DIGITIZE®

DGM-32/64
DGM-32/64-RLY
DGM32/64-RF
DGM-32/64-M-RLY
DGM-32/64-M-RLY-RF

INSTALLATION
AND
MAINTENANCE MANUAL

Digitize, Inc.
158 Edison Road
Lake Hopatcong, New Jersey 07849
Tel: (973) 663-1011
E-mail: info@digitize-inc.com
Website: http://www.digitize-inc.com

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Digitize, Inc.
158 Edison Road
Lake Hopatcong, NJ 07849-2217

PROPRIETARY NOTICE

AND

DISCLAIMER

DIGITIZE, INC.
158 EDISON ROAD
LAKE HOPATCONG, NJ 07849-2217
PH: (973) 663-1011
E-Mail: info@digitize-inc.com
Website: http://www.digitize-inc.com

FCC NOTICE

In compliance with Paragraph 15.105 of the FCC Rules and Regulations, the following notice is provided.

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy, and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his own expense.

Table of Contents

1 GENERAL INFORMATION

1.1 SYSTEM DESCRIPTION

The overall system is known as the SYSTEM 3505 PRISM LX Multiplex Alarm Monitoring System. For proper operation of the DGM units you need to have a SYSTEM 3505 PRISM LX with multiplex option. You also need to have sufficient memory in your SYSTEM 3505 PRISM LX to provide at least one text screen per zone. The zone priority level is entered via the user text message section. This system can support up to 128-line drivers. Each line driver can be a style 3, 6 or 7. Styles 3 & 6 can support up to 99 Data Gathering Modules (DGM's), based on total distance, per loop. Style 7 can support any number of DGM panels since each DGM panel repeats the signal. DGM panels can monitor a maximum of 64 EOL (End Of Line) monitoring points and can activate up to 64 relay output points, by the use of a "piggy-back" relay board or additional relay enclosure. The maximum number of DGM's supported by one SYSTEM 3505 PRISM LX is 500, and the maximum number of zones for one system is 16,000.

The overall system is designed as a proprietary alarm monitoring system and is suitable for monitoring fire and security alarms per NFPA 72. The system can also be used for energy management and process controls.

1.2 DGM DESCRIPTION

DIGITIZE models DGM-32, DGM-32-RLY, DGM-32-RF and DGM-32-M32-RLY are multiplex data gathering modules capable of monitoring 32 supervised input points. (See Figures 1.1, 1.2, and 1.3.) Also supervised are "AC POWER", "TAMPER", "GROUND" and "BATTERY" fault conditions. Each standard model is housed in a painted steel enclosure with a hinged door, and is supplied with a step-down AC transformer, tamper switch, cam lock, 32 character LCD display and keypad, rechargeable battery pack rated for 60 hours of standby power and an integral battery charger. The DGM -32-RLY and DGM-32-M-RLY provide additional mounting space for relay modules, as well as power to energize the relays. The DGM-32-M-RLY-RF and DGM32-RF are data gathering modules that communicates via two-way radio.

The DGM can be ordered in eight-zone increments, initially, and then upgraded to the full 32 zones. It is also possible to upgrade to a DGM-64 in the field, by adding an additional 32 zone EOL card.

The following assemblies make up a DGM-32/64:

LCD display and keyboard assembly	Part # 400373-0003
Microcontroller board	Part # 400464-0002
* 32 zone input board	Part # 400601-#

Transformer assembly	Part # 900546-0000
12 Volt 12 AH battery	Part # 900414-0006

* Two 32 zone input boards are required for DGM-64.

One Multiplex Communication Card must be selected from the following (only one may be used per DGM):

RS-422/485 Dual Line Interface card	Part # 400405-0003
RS-232 Card	Part # 400407-0003
Audio Modem Card	Part # 400475-0002
Fiber Optic Card	Part # 400506-0002

RF Radio Frequency Interface Assembly:

Radio Telemetry Module	Part # 900708-#
RF Driver Board	Part # 400605-0001

* RS-422/485 is considered the standard driver card for DGM-32-M-RLY units.

The Microcontroller board is a micro-processor-based controller board. All functions of the DGM-32-M-RLY are controlled by a program that resides in an EPROM program chip. This flexibility in the product allows the user to select such things as output format, set DGM number, etc. The transmitter assembly provides all power output regulation. The transformer assembly is used to step down the 120 VAC input voltage to 16 VAC required for proper operation of the DGM-32-M-RLY. The sealed lead acid battery supplied provides the required 12.6 VDC for battery backup. The battery is a 12 Amp Hour battery and will operate the DGM-32-M-RLY for a minimum of 60 hours during an AC failure. The LCD display and keyboard allows the operator to view ALARM & TROUBLE information on a 32 character display as local annunciation. The keypad provides access to field programmable functions for the DGM-32-MRLY. NOTE: Battery backup time is shorter with radio (RF) option.

1.3 OPTIONS

1.3.1 32 ZONE EOL

The 32 ZONE EOL (P/N. 400601-#) is the 32-zone end-of-line (EOL) resistor supervised expansion board for the DGM-32. The 32 ZONE EOL provides lightning protection for each zone. This board is used to expand a DGM-32 to 64 zones.

1.3.2 RLY-8

The RLY-8, (P/N. 400375-0000), provides eight non-supervised Form C outputs. Up to eight RLY-8 boards may be added to DGM-32-RLY and DGM-32-M-RLY panels.

1.3.3 COMMUNICATIONS STYLES

The DGM panels can communicate with the SYSTEM 3505 PRISM LX in several different styles. The standard format is by wire using RS-422/485. When ordering a DGM-32-M-RLY you will get the “Style 3/6” RS-422/485 communications interface.

By adding the following suffixes to the base number, your DGM will be shipped with the desired interface.

- RS232 indicates communications protocol is RS-232.
- Fiber indicates communications will be via fiber optic cable.
- RF indicates communications is to be via two-way polling radio.
- Modem indicates communications will be via audio modem.

Regardless of what style is selected, the SYSTEM 3505 Prism Lx must be equipped with the proper interface to handle the selected communications protocol. A DIGITIZE Multiplex system can mix and match any communications protocol available.

1.3.4 COLOR

Each DGM is available in a choice of two colors. By adding the following suffixes to your base number, your DGM will be shipped with the correct color:

-R indicates a RED enclosure

-B indicates a BROWN enclosure

1.3.5 EXTERNAL KEYPAD

In addition to the standard internal keypad, you may order up to 16 optional external keypads to provide Entry Zone monitoring at each DGM. (Programming capabilities are available only at the internal keypad). Keypads are connected to the DGM via a standard four wire telephone cable (two data wires and two power wires). Power is provided by the panel itself.

The keypad is ordered as P/N. 425168-000. It features 12 buttons, RED and GREEN LEDs, and an audible beeper. It is mounted in a single width electrical outlet box at a maximum distance of 25 feet.

For extended distance mounting, the optional Keypad Line Driver Card is available (P/N. 450525-0001). This option extends the distance of the keypad to 1000 feet.

1.4 SPECIFICATIONS

1.4.1 ELECTRICAL

Primary Power Input	120 VAC
Operating Power Consumption (pri)	150 milliamps (max)
Standby Battery (BATT)	12.6 Volt Sealed Lead Acid
Standby	60 Hours

1.4.2 INPUTS

- AC Power (terminal block provided)
- Low Voltage AC from transformer secondary (AC PWR IN)

- Standby Battery (+/-)
- Supervised Zone Inputs (ZN 1 - ZN 32)
- Keyboard and Display Interface (P3)
- Expansion Board Interface (P0)
- Communication Interface (P1)
- External Keypad Connector (RJ11)

1.4.3 FUSES

F1*, Fuse (Microcontroller)	0.5 Amp (A) Fast-blow
F2, PTC with Auto Reset	2.5 A
F3, PTC with Auto Reset	2.5 A
F1, Fuse (Power supply)	4.0 A
F2, Fuse (Power supply)	5.0 A

* F1 on Microcontroller is only required with -RF option

1.4.4 CONSTRUCTION

Welded 0.063" steel, hinged door with a cam lock and a baked enamel finish. The removable inner door holds various interfaces, the control panel, and micro-controller board. The inner door is hinged to allow easy removal by lifting up. The enclosure is intended for indoor use only. An optional NEMA 3R enclosure is available.

1.4.5 DIMENSIONS

Refer to the table below for DGM dimensions.

Table 1.1 - Dimensions

	DGM-32/64	DGM-32/64-RLY	DGM-32/64-M-RLY
HEIGHT (in.)	25.40	25.40	19.50
WIDTH (in.)	12.35	18.35	18.50
DEPTH (in.)	5.06	6.06	6.06

1.4.6 WEIGHT

Refer to the table below for DGM weights.

Table 1.2 - Weights

	DGM-32/64	DGM-32/64-RLY	DGM-32/64-M-RLY
NET (lbs.)	42	57	45
SHIPPING	45	60	48

NOTE: Weights specified are for typical units. Actual weights may vary based on the options installed on the DGM. Shipping weights may vary based on packaging methods.

1.4.7 TEMPERATURE AND HUMIDITY

Operating Temperature Range	- 40 to + 60 Degrees Celsius
Storage Temperature Range	- 40 to + 60 Degrees Celsius
Operating Humidity Range	0 to 90 % (non-condensing)
Storage Humidity Range	0 to 90 % (non-condensing)

1.5 F.C.C. REQUIREMENTS

The DGM complies with the limits set for a Class B computing device as specified in Subpart J of Part 15 of The FCC Rules and Regulations.

1.6 APPLICABLE PUBLICATIONS

- Federal Communications Commission “Rules and Regulations” - National Electric Code (1990)

- National Fire Protection Association (NFPA) 72 (1990)

Figure 1-1 - DGM-32/64 and DGM-32/64-RF

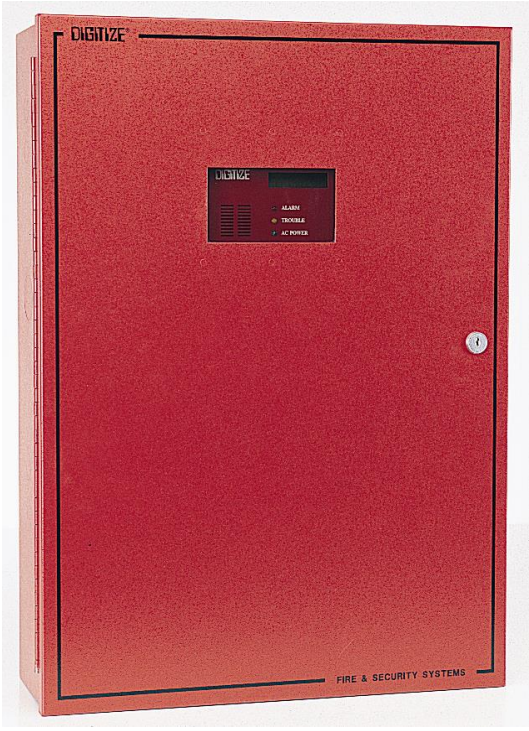


Figure 1-2 - DGM-32/64-RLY and DGM-32/64-RLY-RF

Figure 1-3 - DGM-32-M-RLY/ DGM-32-M-RLY-RF

2 INSTALLATION

2.1 HANDLING

2.1.1 PRECAUTIONS

CAUTION!: Do not touch circuitry during installation. Static discharge may damage components.

2.2 UNPACKING AND INSPECTION

Before opening, inspect the shipping container for unusual damage. Then, carefully unpack the unit and inspect it for scratches, dents, and loose internal components. If your inspection reveals any physical damage, retain the packing material and contact the shipping carrier immediately. Each unit has been thoroughly inspected prior to shipment. When returning a damaged panel, retain the tie wraps for the inner door hinge and latch. Failure to tie wrap the inner door during shipping may result in additional damage.

NOTE: Keep unit in shipping container until ready to mount.

2.3 CABINET MOUNTING

2.3.1 SITE PREPARATION

The installation area should be: well lit, clean, easily accessible and free from extremes of temperature and humidity. Please refer to *Section 1.4.7, TEMPERATURE AND HUMIDITY* for the maximum operating conditions.

2.3.2 DISASSEMBLY PROCEDURE

STEP 1: Retrieve the unit from its shipping container and place the back of the unit down on a flat surface.

STEP 2: Using a CAT-1 key, (two are supplied in an envelope marked “KEYS”), open the hinged door.

STEP 3: Open the inner door and unplug any connectors and wire harnesses that connect the equipment on the door to the equipment inside the cabinet. Wires and ribbon cables should be disconnected on the cabinet side. When the inner door is in the open position, lift it to remove it. Place equipment that has been removed in a safe location.

STEP 4: Remove the four mounting nuts that secure the back plate to the enclosure. Remove the back plate from the enclosure.

2.3.3 MOUNTING INSTRUCTIONS

The cabinet supplied with the standard model DGM is designed for surface mounting. The mounting area must be a smooth, clean surface on a permanent partition. The cabinet must be securely fastened to the mounting surface using the four mounting holes. For this, #10 or 1/4" screws are suggested. The mounting location should be planned to allow full access to the top, bottom and sides for ease of conduit entry. When mounted, panel indicators and labels should be plainly visible, and the cabinet door must be able to swing to the full open position. Following these guidelines will facilitate ease in installation, operation and maintenance.

Clean out any dirt produced during installation and reverse the procedure for disassembly to reinstall electronics back into the enclosure.

2.4 WIRING

2.4.1 CONDUIT CONNECTIONS

Connect all wiring conduit to the cabinet in accordance with applicable National Electric Code, State and Local building code requirements. The cabinet is supplied with pre-stressed 1/2" knock-outs. Please note that the lower shelf of the cabinet is used primarily for standby battery placement. If the bottom shelf must be used for conduit entry, make sure the wiring does not interfere with battery installation.

2.4.2 FIELD WIRING

Pull all power feeds and field wiring through the conduit and into the cabinet. Never place power feeds and field wiring in the same conduit. All field wiring must be tested for grounds, induced voltages, open and shorted circuits. All field wiring must be free of these conditions prior to connecting them to peripheral devices or to the DGM. Do not connect field wiring until the DGM has been fully tested. Tag all wiring for later connection to the unit. Please refer to *Section 3, SYSTEM INITIALIZATION.* Failure to comply with these guidelines may cause damage to the unit.

The zone inputs are designed to be connected to field wiring with a maximum resistance of 750 Ohms. When a zone input is connected to field wiring longer than 20 feet, lightning protection must be provided. The 32 zone EOL interface provides such protection. The panel must be properly grounded. Proper grounding is required both for safety and proper operation of the lightning protection and ground fault circuits.

2.5 MAIN BOARD

2.5.1 GENERAL

This is the main microcontroller board for the panel. It contains the firmware that operates the panel.

2.5.2 WIRING

2.5.2.1 BS1

These terminals are respectively, the normally closed (NC), common (C), and normally open (NO) contacts of the auxiliary relay (relay 0).

2.5.2.2 CONNECTOR P0

This connector is used to interface to the 32 zone EOL and/or the RLY-8 boards via ribbon cable. This connector is keyed so that the plug may only be inserted one way.

2.5.2.3 CONNECTOR P1

This connector is used by the data communications card. Several communications styles are available including RS-422/485, RS-232, Audio Modem and Fiber Optic interface boards. These boards are used to provide serial communications with the System 3505 Prism Lx. The connector is keyed so the plug may only be inserted one way.

2.5.2.4 CONNECTOR P3

This connector is used to connect the 32 Character LCD display and keyboard assembly. This connector is keyed so the plug may only be inserted one way.

2.5.2.5 CONNECTOR P4

This connector is used to connect the Main Board to the Power Supply Board.

2.5.2.6 CONNECTOR RJ11

This connector is used to connect the Main Board to the External Keypad(s).

2.6 POWER SUPPLY BOARD

2.6.1 GENERAL

The Power Supply Board (P/N 400467-0001) supplies the power necessary to operate the DGM panel.

2.6.2 WIRING

2.6.2.1 BS1

16 VAC: These terminals are connected to the output secondary of the AC transformer.

GROUND: This terminal is connected to an Earth or water pipe ground and is used as a reference for the “Ground Fault” detection circuit.

+13.5 Volts: This terminal provides an external connection to 13.5 volts.

+5 Volts: This terminal provides an external connection to 5 volts.

COM: This terminal is the ground return for the 13.5 and 5 volt terminals.

BAT: These terminals are the positive and negative connections to the rechargeable standby battery.

2.6.2.2 CONNECTOR P4

This connector is used to connect the Power Supply Board to the Main Board.

2.7 RS-422/485 INTERFACE BOARD P/N 400405-0003 (STD)

2.7.1 GENERAL

This circuit board assembly is used to interface the two-wire multiplex communications line to the DGM. The RS-422/485 lines are supervised. The SYSTEM 3505 PRISM LX location must have a “Style 3 or 6” RS-422/485 line driver for proper interface with the standard RS-422/485 interface board.

2.7.2 WIRING

Field wiring for this board must be tested and connected prior to assembling the rest of the unit. Observing polarity, connect the communications line(s) to the proper terminals.

2.7.2.1 Terminals 1 and 2 (Channel A)

These terminals are used for multiplex communications in a system utilizing “Style 3” or “Style 6” wiring or as the primary channel of a system wired for “Style 6” operation.

2.7.2.2 P1

This connector must be plugged into P1 of the main board of the DGM.

2.7.3 RATINGS

Maximum Circuit Voltage:	5 volts
Maximum Circuit Current:	50 mA.
Maximum Line Impedance:	70K

2.8 RS-232 INTERFACE BOARD P/N 400407-0003 (OPTIONAL)

2.8.1 GENERAL

This circuit board assembly is used to interface the three-wire multiplex communications line to the DGM. The RS-232 lines are supervised. The SYSTEM 3505 PRISM LX location must have an RS-232 line driver for proper interface with the optional RS-232 interface board at the DGM. This RS-232 board is used when interfacing to a carrier system, such as “T1” network system. When interfacing to a “T1” network, the DGM channel assigned may need to be the “Order Wire”. The standard “T1” channel strips away the parity bit and substitutes its own parity bit. The DIGITIZE Multiplex system uses the parity bit in a forced parity mode. This conflicts with some “T1” network systems. Other uses for the RS-232 interface can be for interfacing to customer owned modem communications systems.

2.8.2 WIRING

Field wiring for this board must be tested and connected prior to assembling the rest of the unit. Connect the communications line(s), observing polarity, to the proper terminals.

2.8.2.1 Terminals TX, RX & COM

These terminals are used for multiplex communications in a system utilizing RS-232 mode of communications. The RTS may be needed when interfacing to some modem systems. The TX line indicates the SEND signal from the DGM panel. The RX line indicates RECEIVE to the DGM panel. The COM line is the COMMON return for both TX & RX.

2.8.2.2 P1

This connector must be plugged into P1 of the main board of the DGM. This connector is polarized for proper insertion.

2.8.3 RATINGS

Maximum Circuit Voltage	±12VDC
Maximum Circuit Current	50 mA.
Maximum Line Impedance	100 Ohm

2.9 AUDIO MODEM INTERFACE BOARD P/N 400475-0002 (OPTIONAL)

2.9.1 GENERAL

This circuit board assembly is used to interface the two-wire Multiplex communications line to the DGM. The Audio Modem lines are supervised. The SYSTEM 3505 PRISM LX location must have the Audio Modem line driver for proper interface with the optional Audio Modem interface board at the DGM. This Audio Modem board is used when interfacing over long leased telephone lines. The phone lines need to be a “dry pair”, suitable for voice grade communications. The phone pair is to be a 600-ohm balanced pair with an overall signal degradation of no more than -20 DB. The modem communications is also ideal when inter telephone exchange communications are required. The Audio modem will operate properly on fiber optic cable as used by the phone company for inter-exchange communications.

2.9.2 WIRING

Field wiring for this board must be tested and connected prior to assembling the rest of the unit. Connect the communications line(s), polarity to the proper terminals is not required with the Audio Modem.

2.9.2.1 BS1

These terminals are used for multiplex communications in a system utilizing the Audio modem. Wires may be connected without regard to polarity.

2.9.2.2 P1

This connector must be plugged into P1 of the main board of the DGM. This connector is polarized for proper installation.

2.9.3 RATINGS

Maximum Circuit Voltage	+-12VDC
Maximum Circuit Current	50 mA
Maximum Line Impedance	600 Ohm

2.10 RADIO FREQUENCY INTERFACE P/N 400605-0001 & P/N 900708-# (OPTIONAL)

2.10.1 GENERAL

This Polling Radio interface allows communications to the SYSTEM 3505 PRISM LX via radio carrier. The circuit board assembly is used to interface the data communications to/from the radio transmitter/receiver. The radio link is supervised. The SYSTEM 3505 PRISM LX location must have polling radio option for proper interface with the optional polling radio system.

2.10.2 WIRING

Field wiring for this board is not needed. The proper antenna and lightning protection must be added for proper operation.

2.10.2.1 Terminals 1 and 2 (Channel A)

These terminals are not used with RF interface.

2.10.2.2 P1

This connector must be plugged into P1 of the main board of the DGM. This connector is polarized for proper installation. A ribbon cable interface is used to connect the radio transceiver to the data interface board.

2.11 FIBER OPTIC INTERFACE BOARD P/N 400506-0002 (OPTIONAL)

2.11.1 GENERAL

This circuit board assembly is used to interface the Fiber Optic Multiplex communications line to the DGM. The Fiber Optic lines are supervised. The SYSTEM 3505 PRISM LX location must have the Fiber Optic line driver for proper interface with the optional Fiber Optic interface board at the DGM. This Fiber Optic board is used when interfacing over fiber optic lines. The fiber optic lines should be 62 Micron with S/T style connectors. The fiber optic line must not exceed an overall signal degradation of no more than -20 DB. By utilizing Fiber Optic lines, the DGM signal may be repeated from DGM to DGM.

2.11.2 WIRING

Field wiring for this board must be tested and connected prior to assembling the rest of the unit. Connect the communications line(s) to the proper terminals. Transmit (TX) must be connected to Receive (RX). Be sure to keep protective caps on any used terminals.

2.11.2.1 Terminals 1 and 2 (Channel A)

These terminals are used for multiplex communications in a system utilizing the Fiber Optic interface Style 3 or Style 7 wiring.

2.11.2.2 Terminals 3 and 4 (Channel B)

These terminals are connected to the secondary channel of a system utilizing the Fiber Optic interface Style 3 or Style 7 wiring.

2.11.2.3 P1

This connector must be plugged into P1 of the main board of the DGM. This connector is polarized for proper installation.

2.12 EXP-8Z

2.12.1 GENERAL

Each EXP-8Z EOL interface board may be jumper selected for any available zone group for both the DGM-32 and DGM-64. This board is optional and is only used when the DGM is connected within 20 feet of the initiating device. Use of these boards and configuration of the DGM is a special order. These boards are available primarily to customers who wish to expand existing DGM panels that already contain EXP-8Z EOL cards. The current DGM design uses one or two 32 Zone EOL cards in lieu of the EXP-8Z cards.

The EXP-8Z board does not provide lightning protection for each zone input. Please refer to *Section 2.13.1, 32 Zone EOL.*

2.12.2 INSTALLATION

STEP 1: Place an EXP-8Z board over the mounting holes and start the top left and top right mounting screws.

STEP 2: Start the lower left and lower right screws and tighten all mounting screws.

STEP 3: Connect the ribbon cable plug from P0 of the main board or from P1 of the previous EXP-8Z to P1 of the EXP-8Z being installed.

2.12.3 WIRING

2.12.3.1 BS1 and BS2

Barrier strips BS1 and BS2 contain terminals for the connection of field wiring to the Class B zone initiating inputs. Zone numbering is shown for the EXP-8Z supplied with the system. For additional boards, terminal designations increase by eight for each expansion board.

2.12.3.2 P1

This connector must be plugged into P0 of the main board of the DGM. This connector is polarized for proper insertion.

2.13 32 ZONE EOL

2.13.1 GENERAL

Each 32 Zone EOL card may be switch selected for zone groups of 32. A DGM-32 is supplied with one 32 Zone EOL card (expandable to two). A DGM-64 is supplied with two 32 Zone EOL cards.

The 32 Zone EOL card provides lightning/transient protection for each zone input.

2.13.2 INSTALLATION

STEP 1: Place a 32 Zone EOL board over the mounting holes and start the top left and top right mounting screws.

STEP 2: Start the lower left and lower right screws and tighten all mounting screws.

STEP 3: Connect the ribbon cable plug from P0 of the main board or from P1 of the previous 32 Zone EOL board to P1 of the 32 Zone EOL board being installed.

2.13.3 WIRING

2.13.3.1 BS1 - BS8

Barrier strips BS1 - BS8 contain terminals for the connection of field wiring to the Class B zone initiating inputs. Zone numbering for the 32 Zone EOL cards is supplied with the system. For additional boards, terminal designations increase by 32 for each expansion board.

2.13.3.2 J1

This connector must be plugged into P0 of the main board of the DGM. This connector is polarized for proper insertion.

2.14 32 CHARACTER LCD DISPLAY

The 32 CHARACTER liquid crystal display (LCD) and keypad are standard with the DGM-32-M32-RLY and DGM-32-M32-RLY-RF units. Only one 32 Character LCD display may be used for each DGM.

2.14.1 WIRING

2.14.1.1 P1

This connector must be plugged into P3 of the main board of the DGM. This connector is polarized for proper insertion.

2.15 EXTERNAL KEYPAD

The External Keypad is optional with the DGM-32-M-RLY and DGM-32-M-RLY-RF units. Up to 16 keypads may be used for each DGM. The keypads are primarily for Entry Zone security.

2.15.1 WIRING

2.15.1.1 Eight Position Quick Disconnect

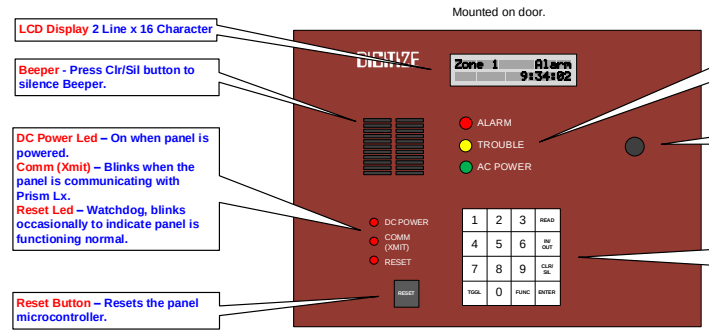
This connector must be connected to RJ11 of the main board. It has four positions for DGM terminals (two power, two data), three positions for Form C relay output (not presently assigned), and one remaining position that is not assigned.

DGM-32/64-RF

Digitize Inc.
158 Edison Rd, Lake Hopatcong NJ 07849
973-663-1011 www.Digitize-Inc.com

Manual

Display / Keyboard
PCB PN 400373-0001
Mounted on door.



LCD Display 2 Line x 16 Character

Beeper - Press Clr/Sil button to silence Beeper.

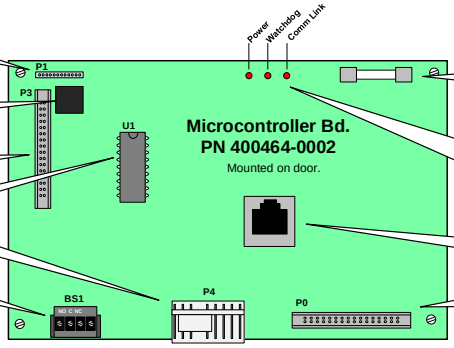
DC Power Led – On when panel is powered.
Comm (Xmit) – Blinks when the panel is communicating with Prism Lx.
Reset Led – Watchdog, blinks occasionally to indicate panel is functioning normal.

Reset Button – Resets the panel microcontroller.

Alarm Led – On when any zone in panel is in Alarm.
Trouble Led – On when any Trouble condition present in panel.
AC Power Led – On when AC power is present.

Panel Door Tamper Switch

Read – Enter zone #, then Read to display zone status.
In/Out – Enter Zone #, then In/Out to place zone In or Out of Service
Clr/Sil – Turns off beeper. Also displays DGM Panel # and RTS setting.
Enter – used to Enter passnumber and program panel
Func – Enter Function #, then Func to program panel.
TGGL – Toggles a Function setting when programming panel.



P1 – To JP1 on RF Driver II Bd., PN 400605-0001

Reset Button – Resets the panel microcontroller.

P3 – Ribbon cable to Display Panel, PN 400373-0001

U1 – Program Chip

P4 – Cable to P4 on Power Supply Board, PN 400467-0001

BS1 – Trouble Relay Contacts - Form C contacts, Rated 1 Amp @ 24 Vdc

Fuse F1, ½ Amp

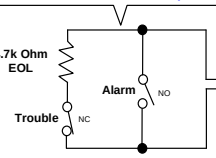
Power Led – On when panel is powered.
Watchdog Led – blinks occasionally to indicate panel is functioning normal.
Comm Link – Blinks when the panel is communicating with Prism Lx.

P5 – Not Used

P0 – Ribbon Cable to J1 on 32 Zone Board(s), PN 400601- #

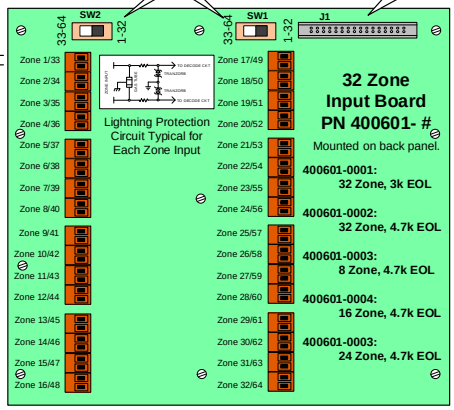
Typical Zone Connection for Normally Open activation with 4.7k ohm EOL resistor supervision.

When installing zone cable pair, move 4.7k EOL resistor and place across contact of Alarm initiating device. Maximum length for zone input is 1000 feet.

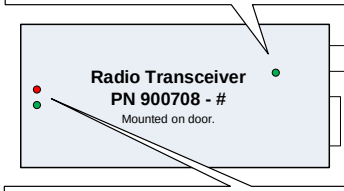


Slide both SW1 and SW2 so they both point to correct zone group for the board.

J1 – Ribbon Cable to P0 on Microcontroller Bd, PN 400464-0002



On newer transceivers, the Status Led lights Green when receiving data, Red when transmitting data. This Led are not installed on the older models.



BNC Connector to Antenna

DB Connector to RF Driver II Bd., PN 400605-0001

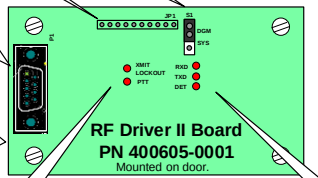
On older style transceivers, the Power (upper) led is Red. The Status Led (lower) lights Green when receiving data, Red when transmitting data. These Leds are not installed on the newer models.

JP1 – Connects to P1 on Microcontroller Bd., PN 400464-0002

S1 – Jumper in "DGM" position for panel use.

P1 – To DB Connector on Radio Transceiver

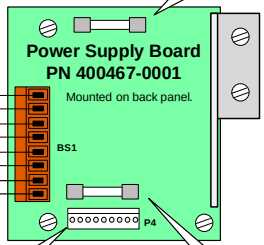
Note – RF Driver Bd PN 400589-0001 installed when using older style transceivers.



Panel Input Voltage 115 VAC 50/60 Hz @ 150 mA Max.

Mounted on back panel.

Fuse F1, 4 Amp



Connect to Earth (Safety) Ground

+13.5 VDC @ 100 mA. Max.
+5 VDC @ 100 mA. Max.
Common

12V Battery, Supervised

12 volt 12 AH

P4 – Cable to P4 on Microcontroller Board, PN 400464-0002

Fuse F2, 5 Amp

XMIT LOCKOUT Led – When On indicates the transceiver has been shutdown because it remained in Transmit mode longer than 10 seconds. Power down panel to reset.
PTT Led – On when panel signals transceiver to transmit.

RXD Led – On when panel receiving data.
TXD Led – On when panel transmitting data.
DET Led – On when transceiver detects a radio carrier.

3 SYSTEM INITIALIZATION

3.1 GENERAL

For initial set-up of the Data Gathering Module, the following instructions should be carried out in the order in which they appear. However, if during the operation of the unit, it should become necessary to set the time on the internal clock, this can be done without going through the powerup sequence.

3.2 ASSEMBLY

Mount the front plate, if not already installed, with the four mounting screws.

3.3 CONNECTIONS AND SETTINGS

3.3.1 ZONE INPUTS

An End Of Line resistor should be connected across each pair of zone input terminals. There are two screw terminals for each zone input. The zone inputs CAN NOT have any terminals connected to system common. After testing the unit, the EOL resistors supplied with the unit should be removed and one placed on the last device of each zone input line. Should the resistor not be removed and field wiring is installed on that line, there will be NO supervision of that line.

3.3.2 MUX DATA LINE

The system can be supplied with several different data line inputs. Inputs include RS-422/ 485, Audio Modem, RS-232, Fiber Optic and Polling Radio. The multiplex data line is connected to the appropriate data input terminals on the data interface board. The polarity of the multiplex data line must be observed for RS-422/485, RS-232, and Fiber Optic. The maximum length for the multiplex data line is based on the data type selected. RS-422/485 have been used successfully up to 17 miles with a dry cable pair. The RS-232 can be used for up to 1000 feet. The Audio Modem can be used at any distance with proper amplified telephone lines. The telephone lines can be standard voice grade, 600 balanced with a total loss of up to 20 DB end to end. The Style 7 Fiber Driver can drive a 62 Micron fiber for three miles or 20DB total loss. The signal is reshaped and retransmitted at each DGM panel. Thus total distance is unlimited as long as you have a DGM panel every three miles. The Polling Radio Interface uses a radio transmitter and receiver to transmit data. The maximum distance that this interface can communicate is determined by the height of the antenna, the physical terrain, and the amount of radio interference on adjacent radio frequencies. A site propagation test must be completed to determine how well the Polling Radio will work. Contact the factory for assistance with data line and style selection.

3.4 BATTERY INSTALLATION

The stand-by battery is installed on the lower shelf of the cabinet.

3.5 POWER-UP

3.5.1 AC POWER

With the AC circuit breaker or local power disconnect switch in the OFF position, connect the AC power wires to the transformer input terminal strip. Then apply AC power to the DGM.

3.5.2 DC POWER

Connect the battery cable supplied with the DGM to the battery. It is important to carefully observe polarity when connecting the battery cable to the Battery terminal lugs. (RED=positive, BLACK=negative).

4 PROGRAMMING

4.1 PROGRAM INITIALIZATION

Upon power-up, the DGM panel will display the program revision number. Next the panel will display the number of boards installed. Each one of the possible extra boards represents eight zones. Verify that all of the input zones on the panel are on the display. Press the CLR/SIL button to continue. The time will appear on the display along with any alarm and fault conditions that the DGM finds during its initialization process. Data communications will not be established until the CLR/SIL button is pressed. If the CLR/SIL button is not pressed, the system will continue normal operation after one minute.

> ***NOTE:*** *The SYSTEM 3505 PRISM LX must be properly programmed to accept any new DGM panels. You must also instruct the SYSTEM 3505 PRISM LX what type of driver is being used and to what line you are adding the DGM panel (line number is zero if no line driver rack is installed). The SYSTEM 3505 PRISM LX must be RESTARTED when any DGM is added to or removed from the system. You may also press SET at the SYSTEM 3505 PRISM LX MUX menu to add or delete DGM panels. The SYSTEM 3505 PRISM LX must have program revision 5.4.0 or higher for this capability.*

The TRANSMITTER LED should now be flashing to indicate that the SYSTEM 3505 PRISM LX has recognized the new DGM and that the DGM is responding. If the DGM is not responding or does not perform as desired, check the programmable functions section for proper DGM setup.

The RESET LED will flash momentarily every several seconds to indicate that all elements in the panel are operating correctly.

Each DGM panel is equipped with a keypad and LCD display panel which allow the user to view and set each of the functions on the DGM panel. When the DGM panel is used with a SYSTEM 3505 PRISM LX that is equipped with a program revision of 5.4.0 or higher, the DGM panel functions are automatically downloaded from the SYSTEM 3505 PRISM LX. For this reason, changes in the panel settings can and should be made from the SYSTEM 3505 PRISM LX. However, there are times when the DGM panel options need to be set in the field. The remainder of this chapter explains how each of the functions operates and how to set functions properly.

4.2 PROGRAM ACCESS

To add, delete, or display the functions available to the DGM, you must first gain access to the programming area. To accomplish this, the following sequence is required:

STEP 1: Use the keypad to enter the system password: “123456”.

STEP 2: Press ENTER.

STEP 3: If the password was entered correctly, "ACCESS GRANTED" will appear on the display. Access to the programming area will be provided for 5 minutes. If the password was entered incorrectly, “ENTER PASSNUMBER” will display.

4.3 PROGRAMMABLE FUNCTIONS

The following programmable functions are available on the DGM. This section explains how to set them.

FUNCTION 0	Setting DGM Panel Number
FUNCTION 1	Setting First Zone Number
FUNCTION 2	Setting the Time
FUNCTION 3	Setting the Passnumber
FUNCTION 4	Setting Beep on Alarm
FUNCTION 5	Setting Data Synchronization
FUNCTION 6	Setting Tamper/ Tilt Sensitivity
FUNCTION 7	Clock Status
FUNCTION 8	Setting Telegraph Speed
FUNCTION 9	Setting Telegraph On/Off Ratio
FUNCTION 10	Setting Baud Rate
FUNCTION 11	Setting Request to Send Timing
FUNCTION 12	Setting Zone Delays on Report
FUNCTION 13	Setting Zones to Bypass During Day Mode
FUNCTION 14	Setting Communication Format
FUNCTION 15	Setting Global Command Response
FUNCTION 16	Setting Day Mode/ Burglary Panel Operation
FUNCTION 17	Setting Open/Closed Telegraph Index
FUNCTION 18	Resetting Panel to Factory Defaults
FUNCTION 19	Setting Trouble Relay 0 (K1) on Trouble
FUNCTION 20	Setting Trouble Relay 0 (K1) on Alarm
FUNCTION 21	Setting the Call Out Option
FUNCTION 22	Setting Zone to Normally Open/Closed
FUNCTION 23	Setting PIN Numbers
FUNCTION 24	Setting the Store Events Option
FUNCTION 25	Backporch Timing
FUNCTION 26	AC Power Fail Delay Timing
FUNCTION 27	Setting Pin Number Length
FUNCTION 28	Activate Keypad
FUNCTION 29	Assign Additional Zones to Follow Keypad
FUNCTION 30	Link Down Delay Time
FUNCTION 31	Stack Link Delay
FUNCTION 32	Selecting the Keypad
FUNCTION 33	Toggle Relays On/Off
FUNCTION 34	Display Bypass Zones
FUNCTION 35	Display Keypad Status
FUNCTION 36	Disable Led
FUNCTION 37	Forced Parity

To view or modify each function setting, enter the number of the function, followed by the FUNC button on the keypad. Or, you may scroll through the function settings by pressing the FUNC button. The first time you press FUNC, Function 0 will display. Each subsequent time you press the FUNC button you will advance to the next function. The Functions display scrolling messages that guide you through each step. All values presented as examples in the Function messages are defaults.

4.3.1 FUNCTION 0 (SETTING DGM PANEL NUMBER)

This function sets the address number of the individual DGM. The default setting for Function 0 is DGM 8191, but the number may be from one to 8191, with no two DGM panels assigned the same address number. The overall SYSTEM 3505 PRISM LX can accommodate 500 DGM panels. The polling rate is faster if DGM numbers one to 63 are assigned. Higher DGM numbers require an extra data byte to be sent during normal polling. This adds 10 Milliseconds to each DGM poll for DGM panels number 64 and higher.

Note: A data conflict will occur if two DGM panels are assigned the same address number. This conflict will inhibit the panels from communicating with the SYSTEM 3505 PRISM LX.

To view or change the DGM Panel Number, press “0”, FUNC, or just FUNC if this is the first function you are accessing. The second line of the display will read “0 - DGM NUM = 0001.” A message will scroll on the first line:

> **The DGM Panel Number is 0001. To change the DGM Number, enter the new number, then press ENTER. Panel Numbers range from 1 to 8191. Press CLR/SIL to clear display or FUNC to view next Function.**

To change the DGM number, enter the new number on the keypad and press ENTER. The new DGM Panel Number will now be displayed. If the number entered was out of the range, a message will display to indicate that the value was not valid, and the original DGM Panel Number will display. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.2 FUNCTION 1 (SETTING FIRST ZONE NUMBER)

This function is not needed when the DGM panel is connected to a SYSTEM 3505 PRISM LX head end. Each panel defaults to starting zone #1. If interfacing to the older DPM-2000 unit head end, you need to properly set the starting DGM zone number for each DGM panel.

This function sets the starting zone number for the first zone installed in the DGM. The number may be from one to 4096. The DGM will round the number to the nearest lower group of eight. For example, if from 1 to 7 were entered the display would show 1, if 8 to 15 were entered then the display would show 8, and so on. When a DGM panel is used with a SYSTEM 3505 PRISM LX, the starting zone number should always be 0001.

To view or change the First Zone Number, press “1”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “1 - 1st Zone Num.” A message will scroll on the first line:

The Number assigned to the first zone in this DGM panel is 0001. Default is 0001. Press CLR/SIL to clear display or FUNC to view next Function.

To change the starting zone number, enter the new number on the keypad and press ENTER. The new starting zone number will display in the scrolling message. As with Function 0, if the number entered was out of the range, a message will display to indicate that the value was not valid, and the original First Zone number will display. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.3 FUNCTION 2 (SETTING THE TIME)

Note: This function is automatically downloaded from the SYSTEM 3505 PRISM LX in the following instances:

- The SET button is pressed in the SET TIME mode.
- Once a day automatically.
- Whenever the SYSTEM 3505 PRISM LX is restarted.

The current time is downloaded each time the SYSTEM 3505 PRISM LX is powered up. The time is also downloaded to the DGM panel any time its link is been restored from a data link down condition. Presently, the DGM does not need a time reference for any operational feature, and it will operate properly even if the time is incorrect.

To view or change the Time, press “2”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “2 - Set Time Day.” A message will scroll on the first line:

Not used. Press CLR/SIL to clear display or FUNC to view next Function.

Time in the DGM is displayed by six digits that represent 24 hour military time (ex.: 1:00PM = 130000). To change the Time, enter the new time on the keypad and press ENTER. The new time will display in the scrolling message. If the number entered was out of the range, a message will display to indicate that the value was not valid, and the original Time will display. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.4 FUNCTION 3 (SETTING PASSNUMBER)

The Passnumber allows access to the programming area of the DGM. Passnumbers are comprised of any 6-digit number, which may be changed by the user.

To view or change the Passnumber, press “3”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “3 - Set Passnumber.” A message will scroll on the first line:

The Passnumber is 123456. Change by entering the new 6 digit Passnumber, then press ENTER. Press CLR/SIL to clear display or FUNC to view next Function.

To change the Passnumber, enter the new six-digit number on the keypad and press ENTER. The new Passnumber will display in the scrolling message. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.5 FUNCTION 4 (SETTING TO BEEP ON ALARM)

This function selects whether or not the beeper will sound when an alarm is initiated on any of the inputs. If Function 4 is off, the beeper will only sound after a "TAMPER" condition. If Function 4 is on, the beeper will sound any time a zone input goes into alarm. (The beepercan always be cleared by pressing the CLR/SIL button.)

Note: This function is automatically downloaded from the SYSTEM 3505 PRISM LX when the SET button is pressed in the MULTIPLEX ADD/CHANGE/DEL mode or when SYSTEM 3505 PRISM LX restarted.

To view or change the Beep on Alarm option, press "4", FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read "4 - Beep on Alarm." A message will scroll on the first line:

> **Press the TGGL button to change. Press CLR/SIL to clear display or FUNC to view next Function.**

To enable/disable Function 4, press TGGL. The display will indicate whether or not the option is enabled. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.6 FUNCTION 5 (SETTING DATA SYNCHRONIZATION)

Note: This function is automatically downloaded from the SYSTEM 3505 PRISM LX when the SET button is pressed in the MULTIPLEX ADD/CHANGE/DEL mode or when SYSTEM 3505 PRISM LX restarted.

When the DGM panel is being used with a SYSTEM 3505 PRISM LX with program revision 5.4.0 or higher, Function 5 should be turned on to activate Data Synchronization. Data Synchronization improves the way the DGM panels and SYSTEM 3505 PRISM LX communicate. This option must be activated at the SYSTEM 3505 PRISM LX for proper communication when DGM panels have this option activated.

Note: Activating Data Synchronization on an DGM panel may prevent it from communicating with a SYSTEM 3505 PRISM LX. See the SYSTEM 3505 PRISM LX manual for instructions on how to activate Data Synchronization in the SYSTEM 3505 PRISM LX.

To view or change Function 5, press "5", FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read "5 - Data Sync." A message will scroll on the first line:

> **The Data Sync option is Enabled. Press the TGGL button to change. For System 3505 Prism Lx rev 5.0.0 & up should be ON. Press CLR/SIL to clear display or FUNC to view next Function.**

To change enable/disable Function 5, press TGGL. The display will indicate whether or not the option is enabled. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.7 FUNCTION 6 (SET TAMPER/TILT SENSITIVITY)

This function sets the sensitivity of the Tamper/Tilt switch. Tamper/Tilt is a combination of two switches in parallel. One switch is the door open switch. The other switch is a mercury tilt switch. A value of 1 is the most sensitive, while a value of 254 is the least sensitive. The DGM is shipped with a default value of 65. Storing a value of 255 disables the Tamper/Tilt switch. To disable the mercury switch only, cut one of the leads at the base of the switch.

To view or change Function 6, press “6”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “6 - Set Tamper”. A message will scroll on the first line:

> **The Tamper Sensitivity is 065. To change, enter the new value, then press ENTER. The Tamper Sensitivity can be set from 0 = most sensitive to 254 = least sensitive. 255 = disable Tamper. Press CLR/SIL to clear display or FUNC to view next Function.**

Enter the number representing the sensitivity of the Tilt/Tamper switch, then press ENTER. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.8 FUNCTION 7 (VIEWING CLOCK STATUS)

This function is for reference purposes only and is not user settable. When the DGM panel is operating from AC, the clock reference should be AC power line. During a power failure, the clock reference should be internal crystal.

To view Function 7, press “7”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “7 - Clock Status”. A message will scroll on the first line:

> **The clock is now active. Function 7 is not programmable. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.9 FUNCTION 8 (SETTING TELEGRAPH SPEED)

One of the uses of the Trouble Relay 0 (K1) is for telegraph output from the DGM panel. Function 8 sets the transmission speed for the telegraph output. The speed is selectable from1/8 second to four seconds in 1/8 second increments. The default value is six (7/8 seconds).

To view or change Function 8, press “8”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “8 - Telegraph Spd.” A message will scroll on the first line:

> **The Telegraph Speed is 7/8 seconds. Programmed by the SYSTEM 3505 PRISM LX, do not change. Press CLR/SIL to clear display or FUNC to view next Function.**

To change the Telegraph Speed, enter the new number on the keypad and press ENTER. The new Telegraph Speed will display in the scrolling message. If the number entered was out of the range, a message will display to indicate that the value was not valid, and the original Telegraph Speed will display. As indicated in

the scrolling message, zero represents 1/8 second, one represents 2/8 seconds, etc. The highest acceptable value is 31, which represents 32/8, or four seconds. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.10 FUNCTION 9 (SETTING TELEGRAPH ON / OFF RATIO)

During a telegraph transmission, a set of contacts are opening and closing to transmit the telegraph message over the wire. The amount of time these contacts are open during the

transmission versus being closed is the On / Off Ratio. Function 9 sets the On / Off Ratio by setting the percentage of time the relay should be on (closed). The remaining percentage would automatically represent the off time (open). The default setting is 50 % and should be suitable for most conditions.

To view or change Function 9, press “9”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “9 - On/Off Ratio.” A message will scroll on the first line:

> **The Telegraph On/Off Ratio is 50%. The On/Off Ratio is programmed by the SYSTEM 3505 PRISM LX, do not change. Press CLR/SIL to clear display or FUNC to view next Function.**

To change the On/Off Ratio, enter the new number on the keypad and press ENTER. The new percentage will display in the scrolling message. If the number entered was out of the range, a message will display to indicate that the value was not valid, and the original Ratio will display. As indicated in the scrolling message, one represents 10% On / 90% Off, two represents 20% On / 80% Off, etc. The highest acceptable value is nine, which represents 90% On / 10% Off. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.11 FUNCTION 10 (SETTING BAUD RATE)

***Note:* This function is automatically downloaded from the SYSTEM 3505 PRISM LX when the SET button is pressed in the MULTIPLEX ADD/CHANGE/DEL mode or when SYSTEM 3505 PRISM LX restarted.**

This function sets the baud rate for the communications loop to the SYSTEM 3505 PRISM LX. The baud rate can be set to 300, 600, 1200, and 2400 baud. The default value is 1200 baud, which is very rarely changed. Sometimes, because of long communication lines or noise on the lines, the baud rate must be reduced. The baud rate for an DGM panel must match the baud rate setup for the loop at the SYSTEM 3505 PRISM LX, or else the panel will fail to communicate with the SYSTEM 3505 PRISM LX.

To view or change Function 10, press “10”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “10 - Baud Rate.” A message will scroll on the first line:

> **The Baud Rate is 1200 baud. Press CLR/SIL to clear display or FUNC to view next Function.**

Enter a number from one to four, representing the selected baud rate, then press ENTER. If the number entered was out of the range, a message will display to indicate that the value was not valid, and the original baud rate will display. As

indicated in the scrolling message, one represents 300 baud, two represents 600 baud, etc. The highest acceptable value is four, which represents 2400 baud. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.12 FUNCTION 11 (SETTING REQUEST TO SEND TIMING)

***Note:* This function is automatically downloaded from the SYSTEM 3505 PRISM LX when the SET button is pressed in the MULTIPLEX ADD/CHANGE/DEL mode or when SYSTEM 3505 PRISM LX restarted.**

The SYSTEM 3505 PRISM LX and DGM panels communicate over the communication loop using small data packets. Each data packet is preceded by a Request To Send signal which announces that a data packet is about to be sent. Sometimes, because of excessively long lines or noise on the loop, the length of this Request to Send signal must be modified so the announcement can be transmitted properly. Normally this function is set by the factory and should not modified. Function 11 can be programmed from one to 255 milliseconds.

***Note:* If Function 11 is set improperly, it will not permit the SYSTEM 3505 PRISM LX and the DGM panel to communicate.**

To view or change Function 11, press “11”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “11 - Set RTS=040.” A message will scroll on the first line:

> **The RTS timing is 040 milliseconds long. Set by SYSTEM 3505 PRISM LX, do not change. Press CLR/SIL to clear display or FUNC to view next Function.**

Enter the new number, representing length of the RTS signal, then press ENTER. If the number entered was out of the range, a message will display to indicate that the value was not valid, and the original RTS timing will display. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.13 FUNCTION 12 (SETTING ZONE DELAYS ON REPORT)

Each zone in the panel can be programmed with a one to 90 second delay. An alarm condition on a zone would have to remain constant for the duration of the delay before it

would be accepted and transmitted to the SYSTEM 3505 PRISM LX. If no delay is desired, program a zero value for the zone. The default value for all zones in the DGM panel is zero. To view or change Function 12, press “12”, FUNC or, if you are viewing the previous

function, just press FUNC. The second line of the display will read “FUNC 12 ZN1_ 00.” A zone number and respective delay are represented. A message will scroll on the first line:

> **Zone Delays. Set a delay of 0 to 90 seconds for each zone. READ button selects zone to view or update. Enter the new value, then press the ENTER button. The IN/OUT button will change all of the zones in the panel at one time. Press CLR/ SIL to clear display or FUNC to view next Function.**

To select the desired zone enter the zone number, then press READ, or press READ to advance sequentially through the zones. Enter the new delay for the specific zone, then press ENTER. If you wish to change all zones to the same delay, enter the new delay within any zone, then press IN/OUT. All zones will be changed at the same time.Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.14 FUNCTION 13 (SETTING ZONES TO BYPASS DURING DAY MODE)

Function 13 is used to select which zones in the panel will be bypassed during Day Mode/ Burglary Panel operation (Function 16). An “N” will appear to indicate the zone will not be bypassed; a “Y” indicates the zone will be bypassed during Day Mode. Function 13 is active only when the panel is setup for Day Mode operation. A bypassed zone will not report an alarm condition while the panel is in Day Mode. When the panel is in Night Mode, all zones will report alarm conditions as they normally would.

To view or change Function 13, press “13”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “FUNC 13 ZN01 N.” A zone number and respective bypass status are represented. A message will scroll on the first line:

Not used. Setting Zone to Bypass. Press CLR/SIL to clear display or FUNC to view next Function.

To select the desired zone enter the zone number, then press READ, or press READ to advance sequentially through the zones. Press TGGL to select/deselect bypass during Day Mode. If you wish to select/deselect all zones, make the appropriate change, then press IN/ OUT. All zones will be changed at the same time. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.15 FUNCTION 14 (SETTING COMMUNICATION FORMAT)

Note: This function is automatically downloaded from the SYSTEM 3505 PRISM LX when the SET button is pressed in the MULTIPLEX ADD/CHANGE/DEL mode or when SYSTEM 3505 PRISM LX restarted.

DGM panels with software revision 3.02 or higher are equipped with an expanded communication format. This communication format is the means by which the SYSTEM 3505 PRISM LX and the DGM panel communicate. Function 14 is used to select the communications format for the DGM panel. This allows new DGM panels to work with older DGM panels.

DGM panels are shipped from the factory set for the old communication format. This way new DGM panels are compatible with older ones already in the field. The SYSTEM 3505 PRISM LX will instruct an DGM panel, over the loop, to change to the new format automatically.

Note: ***Changing the format may cause the DGM panel to stop communicating with the SYSTEM 3505 PRISM LX.***

To view or change Function 14, press “14”, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “14 - Set Format.” A message will scroll on the first line:

> **The Multiplex Format is Enabled. Press the TGGL button to change. The Expanded Format should be enabled for use with SYSTEM 3505 PRISM LX and disabled for use with DPM 2000. Press CLR/SIL to clear display or FUNC to view next Function.**

Press TGGL to select/deselect the Expanded Multiplex Format. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.16 FUNCTION 15 (SETTING GLOBAL COMMAND RESPONSE)

The SYSTEM 3505 PRISM LX is capable of sending out commands to a group of DGM panels at the same time, by sending commands to DGM 0. These “grouped commands” could be used to synchronize the time of all the DGM panels, reset all of the DGM panels, or send a telegraph output from all of the panels at the same time. If this option is enabled, the specific panel will respond to commands directed to DGM 0 as well as commands directed to its specific panel number.

To view or change Function 15, press “15”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “15 - DGM 0”. A message will scroll on the first line:

> **Global Command response is Enabled. Press the TGGL button to change. Default is ON. Press CLR/SIL to clear display or FUNC to view next Function.**

Press TGGL to select/deselect the Group Commands Option. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.17 FUNCTION 16 (SETTING DAY MODE/BURGLARY PANEL OPERATION)

Sometimes, both security and fire signals are incorporated through the DGM panel. But during the daytime, when the building is occupied, the zones that will report fire signals

should remain active, while the zones that report building security should be bypassed. These bypassed zones would not report alarm conditions but would report a trouble condition.

To select Day Mode operation, enable Function 16. A DGM operating in Day Mode will function in the following manner:

Zone 1 of the panel now becomes the Day/Night switch. When the zone is shorted, the panel is in Day Mode; when the zone is open, the panel is in Night Mode. This zone could be tied to a key switch or keypad with relay outputs.

Zone 2 now becomes the Burglary Panel for the entrance way where the keypad is located. Use Function 12 to assign a delay to zone 2 to allow enough time for zone 1 to be shorted, placing the panel in Day Mode. If the panel is not placed in Day Mode before the delay on zone 2 runs out, an alarm will be reported on zone 2.

The remaining zones in the panel operate as they normally would. Use Function 13 to select the zones (security) to be bypassed during Day Mode operation.

To view or change Function 16, press “16”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “16 - Burg Panel.” A message will scroll on the first line:

> **The Burg/Panel option is Disabled. Press the TGGL button to change. Press CLR/ SIL to clear display or FUNC to view next Function.**

Press TGGL to select/deselect the Burglary Panel Option. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.18 FUNCTION 17 (SETTING OPEN / CLOSED TELEGRAPH INDEX)

When Relay 0 (K1) is set for telegraph output, Function 17 determines whether the relay will transmit in Open or Closed Index.

To view or change Function 17, press “17””, FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “17 - Set Tel Index.” A message will scroll on the first line:

> **Telegraph index is closed. Press the TGGL button to change. Press CLR/SIL to clear display or FUNC to view next Function.**

Press TGGL to alternately select Open or Closed Index. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.19 FUNCTION 18 (RESETTING PANEL TO FACTORY DEFAULTS)

Selecting Function 18 will return the DGM panel settings to the default factory settings. The default factory settings are as follows:

Function 0 (DGM Number)	8191
Function 1 (1st Zone Number)	0001
Function 2 (Time)	Not Used
Function 3 (Passnumber)	123456
Function 4 (Beep or No Beep)	Disabled
Function 5 (Data Synchronization Bit)	Bit Enabled
Function 6 (Tamper Sensitivity)	65
Function 7 (Clock Status)	Active
Function 8 (Telegraph Speed)	6 (7/8 second)
Function 9 (On / Off Ratio)	5 (50%)
Function10 (Baud Rate)	03 (1200 baud)
Function 11 (Request To Send)	40 milliseconds
Function 12 (Zone Delays)	All zones 0 seconds delay
Function 13 (Zones To Bypass)	Not Used
Function 14 (Communication Format)	Multiplex Enabled
Function 15 (Global Commands)	Enabled
Function 16 (Burg Panel)	Disabled
Function 17 (Open or Closed Index)	Closed
Function 18 (Reset to Defaults)	Used to Reset All Functions
Function 19 (Relay on Zone Trouble)	Disabled
Function 20 (Relay on Zone Alarm)	Disabled
Function 21 (Call Out Option)	Enabled
Function 22 (Open or Closed Zone)	Normally Open

Function 23 (Set Pin Number)	1111
Function 24 (Store Events Option)	Disabled
Function 25 (Backporch)	5 Milliseconds
Function 26 (AC Delay)	16 Seconds
Function 27 (Pin Length)	4
Function 28 (Activate KP)	All Off
Function 29 (Assign Add 2N)	No Zones to Follow
Function 30 (Link Down Delay)	16 Seconds
Function 31 (Stack Line Delay)	60 Seconds
Function 32 (Erase All Pin #'s)	Used to Erase All Stored Pin #'s
Function 33 (Toggle Relays)	RLY 0 Off
Function 34 (Display Bypass Zones)	Disabled
Function 35 (Display Keypad Status)	Disabled
Function 36 (Disable LED)	Disabled
Function 37 (Force Parity)	Enabled

4.3.20 FUNCTION 19 (SETTING TROUBLE RELAY)

When Function 19 is enabled, the DGM panel will toggle the Trouble Relay 0 (K1) offwhenever any of the zones is in a Trouble condition. When none of the zones on the DGM panel are in a Trouble condition, the Trouble Relay 0 (K1) will be on. If Function 19 & 20 areboth enabled at the same time, Function 19 will be ignored and the Trouble Relay 0 (K1) will turn off when any zone is in an Alarm condition.

To view or change Function 19, press “19”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “19 - Trouble Relay.” A message will scroll on the first line:

> **The Trouble Relay is Disabled. Press the TGGL button to change. Default is OFF. Press CLR/SIL to clear display or FUNC to view next Function.**

Press TGGL to enable/disable the Trouble Relay. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

***Note:* This function must be disabled when any of the other Trouble Relay or Telegraph Output options are selected.**

4.3.21 FUNCTION 20 (SETTING ALARM RELAY)

When Function 20 is enabled, the DGM panel will turn the Trouble Relay (K1) off whenever any of the zones are in a Alarm condition. When none of the zones on the DGM panel are in a Alarm condition, the Trouble Relay 0 (K1) will be on. If Function 19 & 20 are both enabled at the same time, Function 19 will be ignored and the Trouble Relay 0 (K1) will turn off when any zone is in a Alarm condition.

To view or change Function 20, press “20”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “20 - Alarm Relay.” A message will scroll on the first line:

> **The Alarm Relay is Disabled. Press the TGGL button to change. Default is OFF. Press CLR/SIL to clear display or FUNC to view next Function.**

Press TGGL to enable/disable the Alarm Relay. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

***Note:* This function must be disabled when any of the other Trouble Relay or Telegraph Output options are selected.**

4.3.22 FUNCTION 21 (SETTING THE CALL OUT OPTION)

The Call Out option is for polling radio panels only. When Function 21 is enabled, the DGM panel will notify the SYSTEM 3505 PRISM LX of trouble or alarm without waiting for the SYSTEM 3505 PRISM LX to poll.

To view or change Function 21, press “21”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “21 - CALL OUT” A message will scroll on the first line:

> **The Call Out feature is Enabled. Press the TGGL button to change. Normally OFF except in some RF applications. Press CLR/SIL to clear display or FUNC to view next Function.**

Press TGGL to enable/disable the Call Out Feature. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.23 FUNCTION 22 (SETTING ZONE TO NORMALLY OPEN/CLOSED)

This function allows each zone in a DGM to be individually set for normally open or normally closed.

To view or change Function 22, press “22”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “FUNC 22 ZN 01 NO.” The zone number and respective status are represented. A message will scroll on the first line:

> **Setting Zone to Normally Open/Closed. "NO" indicates the zone is Normally Open. "NC" is Normally Closed. Use the READ button to select the zone to view or update. Use the TGGL button to change setting. The IN/OUT button will change all of the zones in the panel at one time. Enter "0" for Normally Open, "1" for Normally Closed, then press IN/OUT button. Press CLR/SIL to clear display or FUNC to view next Function.**

To select the desired zone enter the zone number, then press READ, or press READ to advance sequentially through the zones. Press TGGL to change to Normally Open or Normally closed. If you wish to change all zones to the same setting, enter the new setting within any zone, then press IN/OUT. All zones will be changed at the same time. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.24 FUNCTION 23 (SETTING PIN NUMBERS)

This function is used to view or change PIN numbers, which protect access to different levels of security.

To view or change Function 23, press “23”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “FUNC 23 PIN 1111.” A message will scroll on the first line:

The passnumber you entered does not give you access to this function. Press CLR/SIL to clear display or FUNC to view next Function.

Enter the four-digit PIN number, then press ENTER. To change all PIN numbers to the same number, enter the new setting within any zone, then press IN/OUT. All zones will be changed at the same time. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.25 FUNCTION 24 (SETTING THE STORE EVENTS OPTION)

***Note:* This function is automatically downloaded from the SYSTEM 3505 PRISM LX when the SET button is pressed in the MULTIPLEX ADD/CHANGE/DEL mode or when SYSTEM 3505 PRISM LX restarted.**

When this function is enabled, the DGM panel will store date and time of all events that occur when the data link is down. This information is then reported to the SYSTEM 3505 PRISM LX when the data link is re-established.

To view or change Function 24, press “24”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “24 - Store Events.” A message will scroll on the first line:

The Store Events option is Disabled. To change the Store Events option, press the TGGL button on the keypad. If the Store Events option is enabled, the DGM panel will record the date and time that events take place when the data link is down so they can be reported to the SYSTEM 3505 PRISM LX at a later time. MUST BE OFF unless you have a CAD system with proper software options. Press CLR/SIL to clear display or FUNC to view next Function.

Press TGGL to enable/disable Store Events. Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.26 FUNCTION 25 (BACKPORCH)

This function sets the amount of delay time the transmitter remains on after the data is sent from the DGM. The Backporch timing is set to five milliseconds for RS-422 and 10 milliseconds for radio. Changing this value may cause polling to stop from this panel.

To view or change Function 25, press “25”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “25 - Backporch = 5.” A message will scroll on the first line:

The Backporch timing is 005 milliseconds long. Set by SYSTEM 3505 PRISM LX, do not change. Press CLR/SIL to clear display or FUNC to view next function.

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.27 FUNCTION 26 (AC DELAY)

This function sets the amount of time the DGM waits after it loses AC power before it sends the ACPOWER FAIL signal to the System 3505 Prism Lx. The default of this

function is five seconds. The default may be changed to any amount from one to 255 seconds.

To view or change Function 26, press “26”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “26 - AC Delay = 016.” A message will scroll on the first line:

> **The AC Power Fail Delay timing is 016 seconds long. To change the AC Power Fail Delay timing, enter the new value, then press ENTER. The AC Power Fail Delay value can be from 1 to 255. The default value is 5 seconds. Press CLR/Sil to clear display or FUNC to view next function.**

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.28 FUNCTION 27 (PIN LENGTH)

This function sets the PIN NUMBER length. The choices are either four or six digits. The default is four digits. The pins can be 0000 through 9999. When four digits are used, up to 250 different pins may be stored. When six digits are used, up to 160 different pins may be stored. This option is only valid if Function 28 is used.

CAUTION : Changing this function will cause any stored PINS to be erased.

To view or change Function 27, press “27”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “27 - Pin Length.” A message will scroll on the first line:

> **Pin Number length is 4. Press the TGGL button to change. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.29 FUNCTION 28 (ACTIVATE KEYPAD)

This function allows the use of a DIGITIZE, INC. Keypad Part No. 400492-0001. After installing the keypad, select the address of the keypad and the zone to which it will be assigned. Keypad values are from 0-15. The keypad can be assigned to any zone. Initially, the keypad will assign a 30 second entry/exit delay to the zone. If the entry/exit delay needs to be changed to a higher value (more delay) or disabled (less delay), you must go back to Function 12 and change the zone delay for the zone assigned to the keypad.

To view or change Function 28, press “28”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “28 - Timed Zones.” A message will scroll on the first line:

> **Activate keypad by assigning a zone to it. Use the READ button to select the keypad to update. Enter the desired Timed Access Zone (1-64), then press the ENTER button. To disable the keypad, press ENTER without entering a zone number. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display or FUNC to advance to the next function.

4.3.30 FUNCTION 29 (ADDITIONAL ZONES)

This function allows you to program additional zones to follow the keypad zone status. This is useful if you have infrared detectors or motion sensors within a keypad detected zone. By using the keypad for entrance, the DGM will automatically disable reporting the interior zones when the keypad zone is disarmed. Resetting the keypad will automatically activate interior zones.

To view or change Function 29, press “29”, then FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “29 - Keypad Zones.” A message will scroll on the first line:

> **Assign additional zones to follow keypad arm and disarm states. Use the READ button to select the zone to assign. Enter the Remote Keypad (0-15) for selected zone to follow then press the ENTER button. The IN/OUT button will change all of the zones in the panel at one time. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display or FUNC to advance to the next function.

4.3.31 FUNCTION 30 (LINK DOWN DELAY)

This function sets the amount of time delay between the moment the System 3505 Prism Lx last polls the DGM to when the System displays a Data Link Down and the DGM displays DATA LINK DOWN on its LCD display. The default for this function is 15 seconds. The value can range between one to 255 seconds.

To view or change Function 30, press “30”, then press FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “30 - Link Down Delay.” A message will scroll on the first line:

> **Link down delay time is 016 seconds. Enter the new value, then press ENTER. Delay can be set from 1 to 255 seconds. Default is 15 seconds. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.32 FUNCTION 31 (STACK LINK DELAY)

If the Event Log Option is activated, the Stack Link Delay time determines how long the DGM should wait (from last System 3505 Prism Lx zone) to start saving events. Default time is one minute. In place of DATA LINK DOWN the display will indicate STORING EVENT when it detects the link is down.

To view or change Function 31, press “31”, then press FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “31 - Stack Link Delay.” A message will scroll on the first line:

> **Event Stack link down delay is 060 seconds. Enter the new value, then press ENTER. The Data link delay can be set from one to 255 seconds. Default is 60 seconds. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.33 FUNCTION 32 (ERASE ALL PINS)

This function will erase all stored PINS that have been programmed if a keypad has been installed.

To view or change Function 32, press “32”, then press FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “32 - Reset Kypd.” A message will scroll on the first line:

> **Erase all PIN numbers. Use the READ button to select the keypad by entering value from 0 to 15, then press the READ button. Enter "1", then press ENTER to erase all pin numbers. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.34 FUNCTION 33 (TOGGLE RELAY)

This function allows you to test all relays in the DGM. You can toggle the relay ON and OFF or OFF and ON depending upon the state of the relay at the point when you entered this function. The LCD display will show the condition of the relay.

To view or change Function 33, press “33”, then press FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “33 - RLY00 Off.” A message will scroll on the first line:

> **Toggle relays ON and OFF. Enter relay number, then press READ. TGGL button will turn relay ON and OFF. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.35 FUNCTION 34 (SHOW BYPASS)

This function allows the LCD to display ZONE BYPASSED when the LCD scrolls through its events. The default for this option is disabled.

To view or change Function 34, press “34”, then press FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “34 - Show Bypass.” A message will scroll on the first line:

> **Display Bypass Zones is Disabled. Press the TGGL button to change. Press CLR/SIL to clear display or FUNC to view next Function.**

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.36 FUNCTION 35 (DISPLAY KEYPAD STATUS)

This function will display the keypad and access when the zone has been placed in access mode.

To view or change Function 35, press “35”, then press FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “35- Dsp Kypd Stat.”

A message will scroll on the first line:

Display External Keypad Status is Disabled. Press TGGL button to change. Press CLR/SIL to clear display or FUNC to view next Function.

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.37 FUNCTION 36 (DISABLE TROUBLE LED)

This function allows the user to set the TROUBLE LED on the DGM to turn on for zones that are bypassed. When the DGM scrolls any OFF normal conditions on its LCD display, it will flash the troubled LED when zones are bypassed. You can turn this function off. The default for this function is disabled.

To view or change Function 36, press “36”, then press FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “36 - Disable Trouble LED.”

A message will scroll on the first line:

Trouble LED control for bypassed zones is Disabled. Press the TGGl button to change. Activate trouble LED when zone is bypassed. Press CLR/SIL to clear display or FUNC to view next Function.

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

4.3.38 FUNCTION 37 (FORCED PARITY)

This function allows the user to set whether “Forced Parity” is used to communicate with the System 3505 Prism Lx. This function is set at the factory and should not be changed.

Note: ***Changing theForced Parity setting may cause the DGM panel to stop communicating with the SYSTEM 3505 PRISM LX.***

To view or change Function 37, press “37”, then press FUNC or, if you are viewing the previous function, just press FUNC. The second line of the display will read “37 – Force Parity.”

A message will scroll on the first line:

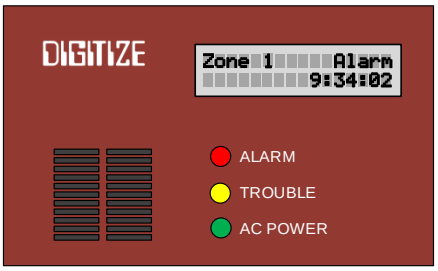
Forced Parity is Enabled. Enables Forced Parity during communication with System 3505 Prism Lx. Press CLR/SIL to clear display or FUNC to view next Function.

Press CLR/SIL to clear the display. Press FUNC to advance to the next function.

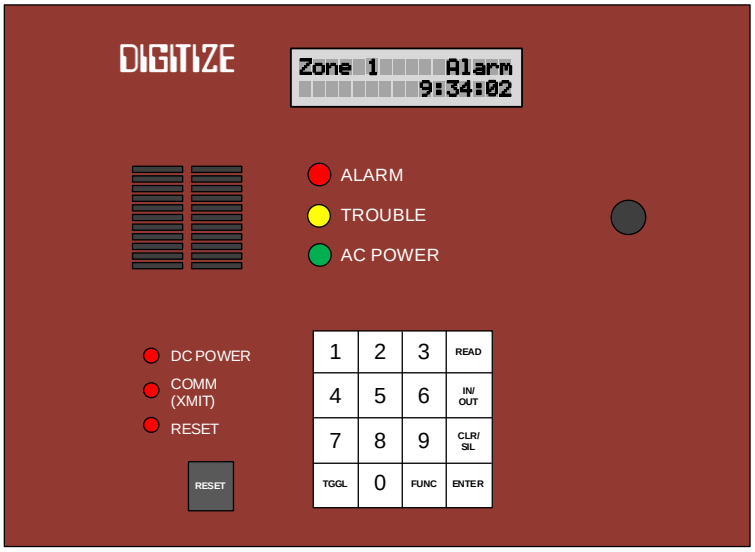
5 THEORY OF OPERATION

5.1 GENERAL

When the front panel door is closed and the key lock is engaged, you can view the LCD display and LED indicators through the Plexiglas window in the door. During normal operation, the DGM displays the current time. In the event of an alarm the DGM displays, in order, each zone number, its status and any fault conditions. All changes in status are reported to the head end equipment without intervention by an operator at the DGM.



To obtain access to the internal keypad, use the key lock to open the door of the panel enclosure. As soon as the door is open, the tamper switch activates an audible alarm. A corresponding Tamper message is displayed on the LCD, and this change in status is reported to the SYSTEM 3505 PRISM LX. Press CLR/SIL to clear the Tamper. You now have limited access to the panel, and by entering your passnumber you will be granted complete access to all functions (refer to *Section 4 Programming.)*



Regardless of whether or not you have passnumber access you have the ability to view a specific zone without waiting for the LCD to display it in sequence. Enter the zone number from the panel keyboard and press READ. The zone of your choice appears in the LCD with its current status. Press CLR/SIL, CLR/SIL to display the current RTS (Ready to

Send) value. These are the only two functions that can be accessed without having a valid passnumber entered.

5.2 PANEL CONTROLS

The following is a list of the controls located on the front panel of the DGM. Numerical buttons are for entering information such as time, zone numbers, and function numbers.

5.2.1 READ

Press the READ button after entering a zone number to display the status of the zone number selected. If your entry is not available on the DGM panel, the display will read “NOT VALID ENTRY.”

If the READ button is pressed when several zones are either in Alarm, Trouble, or Out of Service, it will cause the next zone to be displayed. This will allow you to quickly advance through the list.

The READ button is also used by some programming functions to view a specific zone, or to advance through zones.

5.2.2 IN/OUT

After entering a zone number, press the IN/OUT button to toggle the selected zone in or out of service. The display will show the current status of the zone, and the panel will transmit the information to the SYSTEM 3505 PRISM LX. You must have the IN & OUT OF SERVICE option installed on your DGM panel. Otherwise, it will respond by displaying "??????" on the lower line of the display. The operator at the SYSTEM 3505 PRISM LX also has the ability to place zones on the DGM panels in and out of service.

When a zone is out of service, future alarm and trouble conditions on that zone will not be reported to the SYSTEM 3505 PRISM LX until the zone is restored to service.

The IN/OUT button is also used by some programming functions as a shortcut to setting a parameter on all zones at one time. For example, by using IN/OUT with Function 22 you are able to set all zones in the panel to Normally Closed or Normally Open at the same time.

5.2.3 CLR/SIL

Press the CLR/SIL button to clear any number entered via the numeric keypad, or to silence the beeper. Upon initialization, push this button to clear the display, and show the time and alarm mode.

As a shortcut, press CLR/SIL twice to display the current RTS value without entering the Request to Send Function (11).

The CLR/SIL button is also used by programming functions to clear the display.

5.2.4 ENTER

After entering the password, press ENTER to allow access to the programming mode. Once in programming mode, press ENTER to have the DGM program accept information entered from the keypad.

The ENTER button is also used by programming functions to accept information entered from the keypad.

5.2.5 TGGL (used only for Programming Functions)

Press the TGGL button to alternate between function settings that have only two options. For example, the TGGL button will alternately turn On/Off Expanded Multiplex Format (Function 14).

5.2.6 FUNC (used only for Programming Functions)

Press the FUNC button to advance sequentially through the function screens or, in combination with a function number, to advance directly to a specified function screen.

5.2.7 RESET

Press the RESET button to reinitialize the DGM. This button should be pressed if the red RESET LED is illuminated.

5.2.8 TAMPER/TILT

The black Tamper button protrudes through the front panel of the DGM. When the door is open or ajar, the DGM transmits a TAMPER condition to the SYSTEM 3505 PRISM LX. The word TAMPER also appears on the LCD display of the DGM. When the door is closed, the condition clears.

A mercury Tilt switch is located on the back of the display panel. When the panel is tilted more than 45 degrees in any direction, it will cause the panel to report a tamper.

5.3 INDICATORS

5.3.1 LCD DISPLAY

The DGM will display certain messages when external events happen that affect its operation. When an abnormal condition exists, the display will indicate on which zone. If more than one condition exists, the zone numbers will rotate on the top line, while the bottom line is used to display condition messages. The following messages may display:

5.3.1.1 AC POWER FAIL

The DGM has battery back-up connected to the 12-volt input. If the AC power fails, then the DGM will display the AC power fail message and the AC POWER LED will go out. There will be no loss of power to the unit on the transition to battery power. When AC is restored the message disappears.

5.3.1.2 DATA LINK DOWN

If anything should happen to the data link to the DGM, the unit will display the Data Link Down message. When the link is restored the message will disappear. While the data link is down, the DGM will function from the keypad, if necessary.

5.3.1.3 LOW BATT

The Low Batt message will be displayed if the battery voltage falls to 10.5 VDC. When the voltage goes above the value, the message will disappear.

5.3.1.4 BATTERY FAULT

The Battery Fault message will be displayed if the battery is not connected.

5.3.1.5 GROUND DETECT

If a ground should be detected on any of the zone inputs, the GROUND DETECT message will display. A ground is required to remain constant for a period of two minutes before it is reported.

NOTE: The ALARM and TROUBLE LED's may be lit at the same time if an alarm and a trouble condition exist on two or more zones.

5.3.2 LED INDICATORS

5.3.2.1 ALARM LED

The ALARM LED will be illuminated any time one or more zones are in alarm condition.

5.3.2.2 TROUBLE LED

The TROUBLE LED will be illuminated any time a zone is in trouble. It will also be lit any time the DGM is in reset mode.

5.3.2.3 AC POWER LED

The AC POWER LED will be lit any time AC power is available to the DGM.

5.3.2.4 DC POWER LED

The DC POWER LED will be lit any time DC power is available to the IC's.

5.3.2.5 TRANSMITTER LED

The TRANSMITTER LED will be lit only when the DGM is transmitting data to the SYSTEM 3505 PRISM LX. Upon initialization the TRANSMITTER LED flashes to indicate that the SYSTEM 3505 PRISM LX has recognized the DGM panel, and that the DGM is responding.

5.3.2.6 RESET LED

The RESET LED will be lit when an internal malfunction occurs on the DGM. If this LED illuminates, you must push the RESET button. Upon initialization, the RESET LED flashes every few seconds to indicate successful operation of the panel.

5.3.3 BEEPER

The following conditions will cause the beeper to sound:

- A change in zone status (when function enabled).
- A Tilt or Tamper occurs, including an open door.
- A system fault.

5.4 OPERATING PROCEDURE

5.4.1 GENERAL

In the event that a zone changes from SECURE to ALARM status, an LCD message will indicate the zone number in alarm, and the ALARM LED will light. The zone information will also be sent to the SYSTEM 3505 PRISM LX on the next polling cycle. The DGM will maintain the status change message until the SYSTEM 3505 PRISM LX acknowledges the status change and the condition is restored.

The DGM's have been designed to work without an operator, but in the event of the data link going down, each DGM will operate from the internal keypad. When a change in state occurs, the CLR/SIL button is pressed to acknowledge the change. If the beeper has been activated it will sound when a change of state occurs and the data link is down. If the data link is up, then the beeper will not sound.

5.4.2 NORMAL QUIESCENT OPERATION

During normal quiescent operation, the green POWER LED is illuminated, the TRANSMITTER LED flashes to indicate an "active" status on the communications line, and the time displays on the bottom line of the LCD.

5.4.3 ALARM CONDITION

An alarm condition is initiated by the closure of a normally open contact, or the opening of a normally closed contact, across any zone input pair. This is indicated by the red ALARM LED. Alarm zone information will be shown on the LCD. The ALARM LED remains illuminated until the SYSTEM 3505 PRISM LX acknowledges receipt of the alarm and all zones are secured.

5.4.4 TROUBLE CONDITION

When a trouble condition occurs, the yellow TROUBLE LED will illuminate. It remains illuminated until the SYSTEM 3505 PRISM LX acknowledges receipt of the trouble and all zones are secured.

5.4.5 STANDBY POWER OPERATION

The DGM transfers the system power load to the standby battery whenever the main power fails or falls below the nominal level. The system will remain fully functional in this mode until the main power is restored or until the system detects a low battery condition. Standby Power Operation is indicated by a message on the lower line of the LCD, and also by the absence of the green AC POWER LED. The backup battery (6.5 AH for hard-wired units, 13 AH for radio units) will suffice for 60 hour backup, even under full-load conditions.

5.5 EXTERNAL KEYPAD

For the purpose of Entry Zone security, each DGM can monitor 16 optional external keypads connected in parallel via four wires (two for power, two for data). All power to the keypads is provided by the DGM panel.

Each keypad is assigned an Entry Zone, which is any zone on the DGM panel. The keypad is then able to ARM or DISARM. It is possible to assign any or all (16) keypads to the same Entry Zone. All keypads that are assigned to the same Entry Zone will display the same information, and any keypad assigned to a zone can ARM or DISARM that zone.. For example, if Keypad #1 is ARMED, all of the keypads assigned to the same Entry Zone as Keypad #1 will also be ARMED, and, will display a steady RED LED.

5.5.1 EXTERNAL KEYPAD INDICATORS

The keypad provides 12 (0 through 9, #, and *) buttons, RED and GREEN LED, one Form C relay output, and an audible beeper. The Form C output has no defined function at this time, but can be instructed by the DGM panel when to turn on and off at a future date.

When an external keypad is first attached to an DGM, but before it is activated (Function 29), the GREEN and RED LEDs alternately blink. This indicates a Data Link down. The same thing occurs whenever the communications link is broken between an external keypad and the DGM.

Each keypad is capable of having 250 programmable, four-digit PIN numbers, which can be changed at the DGM panel, or downloaded from the Maintenance shop PC computer via the SYSTEM 3505 PRISM LX. The 250 PIN numbers will reside in the keypad.

NOTE: If the GREEN LED is BLINKING, a PIN number will not be accepted at the keypad.

5.5.2 DISARMING OPERATION

When a Security Entry Zone assigned to a keypad is violated, the DGM begins an entry delay, which has been programmed from one to 90 seconds. At the same time the beeper begins to beep (one pulse per second) and the RED LED flashes. The same response occurs at all keypads assigned to the same Entry Zone.

If a valid PIN number is entered, the beeper will stop, the RED LED turns off, and the GREEN LED turns on. The DGM then reports an opening to the head end equipment. If the entry point remains open after a valid PIN number is entered, the GREEN LED will start to blink. It will continue to blink indefinitely until the entry point is secured.

If an invalid PIN number is entered, or if no PIN number is entered within the allowable time delay, an ALARM is sent to the head end, the beeper beeps at the rate of three pulses per second, and the RED LED remains illuminated without flashing. The same response occurs at all keypads assigned to the same Entry Zone.

If a valid PIN number has not been entered, 30 seconds after the ALARM is sent the keypad will beep once every five seconds until either a valid PIN number is entered, or the operator disarms the zone. The activated zone in ALARM will not change state unless the zone is disarmed at the keypad or by the operator.

5.5.3 ARMING OPERATION

Prior to arming, the desired Entry Zone must be secured. A steady GREEN LED indicates that the Entry Delay Zone is secured; a flashing GREEN LED indicates that a zone under the control of the Entry Delay Zone is not secured. If the GREEN LED is not on at all, then

the Entry Delay Zone and any controlled zone are not secured. When all assigned zones are secured, the GREEN LED will once again be on steadily.

Once all zones are secured, enter a valid PIN number. The GREEN LED will turn off, the RED LED will turn on, and the beeper will remain off. The DGM will now send an ARMED condition to the head end. The Entry Zone Delay will begin counting down to allow the user a maximum of 90 seconds to leave the secured area. When the delay runs out, the Entry Zone must be secured. If not, the DGM panel will begin the Opening Operation as noted above.

6 TESTING

6.1 GENERAL

NOTE: All field wiring must be tested before proceeding to the next step. If the wiring has not been tested, refer to *Section 2.3., FIELD WIRING* for instructions.

Attach one pair of zone wires at a time to the control panel and activate an initiating device to test “ZONE ALARM”. Then proceed to the last device of each zone and open the circuit to test “ZONE TROUBLE”.

6.2 ACCEPTANCE TESTING

Use Table 6.1 to test all alarm and trouble initiating devices for each zone.

All system functions should be tested based on a period indicated by the NFPA guideline. In no event shall this period exceed once every three months to insure proper system operation. If any malfunctions occur, contact your local authorized DIGITIZE, INC. distributor for qualified service.

Table 6.1 - System Test

FUNCTION/ZONE	1	2	3	4	5	6	7	8
ALARM								
TROUBLE								

FUNCTION/ZONE	9	10	11	12	13	14	15	16
ALARM								
TROUBLE								

FUNCTION/ZONE	17	18	19	20	21	22	23	24
ALARM								
TROUBLE								

FUNCTION/ZONE	25	26	27	28	29	30	31	32
ALARM								
TROUBLE								

FUNCTION/ZONE	33	34	35	36	37	38	39	40
ALARM								
TROUBLE								

FUNCTION/ZONE	41	42	43	44	45	46	47	48
ALARM								
TROUBLE								

FUNCTION/ZONE	49	50	51	52	53	54	55	56
ALARM								
TROUBLE								

FUNCTION/ZONE	57	58	59	60	61	62	63	64
ALARM								
TROUBLE								

WARRANTY

IMPORTANT NOTICE: DIGITIZE, INC. products should be tested every month (under no circumstances less than every three months) to insure complete and proper operation and proper input and output connections.

STATEMENT OF LIMITED WARRANTY

Digitize, Inc. ("Digitize") warrants to its distributors, systems houses, end users, and OEMs ("Buyer"), that products manufactured by Digitize are free from defects in materials and workmanship. Digitizes obligations under this warranty are limited to repairing or replacing, at Digitizes option, the part or parts of the products which prove defective in material or workmanship for 12 months within 15 months after shipment by Digitize. Buyer must pass along to its initial customer or user ("Customer") a minimum of 12 months' coverage within the 15-month warranty period, provided the Buyer gives Digitize prompt notice of any defect and satisfactory proof thereof. Products may be returned by Buyer only after a Return Material Authorization number ("RMA") has been obtained from Digitize by telephone or in writing. Buyer will prepay all freight charges to return any products to the repair facility designated by Digitize and include the RMA number on the shipping container. Digitize will, at its option, either repair the defective products or parts or deliver replacements for defective products or parts on an exchange basis to Buyer, freight prepaid to the Buyer. Products returned to Digitize under this warranty will become the property of Digitize. With respect to any products or art thereof not manufactured by Digitize, only the warranty, if any, given by the manufacturer thereof, applies.

EXCLUSIONS

This limited warranty does not cover losses or damage which occurs in shipment to or from Buyer, or are due to, (1) improper installation or maintenance, misuse, neglect, or any cause other than ordinary commercial or industrial application, or (2) adjustment, repair, or modifications by other than Digitize-authorized personnel, or (3) improper environment, excessive or inadequate heating or air conditioning and electrical power failures, surges, or other irregularities, or (4) any statements made about Digitizes products by salesmen, dealers, distributors or agents, unless confirmed in writing by a Digitize officer. If the firmware or hardware is altered or modified by the Buyer, this firmware and hardware is not covered within this limited warranty and the Buyer bears sole responsibility and liability for that firmware and hardware.

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