

Transponder for Digital Transport
Terminal Equipment
Generic Requirements

CONTENTS

1.0 INTRODUCTION	1-1
1.1 Purpose and Scope of Document	1-1
1.2 Organization	1-1
2.0 GENERAL INFORMATION	2-1
2.1 General Product Description	2-1
3.0 SPECIFIC REQUIREMENTS	3-1
3.1 Loop Compatibility	3-1
3.2 Line Terminations	3-1
3.2.1 Two-Wire Operation	3-1
3.2.2 Four-Wire Operation	3-1
3.3 Transponder AC Properties	3-2
3.3.1 Immunity to 60 Hz Induction	3-2
3.3.2 Longitudinal Balance	3-2
3.3.3 Tone Detection Capability	3-2
3.3.4 Tone Generation	3-3
3.3.5 Loopback Mode	3-3
3.4 Underwriters Laboratories Listing	3-3
3.5 Power Contact	3-4
3.5.1 First Level Power Contact Tests	3-4
3.6 Lightning Surges	3-6
3.6.1 Lightning Surge Test Connections	3-6
3.6.6 AC Power Connection - Lightning Surge Tests	3-7
3.7 Electrical Safety Criteria	3-8
3.8 Electromagnetic Compatibility	3-8
3.9 Front Panel Controls and Jacks	3-8
3.10 Front Panel Indicators	3-9
3.11 Environment	3-9
3.11.2 Operating Environment	3-9
3.12 Power	3-10
3.13 Physical Characteristics	3-10
3.14 Internal Timing	3-10
3.15 Detailed Description of Operation	3-11
4.0 QUALITY AND RELIABILITY	4-1
4.1 Component Device Reliability	4-1
4.2 Physical Design	4-1

4.3 Software Quality	4-1
4.4 Manufacturing Quality Program.....	4-1
4.5 Customer Verification of Quality and Reliability.....	4-2
5.0 REFERENCES.....	5-1
6.0 GLOSSARY.....	6-1

LIST OF FIGURES

Figure 1. 60 HZ Induction Test Circuit 2-Wire Operation	6-4
Figure 2. 60 HZ Induction Test Circuit 4-Wire Operation	6-5
Figure 3. Tone Output As A Function Of Frequency	6-6
Figure 4. AC Power Contact Test Metallic Voltages.....	6-7
Figure 5. AC Power Contact Test Longitudinal Voltages	6-7

LIST OF TABLES

Table 1. Transponder.....	6-2
Table 2. Command and Acknowledgement Instruction Code.....	6-3