

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, Axcera-LU3000ATD Transmitter	1-2
1.4 Rear view, Axcera-LU3000ATD Transmitter w/FCC and Manuf. Label	1-3

CHAPTER 2 EXTERNAL PHOTOS

2.1 Front view, Axcera-LU3000ATD Transmitter	2-1
2.2 Rear view, Axcera-LU3000ATD Transmitter	2-2
2.3 Side view, Band-pass Filter	2-3
2.4 Front view, External Axciter Digital Modulator	2-4
2.5 Rear view, External Axciter Digital Modulator	2-4
2.6 Top view, External Axciter Digital Modulator	2-4

CHAPTER 3 SCHEMATICS**CHAPTER 4A TEST REPORT- LU3000ATD WITH INTERNAL DM8 MODULATOR**

4A.1 RF Power Measurements	4A-1
4A.2 Modulation Characteristics	4A-2
4A.3 Error Vector Magnitude (EVM) and Signal to Noise Ratio (SNR)	4A-3
4A.4 Frequency Response and Group Delay	4A-4
4A.5 Peak to Average	4A-4
4A.6 Phase Noise	4A-5
4A.7 Occupied Bandwidth	4A-6
4A.8 Conducted Spurious Emissions	4A-7
4A.9 Radiated Emissions	4A-10
4A.10 Frequency Stability	4A-12
4A.10.1 Pilot Frequency Measurement	4A-14
4A.11 Test Equipment	4A-15

CHAPTER 4B TEST REPORT- LU3000ATD WITH EXTERNAL AXCITER MODULATOR

4B.1 RF Power Measurements	4B-1
4B.2 Modulation Characteristics	4B-2
4B.3 Error Vector Magnitude (EVM) and Signal to Noise Ratio (SNR)	4B-3
4B.4 Frequency Response and Group Delay	4B-4
4B.5 Peak to Average	4B-4
4B.6 Phase Noise	4B-5
4B.7 Occupied Bandwidth	4B-6
4B.8 Conducted Spurious Emissions	4B-7
4B.9 Radiated Emissions	4B-10
4B.10 Frequency Stability	4B-12
4B.10.1 Pilot Frequency Measurement	4B-14
4B.11 Test Equipment	4B-15

CHAPTER 5 USER'S MANUAL

CHAPTER 6 INTERNAL PHOTOS

6.1 Front view, Chassis Assembly (Exciter)	6-1
6.2 Side view, DM8 Digital Modulator Assembly (Exciter)	6-1
6.3 Side view, IF Processor Assembly – Used with DM8 (Exciter)	6-2
6.4 Side view, VHF/UHF Upconverter Assembly – Used with DM8 (Exciter)	6-2
6.5 Side view, Axciter Upconverter Assy – Used w/ Axciter Mod. (Exciter)	6-3
6.6 Side view, Axciter Downconverter Assy – Used w/ Axciter Mod. (Exciter) ...	6-3
6.7 Side view, Control / Power Supply Assembly (Exciter)	6-4
6.8 Side view, Power Amplifier Assembly (Exciter)	6-4
6.9 Front view, Chassis Assembly (Power Amplifier Assembly)	6-5
6.10 Side view, Power Amplifier Assembly (Power Amplifier Assembly)	6-5
6.11 Side view, Power Supply Assembly (Power Amplifier Assembly)	6-6
6.12 Side view, 4-Way Combiner Assembly (Power Amplifier Assembly)	6-6
6.13 Top view, External Axciter Digital Modulator	6-7

CHAPTER 7 PARTS LIST/TUNE-UP INFO

7.1 Parts List	7-1
7.2 Tune-up Information	7-1
7.2.1 Exciter/Amplifier Chassis Assembly	7-1
7.2.2 DM8 - Digital Modulator or Axciter Digital modulator	7-1
7.2.3 IF Processor Module Assembly (Used with DM8 Only)	7-2
7.2.4 Linearity Correction Adjustment	7-2
7.2.5 Frequency Response Delay Equalization Adjustment	7-3
7.2.6 Calibration of the Transmitter Forward Output Power Level	7-4
7.2.7 Calibration of the Transmitter Reflected Output Level	7-4
7.2.8 Bandpass Filter Assembly	7-4

CHAPTER 8 OPERATIONAL DESCRIPTION - MODEL Axcera-LU3000ATD

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 Exciter Tray / External Amplifier Tray	8-2
8.4.1.1 DM8 - Digital Modulator Module (Exciter)	8-2
8.4.1.2 Axciter – External Digital Modulator (Exciter)	8-2
8.4.1.3 IF Processor Module – Used with DM8 (Exciter)	8-2
8.4.1.4 VHF/UHF Upconverter Module – Used with DM8 (Exciter) ..	8-3
8.4.1.5 Control & Monitoring / Power Supply Module (Exciter)	8-4
8.4.1.6 Power Amplifier Module (Exciter)	8-4
8.4.1.7 Power Amplifier Module (External Power Amplifier)	8-5
8.4.1.8 Power Supply Module (External Power Amplifier)	8-6
8.4.1.9 Axciter Upconverter – Used with Axciter Modulator	8-7
8.4.1.10 Axciter Downconverter – Used with Axciter Modulator	8-7
8.5 Control and Status	8-9
8.5.1 Exciter Tray	8-9
8.5.2 External Power Amplifier Tray	8-12
8.5.3 External Axciter Digital Modulator Tray	8-12

8.6 Input and Remote Connections	8-13
8.6.1 Remote Interface Connections (Exciter Tray)	8-13
8.6.2 Remote Interface Connections (External Power Amplifier Tray)	8-12
8.6.3 Remote Interface Connections (Axciter Modulator Tray)	8-12
8.7 AC Input	8-14
8.7.1 Exciter Tray	8-14
8.7.2 External Power Amplifier Tray	8-14
8.7.3 External Axciter Modulator Tray	8-14
8.8 System Operation	8-14
8.8.1 Principles of Operation	8-14

CHAPTER 9 CERTIFICATION OF TEST DATA

TRAK SYSTEMS MODEL 8821 DATASHEET	SHEET 1
TRAK SYSTEMS MODEL 8821 DATASHEET	SHEET 2
CRYSTEK CORP. DATASHEET	SHEET 1