>
<tr>
<td>Pager</td>
<td></td>
<td>GSM</td>
</tr>
<tr>
<td>Dial Out</td>
<td></td>
<td>Pager</td>
</tr>
</tbody>
</table>

**NOTE:** Use the GSM functions to set up a 3G Cell modem.
3 INSTALLATION

The following sections detail how to install the Communicator.

**CAUTION** Rotem recommends that only an authorized technician install and configure the Communicator unit.

- Hardware Installation, page 11
- Connecting the Communicator to a Controller, page 14
- Completing the Installation, page 18

3.1 Hardware Installation

The following sections detail how to perform the Communicator’s physical setup.

- Preliminary Steps, page 11
- Connecting the Communicator to External Components, page 13
- USB Driver Installation, page 14

3.1.1 Preliminary Steps

1. Open the Communicator and verify that all required components are physically installed. Figure 1 illustrates a sample Communicator and its components.

---

Figure 1: External Connection Box Connector and Internal Components (Sample) Board
Figure 1 key

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power supply card</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Switching PS Main Fuse 2A</td>
<td>11</td>
</tr>
<tr>
<td>3</td>
<td>Backup Batteries</td>
<td>12</td>
</tr>
<tr>
<td>4</td>
<td>Speaker</td>
<td>13</td>
</tr>
<tr>
<td>5</td>
<td>Battery Connector (-) Black (+) Red</td>
<td>14</td>
</tr>
<tr>
<td>6</td>
<td>EPROM Software</td>
<td>15</td>
</tr>
<tr>
<td>7</td>
<td>Cell Modem</td>
<td>16</td>
</tr>
<tr>
<td>8</td>
<td>Phone port</td>
<td>17</td>
</tr>
<tr>
<td>9</td>
<td>Line Port</td>
<td>18</td>
</tr>
</tbody>
</table>

2. Connect the ground cable to the dedicated ground terminal (Figure 2).

![Figure 2: Grounding Terminal](image)

CAUTION The Communicator must be grounded at all times!

3. Apply power while pressing ![KeyPress](image) until the Cold Start screen appears.

4. Select YES.

NOTE: Cold Start resets the Communicator to original factory settings and erases previous history. Perform a Cold Start when installing new hardware, changing the software version, or if instructed by a ROTEM technician.

5. Go to SYSTEM > Test > Hardware Profile.

![Hardware Profile](image)

6. Ensure that Communicator recognizes the components.

7. Go to SYSTEM > Test > Battery.
8. Check for battery recognition and charging. As long as the communicator unit is plugged in, the charger inactive note is displayed.
9. Install the communication software using the accompanying CD (for installation instructions, refer to USB Driver Installation, page 14).

3.1.2 Connecting the Communicator to External Components

1. Connect the External Connection Box to the Communicator using the 25 pin connector as shown in Figure 1.
2. If required, connect the External Connection Box to external devices and an ELS system (Figure 3).
3. Connect the local computer by via the PC Port or a USB cable.
4. Connect the line and phone cables.
5. Connect the ethernet cable to ethernet access point; for example an ADSL modem/router.

---

**Figure 3: External Communication Box Wiring Diagram with ELS**
3.1.3 USB Driver Installation

The following procedure details how to install R-USB Driver version 5.00. This driver must be installed before plugging in the USB cable between the host computer and the R-USB plug.

1. Ensure that the USB cable is disconnected from Communicator before installing the driver.

2. On the CD, click.

3. Click .

4. Follow the instructions.

5. Restart the computer.

6. Connect a USB cable from the Communicator to the computer.

**NOTE:** If older versions of the driver exist on the computer, the installation program must delete them. Click Yes if prompted.

3.2 Connecting the Communicator to a Controller

The following sections detail how to connect the Communicator to the controllers via a wired or wireless infrastructure.

**NOTE:** For information on connecting the Communicator to an RLINK One unit, refer to the RLINK One manual.

- Routing Methods
- RS-232 Connections
- RS-485 Connection
- Approximate Distances and Baud Rate

3.2.1 Routing Methods

There are two common routing methods for running the communications connections; daisy chain and star connection.

- RS-485 infrastructure:
  - Daisy chain installations: No additional equipment required
  - Star installation: Requires a Rotem RS-485 Repeater for each branch. Refer to the relevant manual for details

- Use RS-232 infrastructure:
  - Daisy chain or star installation: May require a Rotem RS-232 Repeater to ensure signal strength, depending on the cable length and number of controllers installed. Refer to the relevant manual for details.

3.2.2 RS-232 Connections

The following sections detail how to set up an RS-232 connection between the Communicator and the controllers.
Figure 4: Connecting the External Connection Box to Controllers via RS-232 Cards

<table>
<thead>
<tr>
<th>Figure 4 key</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
</tr>
<tr>
<td>2</td>
</tr>
<tr>
<td>3</td>
</tr>
<tr>
<td>4</td>
</tr>
<tr>
<td>5</td>
</tr>
<tr>
<td>6</td>
</tr>
<tr>
<td>7</td>
</tr>
</tbody>
</table>

- The cable between the external connection box and the controllers should be a 3 Wire Shielded Cable (22 AWG minimum).
- This cable is connected to all controllers and to the communication line of the external connection box in the following manner:
  - The COM wire is connected to the COM port in the communication terminal of the controller.
  - The Communicator External Box TX (in the connection box) is connected to RX in the Controller.
  - The black wire, RX in the connection box, is connected to TX in the Controller.
  - The shield should be connected to the earth (safety ground).
- The final controller in any chain or branch requires a 120 ohm terminator.

**CAUTION** Connect the shield (safety ground) only on one side!

### 3.2.3 RS-485 Connection

The following sections detail how to set up an RS-485 connection between the Communicator and the controllers.

Communicator supports two types of RS-485 connections:
- RS-485 Cards (Figure 5)
- RS-ISO485 Cards (Figure 6)
Figure 5: Connecting the External Connection box to Controllers via RS-485 Cards

<table>
<thead>
<tr>
<th></th>
<th>Communicator External Box</th>
<th>5</th>
<th>Shield cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Box communication ports</td>
<td>6</td>
<td>Other controllers</td>
</tr>
<tr>
<td>3</td>
<td>To prevent ground loops, connect the shield wire at one end only.</td>
<td>7</td>
<td>See Approximate Distances and Baud Rate, page 17</td>
</tr>
<tr>
<td>4</td>
<td>Controller communication card</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- The cable between the external connection box and the controllers should be a 4 wire twisted shielded cable (22 or 24 AWG).
- Wiring:
  - Red wire to terminal A of the controller and terminal A of the external connection box.
  - Black wire to terminal B of the controller and terminal B of the external connection box.
- The final controller in any chain or branch requires a 120 ohm terminator.
Figure 6: Connecting the External Connection box to Controllers via RS-ISO485 Cards

- The cable between the external connection box and the controllers should be a two pair twisted shield cable.
- Wiring:
  - 1st pair:
    - Red wire to the controller's terminal A and the external connection box's terminal A.
    - Black wire to the controller's terminal B and the external connection box's terminal B.
  - 2nd pair:
    - Green wire to the controller's COM terminal and the external connection box's COM terminal.
- The final controller in any chain or branch requires a 120 ohm terminator.

3.2.4 Approximate Distances and 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

NOTE: Baud rate depends on cable length and on the number of controllers.
3.3 Completing the Installation

The following section summarizes the steps needed to complete the installation. Refer to the relevant sections in the manual for further details.

- Configuring the Communication to Outside Devices
- Communicator / Comm-Box Connectivity

3.3.1 Configuring the Communication to Outside Devices

1. Set the baud rate to the controllers (refer to Routing Methods, page 34).
2. Test the connection to each controller (refer to Displaying the Controllers, page 35).
3. Test the communication channel to each controller (refer to Channel/Signal Tests, page 36).
4. Set the baud rate to the local computer (refer to Defining the Communication Speed with the Local PC, page 37).

3.3.2 Communicator / Comm-Box Connectivity

NOTE: Users having an Ethernet card – refer to Appendix D: Ethernet Card/RotemNet Setup, page 64.

- Communicator Software Version 3.07.01 supports the Comm-Box. Download the software from the Rotem web site.
- Connect the Comm-Box to a Rotem Communicator using RJ11 cable and the D9-RJ11 adapter (supplied by Rotem). Communicator units require the Communicator Serial Card (P/N: C-COMM-SERIAL / 904-99-00038) to support the Comm-Box.

WARNING! Power must be disconnected before beginning.

1. Lift and remove the Communication Card.

Figure 7: COMM-SERIAL
2. Snap the COMM-SERIAL card into place.

3. Connect the Communicator to the Comm-Box.

**NOTE:** Refer to the Comm-Box Manual for information on how to define and configure the Comm-Box and RotemNet Web application.

**CAUTION** Verify that the card is set exactly in place! Any deviation can severely reduce the card's functionality.
4 INITIAL CONFIGURATION

This section describes how to configure the Communicator's initial settings.

- Communication Recommendations, page 20
- Setting the Test Schedule, page 21
- Setting the Language, page 21
- Setting the Farm Site Name, page 21
- Identifying the Controllers, page 22
- Setting the Time & Date, page 22
- Adding Names to the Address Book, page 22
- Setting the Password, page 23

CAUTION Many of these settings are critical in ensuring the safety and well-being of your stock. These settings must be made as soon as Communicator is installed.

Refer to the sections listed below for information on other functions:

- Communicator to User Functions, page 24
- Communicator to Controller Functions, page 34
- Communicator to PC Configuration, page 37
- Configuring the Dry Contact Card, page 38
- Communicator Functions, page 39
- Alarms, page 41

NOTE: Before installing a SIM card, disable the PIN code (if the card has this code). Communicator text functions are disabled if the SIM card has a PIN code.

4.1 Communication Recommendations

Rotem strongly recommends:

- enabling both the telephony and SMS functions to transmit alarms (via voice and SMS)
- enabling SMS alarm acknowledgment
- employing a secondary alarm system to act as a backup to Communicator's primary monitoring and alarm system

WARNING! BECAUSE OF LIMITATIONS BUILT INTO SMS DELIVERY SYSTEMS, THERE MAY BE DELAYS IN THE ACTUAL SMS DELIVERY TIME. BY DEFAULT A REMINDER SMS IS TRANSMITTED AFTER TWO MINUTES. IF THE MESSAGE DELIVERY IS DELAYED FOR ANY REASON, INCLUDING DELAYS CAUSED BY THE INFRASTRUCTURE, A REMINDER SMS IS SENT. THEREFORE INCREASING THE DELAY TIME FOR A REMINDER PLACES YOUR LIVESTOCK AT RISK.
4.2 Setting the Test Schedule

1. Go to ALARM > Test Schedule.
2. Configure the parameters.

<table>
<thead>
<tr>
<th>ALARM TEST</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQUENCY</td>
</tr>
<tr>
<td>AT</td>
</tr>
<tr>
<td>DAY</td>
</tr>
</tbody>
</table>

- **Frequency**: Daily, weekly, disabled
- **At**: Time of day to perform the alarm test
- **Day**: Define the day of the week to perform the alarm test (this is required only when FREQUENCY=WEEKLY)

**WARNING!** ROTEM STRONGLY RECOMMENDS REGULAR TESTING OF THE ALARMS., DO NOT DISABLE THIS TEST UNLESS THE HOUSE IS EMPTY!

4.3 Setting the Language

1. Go to SYSTEM > Language.
2. Configure the parameters.

<table>
<thead>
<tr>
<th>LANGUAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LANGUAGE</td>
</tr>
<tr>
<td>REGION</td>
</tr>
</tbody>
</table>

- **Language**: Select the required language for the user interface.
- **Region**: Select the site location.

**CAUTION** Select the correct region! The modem functions correctly only when the correct region is selected!

4.4 Setting the Farm Site Name

- Go to MY FARM > Farm /Site Name.

<table>
<thead>
<tr>
<th>FARM/SITE NAME</th>
</tr>
</thead>
<tbody>
<tr>
<td>NAME:</td>
</tr>
<tr>
<td>NUMBER:</td>
</tr>
</tbody>
</table>

Define the site's name and reference number. PC network software employs these parameters when sending an alarm. In case several Communicators are present, this will help in identifying each one separately.

**CAUTION** Each Communicator must have a unique name and number.
4.5 Identifying the Controllers

1. Go to MY FARM > Controllers.
2. Identify controllers that are present within the network.

- **Primary Units**: Select the number of master controllers the site contains (for example Platinum/AC-2000)
- **Secondary Units**: Select the number of slave controllers the site contains (for example PigGuard)
- **Found-Primary/Secondary**: Displays the number of controllers the Communicator was able to locate (read-only)

<table>
<thead>
<tr>
<th>CONTROLLERS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMARY UNITS</td>
</tr>
<tr>
<td>SECONDARY</td>
</tr>
<tr>
<td>FOUND-PRIM</td>
</tr>
</tbody>
</table>

4.6 Setting the Time & Date

1. Go to MY FARM > Time & Date.
2. Adjust the time and date in this menu.

- **Clock**: hh:mm: (24 hour format; for example 2:15 PM = 14:15)
- **Date**: dd-mmm-yy: (for example 14-JAN-10)

<table>
<thead>
<tr>
<th>TIME&amp;DATE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLOCK:</td>
</tr>
<tr>
<td>DATE:</td>
</tr>
</tbody>
</table>

4.7 Adding Names to the Address Book

- Go to MY FARM > Address Book.

<table>
<thead>
<tr>
<th>ADDRESS BOOK</th>
</tr>
</thead>
<tbody>
<tr>
<td>===========USER-2==========</td>
</tr>
<tr>
<td>NAME</td>
</tr>
<tr>
<td>VOICE</td>
</tr>
<tr>
<td>TEXT</td>
</tr>
<tr>
<td>PAGER</td>
</tr>
<tr>
<td>Msg By</td>
</tr>
<tr>
<td>FROM</td>
</tr>
<tr>
<td>TO</td>
</tr>
<tr>
<td>LANG.</td>
</tr>
</tbody>
</table>

The address book contains the contact information of up eight users. Communicator contacts these users in the event of an alarm. Priority of contacts is defined by the user number (1-16). Top priority contacts should be entered into the address book first.

**CAUTION** Rotem strongly recommends entering contact information immediately.

Contact list fields:

- **Name**: Enter the contact name using the keypad.
• **Voice**: Enter the phone number for receiving the **VOICE CALL** service (refer to Setting the Voice, page 24 and Testing the Voice Call Service, page 25 for advanced settings and testing).

• **Mobile Number**: Enter the mobile number for the text message service.

• **Pager**: Enter the pager phone number. Refer to Pager Setup, page 28 for options and testing. In addition, refer to Configuring the Dial Delay, page 29.

**NOTE:** When entering the above numbers, refer to Phone Number Structure, page 23.

• **MSG By**: Define which services the contact receives (Idle, Voice, Text, Voice+Text, Pager).

• **From/To**: Time frame for receiving messages/calls (Default – FROM: 0:00; TO: 00:00 – time frame is 24 hours, meaning always receiving messages).

• **Language**: Select the language in which SMS messages are written: English, Turkish, Russian, Spanish, Portuguese, Thai or Hebrew.

**NOTE:** Distribution of the alarm messages is according to the address book list, contact by contact. Each user receives all forms of communication that are selected (**Msg. By** option) before continuing to the next user.

The first user does NOT have a "FROM" or "TO" field to ensure there is always someone that receives the notification from Communicator.

### 4.7.1 Phone Number Structure

When entering the voice, mobile and pager numbers the phone number structure is:

- 9 (outside line, if needed), # # # # # # #

The commas are the dial delay. Refer to Configuring the Dial Delay, page 29.

**NOTE:** To enter a comma, press and hold the “1” button.

### 4.8 Setting the Password

1. Go to **MY FARM > Password**.
2. Define a password and confirm it (**to disable, type “0”**).

If selected, a password is required for:

- **Locally**: Using the menu items
- **Remotely**: Acknowledge/disabling of alarms via phone

**NOTE:** If a password is defined, the Communicator locks the system when idle for five minutes or if you press “9” from the main menu.
5 COMMUNICATOR TO USER FUNCTIONS

The following sections detail how to use the:

- Voice, page 24
- Pager, page 28
- Text, page 29
- Common Functions, page 32

5.1 Voice Functions

The following sections detail Communicator's basic and advanced Voice functions.

- Basic Voice Functions, page 24
- Advanced Voice Functions, page 25
- Responding to an Audio Alarm Message, page 27

5.1.1 Basic Voice Functions

This section details the basic Voice functions.

- Setting the Voice Parameters, page 24
- Testing Voice Quality, page 24
- Testing the Voice Call Service, page 25
- Testing the Cellular Signal Strength, page 25
- Receiving a Status Report, page 25

5.1.1.1 Setting the Voice Parameters

1. Select SYSTEM > Advanced Setup > Voice.

2. Define the speech VOLUME and SPEAKER volume and it's SPEED (if using a TTS voice card).

3. Scroll down to TEST and press ENTER to hear the selected settings.

5.1.1.2 Testing Voice Quality

1. Select SYSTEM > Test > Voice.

2. Define speech VOLUME and SPEED.

3. To test, press ENTER.

NOTE: Voice Setting and Test Voice perform the same functions.
5.1.1.3 Testing the Voice Call Service

This menu tests the **VOICE CALL** service.

1. Select **SYSTEM > Test > Dial Out**.
2. Enter the required phone number to receive the “Test Call”.
3. Press **ENTER**.

![ENTER NUMBER]

5.1.1.4 Testing the Cellular Signal Strength

- Select **SYSTEM > Test > GSM**.

This screen displays the cellular service provider’s Received Signal Strength Indicator. This screen displays the cellular service provider’s number, name, BER (Bit Error Rate (if available)), the reception bar graph as well as the measured signal reading.

**NOTE:** Signal strength must be between -113 dBm to -51 dBm.

5.1.1.5 Receiving a Status Report

You can receive a status report over the phone. Refer to Status Report, page 29 for details on the function.

**To hear the status report:**

1. Call the Communicator phone number.
2. When prompted, select Status report.

5.1.2 Advanced Voice Functions

This section details Communicator’s advanced Voice functions.

**CAUTION** Rotem recommends that only trained, authorized technicians configure these functions.

- Configuring the Telephone Modem, page 26
- Defining when Communicator Answers Incoming Calls, page 26
5.1.2.1 Configuring the Telephone Modem

- Select SYSTEM > Advanced Setup > Line Modem.

<table>
<thead>
<tr>
<th>LINE MODEM</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AUTO ANSWER</td>
<td>4</td>
</tr>
<tr>
<td>LINE TEST</td>
<td>YES</td>
</tr>
<tr>
<td>DIAL DELAY (, )</td>
<td>2</td>
</tr>
</tbody>
</table>

This screen defines the line modem specifications.

- **Auto Answer**: Number of rings before the Communicator automatically answers a dialed-in call. For example: if set to 4 the Communicator answers a call after four rings.
- **Line Test**: Monitors the phone line and activates an alarm in case of disconnection. Default: YES.
- **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 enables the user to call in at any time and receive information from the communicator regarding alarms. To receive the information in voice mode only:
  1. Call the controller, wait for one ring less than the AUTO ANSWER set parameter number and hang up.
  2. Wait at least five seconds (but no longer than 60 seconds) and then call again. Follow the instructions given by the controller.
     - If the AUTO ANSWER parameter is set to zero (0), then the Communicator answers in voice mode.
     - If the AUTO ANSWER parameter is set to zero and the VOICE DIAL IN parameter is set to YES, the controller answers in voice mode every time.

5.1.2.2 Defining when Communicator Answers Incoming Calls

1. Select SYSTEM > Advanced Setup > GSM.
2. In Auto Answer, define the number of rings until the Communicator answers through the cellular modem.

<table>
<thead>
<tr>
<th>CELLULAR MODEM</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TEXT FROM Addr. Book</td>
<td></td>
</tr>
<tr>
<td>Auto Answer</td>
<td>2</td>
</tr>
<tr>
<td>Operator STD</td>
<td></td>
</tr>
</tbody>
</table>
5.1.3 Responding to an Audio Alarm Message

The Voice Dial Out service transmits audio alarm message, via telephony, from Communicator to the contacts entered in the Address Book (page 22). This section details the procedure to follow when an audio alarm is received.

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

**CAUTION** Communicator only broadcasts its alarm message AFTER someone speaks into the phone. Any word or sound is sufficient.

The following illustrates the sequence of **ALARM messages**:

"Good <Morning / Afternoon / Evening> farm <#> active alarm. 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>!

**NOTE:** Disabling alarms disables them until 12:00 PM the following day.

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

**NOTE:** 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.

**NOTE:** To change the number of times that Communicator retries to contact a recipient, refer to Message Options, page 33.
5.2 Pager Functions

The following sections detail the Communicator's basic and advanced Pager functions.

- Basic Pager Functions, page 28
- Advanced Pager Functions, page 29

5.2.1 Basic Pager Functions

This section details the basic Pager functions.

- Pager Setup
- Pager Test

5.2.1.1 Pager Setup

1. Go to SYSTEM > Advanced Setup > Pager.
2. Define the pager type, either BASIC or ENHANCED by using the +/- key.

- BASIC: Pages are per house in the following format:

  House number: 0 0 5 * 1 2 4

  Alarm code

[NOTE: If a house has more than one alarm active, then the multiple alarms code is sent (code: 255).]

- ENHANCED: Pages are per house and can contain multiple alarms per page in the following format:

  HHH*AAA*AAA*AAA**HHH*AAA*AAA

  o HHH: House number (two stars separate between houses)
  o AAA: Alarm code

5.2.1.2 Pager Test

1. Go to SYSTEM > Test > Pager.
2. Enter the pager phone number and press ENTER.

This feature tests the PAGER service. The pager number should include a dial delay. When dialing a pager service, there is usually a delay between the moment when the call is answered and when the message is recorded. For example: "Leave a message for Mr. Smith" takes about three seconds. The Dial Delay parameter is the amount of time that Communicator waits before transmitting its pager alert. Refer to Configuring the Dial Delay, page 29 for more information. Delay is also required when dialing for an outside line.

For example: If the required delay is three seconds and delay is set to two seconds, then two commas are required. The phone number structure is:
5.2.2 Advanced Pager Functions
The following section details the advanced Pager functions.

5.2.2.1 Configuring the Dial Delay

- Go to SYSTEM > Advanced Setup > Line Modem.

When dialing a pager service, some services require additional tone menu browsing (interactive voice response). Use this feature to set a delay between the phone number and the tone browsing. Each “,” represents the number of seconds in delay between the phone number and the next browsing number. Refer to Pager Test, page 28 for more information.

5.3 Text Functions
The following sections detail the Communicator basic and advanced Text functions.

- Basic Text Functions, page 29
- Advanced Text Functions, page 31
- Text Message Responses, page 31

5.3.1 Basic Text Functions
The following sections detail the basic Text functions.

- Testing the Text Function, page 29
- Testing the SMS Ringtone, page 29
- Status Report, page 30

5.3.1.1 Testing the Text Function
This menu enables testing the text function.

1. Go to SYSTEM > TEST > GSM/ > SEND TEXT MSG.

2. Enter in the required mobile phone number to receive the “Test Text” and press ENTER.
3. Confirm that the mobile phone received the following text message:

   “Your Communicator is ready to send alerts via text messages.”

5.3.1.2 Testing the SMS Ringtone
This menu tests the SMS ringtone service.

1. Go to SYSTEM > Test > Dial Out.
2. Enter the required phone number to receive the “Test Call”.
3. Press ENTER.
5.3.1.3 Status Report

Upon a user request, Communicator sends a status report on basic house functions and animal statistics. The report includes the following specifications:

- Target Temp
- Average Temp
- Vent Level
- Vent Mode (minimum ventilation, natural, tunnel)
- Humidity
- Weight (current average animal weight)
- Pressure (static pressure)
- Water Control (daily water consumption)
- Feed Count (daily feed consumption)
- Mortality

By default, the report only includes Target Temperature, Average Temperature, Vent Level and Humidity.

**NOTE:** Platinum Controllers, Version 3.0 and higher, support this function.

To select the parameters:
1. Go to SYSTEM > Advanced Setup > GSM.
2. Use the +/- key to select the required parameter.
3. Press Enter to select/deselect the parameter.
4. Press Save.

The parameters are configured.

To receive a status report:

- **Receiving the Report for One House**
  \[?SX\] > 'Send SMS' to the Communicator cell phone number.

  ? = Start of message
  S = Status report
  X = Represents house number (can be any positive number from 1 - 64)

- **Receiving the Report for Several Houses**
  \[?SX#X#X\] > 'Send SMS' to the Communicator cell phone number

  ? = Start of message
  S = Status report
  X = Represents house number (can be any positive number from 1-64)
  # = Sign separates between every house number
5.3.2 Advanced Text Functions

The following sections detail the advanced Text functions.

- Defining Who Can Text Communicator
- Configuring an SMS Ringtone

5.3.2.1 Defining Who Can Text Communicator

1. Go to SYSTEM > Advanced Setup > GSM.

<table>
<thead>
<tr>
<th>CELLULAR MODEM</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEXT FROM</td>
</tr>
<tr>
<td>TEXT PRECALL</td>
</tr>
<tr>
<td>PRECALL TIME</td>
</tr>
<tr>
<td>Auto Answer</td>
</tr>
<tr>
<td>Operator</td>
</tr>
</tbody>
</table>

This menu defines which cell phones can send messages to the Communicator via text.

2. In the Text From field, choose:
   - Addr. Book (only those addresses which are text enabled) or
   - Any (enables sending text via any cell phone).

**NOTE:** Acknowledgement messages are only sent when Addr. Book is selected.

5.3.2.2 Configuring an SMS Ringtone

If desired, a ringtone can play when an SMS message from Communicator arrives, thereby alerting you of an upcoming message.

1. Go to SYSTEM > Advanced Setup > GSM.
2. In the Text Precall field, select Yes.
3. In the Precall time, enter the time (in seconds). This parameter ensures that there is sufficient time for the phone to ring before the SMS tone plays.

5.3.3 Text Message Responses

This section details how to respond to a text message sent from Communicator to a mobile phone. The response can reset a siren, an alarm, or acknowledge the messages.

Event Codes, page 42 lists the events corresponding to the codes sent in a text message.

- Resetting the Siren, page 31
- Resetting the Alarm, page 32
- Acknowledging a Message, page 32

5.3.3.1 Resetting the Siren

**NOTE:** After typing the text message, press the 'Send' button to send it to the Communicator.

In the procedures below, the **highlighted text** shows the SMS text to be sent.

- Resetting the Siren of One House
  
  ![RX] > 'Send SMS' to the Communicator cell phone number.
  
  I = Start of message
  
  R = Reset
  
  X = Represents house number (can be any positive number from 1-64)
• **Resetting the Siren of Several Houses**

\[RX\#\#\#X\] > 'Send SMS' to the Communicator cell phone number

I = Start of message
R = Reset
X = Represents house number (can be any positive number from 1-64)
# = Sign separates between every house number

• **Resetting the Siren for All Houses**

\[RALL\] > 'Send' to the Communicator cell phone number

I = Start of message
R = Reset
ALL = Can be typed both in capital letters or small letters.

### 5.3.3.2 Resetting the Alarm

To reset all the alarms, send the following text message:

\[C\] > 'Send' to the Communicator cell phone number

I = Start of message
C = Communicator

### 5.3.3.3 Acknowledging a Message

If Message Repeat is enabled (refer to page 43), Communicator continues to send alarms until an acknowledgement is sent.

• **Requesting a Response for Every Sent Text Message**

\[AON\] > 'Send' to the Communicator cell phone number

I = Start of message
A = Acknowledgement

• **Canceling a Response for Every Sent Text Message**

\[AOFF\] > 'Send' to the Communicator cell phone number

I = Start of message
A = Acknowledgement.

### 5.4 Common Functions

The following sections detail the technician tools.

• Go to **SYSTEM > Technician Tools.**

<table>
<thead>
<tr>
<th>TECHNICAL TOOLS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TEST</td>
<td>4</td>
</tr>
<tr>
<td>MESSAGE OPTIONS</td>
<td>1</td>
</tr>
<tr>
<td>HYPER TERMINAL</td>
<td>YES</td>
</tr>
<tr>
<td>MONITOR</td>
<td>2</td>
</tr>
</tbody>
</table>

This menu provides testing tools used by an **authorized** technician only.

• Test
• Message Options
5.4.1 Test
- **Phone Line**: Measures the line voltage.
- **Internet**: (TBD).
- **Relays**: Toggle Relays 1, 2 and Alarm relay status by pressing ENTER.
- **Digital INPUT**: Displays the status of the eight digital inputs.
- **Memory**: Performs EEPROM test by pressing the MENU key.
- **Keyboard**: Tests the functionality of each key. Test keys by pressing them and verifying visually that the right key is displayed on the screen.

5.4.2 Message Options
This parameter specifies the number of times Communicator places a call to a recipient (until the recipient presses "1").
- Under Call ACK Retries, enter the required numbers.
  - **Range**: 1 – 10 (Default: 3)

5.4.3 Hyper Terminal
This is a dedicated function for system integrators ONLY!

5.4.4 Monitor
**TBD**
The following sections detail how to configure the connections between Communicator and the controllers (local communication).

- Network Connection Configuration, page 34
- Channel/Signal Tests, page 36

6.1 Network Connection Configuration

The following sections detail how to configure the baud rate and communication between the Communicator (master) and its subunits (slaves). Communication can be via RS-232, RS-485, or RF.

- Configuring the Channel Settings
- Displaying the Controllers
- Listing the Network Devices

6.1.1 Configuring the Channel Settings

- Go to SYSTEM > Advanced Setup > RF/Wired Network.

This menu defines data rate and settings between the Communicator and its subunits.

NOTE: This menu does not define the data rates to the PC.

- **Baud Rate**: This sets the communication rate between the Communicator and the controllers. For communication to operate properly, set all controllers to the same Baud Rate.
  - Since faster rates and longer transmission distance mean a greater chance of transmission errors, reduce the baud rate as you increase the distance.
  - In any case where there are transmission errors, reduce the baud rate.
  - Communicator, RLINKs/RLINK ONEs (if used), and controllers must have the same baud rate!

NOTE: Incorrect definitions can result in alarms for missing controllers and communication from unidentified controllers.

- **CHANNEL**: This parameter sets the communication channel between the Communicator and an RLINK. For more information, refer to the RLINK or RLINK One Manual.

- **ADDRESS**: The address is a second layer used to set up a secure communication layer to an RLINK, in combination with the Channel or alone. For more information, refer to the RLINK or RLINK One Manual.
6.1.2 Displaying the Controllers

- Press

This screen displays all the controllers that are connected to the system.

• - Represents a recognized controller
□ - No controller is recognized

NOTE: The letter ‘F’ indicates that communication to that house has been lost. The ‘F’ continues to appear until the unit is reset (disconnect and reconnect the power).

6.1.3 Listing the Network Devices

- Go to SYSTEM > Test > Network List.

<table>
<thead>
<tr>
<th>NETWORK LIST</th>
</tr>
</thead>
<tbody>
<tr>
<td>PRIMARY FOUND: 0</td>
</tr>
<tr>
<td>SECONDARY FOUND: 0</td>
</tr>
<tr>
<td>SCAN NETWORK?: NO</td>
</tr>
</tbody>
</table>

- **Primary Found:** Displays the number of primary units found in the network.
- **Secondary Found:** Displays the number of secondary units found in the network.
- **Scan Network?:** Use +/- key to select YES or NO and then press ENTER to scan the network to find/remove primary or secondary units.
6.2 Channel/Signal Tests

The following sections detail how to test the controller communication channels.

- Testing the RS-232/485 Channel
- Testing the Radio RF Signal

### 6.2.1 Testing the RS-232/485 Channel

This menu tests the RS-232/485 communication channel.

- Go to SYSTEM > Test > Wired 232/485.

![Communication Menu](image)

Enter the required unit number and press ENTER to start and stop the test. The screen displays a shaded box in the Tx when transmitting and a shaded box by the Rx when receiving (when functioning properly the shading switches back and forth between the two boxes).

**NOTE:** If the checkbox remains blank, check all connections between the Communicator and the controller.

### 6.2.2 Testing the Radio RF Signal

- Go to SYSTEM > Test > Radio RF Signal.

![RF Test Menu](image)

This menu tests the RF communication channel.

Enter the required unit number and press ENTER. The screen displays the reception bar graph as well as the measured signal reading once available (testing is continuous until exiting this menu). Refer to page 18 for information on configuring the RF network.
7 COMMUNICATOR TO PC CONFIGURATION

The following sections detail the communication between the Communicator and the PC.

- Defining the Communication Speed with the Local PC
- Configuring the Data Connection

7.1 Defining the Communication Speed with the Local PC

- Go to SYSTEM > Advanced Setup > COM/USB.

This screen defines the communication speed (Baud Rate) corresponding with the local PC.

7.2 Configuring the Data Connection

- Go to SYSTEM > Advanced Setup > Line Modem > Advanced.

The Communicator can compress data and send it faster. Use this screen to increase the transfer rate between the Communicator and a remote modem.

- **Modulation**: Auto or V34 transmission. During connect negotiation at which the modems have determined which modulation and rate will be used, meaning before any error.
- **Compression**: Enables or disables data compression performed by the modem, also known as 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**: This feature enables the hardware to vary the data transmission rate.

CAUTION Rotem recommends that the user leave the Advanced menu items at their default settings.
The following section details how to set up the dry contact cards. Communicator supports an eight 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.

1. Go to SYSTEM > Digital Input.

<table>
<thead>
<tr>
<th>#</th>
<th>MESSAGE</th>
<th>[ N ]</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>door opened</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

2. Use the alphanumeric keypad to enter in the message and press ENTER.

3. Define [N] as 1 or 0

The '[N]' column's 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.

The figure above 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 the Adding Names to the Address Book (page 22).
9 COMMUNICATOR FUNCTIONS

The following sections detail functions which relate to the Communicator hardware and software.

- Saving and Restoring System Settings, page 39
- Test Functions, page 39
- Viewing Relay Settings, page 40

9.1 Saving and Restoring System Settings

- Go to SYSTEM > Save/Res Setting > Restore.
  - Restore: Use this feature to restore all settings that were previously saved (restore point is the date of the last save performed).

  MEMORY RESTORE POINT
  21-FEB-10
  CONTINUE? YES

- Go to SYSTEM > Save/Res Setting > Save.
  - Save: Use this feature to save all settings (once a SAVE is performed, this is the new RESTORE point).

  CREATE A NEW MEMORY
  RESTORE POINT
  YES

9.2 Test Functions

The following section details how to test Communicator functions.

- Testing the Backup Battery, page 39
- Viewing Device Status, page 40
- Viewing the Software and Hardware Version, page 40

9.2.1 Testing the Backup Battery

This section details the Backup Battery test.

- Select SYSTEM > Test > Battery.

  BATTERY TEST
  - ■■■■■■■■■■+ 100%
  Charger active

To test the battery:
1. Unplug the unit.
2. View the battery test.

CAUTION In addition to this test, refer to Testing the Alarm Backup Batteries, page 45.
9.2.2 Viewing Device Status

- Select SYSTEM > Test > Hardware Profile.

```
HARDWARE PROFILE
1  VOICE  OK
2  LINE MODEM  OK
3  CELLULAR  OK
```

View functionality status of all possible installed devices.

9.2.3 Viewing the Software and Hardware Version

- Press ?

```
http://www.rotem.com
SOFTWARE  3.00r01-b
HARDWARE  2.04
U1  1.00
U2
```

This screen displays the software and hardware version numbers.

9.3 Viewing Relay Settings

```
RELAYS SETTING
CODE   TIME (s)
RLY1   0
RLY2   0
```

- Select SYSTEM > Relay.

TBD
10 ALARMS

This section details how to:

- Configure advanced alarm settings.
- View the history of alarms and events

Basic Alarm functions are defined in Initial Configuration, page 20.

- Introduction to Alarms and Responses, page 41
- Event Codes, page 42
- Advanced Alarm Settings, page 42
- Alarm and Events History, page 44

10.1 Introduction to Alarms and Responses

Figure 8 illustrates the alarm sequence. The flow ends when an alarm is acknowledged or is no longer active.

Responding to alarms can be done over:

- **Land line**: Via verbal and interactive messaging
- **Cellular**: Via text messaging

**NOTE:** Communicator does not support verbal and interactive messaging via cell phones.
10.2 Event Codes

Table 5 lists the event codes sent in text messages.

<table>
<thead>
<tr>
<th>Event Code</th>
<th>LCD Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&quot;power off &quot;</td>
</tr>
<tr>
<td>2</td>
<td>&quot;power on&quot;</td>
</tr>
<tr>
<td>3</td>
<td>&quot;cold start&quot;</td>
</tr>
<tr>
<td>4</td>
<td>&quot;error-01&quot;</td>
</tr>
<tr>
<td>5</td>
<td>&quot;test running&quot;</td>
</tr>
<tr>
<td>6, 7, 9, 10, 11, 12, 16, 17</td>
<td>&quot;fail&quot;</td>
</tr>
<tr>
<td>8, 13</td>
<td>&quot;no answer &quot;</td>
</tr>
<tr>
<td>14</td>
<td>&quot;page sent &quot;</td>
</tr>
<tr>
<td>18</td>
<td>&quot;text sent &quot;</td>
</tr>
<tr>
<td>19, 20</td>
<td>&quot;ack alarm &quot;</td>
</tr>
<tr>
<td>21</td>
<td>&quot;disable alarm &quot;</td>
</tr>
<tr>
<td>22, 23, 24</td>
<td>&quot;low signal&quot;</td>
</tr>
</tbody>
</table>

10.3 Advanced Alarm Settings

The following sections detail the advanced alarm functions. Basic alarms are set up in Initial Configuration.

- Resetting the Alarms, page 42
- Disabling Alarms, page 43
- Defining the Message Delay, page 43
- Defining the Message Repeat Parameter, page 43
- Defining the Internal Alarms, page 44
- Defining the Battery Alarm, page 44

10.3.1 Resetting the Alarms

- Go to ALARM > Reset.

  SELECT UNIT (+/- KEY)
  TO RESET PRESS ENTER
  UNIT = 0

This menu resets the alarms of any controller that exists within the network. The Communicator’s unit number is 0.

Use the +/- key to navigate to the required unit number.
10.3.2 Disabling Alarms

- Go to ALARM > Disabled Alarms

View disabled alarms and re-enable these alarms.

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

- Scroll right to view message.
- Press +/- to re-enable the alarm and then press ENTER.

NOTE: Alarms that are re-enabled are cleared from the list.

10.3.3 Defining the Message Delay

- Go to ALARM > Options.

This menu defines the waiting times between an alarm event and its reporting.

- Call-Out (seconds): Define the waiting time before the communicator begins the reporting sequence.
- Between Users (seconds): Define the waiting time before contacting the next user within the address book.

10.3.4 Defining the Message Repeat Parameter

- Go to ALARM > Options.

By default, when an alarm is sent, it must be acknowledged by one of the contacts. If there is no acknowledgment, Communicator resends the alarm (refer to Acknowledging a Message, page 32). This menu defines the waiting time before Communicator reinitiates the reporting (VOICE, PAGER, TEXT).

NOTE: Enter 0 to disable this option.
10.3.5 Defining the Internal Alarms

- Go to ALARM > Options.

Internal alarms are generated by the Communicator unit (external alarms are generated by the controllers). This menu defines:

- **Delay** (seconds): Define the waiting time before the communicator generates an internal message.
- **Reminder** (minutes): After an alarm has been acknowledged but not dealt with, the communicator recreates an internal message according to the amount of time defined. Define the time in this option.
- **Power Restore Message**: Define YES/NO for a message to be sent after a Power Restore event.

10.3.6 Defining the Battery Alarm

- Go to SYSTEM > Advanced Setup > Battery.

This menu defines the hold time (in seconds) before the communicator generates an alarm message regarding the battery charge.

10.4 Alarm and Events History

This section details how to view records of alarms and events.

- Displaying the Alarm History, page 44
- Displaying the User Events, page 45
- Displaying the System Events, page 45

10.4.1 Displaying the Alarm History

- Go to HISTORY > Alarms.

This screen displays alarms from all houses as well as the Communicator (Communicator: 0 and Houses: 1 – 64).

- Use +/- to toggle the SORT BY option from: H=House; D=Date; and C=Code.
- Scroll right to view message.
10.4.2 Displaying the User Events

- Go to ALARM > User Events.

<table>
<thead>
<tr>
<th>USER EVENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
</tr>
<tr>
<td>18-JAN</td>
</tr>
<tr>
<td>07-FEB</td>
</tr>
</tbody>
</table>

Any changes or events created by users from the address book appear in this table.

- Scroll right to view alarm and user number.
- Code is the alarm code.

10.4.3 Displaying the System Events

- Go to ALARM > System Events.

<table>
<thead>
<tr>
<th>SYSTEM EVENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>DATE</td>
</tr>
<tr>
<td>18-JAN</td>
</tr>
<tr>
<td>07-FEB</td>
</tr>
</tbody>
</table>

This menu displays all Communicator system events.

- Scroll right to view message.

10.5 Testing the Alarm Backup Batteries

To ensure that the Communicator continues to broadcast alarms in the event of a power outage, the unit comes equipped with a set of 12 V backup batteries. These batteries must be kept properly charged at all times.

**WARNING!** Failure to test your pack regularly and change the pack as required can result in losses in the event of a general power failure!

Rotem strongly recommends:

- Checking the backup battery pack once a month (see the procedure below).
- Replacing the battery pack once a year, regardless of the test results.
Figure 9: Communicator Battery Packs

The following two tests provide accurate data regarding the backup battery pack's charge level. Rotem recommends performing both tests.

If you need to replace the battery, order a Communicator Battery Pack.

**NOTE:** Rotem recommends keeping a spare pack in stock to avoid any shipping delays.

### 10.5.1 Dial-Up Test

- Unplug the unit.
  - If the batteries are charged, Communicator sends an SMS/voice/pager alarm message to the numbers configured in the Address Book. The message should arrive within several minutes.
  - If the batteries are not charged, Communicator does not send an alarm message. In addition, an alarm message appears on the screen.

### 10.5.2 Voltage Test

1. Remove the battery pack.
2. Using a voltmeter, test the pack. The voltage of a new charged battery pack ranges between 7.2 V and 7.6 V. The voltage of a battery pack that has been in use for an extended period of time will be 7.2 V or lower.
   - If the power is above 7.0 volts or higher, continue using the battery pack.
   - If the power is below 7.0 volts, replace the pack immediately.

**NOTE:** Check the CPU Battery once a year, as described in Testing the Backup Battery, page 39.
11 TROUBLESHOOTING

The following section details common troubleshooting procedures.

- Hardware, page 47
- Communication to Controllers/PC, page 47
- Cellular Modem, page 48
- RF Communication, page 50
- Voice Card, page 51
- Alarm, page 52
- Line Modem, page 52

11.1 Hardware

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

Refer to Viewing Device Status, page 40.

The Communicator displays O.K. for an installed device and N/A for a device that is not available.

1. Reset the hardware: Turn the battery switch OFF and unplug the power source.
2. Reconnect the power and switch the battery ON so that the unit rescans the hardware.
3. Open the Communicator and check that the device is installed properly.
4. If still not operating, replace the device.

Battery failure alarm is received

1. Make sure the Communicator is connected to an electric power supply.
2. In ‘Battery Test’ menu (page 39), check the battery and charger status.
3. Open the Communicator's box and check the battery's wiring (Figure 1, page 11).
4. If the wiring connections are OK, replace the battery pack. (Part number: SP-COMM-BAT).

NOTE: If you replace the voice card, line modem, or cell modem, perform a Cold Start after replacing the device (Section 3.1, page 11).

11.2 Communication to Controllers/PC

NOTE: Refer to Displaying the Controllers, page 35 to display the controller.

Not all units found due to updating primary units. In other words, the number of controllers is not identical to the number of controllers entered in the Controllers menu (Identifying the Controllers, page 22).

1. Make sure the Communicator is connected to an electric power supply.
2. Press Hot Key 0 (page 35) and check if either some of the controllers are missing (empty squares), or all of them.
3. Check communication with the missing unit:
   - If the system has a wired connection, refer to Channel/Signal Tests, page 36.
   - If the system has an RF link, refer to page 36.
4. Check Baud Rate (refer to the relevant section in Network Connection, page 34) on both sides if using 232/485 communication card.
5. Go over the number of controllers and make sure there is no conflict between the units (make sure that two units do not have the same configuration number).
6. If all above are OK:
   a) Check the wiring for 232/485 communication card.
b) Check RF card signal strength (refer to Testing the Cellular Signal Strength, page 25).

'Lost unit number' alarm
1. Verify that the Communicator is connected to a power supply.
2. Press Hot Key 0 (page 35) and check if either some or all of the controllers are missing (empty squares).
3. Verify communication with the missing unit:
   a) If the system has a wired connection, go to System – Test – Wired RS232/485 (refer to page 36).
   b) If the system has an RF link, go to Radio System – Test Radio RF Signal (Refer to page 36).
4. If you are using a 232/485 communication card, check the Baud Rate on both sides (refer to Routing Methods, page 34).
5. If an RF communication card is being used, check Additional Channel Setting (refer to Routing Methods, page 34).
6. Go over the controller numbers and make sure there is no conflict between the units (make sure two units do not have 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 (refer to Testing the Cellular Signal Strength, page 25).

No local communication with PC
1. Ensure that the serial port Baud Rate matches the PC baud rate (refer to Routing Methods, page 34).
2. Go to Computer Port list. 'Com 1 RD' LED should flash on the front panel. Test the communicator through RotemNet software.

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

3. If using a USB cable, reinstall the driver from the CD (refer to USB Driver Installation, page 14).

**11.3 Cellular Modem**

**Problem in signal strength**
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.
  1. If signal does not improve, insert the SIM card into a cell phone and check the signal (GSM only).
  2. If the signal is weak, check with your service provider.
  3. If the signal is OK, change the module.
  4. If no signal exists:
     a) Check antenna connection.
     b) Check connection to the module (GSM).
     c) Check the wiring. If there is a problem, contact the dealer.

Refer to the appropriate section in , page 55 for detailed instructions on exchanging the modem.

- Text test failure in menu (refer to Testing the Text Function, page 29).

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.
11.4 RF Communication

No RF connection

- Check the signal strength (refer to Testing the Radio RF Signal, page 36).
  - If it is weak, change the antenna location.
  - If the strength is zero:
    1. Check the baud rate and the channel address (refer to Configuring the Channel Settings, page 34). Correct if needed.
    2. Ensure that the Communicator’s baud rate matches the controllers’ baud rate.
- Check RF card configuration:
  - Try to change the baud rate and channels on both sides (refer to Configuring the Channel Settings, page 34). In this situation, lower the baud rate.
  - Improve the antenna’s location.
  - Replace P-COMM-RF10-9-S COMMUNICATOR RF (Refer to Replacing the RF-Card, page 55).
11.5 Voice Card

Voice does not function

1. Refer to Testing Voice, page 24 and perform a voice test.
2. Change the parameters as required (refer to Testing Voice Quality, page 24).

**NOTE:** Do not forget to confirm by moving the cursor to the 'TEST' parameter and pressing 'ENTER'.

3. Verify speaker cable is connected.
4. Turn the volume trimmer on voice card until required volume is reached (Figure 14) (refer to Figure 1, page 11 to see the voice card location).
5. If none of the above helps, contact your dealer.

Figure 13: Voice Card Location

Figure 14: Volume Trimmer
11.6 Alarm

No messages are being received from the Communicator
1. Verify active alarms are not defined as disable state (refer to Setting the Test Schedule, page 20).
2. Go over the contact group, make sure the users are not set to 'idle' (refer to Adding Names to the Address Book, page 22) and that the contact information is entered correctly.
3. Verify that the controllers are functioning properly (meaning are transmitting alarms or messages).

Alarm LED is ON but the siren does not operate
1. Check the siren's connection to the relay with battery (see Figure 3, page 13).
2. Perform an alarm relay test found in SYSTEM->Technician Tools->Test->Relays (refer to Test, page 33).

11.7 Line Modem

'No dial tone' alarm
1. Verify that there is a line by using a phone connected to the phone jack.
2. Perform PHONE LINE VOLTAGE test, (SYSTEM – Technician Tools – Test – Phone Line (page 33)). Voltage should be above 40 V (normally it is 48 V or more).
3. If it is above 40 V, connect a regular phone for testing.
4. If the line is not operating, check with your service provider.
5. If the line is operational, perform power cycle for Communicator (turn device off and then back on). Allow a few minutes until the Communicator recovers.

Dial Out is not functioning
1. Insert extra delay by adding commas (refer to Configuring the Dial Delay, page 29).
2. If you have an ADSL modem on the same line, verify that your ADSL line filter meets your service provider's specifications (high quality line balanced).
3. Contact technical support.

11.8 Battery

'critical error/check battery wiring' alarm appears
1. Check the backup battery wiring; verify that all connections are in place.
2. If the pack is correctly wired, the battery pack does not hold a charge. Replace the pack.
## Specifications

### Power Supply

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains Voltage</td>
<td>Single Phase 230 VAC (outside the US &amp; Canada)</td>
</tr>
<tr>
<td>115 V AC</td>
<td>0.5 A (US &amp; Canada)</td>
</tr>
<tr>
<td>Mains Frequency</td>
<td>50/60 Hz</td>
</tr>
<tr>
<td>Maximum Power Consumption</td>
<td>40 W</td>
</tr>
</tbody>
</table>

### Main Fuses

<table>
<thead>
<tr>
<th>Fuse</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Fuse (12 V)</td>
<td>125/250 V, 100 mA T</td>
</tr>
<tr>
<td>Main Fuse (Switching P.S.)</td>
<td>125/250 V, 2 A T</td>
</tr>
</tbody>
</table>

### Connection Box Peripherals

#### Digital Inputs

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

#### Relays Outputs

<table>
<thead>
<tr>
<th>Relay Type</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>N.C/N.O. (OMI) Blue Small Low Power Relay</td>
<td>5 Amps, 250 VAC</td>
</tr>
<tr>
<td>N.O and N.C (Double) (OMI) Pilot Duty</td>
<td>5 Amps, 250 VAC</td>
</tr>
</tbody>
</table>

### Housing

Metal Box Dimensions (L x W x H)
- 262 x 262 x 80 mm

### Ambient Climate

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Temperature Range</td>
<td>0° to +50° C / 32° to 125° F</td>
</tr>
<tr>
<td>Operating Humidity Range</td>
<td>0% to 95%</td>
</tr>
<tr>
<td>Storage Temperature Range</td>
<td>-10° to +70° C / 14° to 158° F</td>
</tr>
</tbody>
</table>

### Certification

[Certification Logo]
## Compatibility Issues with the Communicator CPU

There are occasions when upgrading or replacing the Rotem Communicator CPU in which the replacement unit does not support the existing hardware.

The CPU replacement card is P/N: **COMM–CPU Version 2.3 or 3.1**.

### Supported Hardware:

- Keyboard P/N: COMM–KBD Version 2.3 and higher
- Connection Box P/N: COMM–BOX Version 2.0 and higher

**NOTE:** Version 1.4 is supported but lacks recommended lightening protection. Rotem recommends installing Version 2.0 or higher.


**NOTE:** Version 1.4 is supported but lacks recommended lightening protection. Rotem recommends installing Version 2.0 or higher.

- Power Supply P/N: COMM–PS. All versions are supported

**NOTE:** Most Communication Cards, Version 2.0 have a wired correction added to the card. The CPU supports these cards as well. Card lacking the correction are not supported.

- RS-485 Communication Card P/N: COMM–RS485 Version 2.0 and higher
- Voice Card P/N: COMM–Voice Version 2.1 and higher

**NOTE:** Version 2.0 is also supported. However the speaker must be plugged directly into the voice card.
The following sections illustrate how to replace various communication cards.

**NOTE:** Refer to Choosing Communication Cards, page 8 for further information on Rotem communication cards.

- Replacing the RS-232 Card, page 55
- Replacing the RF-Card, page 55
- Installing a GSM-S or GSM-W Card, page 56
- Installing a 3G Cell Modem Card, page 57

### 14.1 Replacing the RS-232 Card

- Insert the RS-232/485 communication card into the indicated sockets and fasten it with two screws.

### 14.2 Replacing the RF-Card

1. Insert the card to its socket in the communicator.
2. Fit the black wire through the hole as illustrated above and connect to the RF card. Screw nuts connected to the RF card (make sure you leave enough slack for antenna cable).
3. Set the dipswitches. Refer to the *RF Communication Card Installation* sheet for more information.

### 14.3 Installing a GSM-S or GSM-W Card

**NOTE:** Before installing a SIM card, disable the PIN code (if the card has this code). Communicator text functions are disabled if the SIM card has a PIN code.

1. Turn off the Communicator and open the cover.
2. Place the card in place.

![Image of GSM-S or GSM-W card](image)

Insert a SIM card into GSM-S to enable the Voice Dial-In feature.

**NOTE:** Refer to Configuring the Telephone Modem, page 26 for information regarding the Voice Dial-In feature.

**WARNING!** Communicator does not support pre-paid SIM cards. Use a regular card only!
14.4 Installing a 3G Cell Modem Card

NOTE: Before installing a 3G card, disable the PIN code (if the card has this code). Communicator text functions are disabled if the card has a PIN code.

1. Turn off the Communicator and open the cover.
2. Place the card in place.
3. Insert the cell modem cable into the Cell Modem mounting port and tighten the retaining bolt.
4. Close the cover, apply power and turn on the unit.
5. Go to System > Save/Res Setting > Save and backup all settings.
6. Perform a Cold Start. The Communication Unit will detect the new modem.
7. If required, restore the Communication Unit's settings.
8. Go to SYSTEM → Test → GSM/CDMA. The signal strength must be between -113 dBm to -51 dBm.
9. Go to SYSTEM → TEST → GSM/CDMA → SEND TEXT MSG.
   a. Enter in the required mobile phone number to receive the “Test Text” and press ENTER.
   b. Confirm that the mobile phone received the following text message:
      o “Your Communicator is ready to send alerts via text message”
## APPENDIX B: PAGER CODES

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Unknown Alarm</td>
</tr>
<tr>
<td>1</td>
<td>Low Temperature</td>
</tr>
<tr>
<td>2</td>
<td>High Temperature</td>
</tr>
<tr>
<td>3</td>
<td>Sensor 1 Low Temperature</td>
</tr>
<tr>
<td>4</td>
<td>Sensor 1 High Temperature</td>
</tr>
<tr>
<td>5</td>
<td>Emergency 1 Low Temperature</td>
</tr>
<tr>
<td>6</td>
<td>Emergency 1 High Temperature</td>
</tr>
<tr>
<td>7</td>
<td>Circuit Breaker High Temperature</td>
</tr>
<tr>
<td>8</td>
<td>Egg Room Low Temperature</td>
</tr>
<tr>
<td>9</td>
<td>Egg Room High Temperature</td>
</tr>
<tr>
<td>10</td>
<td>Temperature Sensor 1 Out of Range</td>
</tr>
<tr>
<td>11</td>
<td>Difference Between Outside Sensors</td>
</tr>
<tr>
<td>12</td>
<td>Low Relay Current</td>
</tr>
<tr>
<td>13</td>
<td>High Relay Current</td>
</tr>
<tr>
<td>21</td>
<td>Low Humidity</td>
</tr>
<tr>
<td>22</td>
<td>High Humidity</td>
</tr>
<tr>
<td>23</td>
<td>Egg Room Low Humidity</td>
</tr>
<tr>
<td>24</td>
<td>Egg Room High Humidity</td>
</tr>
<tr>
<td>31</td>
<td>Low Pressure</td>
</tr>
<tr>
<td>32</td>
<td>High Pressure</td>
</tr>
<tr>
<td>33</td>
<td>Emergency Pressure</td>
</tr>
<tr>
<td>34</td>
<td>Low System Pressure</td>
</tr>
<tr>
<td>40</td>
<td>Valve 1 Low EC</td>
</tr>
<tr>
<td>41</td>
<td>Valve 1 High EC</td>
</tr>
<tr>
<td>42</td>
<td>Valve 1 Low PH</td>
</tr>
<tr>
<td>43</td>
<td>Valve 1 High PH</td>
</tr>
<tr>
<td>44</td>
<td>EC Pre-Control Valve 1 Low</td>
</tr>
<tr>
<td>45</td>
<td>EC Pre-Control Valve 1 High</td>
</tr>
<tr>
<td>46</td>
<td>EC Sensor 1 Failure</td>
</tr>
<tr>
<td>47</td>
<td>pH Sensor 1 Failure</td>
</tr>
<tr>
<td>48</td>
<td>EC Pre-Control Sensor Failure</td>
</tr>
<tr>
<td>49</td>
<td>EC Sensors High Difference</td>
</tr>
<tr>
<td>50</td>
<td>pH Sensors High Difference</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>51</td>
<td>Emergency Wind Speed</td>
</tr>
<tr>
<td>52</td>
<td>High Ammonia</td>
</tr>
<tr>
<td>53</td>
<td>Weather Station Lost</td>
</tr>
<tr>
<td>54</td>
<td>Low Oxygen</td>
</tr>
<tr>
<td>55</td>
<td>Oxygen Sensor Failure</td>
</tr>
<tr>
<td>56</td>
<td>Radiation Factor Is 0</td>
</tr>
<tr>
<td>82</td>
<td>Feeder 1 in Overtime</td>
</tr>
<tr>
<td>83</td>
<td>Female Auger in Overtime</td>
</tr>
<tr>
<td>84</td>
<td>Male Auger in Overtime</td>
</tr>
<tr>
<td>85</td>
<td>Auger 1 In Overtime</td>
</tr>
<tr>
<td>89</td>
<td>Low Feed In Female Bin</td>
</tr>
<tr>
<td>90</td>
<td>Low Feed In Male Bin</td>
</tr>
<tr>
<td>91</td>
<td>Low Feed in Bin 1</td>
</tr>
<tr>
<td>92</td>
<td>Feed Container Overflow</td>
</tr>
<tr>
<td>93</td>
<td>Feed Shortage</td>
</tr>
<tr>
<td>94</td>
<td>Wind direction sensor failure</td>
</tr>
<tr>
<td>101</td>
<td>Water Overflow</td>
</tr>
<tr>
<td>102</td>
<td>Water Shortage</td>
</tr>
<tr>
<td>103</td>
<td>Water meter 1 Leak *</td>
</tr>
<tr>
<td>104</td>
<td>Valve 1 High Flow</td>
</tr>
<tr>
<td>105</td>
<td>Valve 1 Low Flow</td>
</tr>
<tr>
<td>106</td>
<td>Valve 1 No Flow</td>
</tr>
<tr>
<td>107</td>
<td>System Stopped by Flow Alarm</td>
</tr>
<tr>
<td>108</td>
<td>Negative Flow</td>
</tr>
<tr>
<td>109</td>
<td>Low Water Pressure</td>
</tr>
<tr>
<td>111</td>
<td>Temperature Sensor 1 Shorted</td>
</tr>
<tr>
<td>112</td>
<td>Temperature Sensor 1 Opened</td>
</tr>
<tr>
<td>113</td>
<td>Zone 1 Temperature Failure</td>
</tr>
<tr>
<td>114</td>
<td>Outside Temperature Failure</td>
</tr>
<tr>
<td>115</td>
<td>Temperature Sensor 1 Failure</td>
</tr>
<tr>
<td>116</td>
<td>Humidity Sensor 1 Failure</td>
</tr>
<tr>
<td>117</td>
<td>Pressure Sensor Failure</td>
</tr>
<tr>
<td>118</td>
<td>Emergency Sensor 1 Shorted</td>
</tr>
<tr>
<td>119</td>
<td>Emergency Sensor 1 Opened</td>
</tr>
<tr>
<td>120</td>
<td>Circuit Breaker Temperature Failure</td>
</tr>
<tr>
<td>121</td>
<td>Emergency Card 1 Temperature Failure</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------</td>
</tr>
<tr>
<td>122</td>
<td>Average Sensors Failure</td>
</tr>
<tr>
<td>123</td>
<td>Indoor Pressure Sensor Failure</td>
</tr>
<tr>
<td>124</td>
<td>Outside Pressure Sensor Failure</td>
</tr>
<tr>
<td>125</td>
<td>Outside Temperature Sensor Shorted</td>
</tr>
<tr>
<td>126</td>
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<td>External Alarm 1 Activated</td>
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<td>Emergency Temperature Settings Error</td>
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<td>Egg Sensor Conflict</td>
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<td>209</td>
<td>Outside Sensor Conflict</td>
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<td>210</td>
<td>Poultry Inventory not defined</td>
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<td>211</td>
<td>Outside Temperature Error</td>
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<td>214</td>
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<td>Below minimum air</td>
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<tr>
<td>233</td>
<td>Auger is empty</td>
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</tbody>
</table>
When designing a control system:

- Each Rotem Controller has its own specific communication card for any supported communication infrastructure.
- There is specific wiring required for each infrastructure.

This paper details which 1) controller communication cards to install 2) wiring infrastructure to use in order to support each infrastructure technology.

<table>
<thead>
<tr>
<th>Infrastructure</th>
<th>RS-232 Current Loop</th>
<th>RS-485 Standard</th>
<th>RS-485 Isolated</th>
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<tbody>
<tr>
<td><strong>Communicator</strong></td>
<td></td>
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<tr>
<td><strong>Communication Card</strong></td>
<td>C-COMM-RS232</td>
<td>C-COMM-RS485</td>
<td>C-COMM-485</td>
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<tr>
<td><strong>Controllers’ Communication Cards</strong></td>
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<td></td>
<td>232 ISO / 485 Extension Card</td>
<td>485 STD/ 485 Extension Card</td>
<td></td>
</tr>
<tr>
<td><strong>SuperGuard</strong></td>
<td>N/A</td>
<td>SGP 485 Communication Card</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Smart 4/8</strong></td>
<td>Smart 232 Communication Card</td>
<td>Smart 485 Communication Card</td>
<td>Smart 485 Communication ISO</td>
</tr>
<tr>
<td><strong>AC-2000 PL/SE RFS, RSW</strong></td>
<td>Direct On-Board</td>
<td>Use an External RS-485 Converter</td>
<td>Use an External RS-485 Converter</td>
</tr>
</tbody>
</table>
17APPENDIX D: ETHERNET CARD/ROTEMNET SETUP

This section explains how to set up an internet connection for Communicator unit having an Ethernet Card (P/N: 904-99-00054). Users having a Comm-Box should refer to Communicator / Comm-Box Connectivity, page 18.

- Setting Up an Internet Connection Using an Ethernet Card
- Setting Up a Network Using RotemNet

17.1 Setting Up an Internet Connection Using an Ethernet Card

Communicators having an Ethernet Card can access the Communicator and controllers via a web browser to view the controller parameters.

**NOTE:** For full control, use RotemNet (refer to Setting Up a Network Using RotemNet, page 66).

Internet is supported by:

- Communicator, software version 3.0 and higher
- Platinum Controllers, software version 3.0 and higher
- Rotem Net, version 1.3.17 and higher

**NOTE:** This section refers to Communicator Version 3.1 only equipped with Ethernet mode cards. Users having Version 2.3 should contact technical support.

1. In the Communicator screen, select **SYSTEM > Advanced Setup > Internet > My Account**.
2. Write down the Ethernet device serial number.
3. On the Ethernet cable port (Figure 1), verify that:
   - the green lights remains on
   - the yellow light blinks
4. Set the Communicator Internet settings.
   a. In a web browser, go to [http://www.myrotem.net](http://www.myrotem.net).
   b. In the Account Name field, type rotem.
   c. In the Password field, type 1.
      The Register page appears.
   d. Fill out all of the fields.
      e. Type the CAPTCHA letters.
      f. Click Submit.
      myrotem.net sends a confirmation message to the email address entered.
5. In **SYSTEM > Advanced Setup > Internet > My Account**
   a. Edit the IP number or address (myrotem.net) and PORT number as required.
   b. In the Name field, type the name.
   c. In the Account name, type the account name that you chose on the myrotemnet page.
   d. In the Users field, type the maximum number of users that can simultaneously access the network.
   e. Click Save.
The Internet connection is now configured.

6. In a web browser, go to [http://www.myrotem.net](http://www.myrotem.net) and login using the name and password that you chose.

appears

- If the Communicator is defined correctly, it is displayed on the site with its name and its status is a green circle.
- If the Communicator is not defined correctly, it does not appear on the screen.
- The red exclamation mark (!) indicates that the chip is not online. This means that there is a connectivity problem, lost internet connection, or other possible problems. It does not mean that the Communicator is not defined properly.

![Image of RotemNet Home Page](example)

**Figure 15: My RotemNet Home Page (Example)**

7. Click ![button to view controller details](example) appears.

- Rotem recommends the following resolutions when viewing the web:
  - PC: 1280/1024 Text size medium
  - Laptop: 1024/768 Text size medium
17.2 Setting Up a Network Using RotemNet

Accessing the Communicator or controllers via RotemNet enables local and remote management of your equipment. The following is a summary of the steps needed to setup a network using the RotemNet software. For complete instructions, refer to the RotemNet manual.

1. Using the provided CD, install and run RotemNet.
2. Refer to the following sections:
   - Local Network
   - Remote Network
3. Select the communication port.
   - If the connection is via the USB port, select Communicator.
4. Select the number of controllers and the controller type.
5. Press Start Scan.

RotemNet scans the system and lists the controllers.

17.2.1 Local Network

1. Under Network Setup, select Local Network.
2. Select the required baud rate.

NOTE: The selected baud rate must be the same as the rate selected in the Communicator.

3. Select the communication port.

NOTE: If the connection is via the USB port, select Communicator.

4. Select the number of controllers and the controller type.
5. Press Start Scan.

17.2.2 Remote Network

1. In RotemNet, select Internet and click OK.
2. In the Internet Communication window set the:
   a. Farms account name
   b. Account Name
   c. Chip serial number

NOTE: This information must be the same as the data entered in Communicator.

3. If you are configuring multiple farms:
   a. Enter a name for each farm.
   b. Enter an Ethernet chip number for each farm.
   c. Configure the controller setup for each farm.
4. To connect to a farm, click Connect.

NOTE: Refer to Initial Configuration, page 20.