

---

# Operations Application Messages - Language for Operations Application Messages

## Contents

Preface .....	Preface-1
1. Introduction.....	1-1
1.1 Transaction Language 1 (TL1).....	1-1
1.2 Organization of Document .....	1-2
1.3 TL1 Historical Perspective.....	1-3
1.4 Requirements Terminology .....	1-5
1.5 Requirement Labeling Conventions.....	1-5
1.6 Requirements Statement.....	1-5
2. TL1 Message Specification.....	2-1
2.1 TL1 General Message Syntax .....	2-1
2.1.1 Input versus Output .....	2-2
2.2 Characters and Information Units .....	2-3
2.2.1 Identifiers .....	2-3
2.2.2 Symbolic Names .....	2-3
2.2.3 Decimal Numbers.....	2-3
2.2.4 Nondecimal Numbers.....	2-4
2.2.5 Text Strings .....	2-4
2.2.6 Arithmetic Expressions .....	2-4
2.2.7 Keyed Numbers.....	2-4
2.2.8 Numeric String.....	2-5
2.2.9 Integer .....	2-5
2.2.10 Inner String.....	2-5
2.3 Parameter Block Syntax .....	2-5
2.3.1 Position-Defined Parameters.....	2-5
2.3.2 Name-Defined Parameters .....	2-6
2.3.3 Name/Position Syntax Conflicts .....	2-6
2.4 Boolean Flag Parameters.....	2-7
2.5 Defining a Parameter Block .....	2-7
2.5.1 Parameter Specification .....	2-7
2.5.2 Block Type Selection .....	2-8
2.6 Defining Parameter Values .....	2-8
2.6.1 Compound Arguments .....	2-9
2.6.2 Grouping of Arguments .....	2-9
2.7 Implementation Issues.....	2-10
2.7.1 Correction Characters and Comments .....	2-10
2.7.2 Restrictions on Nondecimal Numbers and Arithmetic Expressions.....	2-10

---

---

2.7.3	Case Sensitivity .....	2-11
2.7.3.1	Command Codes and Parameter Names.....	2-11
2.7.3.2	Parameter Values .....	2-11
2.7.4	Resolving the Increment Ambiguity .....	2-12
3.	Input Command Message Structure .....	3-1
3.1	General Format.....	3-1
3.2	Command Code.....	3-1
3.2.1	Verb.....	3-1
3.2.2	Modifiers .....	3-1
3.3	Staging Parameter Blocks .....	3-2
3.3.1	Target Identifier (TID) Block.....	3-3
3.3.2	Access Identifier (AID) Block .....	3-4
3.3.2.1	Circuit and Equipment Access.....	3-4
3.3.2.2	Administrative View Access .....	3-5
3.3.2.3	Access by Alias Values.....	3-6
3.3.2.4	Object Identifier Context Switching .....	3-7
3.3.3	Correlation Tag (CTAG) Block .....	3-7
3.3.4	General Block (GB) .....	3-8
3.3.4.1	Delay Activation .....	3-8
3.3.4.2	Contingency Flag.....	3-9
3.3.4.3	Indirect Data Retrieval Indicator .....	3-10
3.4	Message Payload.....	3-12
3.4.1	IntraBlock Type Procedure .....	3-12
4.	Acknowledgments.....	4-1
4.1	General Format.....	4-1
4.2	In Progress (IP) and Printout Follows (PF).....	4-1
4.3	All Right (OK) .....	4-2
4.4	No Acknowledgment (NA) .....	4-2
4.5	No Good (NG).....	4-2
4.6	Repeat Later (RL).....	4-3
5.	Output Response Message Structure.....	5-1
5.1	General Format.....	5-1
5.2	Header .....	5-1
5.3	Response Identification .....	5-2
5.4	Text Block .....	5-3
5.5	Terminator .....	5-4
5.6	Examples of Output Response Message .....	5-5
6.	Autonomous Messages .....	6-1
6.1	General Format.....	6-1
6.2	Header (<header>) .....	6-2
6.3	Identification of Output (<auto id>).....	6-2
6.3.1	Alarm Code (<almcde>) .....	6-2

---

---

6.3.2	Autonomously Generated Correlation Tag (<atag>)	6-3
6.3.3	<verb>[^<modifier>[^<modifier>]]	6-4
6.4	Text Block ( [<text block>] )	6-4
6.5	Terminator	6-4
6.6	Examples of Autonomous Messages	6-5
7.	Implementation Guidelines	7-1
7.1	Input	7-1
7.2	Output	7-1
7.3	Target Identifier (TID) and Source Identifier (SID)	7-2
Appendix A:	TL1 Grammar	Appendix A-1
A.1	Introduction	Appendix A-1
A.2	Contents	Appendix A-1
A.3	Character Set/Classes	Appendix A-1
A.4	Information Units	Appendix A-3
A.5	Parameter Value Complexes	Appendix A-4
A.6	Input Messages	Appendix A-5
A.6.1	Command Code	Appendix A-5
A.6.2	Target Identifier	Appendix A-5
A.6.3	Access Identifier	Appendix A-6
A.6.4	Correlation Tag	Appendix A-6
A.6.5	General Block	Appendix A-6
A.6.6	Payload Block	Appendix A-7
A.7	Output Messages	Appendix A-7
A.7.1	Acknowledgments	Appendix A-8
A.7.2	Output Response and Autonomous Messages	Appendix A-8
A.7.3	Response Identifier	Appendix A-8
A.7.4	Autonomous Messages	Appendix A-9
A.7.5	Text Blocks	Appendix A-9
A.8	Strings, Quotes, and Escape Sequences	Appendix A-11
Appendix B:	TL1 Style Guide	Appendix B-1
Appendix C:	TL1 Message Verbs	Appendix C-1
Appendix D:	TL1 Error Codes	Appendix D-1
References		References-1
Glossary		Glossary-1

---

## List of Figures

Figure 1-1. TL1 Message Taxonomy/Classification .....	1-2
---	-----

## List of Tables

Table 2-1.	Syntax Definitions .....	2-2
Table 3-1.	Delayed Activation Truth Table .....	3-9
Table A-1.	Legal ASCII Character Set .....	Appendix A-2
Table C-1.	Command Verbs .....	Appendix C-1
Table D-1.	General TL1 Error Codes .....	Appendix D-1