

Generic Requirements for
Interim Defined Central Office Interface (IDCI)

CONTENTS

1. Summary/Overview	1
1.1 Purpose	1
1.2 Genesis of IDCI	1
1.3 Scope	1
1.4 Changes in this Issue	1
1.5 Definitions and Labeling of Criteria	2
2. SCC Overview	2
3. IDCI General Criteria	3
3.1 Channels	3
3.2 Reliability	3
4. IDCI Maintenance Channel	4
4.1 General Description	4
4.2 Interface Components	4
4.3 Communications Protocol	4
4.3.1 Physical Interconnection	4
4.3.2 Standard Asynchronous Transport Configuration	5
4.3.3 Channel Control	5
4.3.3.1 Channel Control Diagrams	5
4.3.3.2 Input Modes and Segmentation	5
4.3.3.3 Major Flows	6
4.3.3.4 Input Substates	7
4.3.3.5 Channel Control Criteria	7
4.4 Language	7
4.4.1 Language Description	7
4.4.2 Character Sets	8
4.4.3 Message Types Overview	8
4.4.3.1 Input Transactions	8
4.4.3.2 Output Messages	8
4.4.3.3 Exceptions	8
4.4.4 Input Transactions Details	8
4.4.5 Additional Input Message Criteria	9
4.4.5.1 Line Length	9
4.4.5.2 Input Editing Facilities	9
4.4.5.3 Input Character Escape Facility	9
4.4.5.4 Timeout and Restore Responses	9
4.4.6 Output Message Details	9
4.4.6.1 General	9
4.4.6.2 Formatter	10
4.4.6.3 Header	10
4.4.6.4 Primary Line	10
4.4.6.5 Intermediate Lines	11
4.4.7 Additional Output Message Criteria	11
4.4.7.1 Message Lengths	11
4.4.7.2 Output Character Escape Facility	12
4.4.8 Exceptions	12
4.4.9 Full Example	12

4.5 Application Message Set	13
5. Emergency Action Interface/Control and Display Channel	13
5.1 General Description	13
5.2 Physical Interconnection	14
6. Critical Indicator Channel	14
6.1 General Description	14
6.2 Physical Interconnection	14
7. X.25 IDCI	17
7.1 Purpose	17
7.2 Motivation	17
7.3 Interconnection Architectures	17
7.4 Example of IDCI X.25 Transport	18
7.4.1 General Description	18
7.4.2 Background on PADs	19
7.4.3 PAD Parameter Values	19
7.4.3.1 PAD Recall	19
7.4.3.2 Echoing	19
7.4.3.3 Data Forwarding	19
7.4.3.4 XON/XOFF Control	19
7.4.3.5 Service Signals	20
7.4.3.6 Interrupts/Output Message Segmentation	20
7.4.3.7 Format Enhancements	20
7.4.3.8 Baud Rate	20
7.4.3.9 Input Line Editing	20
7.4.3.10 Parity	20
7.4.4 Channel Control	20
7.4.4.1 IDLE to NORMAL PROMPT	20
7.4.4.2 NORMAL INPUT to OUTPUT	20
7.4.4.3 INPUT CHARACTER to TIMEOUT RESPONSE	21
7.4.4.4 Anywhere to INTERRUPT RESPONSE	21
8. Migration of IDCI to a Generic Interface	21
8.1 Motivation	21
8.2 Interface Components	21
8.3 TIP	22
8.4 TIMS	22
8.5 TIL	22
8.5.1 Notation	23
8.5.2 TIL Input Transactions	23
8.5.2.1 Lines Structure of Input Messages	23
8.5.2.2 Input Message Line and Message Terminators	23
8.5.2.3 NE Line and Message Responses	23
8.5.2.4 Block Structure	24
8.5.2.5 Parameter Value Separators	24
8.5.2.6 Parameter Value Format	24
8.5.2.7 Alphabetic Character Case Sensitivity	25
8.5.3 Exceptions	25
8.5.4 Output Messages	25
8.5.4.1 General Output Format Correspondence	25
8.5.4.2 Formatters	25
8.5.4.3 Headers	25
8.5.4.4 Primary Output Message Line - Command Response	26
8.5.4.5 Primary Output Message Line - Automatic/Alarm	26

8.5.4.6 Intermediate Lines/Text Blocks	26
8.5.4.7 Output Message Termination	27
8.5.5 Example	27
8.5.5.1 Command	27
8.5.5.2 Manual Response	27
8.5.5.3 Alarm Response	28
Acronym/Abbreviation Glossary	30
Attachment 1 - NE/OS Channel Control State Diagram	32
Attachment 2 - Character Usages	34
Attachment 3 - BNF Description of IDCI Language	36
Attachment 4 - PAD Parameters	42
Attachment 5 - List of IDCI Criteria	43
REFERENCES	47

LIST OF FIGURES

Figure 3-1. Standard Asynchronous Transport Configuration	4
Figure 7-1. Example X.25 Transport Configuration	18
Figure A1-1. Major Flows	32
Figure A1-2. Input Substates	33

LIST OF TABLES

Table 4-1. RS-232-C Interface Leads	5
Table 6-1. 68-Byte Message Format	15
Table 6-2. Message Type Codes	17
Table A2-1. Input Characters	34
Table A2-2. Output Characters	35
Table A3-1. Input Transactions	36
Table A3-2. Output Messages	38
Table A3-3. Exceptions	40
Table A3-4. Terminal Symbols	41
Table A4-1. X.25 Transport Example: X.3 PAD Values	42