USER MANUAL

1. General Description

GM's **LineCOMM** Communication system is a RS485 protocol wired communication system that is used to connect Outdoor Electronic Cabinets housing GM's V-Alert or Electric Security Fencing Systems with GM's **SecurCOMM** Integrated Security Site Management Application.

2. Product Features

- ☑ Wired Communication System employing state-of-the-art communication protocol.
- ☑ Consists of LineCOMM communication cards connecting to a LineCOMM Receiver Card installed in the Control Room.
- ☑ The LineCOMM Receiver Card interfaces with a computer running the SecurCOMM Integrated Security Site Management Application.
- ☑ Multi-directional configuration – loop, closed loop and star configuration.
- ☑ 1 Communication Card connects with up to 2 V-Alert Processor Cards.
- ☑ Continuous 2-way communication ensures that there is no communication breakdown – essential for high security applications.
- ☑ No Communication System breakdown in closed loop configuration in the event of a CUT in the Communication Cable.
- ☑ Ongoing "handshake" communication between the Computer and LineCOMM Receiver.
- ☑ Simple and user-friendly configuration using the LineCOMM Settings Manager.
- ☑ Alarm Storage Buffer – no alarms will be lost.
- ☑ Real-time synchronization between all system elements.
- ☑ LineCOMM Receiver has 2 USB Ports for connection to MAIN and BACK-UP computers.
- ☑ Integration of any number of 20-zone relay card possible ANYWHERE along the communication line for integration of other systems (CCTV, other alarm contacts etc). Configured using the SecurCOMM Software.
- ☑ Configuration of ALL the individual LineCOMM Communication Cards (TX) from the LineCOMM Receiver Cards (RX).

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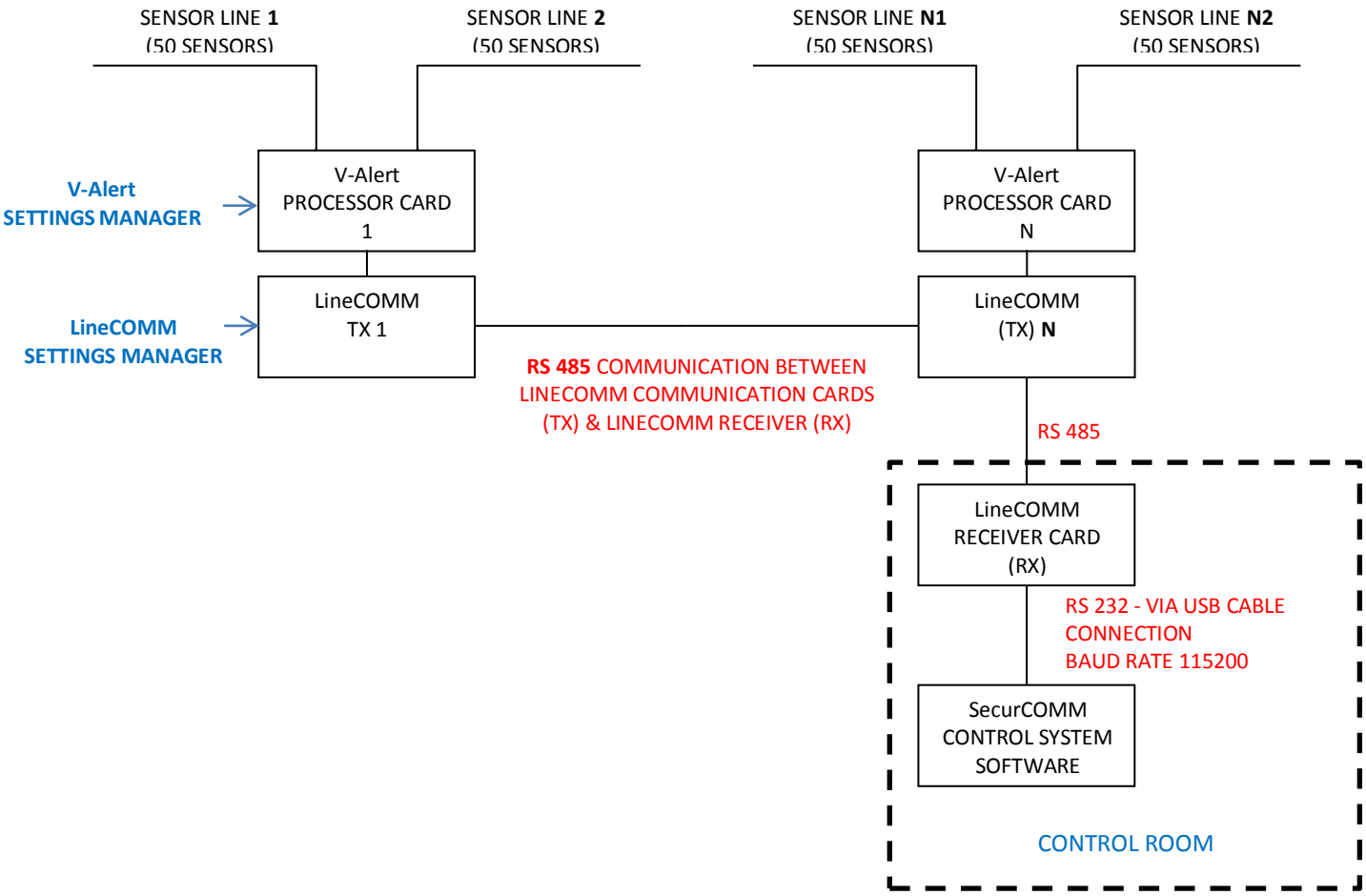
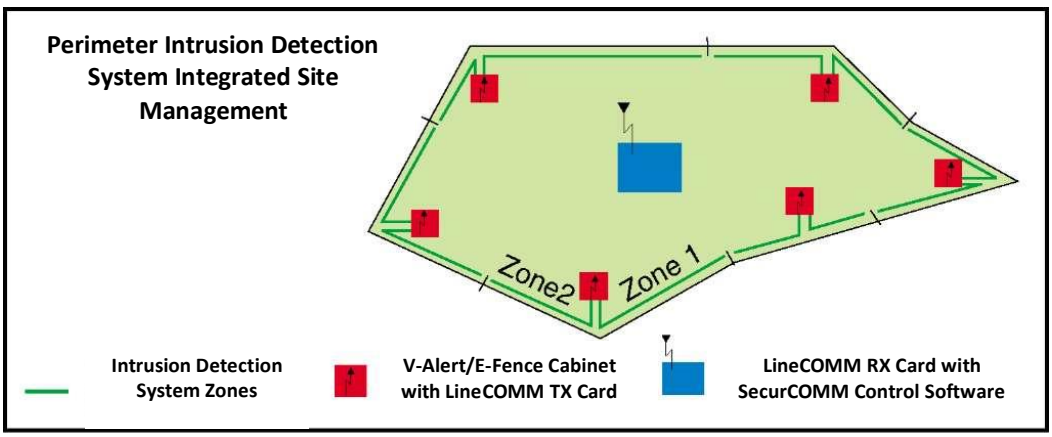
3. Block Diagram – Typical Project Configuration V-Alert Installation





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4. Typical Applications

4.1. V-Alert Installation

- The V-Alert Processor Card is connected to the LineCOMM Communication Card with a special cable that transfers all the alarm indications from the V-Alert Processor Card to the LineCOMM Communication Card.
- It is possible to connect TWO V-Alert Processor Cards to ONE LineCOMM Communication Card.

4.2. Electric Fencing Installation

- The Alarm outputs from the Electric Fencing High Voltage and Low Voltage Monitor Cards are inputted into the 10 available input s of the LineCOMM Communication Card

5. Let's Get Started

5.1. GM wishes you success in the installation and operation of the LineCOMM System. We are pleased that you have chosen to use the LineCOMM Communication System.
5.2. Please read the User Manual carefully prior to installation.
5.3. This User Manual explains the operation and use of the LineCOMM Communication Card (TX) which works in conjunction with the LineCOMM Receiver Card (RX).
5.4. The LineCOMM System is typically used together with GM's Electronic Perimeter Intrusion Detection Systems:
- V-Alert Intrusion Detection System.
- E-Fence Electric Fencing Intrusion Detection System.

5.5. In addition the LineCOMM System interfaces with GM's SecurCOMM Central Control Monitoring Software.
5.6. Please install the LineCOMM Settings Manager on your computer. The LineCOMM Settings Manager is a Utility Software Program provided free to customers and installers. The software is required to set-up the LineCOMM Communication Card settings.
5.7. For additional questions please call GM's Technical Support: +972-9-7662965

6. System Components

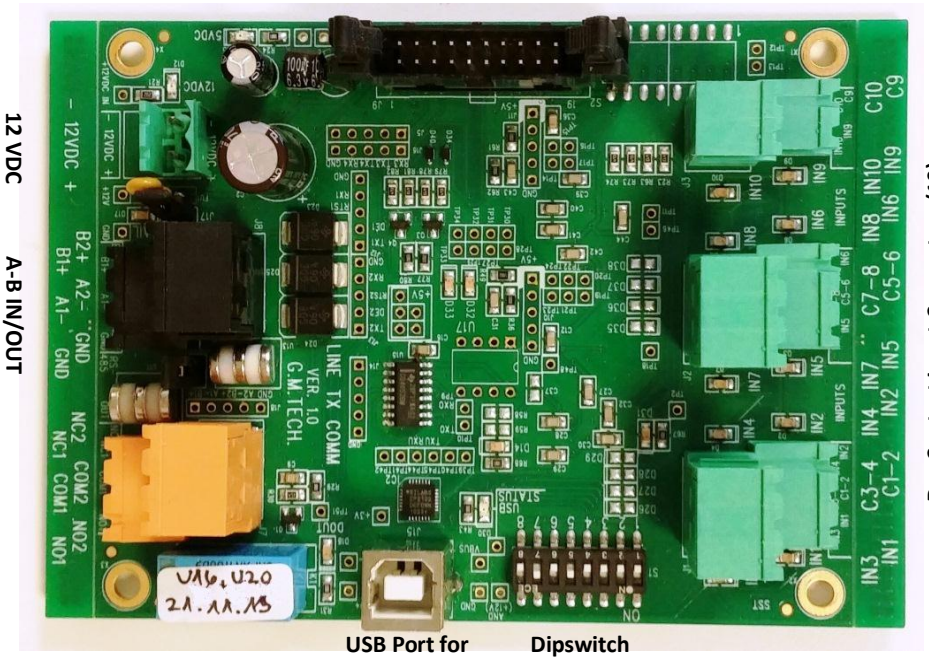
6.1. LineCOMM Communication Card (TX)

- The LineCOMM Communication Card can be supplied as a stand-alone unit that will be installed by the user.
- Alternately the LineCOMM Communication Card can be supplied by GM installed inside an outdoor electronic cabinet with all the internal cabinet wiring ready for operation.
- The 10 Dry Contact Input Connectors are used for inputting the alarms signals from electric fencing applications or for the transmission of any alarm signals from any other alarm detector.
- When using the LineCOMM Card with GM's V-Alert Processor Card, the alarm signals are inputted via a flat communication cable connector.

Flat Cable Connector
Cable to V-Alert

12 VDC connector

A-B IN/OUT Connectors



Dry Contact Input Connectors (10)

USB Port for Settings Manager

Dipswitch

COMPONENT	DESCRIPTION		
12 VDC CONNECTOR	Input plug for the connection to 12V DC power		
A-B IN/OUT CONNECTOR	A1	OUT (white cable) to next cabinet	BOTTOM CONNECTORS
	B1	OUT (blue cable) to next cabinet	
	GND	Ground	
	A2	IN (white cable) from previous cabinet	TOP CONNECTORS
	B2	IN (blue cable) from previous cabinet	
	GND	Ground	
USB PORT	USB Port is for connecting to a computer for setting up the LineCOMM Communication Card settings.		
DIPSWITCH	Dipswitch for setting the dipswitch number of the LineCOMM card operating with the associated V-Alert Processor Card.		
DRY CONTACT INPUT CONNECTORS	IN1 to IN10	10 dry contact input connectors for inputting dry contacts from any alarm system or from an E-Fence Cabinet.	
	C 1-2 C 3-4 C 5-6 C 7-8 C 9 C 10	COMMON connectors for the associated dry contact inputs (1-10)	
Jumpers	J4	120 ohm end of line resistor when the jumper is closed	
	J17		

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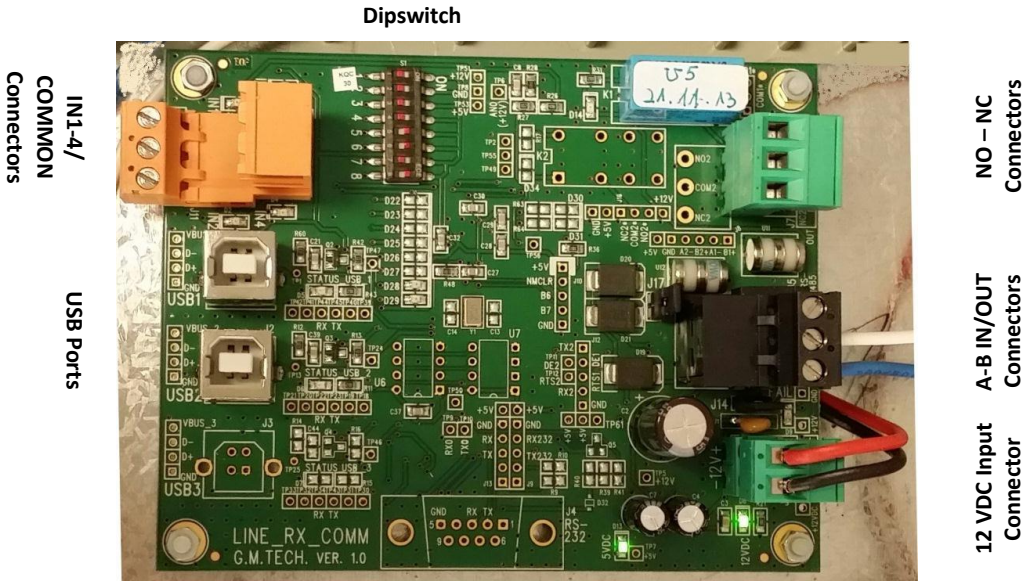
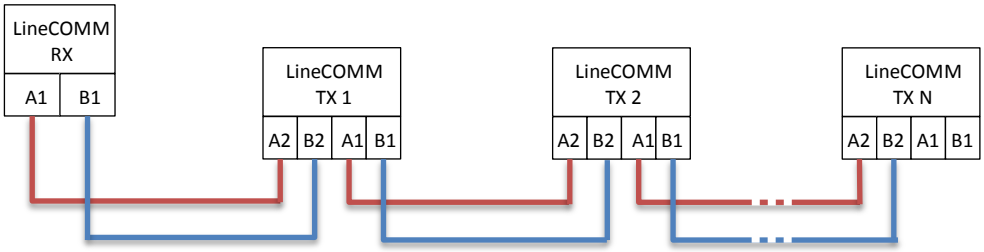
6.1. LineCOMM Receiver Card (RX)



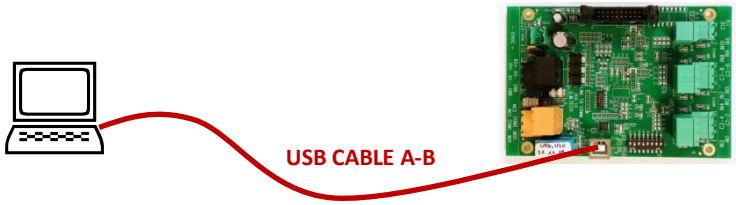
COMPONENT	DESCRIPTION		
12 VDC CONNECTOR	Input plug for the connection to 12V DC power		
A-B IN/OUT CONNECTOR	A1	OUT (white cable) to next cabinet	BOTTOM CONNECTORS
	B1	OUT (blue cable) to next cabinet	
	GND	Ground	
	A2	IN (white cable) from previous cabinet	TOP CONNECTORS
	B2	IN (blue cable) from previous cabinet	
	GND	Ground	
USB PORT	USB Port connection to Computer running the SecurCOMM Management Software		
DIPSWITCH	Dipswitch setting of the Receiver Card MUST ENTER THE DIPSWITCH WITH THE NUMBER OF CABINETS CONNECTED TO THE RECEIVER CARD		
NO NC CONNECTORS NOT CURRENTLY ACTIVE	NC 1	Normally Closed 1 Connectors – NOT ACTIVE	BOTTOM CONNECTORS
	COM 1	COMMON 1 Connectors	
	NO 1	Normally Open 1 Connectors	
	NC 2	Normally Closed 2 Connectors	TOP CONNECTORS
	COM 2	COMMON 2 Connectors	
	NO 2	Normally Open Connectors	
IN 1-4 COMMON CONNECTORS NOT CURRENTLY ACTIVE	IN 1-2	IN 1 -TAMPER Alarm IN 2 – not active	BOTTOM CONNECTORS
	C 1-2	Common	
	IN 3-4	NOT ACTIVE	TOP CONNECTORS
	C 3-4	Common	

7. Connections

7.1. Each cabinet will hold a LineCOMM Communication Card and the installer is required to connect the A to B connectors as shown in the following diagram.

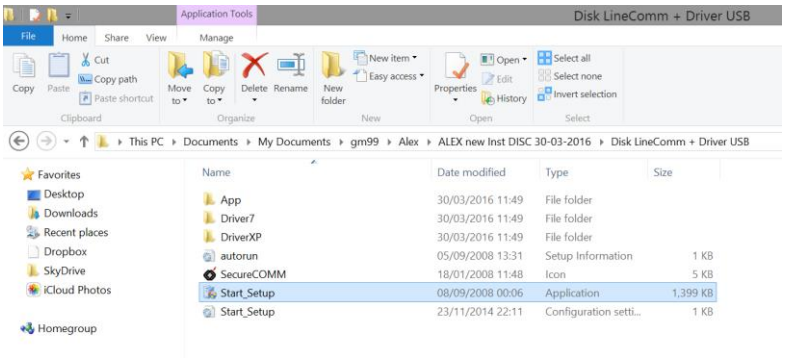


7.2. To configure the settings of the LineCOMM Communication Card connect the USB port of the card to a USB Port of your computer



8. LineCOMM Settings Manager

8.1. Install the LineCOMM Application



8.2. DOUBLE CLICK on the LineCOMM SHORTCUT 

8.3. The following WINDOW will open up:

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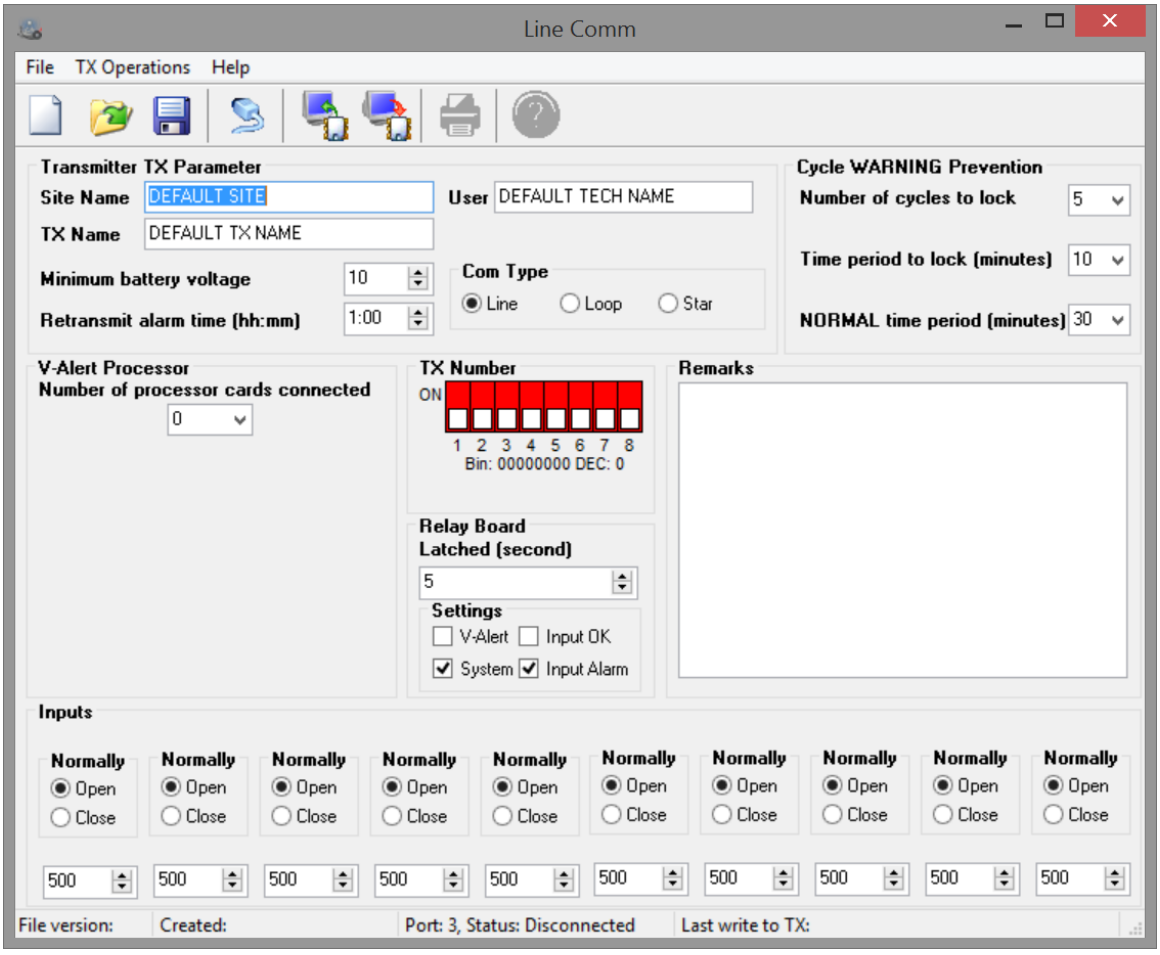
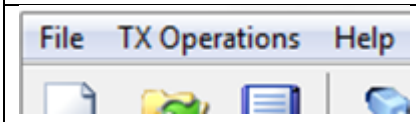


8.4. The following table explains the functions of the LineCOMM Settings Manager.

FUNCTION	EXPLANATION
	There are 3 MENU's: ⇨ FILE MENU ⇨ TX OPERATIONS MENU ⇨ HELP MENU
	⇨ NEW FILE ⇨ OPEN FILE ⇨ SAVE FILE
	CLICK to open a NEW FILE. The NEW FILE will automatically be saved under the name entered into the SITE NAME text box.
	CLICK to OPEN an existing file found in the LineCOMM Folder. (See FILE MANAGEMENT below.)
	SAVE a NEW FILE or changes made to an existing file. Any changes made to the existing file will be saved as a new file version.

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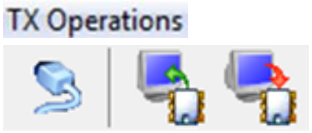
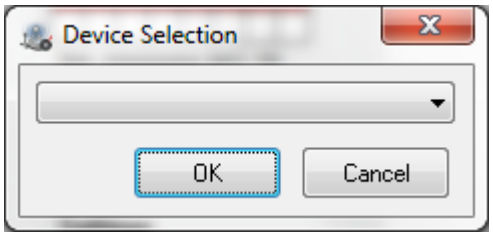
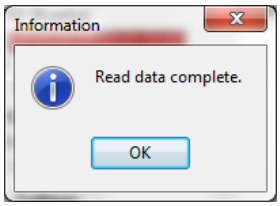
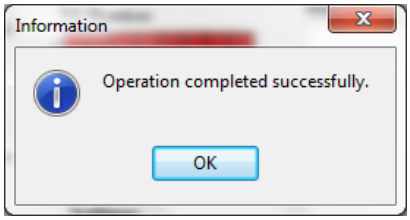
<table>
<tr><th>FUNCTION</th><th colspan="2">EXPLANATION</th></tr>
<tr><td rowspan="4"> 
</td><td colspan="2">⇨ PORT SETTINGS
⇨ READ FROM TX
⇨ WRITE TO TX</td></tr>
<tr><td>  </td><td>CLICK on the PORT SETTINGS icon and choose the port from the drop box:
 
</td></tr>
<tr><td>  </td><td>CLICK on the READ FROM TX icon to READ the existing configuration of the LineCOMM Card.

The following window will open:
 
</td></tr>
<tr><td>  </td><td>After you have completed making any changes to the configuration of a NEW file or of an existing file CLICK on the WRITE TO TX icon to WRITE the new configuration to the LineCOMM Card.

The following window will open:
 
</td></tr>
</table>

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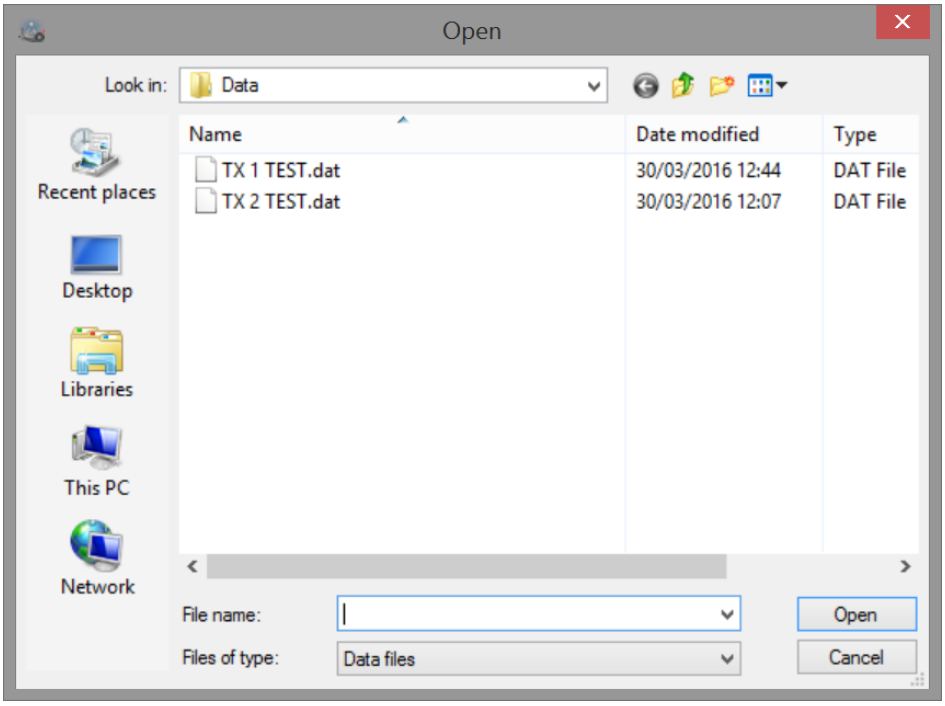
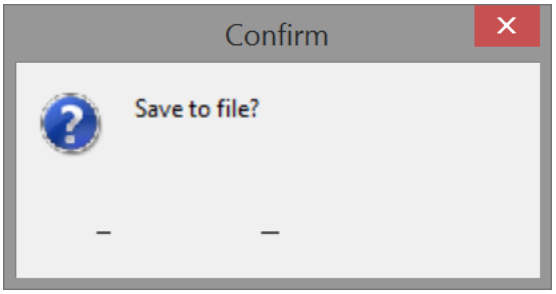
9. File Management

9.1. To OPEN an existing file CLICK on the  OPEN FILE icon. The following window will open:



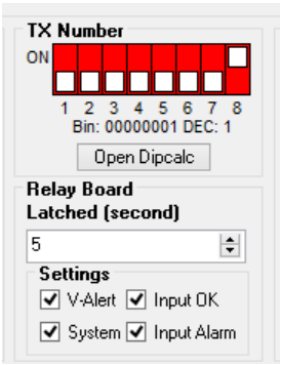
9.2. Choose the relevant FILE.

9.3. Make changes to the file and SAVE.



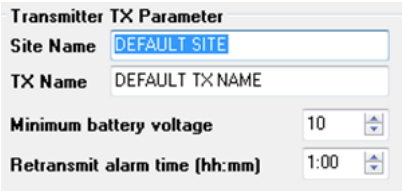
9.4. WRITE the file to the LineCOMM Card by clicking on the  icon.

9.5. After completing the WRITE to TX procedure the DIPSWITCH setting will match the dipswitch setting on the TX card. Check that this is the setting on the dipswitch of the TX Card.



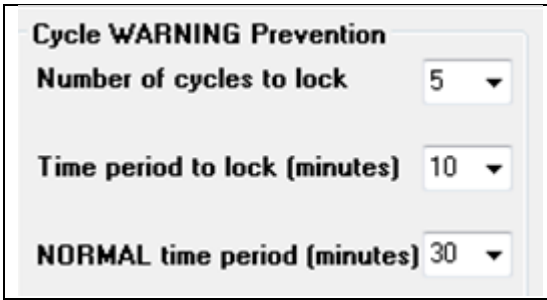
9.6. After making any changes to the LineCOMM TX settings, POWER DOWN and then POWER UP the Line TX card.

10. Configuration of the LineCOMM Communication Card

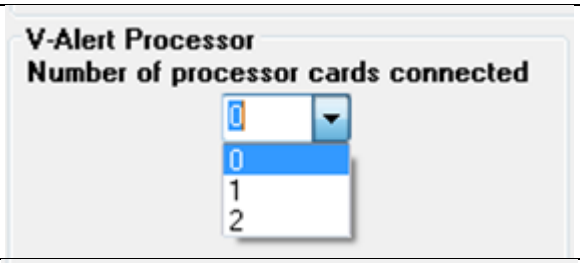
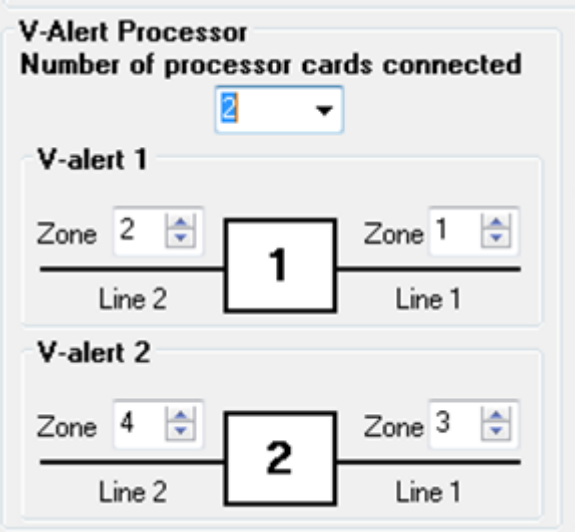
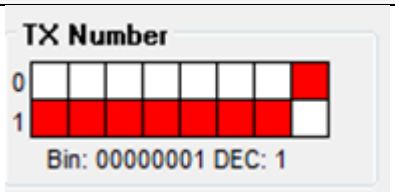
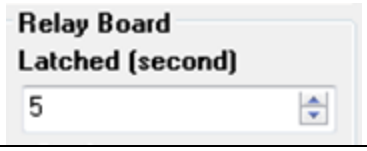
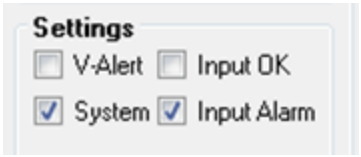
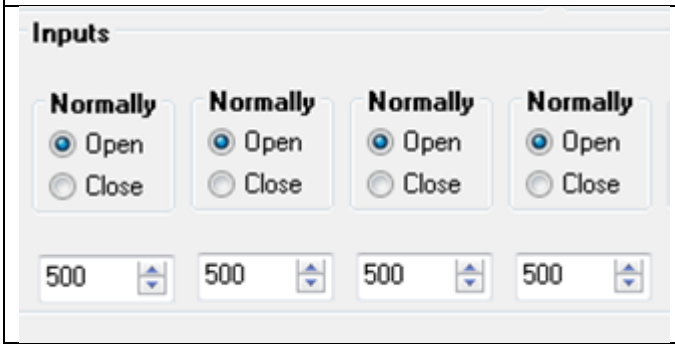
<table>
<tr><th>FUNCTION</th><th colspan="2">EXPLANATION</th></tr>
<tr><td rowspan="4"> 
</td><td>SITE NAME</td><td>Enter the site or project name</td></tr>
<tr><td>TX NAME</td><td>Enter a name for the TX Card</td></tr>
<tr><td>MINIMUM BATTERY VOLTAGE</td><td>Enter the minimum battery voltage. If the battery voltage drops below the set value a LOW BATTERY ALARM will be received. The LOW BATTERY range is between 9 and 11 volts.

YOU WILL ONLY RECEIVE A BATTERY OK ALARM WHEN THE VOLTAGE LEVEL IS ABOVE 12.5 V</td></tr>
<tr><td>RETRANSMIT ALARM TIME (USED FOR ELECTRIC FENCING SYSTEMS ONLY)</td><td>Enter the time period for RETRANSMITTING ANY ALARM SIGNAL. The setting is in HOURS and MINUTES.

This setting is used for INPUTS on the TX card only. If one of the inputs changes state (eg. Goes into alarm mode), then as a result you have an open alarm. If the alarm remains open for the time period (X) that has been set (15 minutes is the default setting), then the same alarm will retransmit every X minutes until such time as the TX has received the OK alarm message, indicating that the event is no longer in the alarm mode. The warning retransmission time range is between 5 and 120 minutes.</td></tr>
<tr><td rowspan="4"> 
</td><td>DEFAULT TECH NAME</td><td>Enter Technician Name</td></tr>
<tr><td>LINE</td><td>LINE communication is the connection of LineCOMM TX cards in a LINE.</td></tr>
<tr><td>LOOP</td><td>LOOP communication is the connection of LineCOMM TX cards in a LOOP allowing for TWO directional communication.</td></tr>
<tr><td>STAR</td><td>STAR communication is the connection of LineCOMM TX cards in a STAR shape or the connection of one or more LineCOMM cards directly to the LineCOMM Receiver instead of in a LINE.</td></tr>
</table>

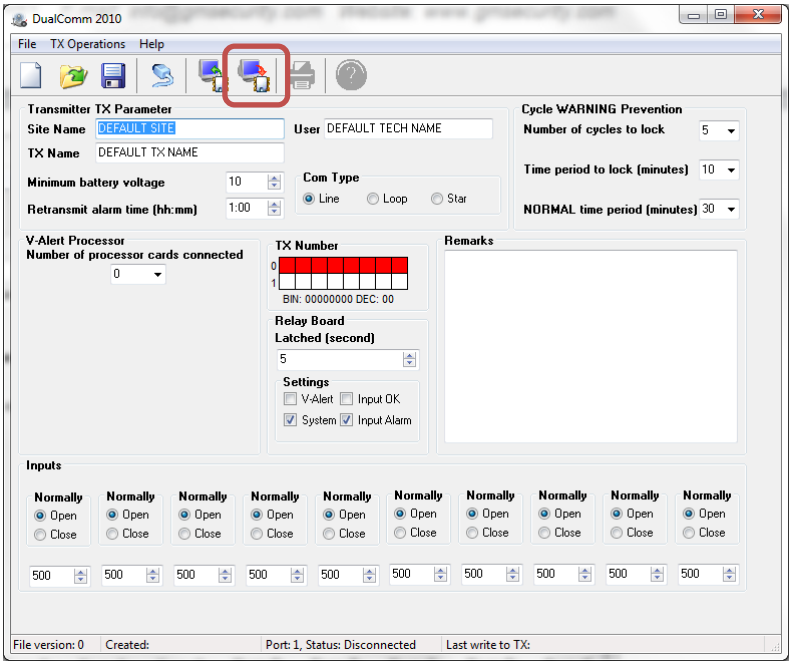


CYCLE WARNING PREVENTION (USED FOR ELECTRIC FENCING SYSTEMS ONLY)	This feature acts as a type of filter to prevent false or nuisance alarms. CYCLE WARNING PREVENTION is a series of repetitive alarms received from one of the LineCOMM Card inputs. This series of alarms has a detrimental effect on the reliability of the system and can mislead the control panel/receiver operator. In order to prevent this occurrence and in order to maintain the reliability of the system it is necessary to set the parameters of this window.
NUMBER OF CYCLES TO LOCK (USED FOR ELECTRIC FENCING SYSTEMS ONLY) (VALUE FROM 1-5)	The system samples the repetitive alarms according to the value set in this text box (from 1 to 5). At the end of the number of cycles to lock the system will show the alarm as a permanent alarm.
TIME PERIOD TO LOCK (USED FOR ELECTRIC FENCING SYSTEMS ONLY) (VALUE IN MINUTES FROM 1-10)	The time period in which the system locks when in the CYCLE WARNING PREVENTION mode.
NORMAL TIME PERIOD (VALUE IN MINUTES FROM 1-30)	The permanent alarm status will be cancelled only if this input will be in a "Normal Time Period" for the length of time set in this window. The NORMAL TIME PERIOD value is the time required for the system to return to a NORMAL status (no alarm condition) from a specific LineCOMM Card input. Once the conditions have been met, a message cancelling the permanent alarm to a normal status will be transmitted.

	Set the number of V-Alert Processor Cards that are being used
	If TWO V-Alert Processor Cards are connected the 2 V-Alert Lines (V-Alert 1 & 2) will appear. Enter the Zone number in the text box (Value between 1 and 99) for all 4 zones. **VERY IMPORTANT** THE ZONE NUMBER FOR THE V-ALERT ZONES MUST MATCH THE ZONE NUMBERS ENTERED WHEN SETTING UP THE V-ALERT PROCESSOR CARD USING THE V-ALERT SETTINGS MANAGER
	The DIPSWITCHES on the LineCOMM Card must match the dipswitch setting shown in the software. **VERY IMPORTANT USE THE DIPSWITCH TABLE SETTINGS FOUND AT THE END OF THIS DOCUMENT**
	Set the LATCHED time in seconds of the 1-10 inputs (Value between 1 and 240 seconds) CURRENTLY NOT OPERATIONAL
	V-ALERT CHECK BOX MARK V-ALERT CHECK BOX (OTHER CHECK BOXES NOT ACTIVE) INPUT OK CHECK BOX SYSTEM CHECK BOX INPUT ALARM CHECK BOX
	Set the INPUT state (Normally Open or Normally Closed for each of the 10 available inputs Set the DELAY TIME in milliseconds (Value between 0 and 3000 milliseconds)

11. Write to TX

11.1. Once you have configured the LineCOMM TX Card you can CLICK on the WRITE TO TX button in order to complete the set-up process.



11.2. The WRITE TO TX procedure needs to be completed for all the LineCOMM Cards installed in that particular project.

12. CONTACT us for Technical Support

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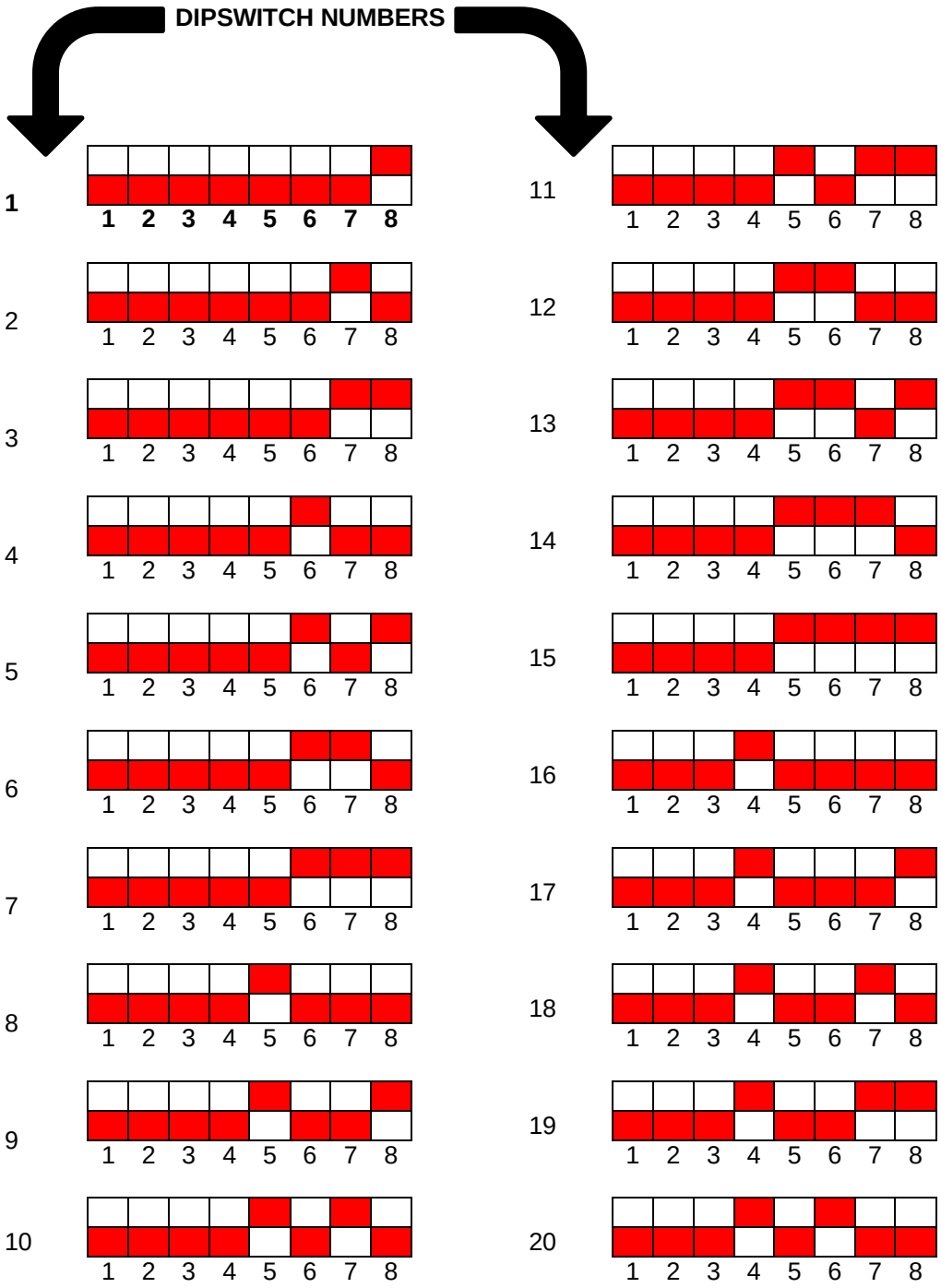
EMAIL : info@gmsecurity.com

DIPSWITCH SETTINGS FOR LineCOMM COMMUNICATION SYSTEM



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