

## CONTENTS

<u>Section</u>	<u>Page</u>
<b>1 INTRODUCTION</b> .....	<b>1-1</b>
1.1 PURPOSE AND SCOPE .....	1-1
1.2 APPLICABILITY .....	1-1
1.3 RATIONALE .....	1-1
1.4 DOCUMENT STRUCTURE.....	1-2
1.5 DEFINITIONS .....	1-2
1.5.1 TERMS .....	1-2
1.5.2 NOMENCLATURE.....	1-2
1.5.3 CONVENTIONS .....	1-3
1.6 REFERENCES.....	1-5
<b>2 OVERVIEW</b> .....	<b>2-1</b>
2.1 DESIGN AIMS .....	2-1
2.2 STRUCTURE OF AN EAST DESCRIPTION.....	2-1
2.3 LANGUAGE SUMMARY .....	2-2
<b>3 DEFINITION OF THE EAST LANGUAGE</b> .....	<b>3-1</b>
3.1 LEXICAL ELEMENTS .....	3-1
3.1.1 SEPARATORS AND DELIMITERS .....	3-1
3.1.2 COMMENTS .....	3-1
3.1.3 IDENTIFIERS.....	3-2
3.1.4 NUMERIC LITERALS.....	3-2
3.2 LOGICAL DESCRIPTION.....	3-7
3.2.1 TYPE DECLARATIONS .....	3-8
3.2.2 SUBTYPE DECLARATIONS .....	3-23
3.2.3 OBJECT DECLARATIONS.....	3-26
3.2.4 REPRESENTATION CLAUSES .....	3-30
3.3 PHYSICAL DESCRIPTION .....	3-41
3.3.1 STORING ARRAYS .....	3-42
3.3.2 STORING OCTETS/BITS.....	3-42
3.3.3 REPRESENTATION OF SCALAR TYPES.....	3-44

3.3.4	RELATIONSHIP BETWEEN THE REPRESENTATION OF SCALAR TYPES AND LOGICAL TYPES .....	3-55
3.3.5	TEMPLATE OF A PHYSICAL DESCRIPTION PART .....	3-57
<b>4</b>	<b>RESERVED KEYWORDS .....</b>	<b>4-1</b>
<b>5</b>	<b>CONFORMANCE .....</b>	<b>5-1</b>
<b>ANNEX A</b>	<b>ACRONYMS AND GLOSSARY .....</b>	<b>A-1</b>
<b>ANNEX B</b>	<b>CHARACTER DEFINITION .....</b>	<b>B-1</b>
<b>ANNEX C</b>	<b>EAST FORMAL SYNTAX SPECIFICATION .....</b>	<b>C-1</b>
<b>ANNEX D</b>	<b>MAIN DIFFERENCES BETWEEN ADA AND EAST .....</b>	<b>D-1</b>
<b>ANNEX E</b>	<b>INFORMATIVE REFERENCES .....</b>	<b>E-1</b>
<b>INDEX</b>	<b>.....</b>	<b>I-1</b>

Figure

1-1	Example of Syntax Diagram .....	1-3
3-1	Identifier Definition Diagram.....	3-2
3-2	Decimal Literal Definition Diagram .....	3-3
3-3	Integer Decimal Literal Definition Diagram .....	3-3
3-4	Real Decimal Literal Definition Diagram .....	3-3
3-5	Integer Definition Diagram .....	3-3
3-6	Exponent Definition Diagram .....	3-4
3-7	Based Literal Definition Diagram .....	3-4
3-8	Integer Based Literal Definition Diagram .....	3-5
3-9	Real Based Literal Definition Diagram.....	3-5
3-10	Based Integer Definition Diagram .....	3-5
3-11	Integer Literal Definition Diagram.....	3-6
3-12	Real Literal Definition Diagram .....	3-6
3-13	Logical Part Structure.....	3-7
3-14	Enumeration Type Specification Diagram .....	3-8
3-15	Enumeration Literal Definition Diagram .....	3-9
3-16	Integer Type Specification Diagram .....	3-9
3-17	Real Type Specification Diagram .....	3-10
3-18	Array Type Specification Diagram .....	3-12
3-19	Index Specification Diagram.....	3-12
3-20	Record Type Specification Diagram .....	3-14
3-21	Component Declaration Diagram.....	3-14
3-22	Index Constraint Diagram .....	3-15

## CONTENTS (continued)

<u>Figure</u>	<u>Page</u>
3-23 Discriminant Specification Diagram.....	3-16
3-24 Variant Part Specification Diagram .....	3-16
3-25 Discriminants in a Packet Format .....	3-19
3-26 Type Summary .....	3-22
3-27 Subtype Declaration Diagram .....	3-23
3-28 Enumeration Constraint Diagram .....	3-23
3-29 Integer Constraint Diagram.....	3-24
3-30 Real Constraint Diagram.....	3-25
3-31 Variable Declaration Diagram .....	3-26
3-32 Constant Declaration Diagram.....	3-26
3-33 Length Clause Specification Diagram.....	3-30
3-34 Enumeration Clause Specification Diagram .....	3-32
3-35 Component Representation Clause Specification Diagram .....	3-33
3-36 Record Representation Clause Specification Diagram .....	3-33
3-37 First Tree Structure .....	3-35
3-38 Second Tree Structure .....	3-36
3-39 Third Tree Structure.....	3-37
3-40 Fourth Tree Structure .....	3-38
3-41 Distance Specification Diagram.....	3-40
3-42 Record Value Specification Diagram.....	3-48
3-43 Array Value Specification Diagram .....	3-48
3-44 ASCII Encoded Decimal Integer Format .....	3-53
3-45 ASCII Encoded Decimal Real Format .....	3-54

### Example

1-1 Example of BNF .....	1-4
3-1 Decimal Literals .....	3-4
3-2 Based Literals.....	3-6
3-3 Enumeration Type Declarations.....	3-9
3-4 Integer Type Declarations .....	3-10
3-5 Real Type Declarations .....	3-10
3-6 Constrained Array Type Definitions .....	3-13
3-7 Unconstrained Array Type Definitions .....	3-13
3-8 Record Type Definitions .....	3-15
3-9 Record Type Definition with Discriminant.....	3-17
3-10 Record Type Definition with Discriminant.....	3-17
3-11 Logical Description of the Packet Format.....	3-21
3-12 Character Declarations .....	3-24
3-13 Subtype Declarations.....	3-25

## CONTENTS (continued)

<u>Example</u>	<u>Page</u>
3-14 Variable Declaration .....	3-26
3-15 Constant Declaration .....	3-27
3-16 Number Declarations .....	3-27
3-17 Marker Declaration .....	3-28
3-18 EOF Marker Declaration .....	3-29
3-19 Length Clause Declarations .....	3-30
3-20 Explicit Description of Unused Space .....	3-31
3-21 Enumeration Clause Declarations .....	3-32
3-22 Type Definitions .....	3-34
3-23 Complete Record Representation Clause Declaration .....	3-35
3-24 Incomplete Record Representation Clause Declaration .....	3-36
3-25 Complete Record Representation Clause Declaration .....	3-37
3-26 Complete Record Representation Clause Declaration .....	3-39
3-27 Record Representation Clause Using WORD_32_BITS .....	3-40
3-28 Actual Array Storage Method .....	3-42
3-29 Octet Storage Possibilities .....	3-43
3-30 Actual Bit Order .....	3-44
3-31 Bit Ordering .....	3-46
3-32 Bit Ordering for the Above 16-Bit Signed Integer .....	3-49
3-33 Actual Binary Representation of the Above 16-Bit Signed Integer .....	3-49
3-34 Bit Ordering for the Above 16-Bit Unsigned Integer .....	3-49
3-35 Actual Binary Representation of the Above 16-Bit Unsigned Integer .....	3-50
3-36 Bit Ordering for the Above 32-Bit Real .....	3-50
3-37 Actual Binary Representation of a 32-Bit Real .....	3-51
3-38 ASCII Enumeration Type Logical Declaration .....	3-53
3-39 ASCII Enumeration Type Physical Description .....	3-53
3-40 ASCII Integer Type Logical Declaration .....	3-55
3-41 ASCII Integer Type Physical Description .....	3-55
3-42 ASCII Real Type Logical Declaration .....	3-55
3-43 ASCII Real Type Physical Description .....	3-55