

TABLE OF CONTENTS**CHAPTER 1 ID LABEL/LOCATION INFO**

1.1 Rear Panel FCC Label	1-1
1.2 Rear Panel Manufacturer's Label	1-1
1.3 Front view, complete Axcera-LU500AL Translator w/FCC Label	1-2
1.4 Rear view, Axcera-LU500AL Translator	1-3
1.5 Rear view, Axcera-LU500AL Translator w/Manufacturer's Label	1-4

CHAPTER 2 EXTERNAL PHOTOS

2.1 Front view, Axcera-LU500AL Translator	2-1
2.2 Rear view, Axcera-LU500AL Translator	2-2

CHAPTER 3 SCHEMATICS**CHAPTER 4 TEST REPORT**

4.1 RF Power Measurements	4-1
4.2 Modulation Characteristics	4-2
4.2.1 Video Modulation	4-2
4.2.2 Video Envelope Delay	4-3
4.2.3 Video Noise	4-3
4.2.4 Video Frequency Response	4-3
4.2.5 RF Sideband Response	4-4
4.2.6 Audio Modulation	4-6
4.2.7 AM and FM Noise	4-7
4.3 Occupied Bandwidth	4-7
4.4 Conducted Spurious Emissions	4-9
4.5 Radiated Emissions	4-10
4.6 Frequency Stability	4-12
4.7 Automatic Level Control Test	4-15
4.8 Test Equipment	4-16

CHAPTER 5 USER'S MANUAL**CHAPTER 6 INTERNAL PHOTOS**

6.1 Front view, Chassis Assembly (Exciter)	6-1
6.2 Side view, IF Processor Assembly (Exciter)	6-2
6.3 Side view, L.O. Upconverter Assembly (Exciter)	6-2
6.4 Side view, Control / Power Supply Assembly (Exciter)	6-3
6.5 Side view, Power Amplifier Assembly (Exciter)	6-3
6.6 Front view, Chassis Assembly (Power Amplifier Assembly)	6-4
6.7 Side view, Power Amplifier Assembly (Power Amplifier Assembly)	6-4
6.8 Side view, Power Supply Assembly (Power Amplifier Assembly)	6-5
6.9 Side view, 2-Way Combiner Assembly (Power Amplifier Assembly)	6-5
6.10 Top view, Receiver Tray	6-6

CHAPTER 7 PARTS LIST/TUNE-UP INFO

7.1 Parts List	7-1
7.2 Tune-up Information	7-1
7.2.1 RF Input Signal Path (Receiver).....	7-2
7.2.2 Local Oscillator Signal Path (Receiver).....	7-2
7.2.3 Combined IF Signal Path (Receiver).....	7-2
7.2.4 Frequency Correction Option (Receiver)	7-3
7.2.5 Voltages for Operation of the Tray (Receiver).....	7-3
7.2.6 +12VDC for External Preamplifier (Receiver).....	7-4
7.2.6.1 UHF/VHF Filter, DC Multiplexed	7-4
7.2.6.2 Dual Stage Amplifier Board	7-4
7.2.6.3 UHF/VHF High-band/VHF Low-band Filter	7-4
7.2.6.4 Channel Oscillator Assembly, Dual Oven.....	7-5
7.2.6.5 x8/x4/x2 Multiplier Board	7-5
7.2.6.6 UHF/VHF High-band/VHF Low-band Filter	7-6
7.2.6.7 Downconverter/Amplifier Board.....	7-6
7.2.6.8 IF Filter/ALC Board	7-6
7.2.6.9 SAW Filter/Amplifier Board	7-7
7.2.6.10 $\pm$ 12V Power Supply Board	7-7
7.2.7 Exciter/Amplifier Chassis Assembly	7-7
7.2.8 Linearity Correction Adjustment	7-8
7.2.9 Frequency Response Delay Equalization Adjustment	7-8
7.2.10 Calibration of the Translator Forward Output Power Level	7-8
7.2.11 Calibration of the Translator Reflected Output Level	7-9
7.2.12 Band-pass Filter Assembly	7-9
7.2.13 UHF Trap Filter Assembly	7-10
7.2.14 The Effects of Tuning the Output Trap Filter	7-11

CHAPTER 8 OPERATIONAL DESCRIPTION - MODEL Axcera-LU500AL

8.1 General Description	8-1
8.2 Technical Specifications.....	8-1
8.3 Performance Specifications	8-1
8.4 System Overview	8-2
8.4.1 Receiver Tray	8-3
8.4.2 Exciter Tray (Driver)/External Amplifier Tray	8-4
8.4.2.1 IF Processor Module (Driver).....	8-4
8.4.2.2 L.O. /Upconverter Module (Driver)	8-5
8.4.2.3 Control & Monitoring / Power Supply Module (Driver)	8-6
8.4.2.4 Power Amplifier Module (Driver)	8-7
8.4.2.5 Power Amplifier Module (External Power Amplifier)	8-8
8.4.2.6 Power Supply Module (External Power Amplifier)	8-9
8.5 Control and Status	8-9
8.5.1 Receiver Tray	8-9
8.5.2 Exciter Tray.....	8-8
8.5.3 External Power Amplifier Tray	8-12
8.6 Input and Remote Connections	8-13
8.6.1 Remote Interface Connections (Receiver Tray).....	8-13
8.6.2 Remote Interface Connections (Exciter Tray)	8-13
8.6.3 Remote Interface Connections (External Power Amplifier Tray)	8-13
8.7 AC Input	8-14
8.7.1 Receiver Tray	8-14

8.7.2 Exciter Tray	8-14
8.7.3 External Power Amplifier Tray	8-14
8.8 System Operation	8-14
8.8.1 Principles of Operation	8-15

CHAPTER 9 CERTIFICATION OF TEST DATA

TRAK SYSTEMS MODEL 8821 DATASHEET	SHEET 1
TRAK SYSTEMS MODEL 8821 DATASHEET	SHEET 2