Security Communications – Digital Communications Standard - "SIA Format" Protocol - for Alarm System Communications

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This standard was developed by the SIA Digital Communications Standards Subcommittee. The voting members of the Subcommittee are listed below.

SIA gratefully acknowledges the efforts of the many volunteers from the security industry that helped the Subcommittee to develop this standard.

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This standard was approved by the SIA Standards Committee on July 1, 2003

Revision History

The following are the major revisions of this standard. Versions of this standard and revisions were made prior to February, 1993. However, the Revisions History section of the standard commenced in February, 1993.

Continuous maintenance of data codes is handled separately, as described in clause 6.1.3 Data Code Additions.

February 1993 - Baseline Release

October 1997

Section	Change
1.3.4 (f)	Removed requirement of CCITT compatibility.
2	Added **ROM** to glossary.
4.2.1.2.8	Added Name modifier.
4.2.1.2.9	Added Level modifier.
4.2.1.2.10	Added Value modifier.
4.2.1.2.11	Added Path modifier.
4.2.1.2.12	Added Route Group modifier.
4.2.1.2.13	Added Sub-Subscriber modifier.
4.3.4	Inserted Origin ID Block.
4.3.9.x.x	Added Video Block capabilities.
7.1.1	Modified requirement.
7.1.8	Added section.
7.2	Added section.
Appx A	Added “Address Field” column to Table 6.
Appx A	Added the following codes to Table 6: **AN, AS, BM, BV, BZ, CD, CM, CR, CS, DA, DB, DE, DH, DJ, DL, DM, DN, DP, DQ, DV, DW, DX, DY, DZ, EA, EE, EX, EZ, FC, FM, FZ, IA, IR, JK, JP, JY, JZ, NA, NC, NR, NS, NT, OH, OL, OS, RY, TC, TP, TT, XA, XH, XJ, XL, XM, XQ, XS, XX, YA, YH, YZ, ZU.**
Appx B	Moved Block Format examples from within the text to the appendix.

Appx B	Corrected error in Example 1.
Appx B	Added Data Code Packets examples.
Appx B	Added Modifier Code examples.
Appx C	Added Interpretations.

November 1999

Section	Change
Table of Contents	Changed section and page numbering
Cover & Headers/ Footers	Revised nomenclature & designation
2, 3.1	Added new sections (and renumbered existing sections accordingly)
6	Renumbered section 6 (was 6 & 7)
Appx A	Added the following codes to Table 6: **BD, BE, TH, TJ, YI, YJ**
Appx A	Made changes to the following codes in Table 6: **UY, UZ**
Appx B	Added examples for the following Data Code Packets: **BD, BE, TH, TJ, YI, YJ**
Index	Removed Index

November 2000

Section	Change
Appendix A	Added the following codes to Table 6: **AA, AB, BG, CO, CQ, CX, DI, EJ, EM, EN, ES, FG, FL, FQ, FV, FW, MI, NM, OQ, OU, OV, SC, TW, TZ, UG, YU**
Appendix B	Added examples for the following Data Code Packets: **AA, AB, BG, CO, CQ, CX, DI, EJ, EM, EN, ES, FG, FL, FQ, FV, FW, MI, NM, OQ, OU, OV, SC, TW, TZ, UG, YU**

October 2003

Section	Change
Revisions History	Added sentence to clarify previous revisions

2	Changed DC-01 to Digital Communications Technical Report – Receiver to Computer Interface Protocol (Type1) for Central Station Equipment Communications
3.2	Added DTMF, Mark, and Space to definitions
4.1.3.2	Added first interpretation from Appendix C to the text under Bit 7
5.2.1.1.2	Added third paragraph explaining how text description can be added to the Address Number.
5.2.1.2	Added third paragraph explaining how text description can be added to the Modifier Code Packet
5.2.1.2.8	Deleted text under name and added “Not Applicable”
5.3.1.2	Added second interpretation from Appendix C to the text after the first sentence.
Table 3	Added third interpretation from Appendix C to Table A.3: “Support 1 (Wait) Block and 2 (Abort) Block”
Annex A	Added fourth interpretation from Appendix C to Table 6. Added additional words to JP (User on Premises) to clarify the difference between it and OP (Opening Report)
Annex B	Added Examples 3A and 3B
Appendix C	Deleted interpretations by adding them into text Added “This Page Intentionally Blank”

Security Communications – Digital Communications Standard- "SIA Format" Protocol - for Alarm System Communications

1 Introduction

1.1 Scope

This specification describes a standard for digital communication to be used in the alarm industry, with possible future uses in the areas of energy control and facilities monitoring and management.

The standard is voluntary and self-enforcing. A RECEIVER and TRANSMITTER designed to meet this standard must be capable of receiving and transmitting to other manufacturers' equipment. In case of incompatibility, the problem should be resolved through manufacturer to manufacturer discussions. The Digital Communications Standards Subcommittee will provide interpretations of the standard and act as an arbitration body if the problem cannot otherwise be resolved.

This communication standard is designed to be open ended. The block format allows for a variable length on the account number and data sections of the message. The generalized message format allows for a theoretically unlimited length message in the form of multiple blocks (however, practical limits must be considered). The open- ended design will allow for almost unlimited expansion within the provisions of the standard.

Requests for general revisions or additions to this standard should be submitted in writing to SIA. All requests will be forwarded to the SIA Digital Communications Standards Subcommittee for approval. Minor changes, if approved, will be issued as addendums to the current revision of the standard. Major changes or accumulations of minor changes will result in a major revision (date) of the standard. Discretion as to the extent of a change and if a major revision is necessary will be at the recommendation of the Subcommittee or the Subcommittee Chair.

1.2 Purpose

The purpose of this Standard is to establish a common signaling format, which can be adopted by any manufacturer of digital communicators or receivers. The standard communication format will provide an across-the-board compatibility of equipment designed to the Standard regardless of manufacturer.

1.3 Establishment of Need

1.3.1 History and Requirement

The existing communication formats were developed by manufacturers of digital communicators as the products were being developed. The formats are not always compatible, and there is no published documentation of their requirements. At the time of their conception, they were adequate to provide the type of service for which they were designed. However, with the large growth in the field of digital alarm point monitoring, the need for a system with a higher data rate, greater data capacity, and expansion potential has become more critical. Another growing field of application is that of energy management, which requires the ability of bi-