

Sur-Gard System II

Single Line Network Receiver



Operating Manual

WARNING: This manual contains information on limitations regarding product use and function and information on the limitations as to liability of the manufacturer. The entire manual should be carefully read.

version 2.0

GENERAL DESCRIPTION of the EQUIPMENT and CLASSIFICATION.

SYSTEM II - SAFETY INSTRUCTIONS

The SYSTEM II equipment is a CLASS 1, DESK-TOP (MOVABLE) or RACK-MOUNTED (FIXED - STATIONARY), EQUIPMENT, PLUGGABLE TYPE A using a DETACHABLE POWER SUPPLY CORD; it is designed to be INSTALLED, OPERATED and MAINTAINED by SERVICE PERSONS ONLY. [person having appropriate technical training and experience necessary to be aware of hazards to which that person may be exposed in performing a task and of measures to minimize the risks to that person or other persons]. The equipment SYSTEM II shall be installed in RESTRICTED ACCESS LOCATIONS within an environment that provides the Pollution Degree max 2, and overvoltages category II – non-hazardous locations, indoor only.

The POWER SUPPLY CORD serves as a means of disconnection from the MAINS. The OUTLET used to power the equipment shall be installed near the equipment, and shall be easily accessible. The equipment must be connected to a socket-outlet with a protective earthing connection!

WHEN RACK-MOUNTED, IT IS THE RESPONSIBILITY OF THE INSTALLER TO ENSURE THAT THE FINAL ASSEMBLY that includes SYSTEM II EQUIPMENT IS COMPLIANT with the applicable requirements from the point of view of STABILITY; the rack-mounted equipment must be secured to the

building structure before operation; all wiring and installation shall be in accordance with electrical codes acceptable to the authorities that have jurisdiction where the equipment is installed, serviced and operated; not more than 3 (three) system II units mounted within the same rack shall be powered from the same branch circuit; use a different branch circuit for any group larger than 3 (three) units.

Interconnecting cables shall be routed in a manner that prevents: excessive strain on wire and on terminal connections; loosening of terminal connections; damage of conductor insulation.

This product uses Lithium Batteries. Improper handling of lithium batteries may result in heat generation, explosion or fire, which may lead to personal injuries.

CONNECTION TO THE MAINS:

1. Connect first the DETACHABLE POWER SUPPLY CORD to the IEC 320 connector located on SYSTEM II equipment.

CAUTION: The Ethernet communication lines must be connected first to an Approved (acceptable to the local authorities) type NID (Network Interface Device) before leaving the premises (e.g., UL installations, UL60950 Listed NID for ULC Installations CAN/CSA C22.2 No. 60950-1 Listed NID).

NO REPAIRS IN THE FIELD ARE ALLOWED. THE EQUIPMENT SYSTEM II MUST BE RETURNED TO THE MANUFACTURER FOR REPAIRS.

FCC Compliance Statement

CAUTION: Changes or modifications not expressly approved by Digital Security Controls could void your authority to use this equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment

off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

The user may find the following booklet prepared by the FCC useful: "How to Identify and Resolve Radio/Television Interference Problems". This booklet is available from the U.S. Government Printing Office, Washington D.C. 20402, Stock # 004-000-00345-4.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

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WARNING Please Read Carefully

Note to Installers

This warning contains vital information. As the only individual in contact with system users, it is your responsibility to bring each item in this warning to the attention of the users of this system.

System Failures

This system has been carefully designed to be as effective as possible. There are circumstances, however, involving fire, burglary, or other types of emergencies where it may not provide protection. Any alarm system of any type may be compromised deliberately or may fail to operate as expected for a variety of reasons. Some but not all of these reasons may be:

- Inadequate Installation

A security system must be installed properly in order to provide adequate protection. Every installation should be evaluated by a security professional to ensure that all access points and areas are covered. Locks and latches on windows and doors must be secure and operate as intended. Windows, doors, walls, ceilings and other building materials must be of sufficient strength and construction to provide the level of protection expected. A reevaluation must be done during and after any construction activity. An evaluation by the fire and/or police department is highly recommended if this service is available.

- Criminal Knowledge

This system contains security features which were known to be effective at the time of manufacture. It is possible for persons with criminal intent to develop techniques which reduce the effectiveness of these features. It is important that a security system be reviewed periodically to ensure that its features remain effective and that it be updated or replaced if it is found that it does not provide the protection expected.

- Access by Intruders

Intruders may enter through an unprotected access point, circumvent a sensing device, evade detection by moving through an area of insufficient coverage, disconnect a warning device, or interfere with or prevent the proper operation of the system.

- Power Failure

Control units, intrusion detectors, smoke detectors and many other security devices require an adequate power supply for proper operation. If a device operates from batteries, it is possible for the batteries to fail. Even if the batteries have not failed, they must be charged, in good condition and installed correctly. If a device operates only by AC power, any interruption, however brief, will render that device inoperative while it does not have power. Power interruptions of any length are often accompanied by voltage fluctuations which may damage electronic equipment such as a security system. After a power interruption has occurred, immediately conduct a complete system test to ensure that the system operates as intended.

- Failure of Replaceable Batteries

This system's wireless transmitters have been designed to provide several years of battery life under normal conditions. The expected battery life is a function of the device environment, usage and type. Ambient conditions such as high humidity, high or low temperatures, or large temperature fluctuations may reduce the expected battery life. While each transmitting device has a low battery monitor which identifies when the batteries need to be replaced, this monitor may fail to operate as expected. Regular testing and maintenance will keep the system in good operating condition.

- Compromise of Radio Frequency (Wireless) Devices

Signals may not reach the receiver under all circumstances which could include metal objects placed on or near the radio path or deliberate jamming or other inadvertent radio signal interference.

- System Users

A user may not be able to operate a panic or emergency switch possibly due to permanent or temporary physical disability, inability to reach the device in time, or unfamiliarity with the correct operation. It is important that all system users be trained in the correct operation of the alarm system and that they know how to respond when the system indicates an alarm.

- Smoke Detectors

Smoke detectors that are a part of this system may not properly alert occupants of a fire for a number of reasons, some of which follow. The smoke detectors may have been improperly installed or positioned. Smoke may not be able to reach the smoke detectors, such as when the fire is in a chimney, walls or roofs, or on the other side of closed doors. Smoke detectors may not detect smoke from fires on another level of the residence or building.

Every fire is different in the amount of smoke produced and the rate of burning. Smoke detectors cannot sense all types of fires equally well. Smoke detectors may not provide timely warning of fires caused by carelessness or safety hazards such as smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches or arson.

Even if the smoke detector operates as intended, there may be circumstances when there is insufficient warning to allow all occupants to escape in time to avoid injury or death.

- Motion Detectors

Motion detectors can only detect motion within the designated areas as shown in their respective installation instructions. They cannot discriminate between intruders and intended occupants. Motion detectors do not provide volumetric area protection. They have multiple beams of detection and motion can only be detected in unobstructed areas covered by these beams. They cannot detect motion which occurs behind walls, ceilings, floor, closed doors, glass partitions, glass doors or windows. Any type of tampering whether intentional or unintentional such as masking, painting, or spraying of any material on the lenses, mirrors, windows or any other part of the detection system will impair its proper operation.

Passive infrared motion detectors operate by sensing changes in temperature. However their effectiveness can be reduced when the ambient temperature rises near or above body temperature or if there are intentional or unintentional sources of heat in or near the detection area. Some of these heat sources could be heaters, radiators, stoves, barbecues, fireplaces, sunlight, steam vents, lighting and so on.

- Warning Devices

Warning devices such as sirens, bells, horns, or strobes may not warn people or waken someone sleeping if there is an intervening wall or door. If warning devices are located on a different level of the residence or premise, then it is less likely that the occupants will be alerted or awakened. Audible warning devices may be interfered with by other noise sources such as stereos, radios, televisions, air conditioners or other appliances, or passing traffic. Audible warning devices, however loud, may not be heard by a hearing-impaired person.

- Telephone Lines

If telephone lines are used to transmit alarms, they may be out of service or busy for certain periods of time. Also an intruder may cut the telephone line or defeat its operation by more sophisticated means which may be difficult to detect.

- Insufficient Time

There may be circumstances when the system will operate as intended, yet the occupants will not be protected from the emergency due to their inability to respond to the warnings in a timely manner. If the system is monitored, the response may not occur in time to protect the occupants or their belongings.

- Component Failure

Although every effort has been made to make this system as reliable as possible, the system may fail to function as intended due to the failure of a component.

- Inadequate Testing

Most problems that would prevent an alarm system from operating as intended can be found by regular testing and maintenance. The complete system should be tested weekly and immediately after a break-in, an attempted break-in, a fire, a storm, an earthquake, an accident, or any kind of construc-

tion activity inside or outside the premises. The testing should include all sensing devices, keypads, consoles, alarm indicating devices and any other operational devices that are part of the system.

- Security and Insurance

Regardless of its capabilities, an alarm system is not a substitute for property or life insurance. An alarm system also is not a substitute for property owners, renters, or other occupants to act prudently to prevent or minimize the harmful effects of an emergency situation.

Limited Warranty

Digital Security Controls warrants the original purchaser that for a period of twelve months from the date of purchase, the product shall be free of defects in materials and workmanship under normal use. During the warranty period, Digital Security Controls shall, at its option, repair or replace any defective product upon return of the product to its factory, at no charge for labour and materials. Any replacement and/or repaired parts are warranted for the remainder of the original warranty or ninety (90) days, whichever is longer. The original purchaser must promptly notify Digital Security Controls in writing that there is defect in material or workmanship, such written notice to be received in all events prior to expiration of the warranty period. There is absolutely no warranty on software and all software products are sold as a user license under the terms of the software license agreement included with the product. The Customer assumes all responsibility for the proper selection, installation, operation and maintenance of any products purchased from DSC. Custom products are only warranted to the extent that they do not function upon delivery. In such cases, DSC can replace or credit at its option.

International Warranty

The warranty for international customers is the same as for any customer within Canada and the United States, with the exception that Digital Security Controls shall not be responsible for any customs fees, taxes, or VAT that may be due.

Warranty Procedure

To obtain service under this warranty, please return the item(s) in question to the point of purchase. All authorized distributors and dealers have a warranty program. Anyone returning goods to Digital Security Controls must first obtain an authorization number. Digital Security Controls will not accept any shipment whatsoever for which prior authorization has not been obtained.

Conditions to Void Warranty

This warranty applies only to defects in parts and workmanship relating to normal use. It does not cover:

- damage incurred in shipping or handling;
- damage caused by disaster such as fire, flood, wind, earthquake or lightning;
- damage due to causes beyond the control of Digital Security Controls such as excessive voltage, mechanical shock or water damage;
- damage caused by unauthorized attachment, alterations, modifications or foreign objects;
- damage caused by peripherals (unless such peripherals were supplied by Digital Security Controls);
- defects caused by failure to provide a suitable installation environment for the products;
- damage caused by use of the products for purposes other than those for which it was designed;
- damage from improper maintenance;
- damage arising out of any other abuse, mishandling or improper application of the products.

Items Not Covered by Warranty

In addition to the items which void the Warranty, the following items shall not be covered by Warranty: (i) freight cost to the repair centre; (ii) products which are not identified with DSC's product label and lot number or serial number; (iii) products disassembled or repaired in such a manner as to adversely affect performance or prevent adequate inspection or testing to verify any warranty claim. Access cards or tags returned for replacement under warranty will be credited or replaced at DSC's option. Products not covered by this warranty, or otherwise out of warranty due to age, misuse, or damage shall be evaluated, and a repair estimate shall be provided. No repair work will be performed until a valid purchase order is received from the Customer and a Return Merchandise Authorisation number (RMA) is issued by DSC's Customer Service.

Digital Security Controls's liability for failure to repair the product under this warranty after a reasonable number of attempts will be limited to a replacement of the product, as the exclusive remedy for breach of warranty. Under no circumstances shall Digital Security Controls be liable for any special, incidental, or consequential damages based upon breach of warranty, breach of contract, negligence, strict liability, or any other legal theory. Such damages include, but are not limited to, loss of profits, loss of the product or any associated equipment, cost of capital, cost of substitute or replacement equipment, facilities or services, down time, purchaser's time, the claims of third parties, including customers, and injury to property. The laws of some jurisdictions limit or do not allow the disclaimer of consequential damages. If the laws of such a jurisdiction apply to any claim by or against DSC, the limitations and disclaimers contained here shall be to the greatest extent permitted by law. Some states do not allow the exclusion or limitation of incidental or consequential damages, so that the above may not apply to you.

Disclaimer of Warranties

This warranty contains the entire warranty and shall be in lieu of any and all other warranties, whether expressed or implied (including all implied warranties of merchantability or fitness for a particular purpose) And of all other obligations or liabilities on the part of Digital Security Controls Digital Security Controls neither assumes responsibility for, nor authorizes any other person purporting to act on its behalf to modify or to change this warranty, nor to assume for it any other warranty or liability concerning this product.

This disclaimer of warranties and limited warranty are governed by the laws of the province of Ontario, Canada.

WARNING: Digital Security Controls recommends that the entire system be completely tested on a regular basis. However, despite frequent testing, and due to, but not limited to, criminal tampering or electrical disruption, it is possible for this product to fail to perform as expected.

Installer's Lockout

Any products returned to DSC which have the Installer's Lockout option enabled and exhibit no other problems will be subject to a service charge.

Out of Warranty Repairs

Digital Security Controls will at its option repair or replace out-of-warranty products which are returned to its factory according to the following conditions. Anyone returning goods to Digital Security Controls must first obtain an authorization number. Digital Security Controls will not accept any shipment whatsoever for which prior authorization has not been obtained.

Products which Digital Security Controls determines to be repairable will be repaired and returned. A set fee which Digital Security Controls has predetermined and which may be revised from time to time, will be charged for each unit repaired.

Products which Digital Security Controls determines not to be repairable will be replaced by the nearest equivalent product available at that time. The current market price of the replacement product will be charged for each replacement unit.

Section 1 - Introduction

1.1 Features

The SG-System II is a single line network receiver intended for remote monitoring of commercial fire and burglary systems. The system can be configured for "desktop stand-alone" operation (vertical stacking of up to 4 systems) or rack mounting. The SG-System II can monitor up to 1536 accounts including 512 supervised accounts. An additional 1536 IP accounts may be purchased separately with the use of a License key.

NOTE: System must be rack mounted for UL and ULC Listed Installations.

The SG-System II real time clock and calendar stamps all received alarm data which is then transmitted to a central station computer via TCP/IP, serial port; transmitted directly to a printer using the parallel printer port, serial printer port, USB port to Systems Console Software, TCP port using Systems Console Software, and viewed on the LCD of the front panel. System configuration can be programmed using a PC with SG-Systems Console Software via TCP or USB connections or locally using the scroll buttons and LCD.

The SG-System II receives alarm information from panels over a LAN/WAN or internet network.

SG-System II features include the following:

- Provides higher line security than conventional dial up panels with the polling feature.
- Provides fast transmission since dialing or handshaking is not required.
- The control panel is the originator of the signals and as such will be the one requesting the ACK from the central station.
- Network trouble detection is displayed on LCD/Printer and automation software.
- Disconnect trouble detection.
- Static IP for programming of the network protocols.
- Data network polling environment for replacement of an existing DVACS network.
- SIA event descriptors are used to transmit information to the central station from the control panel through the PC-Link connection.
- 4 and 10 digit Contact ID.
- A security function communicates to the central station when a module is removed and replaced.
- USB 1.1 connection for Console
- Two IP account tables. The second table adds another 1536 accounts of which 512 can be supervised.

NOTE: For UL/ULC Listed applications maximum 512 supervised accounts can be used.

Figure 1: SG-System II Receiver



1.2 Software Compatibility

The following examples of Central Station automation software are compatible with the SG-System II interface.

Refer to the DSC website "<http://www.dsc.com/index.php?n=MonitoringStations>" for a comprehensive list of compatible Automation Software Manufacturers:

- | | | |
|--------|------------|-----------|
| • MAS | • MicroKey | • GENESYS |
| • IBS | • SIMS II | • Bold |
| • DICE | • ABM | • S.I.S. |

NOTE: Automation connections are considered supplementary per UL864 listing. Compatibility with the central station automation software is intended to be handled under a separate UL1981 software and/or site certification evaluation.

NOTE: Software version 2.0 of SG-system II must be used with the SG-Systems Console software version 1.1

1.3 Approvals

1.3.1 Industry Approvals

The System II meets the requirements of the following standards:

- UL 1610 Central Station Burglar Alarm Units
- UL 864 Standard for Control Units and Accessories for Fire Alarm Systems
- CAN/ULC-S304-06 Signal Receiving Centre and Premises Burglar Alarm Control Units
- CAN/ULC-S559-04 Equipment for Fire Signal Receiving Centres and Systems
- EN60950-1:2001 Standard for Information Technology Equipment.
- AS/NZS 60950:2000 Information Technology Equipment - Safety
- CISPR22 Information Technology Equipment - Radio Disturbance Characteristics - Limits and Methods of Measurements
- EN50130-4 Immunity requirements for components of fire, intruder and social alarm systems.

This equipment shall be installed in accordance with the requirements of NFPA72, NFPA70, and the authority having jurisdiction.

The Equipment is ULC listed for active communication channel security level A4 when used in conjunction with compatible communicators, ULC listed for the same level of line security (DSC Models T-Link TL250, T-Link TL300, TL265GS, GS2065, TL260GS, GS2060).

Compatible Communicators:

- MAS
- TL150
- TL300 *
- TL26X *
- MicroKey
- TL250 *
- GS3055 *
- GS206X *
- GENESYS
- BFSM-100M
- GS3060 *
- KNet

* ULC Listed

For ULC Installations the equipment shall be installed in accordance with the requirements of ULC-S561 and ULC-S301 Standards and the authority having jurisdiction.

UL864 Programming Requirements

Table 6: Table 1: UL864 Programming Requirements

Option number and name	Page	Permitted in UL 864? (Y/N)	Possible settings	Settings permitted (UL 864)
Option [013]: Buzzer Tone	13	N	Default, Buzzer Off, 1490 Hz, 1990 Hz, 2103 Hz, 2650 Hz, 3149 Hz, 3965 Hz, 4270 Hz, 4530 Hz	ON
Option [020]: Mask UPS AC	13	N	ON/OFF	OFF
Option [021]: Mask UPS BAT	13	N	ON/OFF	OFF
Option [024]: Mask SG TCP/IP	13	N	ON/OFF	OFF
Option [025]: Mask SG Serial.....	14	N	ON/OFF	OFF
Option [028]: Mask TCP Printer	14	N	ON/OFF	OFF
Option [029]: Mask Parallel Printer	14	N	ON/OFF	OFF
Option [02A]: Mask Serial Printer.....	14	N	ON/OFF	OFF
Option [039]: Mask USB Printer.....	16	N	ON/OFF	OFF
Option [042]: Busy Out.....	17	N	ON/OFF	OFF
Option [113]: Transmitter Failure Debounce Time	20	N	001E-FFFF (30-65535 sec)	05A (90 sec)
Option [115]: Transmitter Restoral Debounce Time	20	N	001E-FFFF (30-65535 sec)	3C (60 sec)
Option [119]: Mask Transmitter Restoral.....	20	N	ON/OFF	OFF
Option [11A]: Mask Transmitter Failure	20	N	ON/OFF	OFF
Option [11B]: Mask Transmitter Swap	20	N	ON/OFF	OFF
Option [11C]: Mask Transmitter Unencrypted	20	N	ON/OFF	OFF
Option [11D]: Mask Invalid Report.....	20	N	ON/OFF	OFF
Option [11E]: Mask Unknown Account.....	20	N	ON/OFF	OFF
Option [11F]: Mask Supervised Acc Exceeded	21	N	ON/OFF	OFF

Parallel Printers:

For UL and ULC Listed applications the following UL Listed printers can be used with the SG-System II:

- Seiko DPU-414

Serial Printers:

For UL and ULC Listed applications the following UL Listed printer can be used with the SG-System II:

- Seiko DPU-414

NOTE: Do NOT use printer cables that have only 1 common ground wire.

1.4 Specifications

Electrical

- Input Voltage 100-240VAC, 50-60Hz.
- Input Current 0.7A (Max)
- Backup Power Supply External UPS (not supplied)

Environmental

- Temperature 32 - 122°F (0-50°C)
- Humidity 93%RH, Non Condensing

Dimensions

- Width 12in. (305mm)
- Length 12.25in. (311mm)
- Height 1.75in. (45mm)
- Weight 7.92lbs (3.58 Kg)

Ethernet Interfaces

- Automation Port 1025
- Printer Port 1027
- Command Port (Console Interface) 1024
- Audit Port 1030
- TFTP Port 69
- Account Port (Default) 3064

Accounts

- Number of Accounts 1536 per account table Max.
- Number of Supervised Accounts 512 per account table Max.

NOTE: Second account table may be added with the purchase of software license.

1.5 Out of Box

Verify that you have received the following:

SG-System II

- SG-System II Receiver Qty 1
- SG-Systems Console Qty 1
- SG-System II Quick Install Guide Qty 1
- Rubber Feet Qty 4
- screw in adjustable feet Qty 2

SG-System II Rack Mount Kit (Optional)

- Brackets Qty 2
- Rails (Mounting) Qty 4
- Screws Qty 8
- Quick Install Sheet Qty 1

Additional Equipment Required (Not Supplied)

- IEC Power Line Cord Qty 1
- CAT-5 Ethernet Cable for WAN Interface Support Qty 1
- CAT-5 Ethernet Cable for LAN Interface Port or USB cable for Console Communication Qty 1
- DB9 terminated RS232 Serial Cable Qty 1
- DB25 terminated Parallel printer Cable Qty 1

Section 2 - Installation

2.1 Controls and Indicators

Figure 2: Controls and Indicators

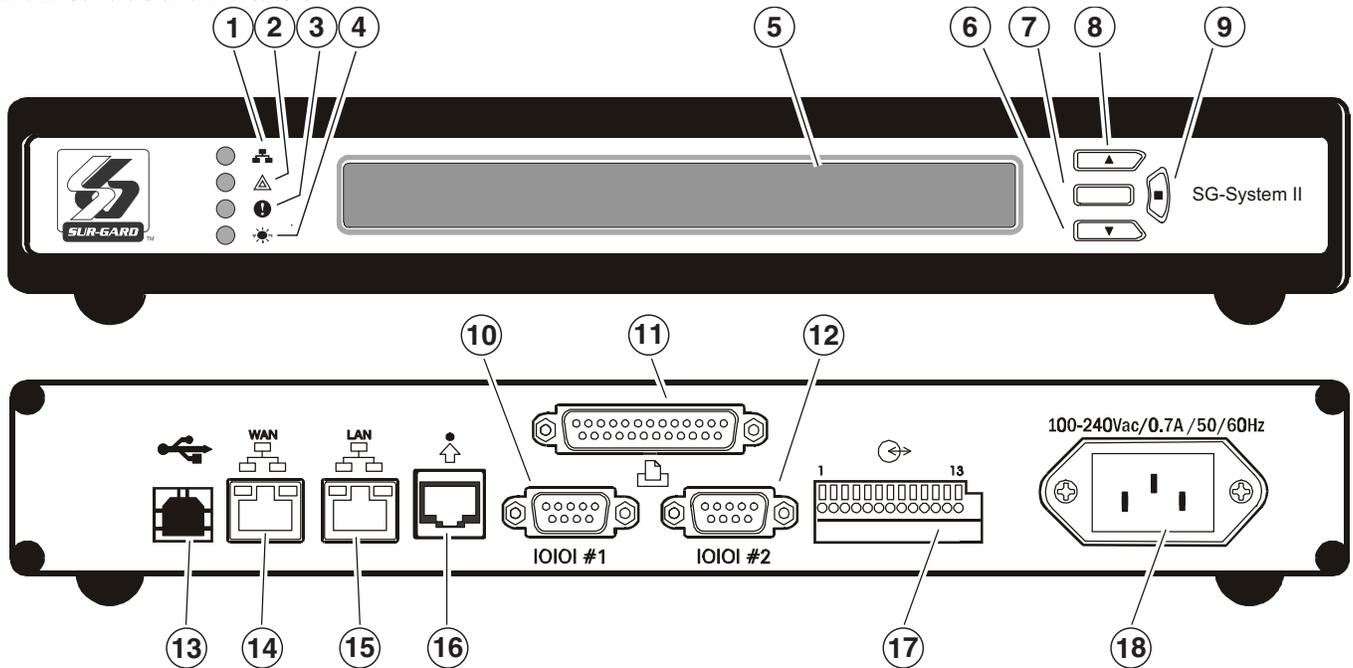


Table 7: SG-System II Front and Rear Panel Descriptions

Item No.	Indicator/ Control/ Connector	State/Pin	Description
1	NETWORK Green LED 	ON OFF	Network Absent Network Present Follows the network interface that receives T-Link signals.
2	TROUBLE Orange LED 	ON OFF	Indicates any System Trouble not related to network or alarm (Note that the LCD backlight will override the programmed colour and change to Yellow). No System Trouble
3	STATUS Yellow LED 	FLASHING OFF	Two flashes to indicate system busy out has occurred - caused by one of the following conditions. <ul style="list-style-type: none"> · On power up, the SG-System II clock is not set · SG-System II firmware update (downloading) · Either the printer or the computer buffer was full · Checksum failed for any one of the flash ROM files · Channel buffer corruption · System In manual mode and option 042 is set to 4. Normal Operation
4	WATCHDOG Blue LED 	FLASHING STEADY	Normal Operation (Software watchdog toggles every 200msec). SG-System II Line Card Fault
5	LCD Display		40x2 character LCD display. Top line displays current Operating Mode. Bottom line displays Trouble or received messages in Manual mode. Alarm: If an alarm is present while the system is in Manual mode, the LCD backlight will change to Red - overriding the programmed colour - and the ACK button will flash. In addition, a buzzer will sound with each flash of the ACK button. Alarms received but not yet displayed are identified by a solid arrow symbol on the far right edge of the LCD.
6	DOWN Interface Button		Scrolls down through menu options

Table 7: SG-System II Front and Rear Panel Descriptions

Item No.	Indicator/ Control/ Connector	State/Pin	Description
7	ACK Interface Button/LED	FLASHING OFF	Indicates unit is in Manual Mode and waiting for acknowledgement. There are no alarm events requiring acknowledgement. The ACK button is used to acknowledge an alarm event in Manual Mode. It cannot acknowledge all alarms with one press, but must be pressed for each individual alarm. The ACK button also acts as ENTER in Programming Mode.
8	UP Interface Button		Scrolls up through menu options
9	ENTER Interface Button		Selects a menu option
10	AUTOMATION Port (COM1)	DB9	Sends automation messages to central station computer (e.g., Heartbeat if no activity) NOTE: Maximum Cable length is 1.8m (6ft). Longer cables may impair performance. Use at own risk.
11	PARALLEL PRINTER Port	DB25 (Female)	Sends events to local printer (DB25 Female) NOTE: Maximum Cable length is 1.8m (6ft). Longer cables may impair performance. Use at own risk.
12	SERIAL PRINTER Port (COM2)	DB9	RS232 Serial Printer Port. Sends events to local printer. NOTE: Maximum Cable length is 1.8m (6ft). Longer cables may impair performance. Use at own risk.
13	USB Port	USB Type B	USB Type B NOTE: Maximum Cable length is 1.8m (6ft). Longer cables may impair performance. Use at own risk.
14	WAN Interface Port	CAT-5	Alarm port when system configured in dual NIC mode; Ethernet Cable (1.8m/6ft) NOTE: Longer cables may impair performance. Use at own risk
15	LAN Interface Port	CAT-5	This interface is used for Console, Automation and Local (same subnet) T-Link connections. Connects to LAN via CAT5 Ethernet Cable (1.8m/6ft) NOTE: Longer cables may impair performance. Use at own risk.
16	DEBUG RJ-45	RJ-45	NOTE: Maximum Cable length is 1.8m (6ft). Longer cables may impair performance. Use at own risk.
17	I/O Port (Use AWG 18-22 wire)	1 Input 2 COM 3 Input 4 Input 5 COM 6 Input 7 Output 8 COM 9 Output 10 Output 11 COM 12 Output 13 Earth	UPS AC Failure (toggles from ground to open on failure) Common (ground) UPS DC Failure (toggles from ground to open on failure) Remote ACK button - identical functionality to ACK button on LCD Common (ground) Future Use Output 1 Follow Buzzer; Toggle to ground following the Buzzer ~ COMMON (ground) Output 2 Toggle to ground following the CPM trouble LE Output 3 Future Use ~ COMMON (ground) Output 4 Future Use ~ EARTH GROUND NOTE: Maximum Cable length is 1.8m (6ft). Longer cables may impair performance. Use at own risk.
18	Mains Supply Connector		120/240VAC /0.7A/ 50-60Hz Connection to Interruptible Power Supply (UPS recommended) with minimum 24 Hr standby capability required. Refer to Section 2.2. Setup & Testing

For ULC Installations, the equipment shall be rack mounted and energized by a permanently wired supply in accordance with C22.1, Canadian Electrical Code, Part 1, Safety Standard for Electrical Installations, section 32.

NOTE: The LED indicators and the LCD can be tested for integrity by accessing the following in the main programming menu: item 3 - System Functions > item 5 - Visual Indicators Test.

2.2 Set Up and Testing

DSC recommends testing the receiver before actual installation. Becoming familiar with the connections and setup of the unit on the workbench will make final installation simpler.

The following items are required:

- IEC Power Supply cord
- CAT5 Ethernet Cable
- One or more T-Link modules
- Hub/router or network connection

NOTE: When a Hub or Router/Gateway is used with the SG-System II, 24 Hr Standby Power is required for these devices (i.e., UL Listed UPS, Battery Backup, or engine driven generator).

1. Unpack the SG-System II components.

NOTE: Carefully unpack the receiver and inspect for shipping damage. If there is any apparent damage, notify the carrier immediately.

2. Install the rack-mount brackets or the rubber feet in the indents as required.
3. Connect a CAT5 Cable (not supplied) .
4. Connect the main power using a standard computer IEC cable (not supplied).

Figure 3: Wiring Diagram

WARNING:

To reduce the risk of electrical shock, the SG-System II is equipped with a grounding type power supply IEC receptacle.

Connect SG-System II using an appropriate IEC cable to a grounded receptacle.

Connect SG-System II to UPS dry contact connections only.

Do NOT connect to a receptacle controlled by a switch.

NOTES:

Install External Devices connected to item (10)-(17) in the same room as the SG-System II.

Maintain 1/4" (6.5mm) separation between power limited and non-power limited circuits. Use power limited, supervised circuits only/

I/O Terminal is Open collector 20mA switched to ground. Wire with 18-22 AWG.

NOTES:

For UL Installations

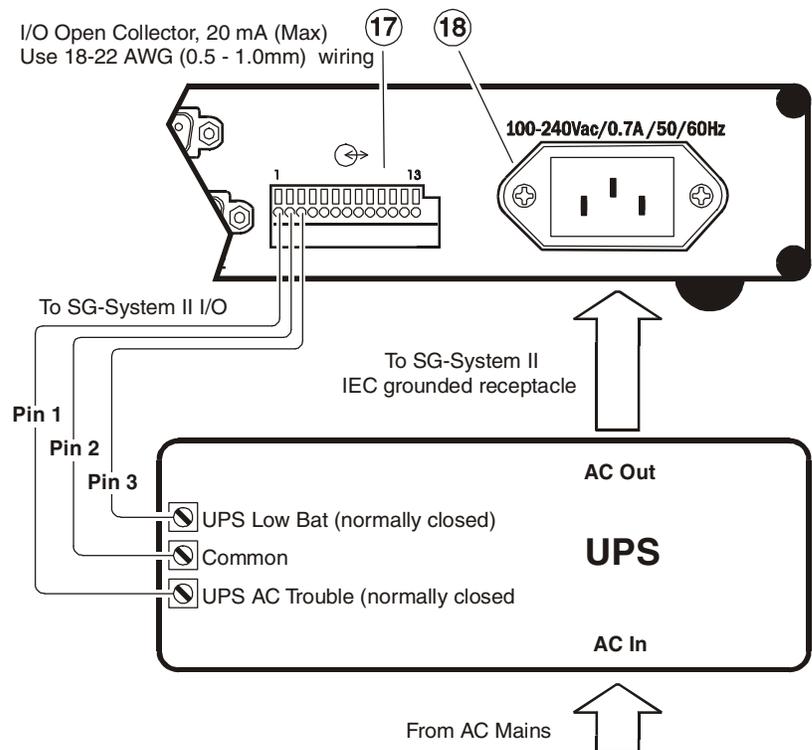
Mains Supply: 120VAC/60Hz

UPS Output Rating: 120VAC/60Hz, 2.5A. Use UL listed UPS (uninterrupted power supply) for protective-signalling systems and listed burglar alarm power supply as applicable.

For CE Installations

Mains Supply: 240VAC/50Hz

UPS Output Rating (non UL): 240VAC 50Hz



5. The LCD will power up and display internal troubles (printer, computer).

NOTE: Internal diagnostics may require more than one minute during the power up sequence.

6. Send a signal from a control panel to the receiver. The signal will be displayed on the LCD. Press the ACK button to silence the buzzer and clear the signal from the LCD.

Section 3 - Operation/Operating Modes

There are two main categories of operating modes, Native and Program Modes.

3.1 Active Mode

Active Mode is the normal operating mode. The SG-System II is in Active mode when any of the Automation Ports are present and responding to signals.

3.2 Manual Mode

This mode normally occurs when automation is lost or has been programmed out (all automation ports disabled). Changing from Active mode to Manual mode is automatic.

In manual mode, the SG-System II can receive signals (unless the buffer is full) and attempts to output the first signal in the buffer if there are any and if the automation is programmed on some ports. The unit displays the message on the LCD screen, activates the buzzer and the acknowledge LED. To stop the buzzer and the acknowledge LED, the ACK button must be pressed and released for every signal not acknowledged in the buffer. The messages are only the printer message. For messages greater than 40 characters, the first 40 characters are displayed. Press the ENTER button to toggle between the rest of the message. The alarm printer and automation buffers reside in the SG-System II.

3.3 Program Category

The Program category is accessed in order to program the SG-System II or to view its condition. Sixteen users in total can have access to the unit. User '0' is the Administrator, and has full permissions with regard to using and configuring the unit. All other users - '1~F' - may view system information only, in addition to having the ability to change the time and date displayed on the LCD.

NOTE: All alarms must be acknowledged via the Ack button before entering Program mode from Manual mode.

3.3.1 Password

A password must be entered before the Program category can be accessed. Take the following steps:

1. Press the ENTER button while the unit is in either of the Operation modes (Active / Manual) to call up the password field.
2. Enter your 4-digit hexadecimal password on the bottom line (use the UP and DOWN arrow buttons to scroll through the characters). Note that the default password is 'CAFE'.
3. Press the ENTER button to select the desired value and move along to the next digit.
4. Continue until the four spaces are filled. Pressing the ENTER button after selecting the fourth digit will automatically present the password to the system for acceptance / rejection.

```
MANUAL 10.0.17.104 14:22 Jan12
ENTER PASSWORD: USER: 0 PASS:XXXX
```

Assuming that the password is correct, the SG-System II will enter Program category and generate the corresponding printer and automation signals. Should the password be incorrect, the unit will produce an error tone and return to a Base category (Active mode or Manual mode). Press the ENTER button once more to return to the Password screen.

The password can be set in the following manner:

1. Enter the Program category.
2. Scroll to **View or Change Options > CPM Options > Option 006**.
3. Scroll to the user whose password is to be changed. Enter the new password. Press the ENTER button. The new password is set.

3.3.2 User Interface

The SG-System II unit's LCD and button interface give the user the ability to program the unit and scroll through the printer buffer and the trouble list. The upper line displays the device mode (in the example below, 'Manual'). The lower line displays the system information (in the example below, 'System Trouble').

```
MANUAL 10.0.17.104 14:32 Jan12
SYSTEM TROUBLE
```

3.3.3 Top Level Menu

View or Change Options

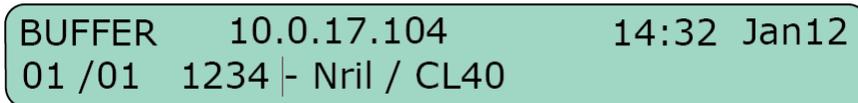
In View or Change Options, use the UP and DOWN arrow buttons to locate the configurable option categories. These categories are: CPM Options / Channel-1 Options / Channel-2 Options / Channel-IP Options / Exit Menu. Please refer to Section 4 for a detailed list of the system options available within each category.

```
OPTION 10.0.17.104 14:32 Jan12
1) CPM OPTIONS
```

Select the Exit Menu and press the ENTER button. You will return to the View or Change Options level. Pressing the UP and DOWN buttons simultaneously - regardless of your place within View or Change Options - will take you to the Top Level menu.

View Printer Buffer

The bottom line of the LCD is cleared when View Printer Buffer is entered. The oldest message in the buffer, including those that have been acknowledged, will be displayed first. Use the UP button to review the older messages and the DOWN button to review the newer messages. In the case of a lengthy message, the first 39 characters will be displayed. Press the ENTER button to show the remainder of the message.



This view is available only in Manual mode to review acknowledge messages. Pressing the UP and DOWN buttons simultaneously to go to the Top Level menu.

System Functions

System Functions provides access to the System Functions Menu, which consists of System Information / Change Date and Time / Default SG-System II Options / Reset SG-System II / Visual Indicator Test / Exit Menu.

Exit Programming

Pressing the ENTER button while in Exit Programming will take the user back to the Base mode or the Manual mode.

3.3.4 System Functions Menu

System Information

System Information provides a wealth of detail regarding the user's setup of SG-System II. These details include:

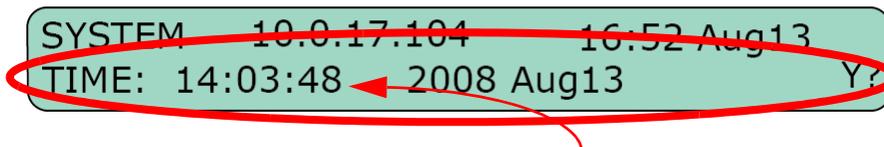
- Version
- ID
- LAN MAC
- LAN IP
- Gateway IP
- WAN MAC
- SW Checksum
- CPLD Version
- DSP Checksum
- DSP Version
- WAN IP
- IP Accounts 2
- Manufacture Date
- Country of Manufacture Code
- AHS Table
- IP Accounts
- WAN Subnet
- LAN subnet

NOTE: The number in parentheses represents the number of times the value has been changed or the size of a particular table.

To return to System Information while viewing any of the above, press the UP and DOWN buttons simultaneously. Pressing the UP and DOWN buttons once more will take you to the Top Level menu.

Change Date and Time

Having chosen to enter Change Date and Time by pressing the ENTER button, the unit's LCD appears as below:



1. Changes to the time and date begin at the far left of the screen with the hour, and proceed to the right. The UP button will increase the value of the digit; the DOWN button will decrease its value.
2. Having made a change, press the ENTER button to advance to the next digit on the right. Pressing the ENTER button without having made any changes will also move the cursor to the next digit on the right.
3. Once the Day has been entered and the ENTER button pressed, the user will be asked by the SG-System II to confirm the changes: **N?** for no; **Y?** for yes. Use the UP and DOWN buttons to navigate between yes and no.
4. Press the ENTER button to save your changes.

NOTE: At any point before the time and date have been saved, pressing the UP and DOWN buttons simultaneously will cancel any unsaved changes and return the user to the System Functions Menu.

Default SG-System II Options

When Default SG-System II Options is selected, the LCD will prompt the user to confirm that the entire system is to be reset. Selecting **Y?** for yes will reset the system; selecting **N?** for no will leave system settings as they are. Either of the UP and DOWN buttons can be used to cycle between answers.

Visual Indicator Test

Selecting the Visual Indicator Test turns on all of the LCD pixels and the unit's buzzer, to confirm that they are in good working order.

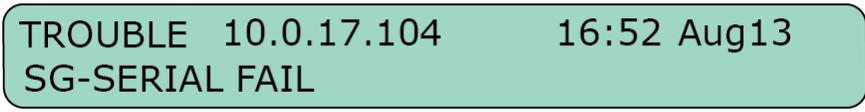
Exit Menu

When in **Top Level Menu > Exit Menu**, pressing the ENTER button will take the user back one level to the Base (Active mode or Manual mode) level. When in **System Functions Menu > Exit Menu**, pressing the ENTER button will take the user back one level to **Top Level Menu > System Functions**. While in System Functions, navigate to Exit Programming. Pressing the ENTER button will take the user back to the Base (Active mode or Manual mode) level.

3.3.5 Miscellaneous LED Indicators

View Trouble

To enter View Trouble, the unit must first be in Active mode or Manual mode, and have no events to be acknowledged in Manual mode. Press the UP and DOWN buttons simultaneously to enter View Trouble. Once there, the UP and DOWN buttons can be used to review the list of troubles. Should there be no troubles, the LCD will flash **NO TROUBLE** for a few seconds and return to the previous level of operation. A list of possible troubles can be found below.



Trouble List

The following trouble and status lists are monitored by the system. Individual troubles can be disabled in the Program category. Both the trouble list and the status list are fully enabled by default.

Trouble:

- Parallel Printer
- Serial Printer
- TCP Printer
- USB Printer
- Serial Automation
- TCP Automation
- UPS Battery
- UPS AC
- Time and Date Not Set
- Network absent

Status:

- Clock Not Set
- Printer Buffer Full
- Checksum Failed - Software
- System Absent - Channel 1

View Network / Watchdog

Please refer to Set Up and Testing on page 6 for detailed Network information.

View Status

Please refer to Set Up and Testing on page 6 for detailed Status information.

Section 4 - System Options

4.1 System Option Index

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Steps required to access an option and change its setting or value

The steps required to access an option and change its setting or value are very nearly uniform from option to option. The procedure detailed below will match satisfy the majority of options. Those it does not will accept close, intuitive variations of it. Please refer to the steps below when programming system options.

To change an option's setting or value, take the following steps:

1. Turn on the SG-System II.
2. Use the UP and DOWN buttons to select the user. User '0' has full administrative powers; all other users may only review system settings, in addition to changing the time and date.
3. Press the ENTER button. This initiates the password sequence, placing a flashing cursor underneath the first digit of the four-digit password.
4. Use the UP and DOWN buttons to select the appropriate value. Press the ENTER button. The cursor will advance to the next digit.
5. Repeat step 4 for all four digits. If the password you have entered is correct, you now have access to SG-System II. If not, re-enter your password.
6. **View or Change Options** appears on the LCD. Press the ENTER button.
7. Use the UP and DOWN buttons to locate which section of options is valid for your configuration of SG-System II: **CPM Options / Channel-IP Options / Exit Menu**.
8. Press the ENTER button. The options applicable to your system are to available for you to access.
9. Navigate to Option [XXX]. Press the ENTER button. The current value is displayed on the LCD.
10. Press the ENTER button. The value may now be changed.
11. Use the UP or DOWN button to scroll to the desired value.
12. Having made a selection, press the ENTER button.
13. The LCD will prompt you to accept (**Y?**) or to decline (**N?**) your changes.
14. Use the UP and DOWN buttons to select your response. Press the ENTER button.
15. Your changes have been saved.

4.2 System Options

Option [001]: LAN IP Address

Default (10.0.7.100)

Enter the IP address of the SG-System II. The IP address must be entered as a dotted decimal number (e.g. 255.255.001.000). Each three-digit segment of the IP address must be within a valid range of 000 to 255.

NOTE: The SG-System II must be restarted for these changes to take effect.

Option [002]: LAN Subnet Mask Address

Default (255.255.0.0)

Enter the LAN Subnet Mask address of the SG-System II. The address must be entered as a dotted decimal number (e.g. 255.255.001.000). Each three-digit segment of the address must be within a valid range of 000 to 255.

NOTE: The SG-System II must be restarted for these changes to take effect.

Option [003]: LAN Gateway

Default (0.0.0.0)

Enter the LAN Gateway address of the SG-System II. Take care to ensure that the address is unique to your system. The address must be entered as a dotted decimal number (e.g. 255.255.001.000). Each three-digit segment of the address must be within a valid range of 000 to 255. The gateway is used in the event that the data being sent is not on the same network as the SG-System II. The data will need to be sent through a router device. This is the address of that router device.

NOTE: The SG-System II must be restarted for these changes to take effect.

Option [004]: Auto Update Time and Date

Default (0)

This option enables the automation to update the SG-System II's time via the TCP/IP port. If the SG-System II fails to get the time and date within a twenty-four-hour period (started after the last update is received), it will generate a status message to the printer and automation, following the internal trouble protocol. The Trouble status on the SG-System II display will not be affected.

Printer message: "Time&Date Update Fail"

Automation message: [#0000|NRU0000]

Option [005]: Contrast

Default (45)

Use this option enables to adjust the contrast of the unit's LCD. Press the UP and ENTER buttons simultaneously to increase the level of contrast; press the DOWN and ENTER buttons simultaneously to decrease the level of contrast. Contrast can be adjusted in both Active and Manual modes.

Option [006]: Password

Default (CAFE)

Use this option to change or delete SG-System II users and their passwords. Sixteen users with 4-digit passwords are available for use on the SG-System II. User 0 is the Master user, with complete administrative control over the system. Users 1 through F may be assigned to individuals within your organization; these sixteen users are able to review system settings but not change them, with the exception of the Time and Date. To delete a user, program the password for that user to 'FFFF'.

NOTE: User 0 can not be deleted.

To change your password, take the following steps:

1. Navigate to Option [006].
2. Press the ENTER button. The user designation (e.g. '0', 'F') is displayed, in addition to the current password in the form of 'XXXX'.
3. Press the ENTER button to begin the process of changing the password.
4. Use the UP and DOWN buttons to make your selection and press the ENTER button. The cursor advances to the next digit.
5. On selecting the fourth digit and pressing the ENTER button, the unit LCD will will prompt you to accept (Y?) or to decline (N?) your changes.
6. Press the ENTER button again to accept or to decline your changes.

Option [007]: Automation Baud Rate

Default (9600)

This option determines the baud rate at which the SG-System II will communicate to the automation software via serial port 1. As a general rule, the faster the baud rate, the better the unit's performance. Older automation software packages can not, however, manage a fast baud rate and will require a slower baud rate in order to perform at an optimal level. Valid selections are: 1200, 2400, 4800, 9600, 19200, 38400, and 57600.

NOTE: The SG-System II must be restarted for these changes to take effect.

Option [008]: Automation Data Bits

Default (8)

This option determines the number of data bits the SG-System II will use to communicate to the automation software via serial port 1. Valid selections are seven or eight, to indicate seven data bits or eight data bits. As a general rule, the higher the number of data bits, the better the unit's performance.

NOTE: The SG-System II must be restarted for these changes to take effect.

Option [009]: Automation Parity

Default (0)

This option determines the parity of serial port 1.

Table 8: Automation Parity

Value	Degree of Parity
0	No parity
1	Odd parity
2	Even parity

NOTE: The number of stop bits can not be changed and will always be 2.**NOTE: The SG-System II must be restarted for these changes to take effect.****Option [00A]: Serial Printer Format**

Default (0)

This option regulates how data is formatted when sent to a serial printer and how the serial port is supervised. CTS will need to be set high and print to both HyperTerminal and physical serial printer. By setting Option [00A] to '02' (note that this will be displayed as 'DCD' in programming mode), DCD will need to be set high. This option affects how the COM2 serial port is supervised and how the data is formatted. The default value disables the option, blocking the printing of data.

NOTE: The SG-System II must be restarted for these changes to take effect.**Option [00B]: Serial Baud Rate**

Default (57600)

This option determines the baud rate at which the SG-System II will communicate to the automation software via serial port 2. As a general rule, the faster the baud rate, the better the unit's performance. Older automation software packages can not, however, manage a fast baud rate and will require a slower baud rate in order to perform at an optimal level. Valid selections are: 1200, 2400, 4800, 9600, 19200, 38400, and 57600.

NOTE: The SG-System II must be restarted for these changes to take effect.**Option [00C]: Serial Data Bits**

Default (8)

This option determines the number of data bits the SG-System II will use to communicate to the automation software via serial port 2. Valid selections are seven or eight, to indicate seven data bits or eight data bits. As a general rule, the higher the number of data bits, the better the unit's performance.

NOTE: The SG-System II must be restarted for these changes to take effect.**Option [00D]: Serial Printer Parity**

Default (0)

This option determines the parity of serial port 2. '0' represents no parity, '1' represent odd parity, and '2' represent even parity.

NOTE: The number of stop bits can not be changed and will always be 2.**NOTE: The SG-System II must be restarted for these changes to take effect****Option [00F]: B32 Headers**

Default (00)

This option enables compatibility with MAS B32 Automation Software through TCP/IP. To enable this option, change the value to '01'.

NOTE: The SG-System II must be restarted for these changes to take effect**Option [012]: Heartbeat Timer**

Default (30)

Use this option to determine the time interval - measured in seconds - the heartbeat transmission is sent to Serial Automation and TCP/IP port 1025. The heartbeat times is used to ensure that any communication through Serial Automation and TCP/IP is functioning normally when there is no traffic from the receiver. Note that any traffic from the receiver will reset the heartbeat timer. Therefore, the heartbeat transmission will be sent only if there is no signal sent during the time specified in Option [012].

Option [013]: Buzzer Tone

Default (00)

A tone will sound when the SG-System II, having received an alarm, is unable to forward the alarm message to either the Serial or TCP/IP automation paths (while in Manual mode). You are able to manipulate this tone via Option [013]. The tone generated will continue to pulse until all unacknowledged events have been acknowledged by the user; this can be done by pressing the Ack button for each event, or the unit itself transfers from Manual mode to Active mode. If Option [013] is set to OFF, no buzzer tone will sound on receipt of an alarm. Any other value will produce a tone.

Table 9: Buzzer Tone

IDX	Frequency (Hz)
20	1490
25	1990
26	2103
30	2650
33	3149
37	3965
38	4270
39	4530

To set the buzzer tone, take the following steps:

1. Navigate to Option [013]. Press the ENTER button. The current value is displayed on the LCD.
2. Press the ENTER button. The value may now be changed.
3. Use the UP and DOWN buttons to scroll to the desired value.

NOTE: As each tone is selected the SG-System II will sound that tone for a period of 250 msec, allowing the user the opportunity to judge each tone as it is selected.

1. Having made a selection, press the ENTER button.
2. The LCD will prompt you to accept (Y?) or to decline (N?) your changes.
3. Use the UP and DOWN buttons to select your answer. Press the ENTER button.

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [014]: Receiver Number

Default (01)

The receiver number is used to identify the receiver (or, unit) when communicating to the TCP/IP Automation, the Serial Automation, and any connected printer. This receiver number applies to all traffic, unless overridden by another option. In the event that such overriding takes place, it will most likely be a Fallback / Recovery Strategy option.

Option [015]: Printer Test

Default (ON)

When this option is enabled, a test signal is sent to all active printers at 0500 hrs and 1700 hrs of every day.

Sample printer message: **26 Nov 2003 16:41:25 - 26 Nov 2003-16:41:25-00/00-SG-01-000-0000--Printer Test Message**

Option [020]: Mask UPS AC

Default (ON)

Use this option to enable the UPS AC Shelf 1 trouble mask. If enabled, trouble conditions are not reported.

OFF - Condition reported

ON - Condition not reported (masked)

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [021]: Mask UPS BAT

Default (ON)

Use this option to enable the UPS Battery Shelf 1 trouble mask. If enabled, trouble conditions are not reported.

OFF - Condition reported

ON - Condition not reported (masked)

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [024]: Mask SG TCP/IP

Default (OFF)

Use this option to enable the SG TCP/IP trouble mask. If enabled, trouble conditions are not reported.

OFF - Condition reported

ON - Condition not reported (masked)

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [025]: Mask SG Serial

Default (OFF)

Use this option to enable the SG Serial trouble mask. If enabled, trouble conditions are not reported.

OFF - Condition reported**ON** - Condition not reported (masked)See **UL864 Programming Requirements on page 2.****Option [028]: Mask TCP Printer**

Default (OFF)

Use this option to enable the TCP Printer trouble mask. If enabled, trouble conditions are not reported.

OFF - Condition reported**ON** - Condition not reported (masked)See **UL864 Programming Requirements on page 2.****Option [029]: Mask Parallel Printer**

Default (OFF)

Use this option to enable the Parallel Printer trouble mask. If enabled, trouble conditions are not reported.

OFF - Condition reported**ON** - Condition not reported (masked)**NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.****Option [02A]: Mask Serial Printer**

Default (OFF)

Use this option to enable the Serial Printer trouble mask. If enabled, trouble conditions are not reported.

OFF - Condition reported**ON** - Condition not reported (masked)**NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.****Option [02F]: Automation Mode**

Default - Fallback (01)

The TCP/IP connection is the primary output of the SG-System II for automation computer alarms. It is expected that sockets may appear and disappear regularly as processes are terminated and reconstituted. After five seconds of socket loss, a socket loss is declared and automation output is shifted to the next connection level, which is the serial automation output connection. There are five levels of automation:

- **Loop (00)**

At startup, the SG-System II will send to the TCP/IP until it fails, proceed to the RS232 until it fails, proceed back to the TCP/IP until it fails, and so on. Please refer to the Automation Mode workflow diagrams below.

NOTE: This value will not generate an automation absent message.

- **Fallback (01)**

If both outputs are present, the system will send to the TCP/IP connection until it fails, proceeding next to the RS232 connection. It will continue to send to the serial connection without stop, or until the reset fallback command is generated from the console, in which case it will re-try the TCP/IP connection. Please refer to the Automation Mode workflow diagrams below.

- **Automatic IP Fallback (04)**

This mode is similar to Fallback, save that when the TCP/IP connection is restored the SG-System II will return to the TCP/IP port to send events. This eliminates the need for the Reset SG Fallback from the SG-System II Console. Please refer to the Automation Mode workflow diagrams below.

NOTE: The SG-System II must be restarted for these changes to take effect.

Figure 4: Loop (00), Automatic IP Fallback (04)

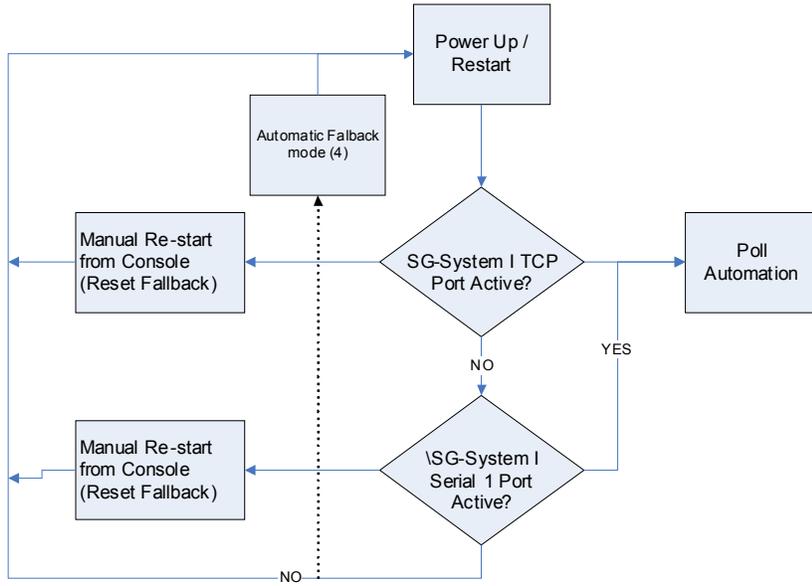


Figure 5: Fallback (01)

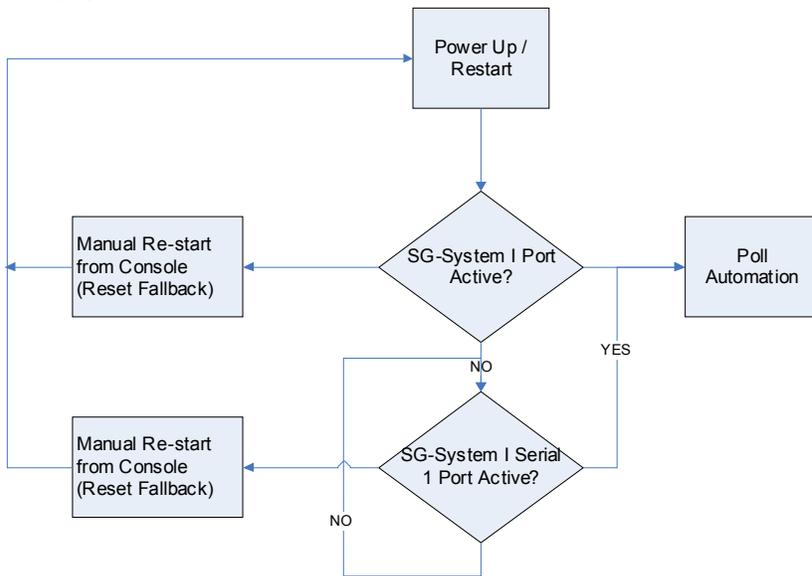
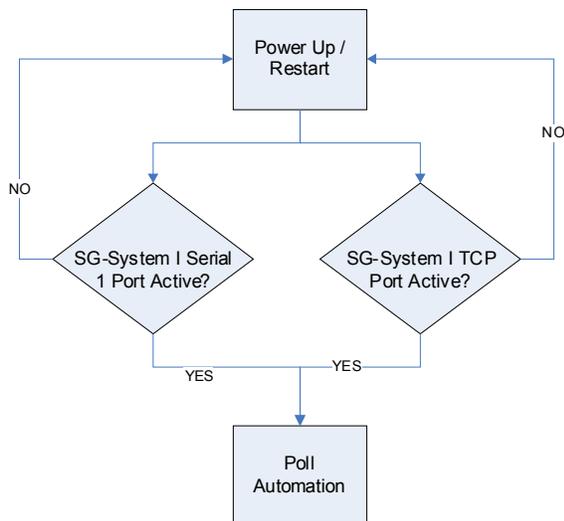


Figure 6: All (02)



Option [030]: Printer Mode

Default (LOOP)

You can configure this option with an approach similar to the automation outputs of Option [02F] above, except that Fallback (01) and Automatic IP Fallback (04) are **not** available. The acceptable value is Loop (00). Note that Loop (00) transmits printer messages to each port in turn. The first port to respond will be used to process subsequent printer messages until it is no longer able to do so, at which point the next port in the loop will be employed.

NOTE: The order of sequence is: TCP, Parallel, USB, and Serial. DSC does not recommend changing the default setting unless using more than one printer.

NOTE: The SG-System II must be restarted for these changes to take effect.

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [031]: ACK Wait

Default (40)

Use this option to determine the acknowledgement wait time, measured in tenths of a second, during which the SG-System II will wait for a response to automation software outputs. If none is received during this interval, the automation software output is retransmitted and the timer reset.

To set the printer mode, take the following steps:

1. Navigate to Option [030]. Press the ENTER button. The current value is displayed on the LCD.
2. Press the ENTER button. The value may now be changed.
3. Use the UP or DOWN buttons to scroll to the desired value. Select an integer value from 40 to 99, representing 4.0 seconds to 9.9 seconds. For example, 63 would represent a value of 6.3 seconds.
4. Having made a selection, press the ENTER button.
5. The LCD will prompt you to accept (Y?) or to decline (N?) your changes.
6. Use the UP and DOWN buttons to select your response. Press the ENTER button.

NOTE: The SG-System II must be restarted for these changes to take effect.

Option [032]: Date Format

Default (DD/MM/YYYY)

Use this option to determine the format of the date for printer output. Valid entries are 0 and 1.

Table 5: Date Format

Value	Output
(0)	International DD / MM / YYYY
(1)	US MM / DD / YYYY

NOTE: The SG-System II must be restarted for these changes to take effect.

Options [037] and [038]: Product ID Keys #1, #2

The Product ID Key options allows the user to enter an ID key that will enable the second account table functionality on the SG-System II. When a correct license is entered the SG-System II will allow for a second account table, account port that will support and additional 1536 communicators (512 supervised). This table is independent of the first account table. See options [148] (Alarm Port 2) and option [14A] (Line Card number Port 2).

To enter the product IDs, take the following steps:

1. Navigate to Options [037]/[038]. Press the ENTER button. The current value is displayed on the LCD.
2. Press the ENTER button. The value may now be changed.
3. Use the UP or DOWN button to scroll to the desired value.
4. Having made a selection, press the ENTER button. The cursor will advance to the next digit.
5. Repeat steps 3 and 4 until the full product ID key has been entered.
6. The LCD will prompt you to accept (Y?) or to decline (N?) your changes.
7. Use the UP and DOWN buttons to select your response. Press the ENTER button.

NOTE: The SG-System II must be restarted for these changes to take effect

Option [039]: Mask USB Printer

Default (ON)

Use this option to enable the USB Printer mask. If enabled, trouble conditions are not reported.

OFF - Condition reported

ON - Condition not reported (masked)

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [03A]: Programmable I/O

Default (00)

NOTE: SG-System II version 1.0 has the inputs and outputs hard set. Later versions will permit user access to unit inputs and outputs.

I/O interface connections are located at the back of the unit and employ a screwless, spring-type terminal. There are three outputs and four inputs on the unit. Relays are employed for the output switching of the SG-System II unit. I/O functions are described at item 14 of the "Table 3: SG-System I Front and Rear Panel Descriptions" 15.

Option [03B]: Last Message On

Default (Off)

When enabled, this option displays the most recent printer message on the lower line of the unit LCD. It will remain there until a new printer message replaces it. The automation condition - e.g. mode (Active / Manual) or slot (all / TCP / Serial) - does not have any effect on this feature. Option [03C]: LCD Backlight Colour

Default (Cyan)

You can use this option to select the LCD backlight colour. Available colours are: OFF / WHITE / GREEN / BLUE / MAGENTA / CYAN / ORANGE / PURPLE / AQUA / PINK / ROYAL / FADE / CYCLE.

When accessing this option, the available colours will appear on the LCD as you cycle through them, providing a preview of their effect. This is done without your needing to exit the menu.

Table 6: LCD Backlight Colour

Colour	Description
Off	Light grey.
White ~ Royal	As per its name.
Fade	A static blend of all available colours from white to royal.
Cycle	Rotates through all available colours from white to royal at one second intervals.
Yellow	Reserved for Trouble mode.
Red	Reserved for Manual mode.

Option [03D]: Key Backlight Colour

Default (Cyan)

You can use this option to select the LCD backlight colour. Available colours are: OFF / WHITE / GREEN / BLUE / MAGENTA / CYAN / ORANGE / PURPLE / AQUA / PINK / ROYAL / FADE / CYCLE.

When accessing this option, the available colours will appear on the LCD as you cycle through them, providing a preview of their effect. This is done without your needing to exit the menu.

NOTE: Please refer to LCD Backlight Colour on page 17.

Option [041]: System Number Length

Default (0A)

Use this option to determine how many digits from the line card number will be sent to the output. You can make the option display these digits in hexadecimal or decimal. In a small environment with a limited number of receivers, the default value will suffice. In a large environment with a large number of receivers, this option provides useful flexibility. Possible values are listed in the table below.

Table 7: System Number Length

Value	Description
01	Sends a one digit hexadecimal number to the printer or computer output (a two-digit line card number will have only the first digit sent to the output).
02	Sends a two-digit hexadecimal line card number to the output.
03	Sends a three-digit hexadecimal line card number to the output (leading zeroes will be inserted as a suffix to the line card number).
0A	Sends a three-digit line card number as entered (no conversion).
0D	Sends a three-digit line card number in decimal (conversion from hexadecimal to decimal).
0E	Sends a one-character line number (1-9, A-Z).

NOTE: This option should always correspond to the number of DNIS digits being received. E.g. If five digits are being received, this option should be set to three. This will force the five digits of DNIS DDDDD to overwrite the standard RLLLL.

Option [042]: Busy Out

Default (00)

Enabling this option allows the line card to seize the phone line in case of a checksum error after download or when its internal buffer is full after a loss of communication with the system.

- **00** - the line is busied if either of the conditions mentioned above occur.
- **01** - the line is *not* busied if either of the conditions mentioned above occur.
- **04** - the line will be busied immediately if the automation computer is absent.
- **05** - the line will be busied immediately if the automation computer is absent or there is no communication with the system, but only if the internal computer (automation) buffer is full. If there is a loss of a printer(s), any new alarms will not be buffered in the internal printer buffer. The SG-System II has two independent buffers, computer and printer.

NOTE: If this option is set to 01, the line card will not buffer any new alarms once the internal buffer is filled. Setting option [042] to this value is not recommended.

NOTE: Refer to "UL864 Programming Requirements" 10 if changing the default setting.

Option [043]: System Protocol ID

Default (0)

Use this option to determine the format that the system will use to deliver its internal messages. Automation software delivered since the year 2000 is more likely to take the 'S' value and to provide detailed information on events that have been generated. Older automation software will require that you input the '0' value.

Table 8: System Protocol ID

Value	Message format
0 (zero)	ORRLL[#AAAA Nxyy]
S	SRLLL[#AAAA Nxyy]
-	Format Explanation
-	S,0 - protocol number RR - receiver number LLL - line number AAAA - account code, always 0000 Nxyy - SIA event

Section 5 - IP Options

5.1 IP Option Index

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Steps required to access an option and change its setting or value

The steps required to access an option and change its setting or value are very nearly uniform from option to option. The procedure detailed below will satisfy the majority of options. Those it does not will accept close, intuitive variations of it. Please refer to the steps below when programming system options.

To change an option's setting or value, take the following steps:

1. Turn on the SG-System II.
2. Use the UP and DOWN buttons to select the user. User '0' has full administrative powers; all other users may only review system settings, in addition to changing the time and date.
3. Press the ENTER button. This initiates the password sequence, placing a flashing cursor underneath the first digit of the four-digit password.
4. Use the UP and DOWN buttons to select the appropriate value. Press the ENTER button. The cursor will advance to the next digit.
5. Repeat step 4 for all four digits. If the password you have entered is correct, you now have access to SG-System II. If not, re-enter your password.
6. **View or Change Options** appears on the LCD. Press the ENTER button.
7. Use the UP and DOWN buttons to locate which section of options is valid for your configuration of SG-System II:
CPM Options / Channel-1 Options / Channel-2 Options / Channel-IP Options / Exit Menu.
8. Press the ENTER button. The options applicable to your system are to available for you to access.
9. Navigate to Option XXX. Press the ENTER button. The current value is displayed on the LCD.
10. Press the ENTER button. The value may now be changed.
11. Use the UP or DOWN button to scroll to the desired value.
12. Having made a selection, press the ENTER button.
13. The LCD will prompt you to accept (Y?) or to decline (N?) your changes.
14. Use the UP and DOWN buttons to select your response. Press the ENTER button.
15. Your changes have been saved.

5.2 IP Options

Option [101]: IP Address

Default – Channel 1 [0.0.0.0]

This section is the IP of the SG-System II. The IP Address will be entered as a dotted decimal number. Example: 192.168.002.045. Each segment of the IP address shall have a valid range from 000 to 255. The IP address shall be entered in one menu in the programming menu even if multiple sections (octets) are used to generate the completed IP address.

NOTE: For changes to this program option a reset of the unit is required before the new parameters are used.

Option [105]: Subnet Mask

Default [255.255.0.0]

This section is the IP of the SG-System II. The Subnet Address will be entered as a dotted decimal number. Example: 255.255.000.000. Each segment of the IP address shall have a valid range from 000 to 255. The subnet address shall be entered in one menu in the programming menu even if multiple sections are used to generate the completed IP address.

NOTE: For changes to this program option a reset of the unit is required before the new parameters are used

Option [10D]: Alarm Port Number

Default (3061)

Use this option to set the Alarm Port connection number for your receiver. While the default value will suffice in environments involving just one receiver, Option [30D] can be used to differentiate receivers in a complex, multiple receiver environment. If this option is changed, IP communication modules connected to the SG-System II must be programmed with the new receiver number. Communications connected to the receiver will send their signals to this port.

NOTE: The SG-System II must be restarted for these changes to take effect.

Option [10F]: Receiver Number

Default: [01]

The receiver number is used for sending signals to the central station software. Refer to the manuals for any central station automation software being used to determine if there are any special requirements for this number. Also, ensure that there are no duplicate receiver numbers used.

Option [110]: Line Card Number - Table 1

Default (03)

Use this option to provide each SG-System II line card with an identification code. A range of hexadecimal numbers from 01 - FE can be programmed in this option to identify your line cards.

Option [113]: Transmitter Failure Debounce Time

Default (120)

The time, in seconds, for which a transmitter configured in supervised mode must be absent before a transmitter failure condition is reported. Valid entries range from 30 - 255 seconds.

NOTE: T-Link Absent Time should not be less than 90 seconds. For ULC Installations, Security Level A4, this option should be programmed as 90 seconds. For UL Installations, this option should be programmed as 180 seconds.

Option [115]: Transmitter Restoral Debounce Time

Default (60)

The time, in seconds, for which a transmitter must be present before it is registered in the Account Table and the transmitter restoral message is sent. Valid entries range from 30 - 255 seconds.

Option [119]: Mask Transmitter Restoral

Default (OFF)

Use this option to enable or disable the reporting of the transmitter restoral condition on the SG-System II receiver. The default value is appropriate in most situations, save those when the transmitter status is expected to fluctuate often due to, for example, system maintenance.

OFF - Condition is reported.

ON - Condition is not reported (masked).

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [11A]: Mask Transmitter Failure

Default (OFF)

Use this option to enable or disable the reporting of the transmitter failure condition on the SG-System II receiver. The default value is appropriate in most situations, save those when the transmitter status is expected to fluctuate often due to, for example, system maintenance.

OFF - Condition is reported.

ON - Condition is not reported (masked).

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [11B]: Mask Transmitter Swap

Default (OFF)

Use this option to enable or disable the reporting of the T-Link swap condition on the SG-System II receiver. The default value is appropriate in most situations, save those when the transmitter status is expected to fluctuate often due to, for example, system maintenance.

OFF - Condition is reported.

ON - Condition is not reported (masked).

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [11C]: Mask Transmitter Unencrypted

Default (OFF)

Use this option to enable or disable the reporting of the T-Link sending an unencrypted event when the SG-System II receiver is expecting an encrypted event condition on a SG-DRL3-IP receiver. The default value is appropriate in most situations, save those when a number of unencrypted events are expected to be sent due to, for example, system testing or maintenance.

OFF - Condition is reported.

ON - Condition is not reported (masked).

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [11D]: Mask Invalid Report

Default (OFF)

Use this option to enable or disable the reporting of the invalid report condition. The SG-System II determines that the signal received is invalid, a bad checksum, or an encryption key mismatch. The default value is appropriate in most situations, save those when a number of invalid reports is expected due to, for example, system maintenance.

OFF - Condition is reported.

ON - Condition is not reported (masked).

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [11E]: Mask Unknown Account

Default (OFF)

Use this option to enable or disable the reporting of an unknown account report condition when the SG-System II receiver determines that it is from an invalid account (not in the Account table). The default value is appropriate in most situations, save those when a number unknown accounts are expected to be reported due to, for example, system testing or maintenance.

OFF - Condition is reported.

ON - Condition is not reported (masked).

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [11F]: Mask Supervised Acc Exceeded

Default (OFF)

Use this option to enable or disable reporting if the account table limit is exceeded when a new account tries to connect to a SG-System II that already has a full account table. The default value is appropriate in most situations, save those when the account table limit is expected to be reached due to, for example, system testing or maintenance.

OFF - Condition is reported.

ON - Condition is not reported (masked).

NOTE: Refer to UL864 Programming Requirements on page 2 if changing the default setting.

Option [120]: Mask Transmitter Deleted

Default (OFF)

Use this option to enable or disable reporting if a T-Link account is deleted from a table. The default value is appropriate in most situations, save those when multiple deletions are expected to be undertaken due to, for example, system testing or maintenance.

OFF - Condition is reported.

ON - Condition is not reported (masked).

Option [13A]: Account Port

Default (3064) decimal; (0x0BF8) hexadecimal

Use this option to select a port number on which the SG-System II receiver will communicate with the T-Link Console software for administration of the T-Link Account Table. You should ensure that a unique number is used for this option.

NOTE: The SG-System II must be restarted for these changes to take effect.

Option [140]: Account Password

Default (CAFE)

Use this option set a password to restrict access to the receiver account table. In order to retrieve or modify the receiver account table, any application that connects to it must have the same password. You must ensure that these applications and Option [140] share the identical password. Applications that connect to the receiver account table include the following:

- T-Link Console
- SG Receiver Consoles
- Table Loader
- DLS (downloading software)

Option [144]: DNIS Replacement of RRLLL

Default (00)

Use this option to instruct the SG-System II to output the RRLLL (receiver number and line number), or to replace the output of RRLLL with DNIS from a DSC GSM transmitter, depending on the type of transmitter you have installed on your site. Both values will send the output to the printer and to the automation software.

00 - SG-System II will output the RRLLL

01 - SG-System II will output the DNIS

Option [146]: Account Digit Strip

Default (00)

Use this option to control the output of the account number set (from 1 to 9 digits) for the T-Link and the panel account code. The table below lists the possible variations in output.

Table 14: Account Digit Strip

Value	Output - T-Link	Output - Panel
00	ten(10) digits	as received
01	one(1) digit	as received
02	two(2) digits	as received
03	three(3) digits	as received
04	four(4) digits	as received
05	five(5) digits	as received
06	six(6) digits	as received
07	seven(7) digits	as received

Table 14: Account Digit Strip

Value	Output - T-Link	Output - Panel
08	eight(8) digits	as received
09	nine(9) digits	as received

Example 1:

If Option [146] is set to **05**, the T-Link account number set of '1234567890' will be sent to output as **67890**. The panel account code number set will be sent to output as **1234567890**.

Example 2:

If Option [146] is set to **02**, the T-Link account number set of '1234567890' will be sent to output as **90**. The panel account code number set will be sent to output as **1234567890**.

Example 3:

If Option [146] is set to **08**, the T-Link account number set of '0012345678' will be sent to output as **12345678**. The panel account code number set will be sent to output as **0012345678**.

Option [147]: SIM ID Output

Default (OFF)

Option [147] is available for use with the DSC GSM transmitter.

Use this option to send the SIM card number for the GSM transmitter account to the printer and the automation software. The output will include the account number (up to 10 digits, depending on the status of Option [146]) and the SIM card number (21 digits). The automation software must support the protocol via the Sur-Gard output format for this option to work.

OFF - the option is disabled

ON - SG-System II will output the SIM card number

The automation software output will appear as follows:

sRLLLLAAAAAAAAAASSSSSSSSSSSSSSSSSSSS

The output is explained in the table below.

Table 15: SIM ID Output

Character	Description
s	the protocol number
RRLLL	the receiver and line numbers of the line card that received the event
A	the 10-digit account number
S	the SIM number of the transmitter that sent the event

Option [148]: Alarm Port 2

Default: [3071]

This option set the alarm connection port number (Alarm Port). If this option is changed, IP Communication modules connected to the receiver must be programmed with the new port number. The Communicators connected to the receiver will send their signals to this port via UDP.

Option [14A]: Line Card Number – Table 2

Default: [02]

The Line Card Number provides a virtual identification code for each SG-SYSTEM II module. Hexadecimal numbers "01" to "FE" can be programmed in this option to identify line cards. All messages generated for account table 2 will use this line card number

Appendix A - Events and Messages

Description/Event	Automation message	Printer message
TCP/IP Printer Failure	001000[#0000 NVZ0100]	01-000-0000-NVZ0100-TCP/IP Printer Failed
TCP/IP Printer Restoral	001000[#0000 NVY0100]	01-000-0000-NVY0100-TCP/IP Printer Restored
Parallel Printer Failure	001000[#0000 NVZ0101]	01-000-0000-NVZ0101-Parallel Printer Failed
Parallel Printer Restoral	001000[#0000 NVY0101]	01-000-0000-NVY0101-Parallel Printer Restored
Serial Printer Failure	001000[#0000 NVZ0K102]	01-000-0000-NVZ0102-Serial Printer Failed
Serial Printer Restoral	001000[#0000 NVY0102]	01-000-0000-NVY0102-Serial Printer Restored
USB Printer Failure	001000[#0000 NVZ0103]	01-000-0000-NVZ0103-USB Printer Failed
USB Printer Restoral	001000[#0000 NVY0103]	01-000-0000-NVY0103-USB Printer Restored
SG-TCP/IP Automation Failure	001000[#0000 NNT0100]	01-000-0000-NNT0100-SG-TCP/IP Failed
SG-TCP/IP Automation Restoral	001000[#0000 NNR0100]	01-000-0000-NNR0100-SG-TCP/IP Restored
Serial Automation Failure	001000[#0000 NYC0101]	01-000-0000-NYC0101-SG-SERIAL Failed
Serial Automation Restoral	001000[#0000 NYK0101]	01-000-0000-NYK0101-SG-SERIAL Restored
Switch To Active Mode (Where ## is the slot number 03 - TCP 01 - Serial)	001000[#0000 NSC00##]	01-000-0000-NSC00##-Switching To Active Mode
Switch To Manual Mode	001000[#0000 NSC0000]	01-000-0000-NSC0000-Switching To Manual Mode
Internal communication error IP Channels	001001[#0000 NRT0002]	01-001-0000-Internal Communication Error (ASCII data output)
Time/Date update failed from automation software	001000[#0000 NRU0000]	01-000-0000-NRU0000-Time&Date Update Fail
Computer Internal communication error IP Channel*	001001[#0000 NRT0002]	01-001-0000-RT-Computer: Internal Comm. Error
Printer Internal communication error IP Channel*	NA	01-001-0000-Internal Communication Error (ASCII data output)
Printer Internal communication error IP Channel*	001001[#0000 NRT0002]	01-001-0000-RT-Computer: Internal Comm. Error
Computer Internal Communication error - IP Channels	001000[#0000 NYO0101]	01-000-0000-NYO0101-Computer: Inter-Comm Error
Operator Log in where ## is the operator number logging in (in hex)	001000[#0000 NLB00##]	00/00-SG -01-000-0000-NLB00##-User:0 Local Programming Begins
Operator Log out where ## is the operator number logging in (in hex)	001000[#0000 NLD00##]	01-000-0000-NLD0000-User:## Local Programming Ended
Operator access denied where ## is the operator number logging in (in hex)	001000[#0000 NLX00##]	01-000-0000-NLX00##-User:## Local Programming Denied
SG-SYSTEM II Power Up where X.XX.XXX.XXX is the software version information.	001000[#0000 NRR0001]	01-000-0000-NRR0001-SG-System II VX.XX.XX.XXX Power Up
UPS AC Fail (PGM In)	001000[#0000 NAT0102]	01-000-0000-NAT0102-UPS AC Failed
UPS AC Restored	001000[#0000 NAR0102]	01-000-0000-NAR0102-UPS AC Restored
UPS Low Battery Restore	001000[#0000 NYR0102]	01-000-0000-NYR0102-UPS Battery Restored
UPS Low Battery	001000[#0000 NYT0102]	01-000-0000-NYT0102-UPS Battery Low
Console Session Denied	001000[#0000 NRD0001]	01-000-0000-NRD0001-Console Session Denied
Automation Time & Date Failure	001000[#0000 NRU0000]	01-000-0000-NRU0000-Time&Date Update Fail
System Option Change (where XX is the option #, and YY is the new option setting)	001000[#0000 NLS0101]	01-000-0000-NLS0101-Option Change: C0 #XX YY
Channel IP Option Change (where XX is the option #, and YY is the new option setting)	001000[#0000 NLS0101]	01-000-0000-NLS0101-Option Change: C1 #XX YY
Option change from console where C# is the channel changed (0 = system, 1 IP channel)	001000[#0000 NLS0101]	00/00-SG -01-000-0000-NLS0101-Option Change: C#
Printer Buffer Full (IP Channel)	001001[#0000 NYB0001]	01-001-0000-YB-Printer Buffer Full
Computer Buffer Full (IP Channel)	001001[#0000 NYB0002]	01-001-0000-YB-Computer Buffer Full
Checksum Fail	001000[#0000 NYF 0100]	01-001-0000--Checksum Failed
COLDBOOT was performed by System	001000[#0000 NYE0100]	01-000-0000-NYE0100-Coldboot by LCD/UI
COLDBOOT was performed by debug menu	001000[#0000 NYE0100]	01-000-0000-NYE0100-Coldboot by DEBUG
Network Present	001001[#0000 NNR * IP.IP.IP *]	01-001-0000-NR-Network Restoral
Network Absent	001001[#0000 NNT * IP.IP.IP *]	01-001-0000-NR-Network Failure
Transmitter Restoral (where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NYK* IP.IP.IP *]	01-001-XXXXXXXXXX -YK-*Transmitter Restoral IP.IP.IP*
Transmitter Failure (where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NYC* IP.IP.IP *]	01-001-XXXXXXXXXX-YC-*Transmitter Failure IP.IP.IP*
Transmitter Swap (where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NYS* IP.IP.IP *]	01-001-XXXXXXXXXX-YS-*Transmitter Swap IP.IP.IP*
Transmitter Unencrypted (where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NNC* IP.IP.IP 1*]	01-001-XXXXXXXXXX-NC-*Transmitter Unencrypted IP.IP.IP*

Description/Event	Automation message	Printer message
Invalid Report (where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NYN* IP:IP:IP *]	01-001-XXXXXXXXXX-YN-*Invalid Report/Possible Compromise Attempt IP:IP:IP*
Possible Compromise Attempt(where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NPC* IP:IP:IP *]	01-001-XXXXXXXXXX-PC-Possible Compromise Attempt
Max Accounts Exceeded (where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NJO* IP:IP:IP *]	01-001-XXXXXXXXXX-JO-*Maximum Accounts Exceeded IP:IP:IP*
Transmitter Deleted (where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NJX*IP:IP:IP*]	01-001-XXXXXXXXXX-JX-*Transmitter Deleted IP:IP:IP*
Unknown Account (where IP is transmitters IP, and X is the transmitters account)	001001[#XXXXXXXXXX NXA* IP:IP:IP *]	01-001-XXXXXXXXXX-XA-*Unknown Account IP:IP:IP*
IP Channel has reached 75% capacity of table (where IP is the transmitters IP address)	001001[#0000 NJL * IP:IP:IP *]	01-001-0000-JL-*Account table 75% full IP:IP:IP*
Reset fallback	001000[#0000 NYY0000]	01-000-0000-NYY0000-Reset SG-Fallback Initiated
Console Lead In IP Channel	001001[#0000 NRB* IP:IP:IP *]	01-001-0000-RB-Console Account Port Lead In
Console Lead Out IP Channel	001001[#0000 NRS* IP:IP:IP *]	01-001-0000-RS-Console Account Port Lead Out
Reset by Console	NA	01-000-0000--RESET by Console
Reset by User	NA	01-000-0000--RESET by LCD/UI
Reset by Debug	NA	01-000-0000--RESET by DEBUG
License key entered is incorrect	NA	01-000-0000--Invalid License Key
Firmware update has been started via TCP port	NA	01-000-0000--FIRMWARE DOWNLOAD INITIATED <TCP>
Firmware update has been started via USB port	NA	01-000-0000--FIRMWARE DOWNLOAD INITIATED <USB>
Firmware update has failed	NA	01-000-0000--FIRMWARE UPDATE FAILED
IP account table has been set by the console application(Where Y is the account table)	NA	01-000-0000--Console SET IP Account Table Y
IP account table has been set by the console application(Where Y is the account table)	NA	01-000-0000--Console SET IP Account Table Y
IP account table has been requested by the console application (Where Y is the account table)	NA	01-000-0000--Console GET IP Account Table Y
IP account table has been requested by the console application (Where Y is the account table)	NA	01-000-0000--Console GET IP Account Table Y
Specific IP account has been set by the console (where XXXXXXXXXXXX is the account number)	NA	01-000-0000--Console SET IP Account XXXXXXXXX
Transmitter has successful had encryption enabled (where IP is transmitters IP, and X is the transmitters account)	NA	01-001-0000-XXXXXXXXXX-NC-* ENCRYPTION ENABLED IP:IP:IP*
The transmitter is not able to support encryption request (where IP is transmitters IP, and X is the transmitters account)	NA	01-001-0000-XXXXXXXXXX -YK-* ENCRYPTION NOT SUPPORTED IP:IP:IP*
Transmitter has not successful had encryption enabled (where IP is transmitters IP, and X is the transmitters account)	NA	01-001-0000-XXXXXXXXXX -YK-* ENCRYPTION SET FAIL IP:IP:IP*
Transmitter has successful had encryption disabled (where IP is transmitters IP, and X is the transmitters account)	NA	01-001-0000-XXXXXXXXXX -YK-* ENCRYPTION DISABLED IP:IP:IP*
Transmitter has been deleted from second account table(where X is the transmitters account and Y is the account table)	NA	01-002-0000--Console DELETE IP Account (Y) XXXXXXXXX
Transmitter has been added to Account table(where X is the transmitters account and Y is the account table)	NA	01-000-0000--Console SET IP Account (Y) XXXXXXXXX

Appendix B - Ports

Parallel Printer Port

The parallel printer port sends events to the local printer (DB25 Female).

NOTE: Maximum cable length is 1.8m (6ft). Longer cables may impair performance.

Figure 7: Parallel Printer Port

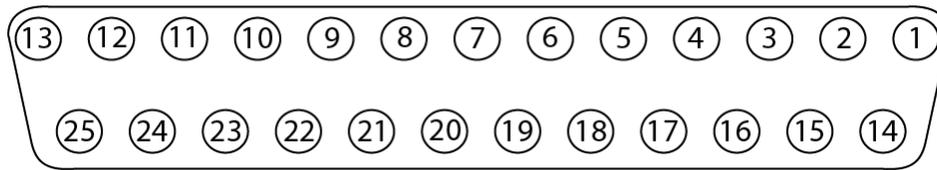


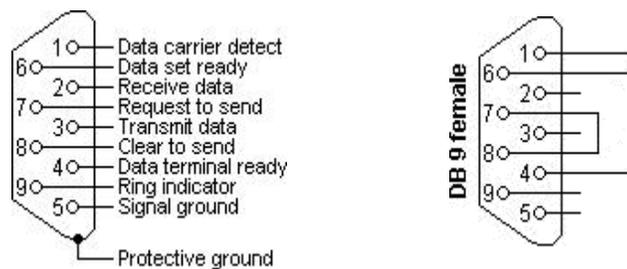
Table 16: Parallel Printer Port Pinouts

Pin no (DB25)	Signal name	Direction	Register - bit	Inverted
1	nStrobe	Out	Control-0	Yes
2	Data0	In / Out	Data-0	No
3	Data1	In / Out	Data-1	No
4	Data2	In / Out	Data-2	No
5	Data3	In / Out	Data-3	No
6	Data4	In / Out	Data-4	No
7	Data5	In / Out	Data-5	No
8	Data6	In / Out	Data-6	No
9	Data7	In / Out	Data-7	No
10	nAck	In	Status-6	No
11	Busy	In	Status-7	Yes
12	Paper-out	In	Status-5	No
13	Select	In	Status-4	No
14	Linefeed	Out	Control-1	Yes
15	nHour	In	Status-3	No
16	nInitialize	Out	Control-2	No
17	nSelect-Printer	Out	Control-3	Yes
18 - 25	Ground	-	-	-

Serial Printer Port (COM2)

The serial printer port or serial computer port can be connected to a DB9 connector to act as a printer port.

Figure 8: Printer Port



RS232 Serial Automation

The serial automation port is used to send automation signals to the automation computer using the Sur-Gard Automation protocol. Only the serial port requires RX, TX, and GRD.

Table 17: Serial Printer Port

RJ45 Pin no	Description in relation to SG-System II	DB9 Pin no
1	Not connected	6
2	CTS	8
3	GRD	5
4	TX	3
5	RX	2
6	DCD	1
7	RTS	7
8	Not connected	Not connected

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29007174R003