

CONTENTS

1. Introduction	1
1.1 Reason for Reissue	1
2. DDS Background	2
2.1 Service Offerings	2
2.2 Channel Structure	2
2.2.1 DSO Signal Formats	2
2.2.2 Control Bit and Network Control Codes	3
2.2.3 Error Correction	3
2.2.4 Secondary Channel Capability	3
3. Application of the Feature	8
3.1 Hub Office Application	8
4. Functions	10
4.1 Termination Functions	10
4.1.1 DS1 Interface-Framing Format	10
4.1.2 Code Substitutions	10
4.1.3 DS1 Facility Maintenance Monitoring	10
4.2 Cross-Connect Functions	10
4.2.1 Transmission	10
4.2.2 Data Rates	10
4.2.3 Signaling	10
4.3 Multiplex Functions	10
4.3.1 Sub-Rate Data (DS0A to DS0B)	10
4.3.2 Rate Adaption	10
4.3.3 Multiplex Processing	11
4.4 Multipoint Functions	11
4.4.1 Multipoint Processing	11
4.4.2 Circuit	11
4.5 Dataport Functions	11
4.5.1 DSO Signal Format	11
4.5.2 DSO Zero Code Suppression	11
4.5.3 Circuit	11
4.6 Testing Functions	11
4.6.1 Channel Access	11
4.7 DSO Maintenance Monitoring Functions	11
4.7.1 Trouble Alarms/Responses	11
4.7.2 Performance Monitoring	12
5. Specifications	13
5.1 Termination Functions	13
5.1.1 DS1 Signal Formats	13
5.1.2 Code Substitutions	14
5.1.3 DS1 Facility Maintenance Monitoring	14
5.2 Cross-Connect Functions	14
5.2.1 Transmission	14
5.2.2 Data Rates	16
5.2.3 Signaling	16
5.3 Multiplex Functions	16
5.3.1 Sub-Rate Data	16
5.3.2 Rate Adaption	16
5.3.3 Multiplex Processing	16
5.4 Multipoint Functions	16

PRELIMINARY

5.4.1 Multipoint Processing	16
5.4.2 Circuit Maintenance	17
5.5 Dataport Functions	17
5.5.1 DSO Signal Format	17
5.5.2 DSO Zero Code Suppression	17
5.5.3 Circuit Maintenance	17
5.6 Testing Function	17
5.6.1 Channel Access	17
5.7 DSO Maintenance Monitoring Functions	18
5.7.1 Trouble Alarms/Responses	18
5.7.2 Performance Monitoring	18
6. Functional Commands	26
7. Glossary	27
7.1 DDS Specific Components	27
8. References	29

PRELIMINARY

LIST OF FIGURES

Figure 2-1. DSOA Signal Formats	4
Figure 2-2. DSOB Signal Formats	5
Figure 3-1. Typical DDS Hub Office	9
Figure 5-1. T1DM Format	19
Figure 5-2. Time Slot 24 Framing	20
Figure 5-3. Sub-Rate Cross-Connection	21
Figure 5-4. Multipoint Cross-Connection	22
Figure 5-5. Maintenance Configurations	23
Figure 5-6. Test Access Arrangements	24

PRELIMINARY

LIST OF TABLES

TABLE 2-1. Sub-Rate Framing Patterns	6
TABLE 2-2. DDS Network Control and Maintenance Codes	7
TABLE 5-1. DS1 or DS0 Receiving Facility Trouble Responses (Data Mode)	25

PRELIMINARY