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DMP Data Network Certifications

Introduction

As early as 1984, while other security manufacturers were struggling within the confines of analog pulse communication formats, DMP was looking ahead to communication technologies of the future. That future consisted of digital communication as the basis for all high-speed, secure transmission of data over phone and network systems. Digital data communication is fast and virtually error free and allows DMP panels to send large amounts of information over computer networks and satellite links as well as standard voice grade telephone lines.

From those early days, DMP has seen the potential of data communication and has been using it as a standard communication format for all of its burglary/fire alarm control panels.

Analog communication of yesterday

Most formats still used by other panel manufacturers today send alarm reports to the central monitoring station receiver using one-way data with pulse tone acknowledgment. This method will not function over a digital network but instead requires a voice grade phone line. These panels cannot operate in supervised or polled environments such as that found on data networks.

Some examples of analog communication include Grade B Burglary using a standard telephone dialer, Grade AA Burglary using a dedicated multiplex phone line, and Central Station Fire using two dedicated dialer phone lines.

DMP network communication of today

The sending of alarm and system information to a central monitoring station over existing public data networks is not only superior to analog communication but it is also a communication method approved and accepted by Underwriters Laboratories (UL).

DMP panels output their data in RS-232 format and are completely compatible with communication over existing networks such as Ethernet, ISDN, and other Wide Area Networks. This is a powerful capability that offers our customers unbeatable cost savings and dependability over systems relying on older analog communication technologies.

In September of 1996, UL approved DMP panels for use with communication over public data networks. UL states that: "This type of application is acceptable, provided that the protected premise and receiving units are Listed, complying with all applicable hardware and functional requirements in UL 1610 for Central Station Burglary, UL 365 Police Station Connect, and UL 1076 for Proprietary Burglary applications".

AL DR

(B-cont. from A card)

protected premise control units with Model 349A atact resistance en- l and Grade A bell housing. Suitable for Grade A mercantile and mercan- sile line security when configured for DACT or DMX communication. lex DNET or HST communication, suitable for Grade AA mercantile and suitable with high line security. All grades of mercantile safe and vault 4402 or Potter EVD vibration detector. The Model X8220 is also sim- ilar service.

Interface models, Models 460, 462N, 462P, 481, 882N, 882P, 881. Ex- 10, 716, 717. Keypads, Models 730, 740, 750 with or without suffix A, 893, 770, 771, 772, 773, 774, 790, 791, 793. Loop expanders, Models

stem, Model SCS-1 which includes the Model SCS-PTB printer and cable processor card, Model SCS-100 line card, Model SCS-110 modem com- munitibus power supply card, Model SCS-130 transformer card, Model SCS-203 convenience panel and Model SCS-CRT CRT keyboard and

DIGITAL MONITORING PRODUCTS INC

S3598 (N)

September 24, 1996

S3598 (N)
(A card)

ING PRODUCTS INC

S3598 (N)

L DR

FOR LISTING MARK ON PRODUCT

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X11/0248114
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UL also requires that "network equipment must be UL Listed for fire and shock hazards". The DMP Ether-Com™ Ethernet Interface is UL Listed for fire and shock hazard under the Information Technology Equipment standard. See below for a copy of the NWGQ UL Listing card. When using other network interface devices, the device must be listed for UL Fire and Shock Hazards.

E1750008 (N)

Micro serial server, Model ETHER-COM.

ING PRODUCTS INC ,
O 65802

E175008 (N)

ETHER-COM

L DR

FOR LISTING MARK ON PRODUCT

UL AA Certificated Burglary Applications

When the network requirements above are met, the DMP XR200 Command Processor Panel and 462N Network Interface Card can be installed and certified UL AA. Specific installation and programming instructions are defined in section 18 of the XR200 Installation Guide (LT-0197). This includes the use of one 893 phone line module to monitor the backup dialer line and choosing the HST communication programming option as AA.

The AA option causes the XR200 panel to regularly check in with the SCS-1 Receiver meeting the strict UL standards for line security. This AA operation meets the requirements for multiplex type communication as defined in UL 1610, section 70.2 - exceptions a, b, c, and d, dated 12/6/94. Should any alarms occur, both the data network and backup dialer line are used to transmit the alarm.

Combination Burglary/Fire Systems

For combined burglary and fire alarm systems, UL has an established set of requirements that specify certain hardware redundancies and communication protocols to ensure that indications of a fire or burglary are properly transmitted at the time of their occurrence.

Typically in a combined system, two dialer phone lines are dedicated to the alarm. This limits the interruption of normal business phone traffic caused by supervisory communication requirements of the alarm system. With the DMP system communicating over a data network however, this interruption of business phones is avoided by the panel's ability to send its traffic at any time directly over the network. The business phone lines are then used only to send a nightly Recall Test report or the report of an actual alarm to the central monitoring station. This eliminates the monthly expense of two phone lines.

The DMP products meeting the UL requirements include the listed Model 893 Dual Phone Line Module used in supervising two separate analog phone lines and the Model 462N Network Interface Card listed as a supplementary signaling device for commercial fire systems.

If the requirement for the two dedicated phone lines is made by the local AHJ for the purpose of avoiding situations where the burglary / fire alarm system is incapable of communicating, the DMP panels have a built-in ability to seize the phone line and interrupt any call in progress as required by NFPA and UL. Instructions to the system installer for correctly wiring of the telephone jacks is also included in all DMP installation guides as an added measure of ensuring the system's communicating ability.

Non-Certificated Burglary/Fire Systems

If the installed system is being used as the required fire alarm panel, and UL AA Burglary certificates are not being issued, then network communication is strictly supplementary and no UL listing is required for the network equipment. Communication of alarm and system events can occur over private data networks without the requirement that all devices be UL Listed for this particular application.

UOJZ
Control Units, System

August 14, 1996

DIGITAL MONITORING PRODUCTS INC , SPRINGFIELD MO 65802

S3598 (N)
(A card)

Type	Type Service	Type Signaling	Models
CS (receiving), RS (receiving), P (receiving)	A, M, SS, WF	DAC, MX	SCS-1
L	A, M, SS, WF	M, NC	1812-A, -B, -C, -D, -E, 1912, 1912XR, XR200, XR5FC
P (protected premises)	A, M, SS, WF	MX	1812-A, -B, -C, -D, -E
CS (protected premises)	A, M, SS, WF	DAC, MX	1912, 1912XR, 1912
A, RS (protected premises)	A, M, WF	NC	1912

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RS (protected premises) A, M, SS, WF DAC

2841 E INDUSTRIAL DR

LOOK FOR LISTING MARK ON PRODUCT

Cards S3598A and B (two cards) replace S3598 dated 883361002 N2100 Underwriters Laboratories Inc.®

UOJZ Control Units, System

UOJZ
Control Units, System

S3598 (N)

DIGITAL MONITORING PRODUCTS INC

Type	Type Service	Type Signaling	Models
CS (receiving) RS (receiving) P (receiving)	A, M, SS, WF	DAC, MX	SCS-1
P (protected premises)	A, M, SS, WF	MX	XR200
CS (protected premises)	A, M, SS, WF	DAC, MX	XR200
A, RS (protected premises)	A, M, WF	NC	XR200

UOXX Control Units Accessories, System

UOXX
Control Unit Accessories, System

March 20, 1997

DIGITAL MONITORING PRODUCTS INC

2841 E INDUSTRIAL DR, SPRINGFIELD MO 65802

S3598 (N)
(A card)

Battery, Model 367.
Battery harness, Model 318.
Communication cable, Model 355.
Communication modules Models 984-D, 984-D1, 984-D2, 984-DB, 984-M, 984-MB, 984-MD, 984-X1, 984-X1B, 984-X2, 984-X2B.
CRT keyboard and cable assembly, Model SCS-CRT.
Dual line module, Model 893.
End-of-line resistor, Model 310.
Expansion interface modules, Models 460, 462P, 481, 881.
Models 710, 716, 717.
Models 348F, 350.
Model 869.
750 with or without suffix A or R.
593, 770, 771, 772, 773, 774, 790, 791, 793.
04, 705, 711, 711E, 714, 715.
es, Models 865, 866, 867.

September 24, 1996.

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(Cont. on B card)
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March 20, 1997

es, System

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Printer and cable assembly, Model SCS-PTR.
Supplementary signaling modules, Models 462N, 862N.
Trouble module, Model 377.

LOOK FOR LISTING MARK ON PRODUCT

Replaces S3598B dated September 24, 1996.

883361002 Underwriters Laboratories Inc.®

811/0306675
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UOXX
Control Unit Accessories, System

S3598 (N)

DIGITAL MONITORING PRODUCTS INC

Dual line module, Model 893
Supplementary signaling module, Model 462N

Summary

The preceding sections of this Application Note have been designed to detail the UL requirements for communicating burglar and fire alarm information over public and other data networks and the specific manner in which DMP control panels and accessory devices meet those requirements. To ensure communication integrity, UL requires all equipment used in these applications to be listed under existing classifications and meet a rigid set of operating conditions to ensure their ability to communicate to the central monitoring station.

The XR200 Command Processor Panel, used in conjunction with the 893 Dual Phone Line Module and/or the 462N Network Interface Card, and communicating to the UL Listed SCS-1 Receiver are currently the only alarm system components approved for this application and thus alone can offer an immediate end to dependence on outdated and expensive analog communication technologies.

Glossary of Terms

The following terms are accompanied by definitions compatible with their use in this application note.

Analog - The transmission of information over a dial up phone line using voice or tones.

Data - A stream of binary digits representing alarm and system information sent from a burglary/fire alarm control panel to an alarm receiver.

Dialer - The communicating components of a burglary/fire alarm system that use the public switched telephone network to send alarm and system information to a central monitoring station.

Digital - The transmission of electronic data as bits or digits to a central monitoring station through a computer link instead of analog tones.

Ethernet - A Local Area Network (LAN) cabling system originally developed by Xerox, Intel, and Digital. Ethernet has a bandwidth of 10 Mbps and uses the CSMA/CD access method.

Pulse Tones - A method of counting analog tones to communicate alarm information to a central station instead of computer data.

Listing Table

Category		Products	File #
AMCX	Central Station	XR200, 462N, SCS-1	S3598
APAW	Police Connect	XR200, 462N, SCS-1	S3598
APOU	Proprietary Alarm	XR200, 462N, SCS-1	S3598
UOJZ	Central Station	XR200, SCS-1	S3598
UOXX	Control Unit Access., Suppl.	462N, 893	S3598
NWGQ	Information Technology Equip.	Ether-Com™	EI75008