

TABLE OF CONTENTS

SECTION	PAGE
CHAPTER 1 INTRODUCTION	
1.1 Manual Overview	1-1
1.2 Assembly Designation Numbers	1-1
1.3 Safety	1-1
1.4 Maintenance	1-2
1.5 Material Return Procedure	1-2
1.6 Limited One-Year Warranty for Axcera Products	1-3
CHAPTER 2 SYSTEM DESCRIPTION & REMOTE CONTROL CONNECTIONS	
2.1 System Overview	2-1
2.1.1 Modulator Module (not used in a translator system)	2-1
2.1.2 IF Processor Module.....	2-3
2.1.3 LO/Upconverter Module.....	2-5
2.1.4 Control & Monitoring/Power Supply Module.....	2-7
2.1.5 Power Amplifier Module, 10-100W transmitter.....	2-8
2.1.5.1 Driver Amplifier Module, used with high power transmitters	2-9
2.1.6 RF Output Assemblies	2-11
2.2 Control and Status.....	2-11
2.2.1 Front Panel LCD Display Screen.....	2-11
2.3 System Operation.....	2-12
2.3.1 Principles of Operation	2-12
2.4 Customer Remote Connections.....	2-14
CHAPTER 3 SITE CONSIDERATIONS, INSTALLATION AND SETUP PROCEDURES	
3.1 Site Considerations	3-1
3.2 Unpacking the Chassis w/Modules, bandpass and trap filters.....	3-4
3.3 Installing the Chassis w/Modules and filters	3-4
3.4 AC Input	3-5
3.5 Setup and Operation	3-5
3.5.1 Input Connections	3-5
3.5.2 Front Panel Screens for the Exciter/Amplifier Chassis Assembly	3-7
3.5.3 Initial Turn On	3-14
CHAPTER 4 CIRCUIT DESCRIPTIONS	
4.1 Modulator Module (not used in a translator system).....	4-1
4.1.1 Analog Modulator Board	4-1
4.2 IF Processor Module.....	4-6
4.2.1 IF Processor Board	4-6
4.3 LO/Upconverter Module.....	4-11
4.3.1 UHF Generator Board	4-12
4.3.2 UHF Filters.....	4-13
4.3.3 LO/Upconverter Board	4-13
4.4 Control Monitoring/Power Supply Module.....	4-17
4.4.1 Power Protection Board	4-17
4.4.2 Control Board	4-18
4.4.3 Switch Board	4-20
4.4.4 Switching Power Supply Assembly	4-20

TABLE OF CONTENTS - (Continued)

SECTION	PAGE
4.5 Power Amplifier Module Assembly used in 10-100 Watt transmitters	4-21
4.5.1 1-Watt Amplifier Module Assembly.....	4-21
4.5.2 1-Watt UHF Amplifier Board	4-21
4.5.3 40-Watt UHF Amplifier Assembly	4-21
4.5.4 UHF Module Assembly, RF Module Pallet.....	4-22
4.5.5 Coupler Board Assembly.....	4-23
4.5.6 Amplifier Control Board	4-23
4.5.7 Band-pass and Trap Filter.....	4-25
4.6 OR Driver Amplifier Module Assembly used in high power transmitters	4-25
4.6.1 1-Watt Amplifier Module Assembly.....	4-25
4.6.2 1-Watt UHF Amplifier Board	4-26
4.6.3 40-Watt UHF Amplifier Assembly	4-26
4.6.4 Coupler Board Assembly.....	4-26
4.6.5 Amplifier Control Board	4-27
 CHAPTER 5 DETAILED ALIGNMENT PROCEDURES	
5.1 Module Replacement.....	5-1
5.1.1 Initial Test Setup.....	5-1
5.2 LU Series Exciter/Amplifier Chassis Assembly	5-2
5.2.1 Linearity Correction Adjustment	5-3
5.2.2 Frequency Response Delay Equalization Adjustment	5-4
5.2.3 Calibration of Output Power and Reflected Power.....	5-4
5.3 Alignment Procedure for the Bandpass Filter Assembly	5-5

APPENDICES

APPENDIX A LX SERIES SPECIFICATIONS

APPENDIX B DRAWINGS AND PARTS LISTS

LIST OF FIGURES		
FIGURE		PAGE
3-1	1 kW Minimum Ventilation Configuration	3-4
3-2	Front and Rear View Reconnection Drawing	3-5
3-3	Rear View of LX Series Digital Transmitter	3-6
4-1	40-Watt UHF Amplifier Module	4-22
4-2	UHF Amplifier Module, 250 Watts	4-23
4-3	40-Watt UHF Amplifier Module	4-27
5-1	Typical Red Field Spectrum	5-4

LIST OF TABLES

TABLE		PAGE
2-1	10-100W Analog LX Series Assemblies and Tray	2-1
2-2	Modulator Front Panel Switch	2-2
2-3	Modulator Front Panel Status Indicators	2-2
2-4	Modulator Front Panel Control Adjustments.....	2-2
2-5	Modulator Front Panel Sample.....	2-3
2-6	IF Processor Front Panel Switch.....	2-4
2-7	IF Processor Front Panel Status Indicators	2-4
2-8	IF Processor Front Panel Control Adjustments	2-4
2-9	IF Processor Front Panel Sample	2-5
2-10	LO/Upconverter Front Panel Switch.....	2-6
2-11	LO/Upconverter Front Panel Status Indicators	2-6
2-12	LO/Upconverter Front Panel Control Adjustments	2-6
2-13	LO/Upconverter Front Panel Samples	2-7
2-14	Controller/Power Supply Front Panel Display	2-7
2-15	Controller/Power Supply Front Panel Status Indicators	2-7
2-16	Controller/Power Supply Front Panel Control Adjustments.....	2-7
2-17	Power Amplifier Front Panel Status Indicators	2-9
2-18	Power Amplifier Front Panel Control Adjustments.....	2-9
2-19	Power Amplifier Front Panel Sample.....	2-9
2-20	Driver Amplifier Front Panel Status Indicators	2-11
2-21	Driver Amplifier Front Panel Control Adjustments.....	2-11
2-22	Driver Amplifier Front Panel Sample.....	2-11
2-23	UHF Television Frequencies.....	2-13
2-24	LX Series Chassis Customer Remote Connections	2-14
3-1	Rear Chassis Connections for LX Series Analog Transmitters	3-6
3-2	Menu 01 Splash Screen #1	3-7
3-3	Menu 02 Splash Screen #2	3-7
3-4	Menu 10 Main Screen.....	3-7
3-5	Menu 11 Error List Screen	3-8
3-6	Menu 12 Transmitter Device Data Access Screen.....	3-8
3-7	Menu 13 Transmitter Configuration Access Screen	3-8
3-8	Menu 20 Error List Display Screen	3-8
3-9	Menu 30 Transmitter Device Details Screen	3-9
3-10	Menu 30-1 System Details Screens.....	3-9
3-11	Transmitter Device Parameters Detail Screens	3-9
3-12	Menu 40 Transmitter Set Up: Power Raise/Lower Screen	3-10
3-13	Menu 40-1 Transmitter Set Up: Model Select Screen.....	3-10
3-14	Menu 40-2 Transmitter Set Up: Frequency Select Screen	3-11
3-15	Menu 40-3 Transmitter Set Up: Frequency Table Select Screen	3-11
3-16	Menu 40-4 Transmitter Set Up: IF Frequency Screen	3-11
3-17	Menu 40-5 Transmitter Set Up: Custom Frequency Select Screen	3-11
3-18	Menu 40-6 Transmitter Set Up: Xmtr. Set Up Serial Address Screen ..	3-12
3-19	Menu 40-7 Transmitter Set Up: Station ID Screen	3-12
3-20	Menu 40-8 Transmitter Set Up: System Visual Power Cal. Screen	3-12
3-21	Menu 40-9 Transmitter Set Up: System Aural Power Cal. Screen	3-12
3-22	Menu 40-10 Transmitter Set Up: System Rfltd. Power Cal. Screen	3-13
3-23	Menu 40-11 Transmitter Set Up: Fwrd Pwr Fault Threshold Screen	3-13
3-24	Menu 40-12 Transmitter Set Up: Refl Power Fault Threshold Screen ..	3-13
3-25	Menu 40-13 Transmitter Set Up: Remote Commands Control Screen ..	3-13