

TABLE OF CONTENTS

Par. No.	Section 1 General Description	Page No.
1-1	Introduction	1-1
1-2	General Description	1-1
1-3	Functional and Physical Specifications	1-2
1-4	Equipment Changes	1-2
1-5	Ordering Information	1-2
 Section 2 Installation		
2-1	Introduction	2-1
2-2	Electrical Service Recommendations	2-1
2-3	Unpacking and Inspection	2-1
2-4	Installation Instructions	2-2
2-5	J1 SYSTEM ALARM Connector	2-5
2-6	J7 RS485 Connector	2-6
2-7	J8 MICRO-PROCESSOR INTERFACE Connector	2-7
2-8	Amplifier Module Status, Alarm, Control, and Power Connector	2-8
2-9	Amplifier Module RF Connector	2-9
 Section 3 Operating Instructions		
3-1	Introduction	3-1
3-2	Location and Function of Amplifier Module Controls and Indicators	3-1
3-3	Initial Start-Up and Operating Procedures	3-5
 Section 4 Principles of Operation		
4-1	Introduction	4-1
4-2	RF Input Signal	4-1
4-3	RF Output Load	4-1
4-4	System Functional Description	4-1
4-5	MCR20XX Series (NTL107AC) Subrack	4-2
4-6	G3X-800 Series (NTL107AA) Amplifier Module	4-3
4-6.1	Main Amplifier	4-4
4-6.2	Error Amplifier	4-4
4-6.3	Amplifier Monitoring	4-4
4-6.4	Amplifier Module Cooling	4-4
4-7	Power Distribution	4-4
4-8	Intermodulation	4-4
4-8.1	Two Tone Intermodulation	4-5
4-8.2	Multitone Intermodulation	4-5
4-9	Alarms	4-5

TABLE OF CONTENTS (Continued)

Par. <u>No.</u>	Section 5 Maintenance	Page <u>No.</u>
5-1	Introduction	5-1
5-2	Periodic Maintenance	5-1
5-3	Test Equipment Required For Test	5-1
5-4	Cleaning Air Inlets/Outlets	5-2
5-5	Performance Test	5-2
5-5.1	Amplifier System Performance Test	5-2
5-6	Field Replaceable Parts and Modules	5-6
5-6.1	G3X-800 Series (NTL107AA) Power Amplifier Module	5-6
5-6.2	Cooling Fans	5-6

Section 6 Troubleshooting

6-1	Introduction	6-1
6-2	Troubleshooting	6-1
6-3	Return for Service Procedure	6-1
6-3.1	Obtaining an RMA	6-1
6-3.2	Repackaging for Shipment	6-1

LIST OF ILLUSTRATIONS

Figure <u>No.</u>		Page <u>No.</u>
1-1	G3X-800 Series (NTL107AA) Amplifier	1-3
1-2	MCR20XX Series (NTL107AC) Subrack with Two Amplifiers	1-4
2-1	MCR20XX Series (NTL107AC) Subrack, Rear View	2-3
2-2	J1 SYSTEM ALARM Connector	2-5
2-3	J7 RS485 Connector	2-6
2-4	J8 MICRO-PROCESSOR INTERFACE Connector	2-7
2-5	DC and Logic Connector [on Rear of G3X-800 Series (NTL107AA) Amplifier Module]	2-8
2-6	Amplifier RF Connector	2-9
3-1	G3X-800 Series (NTL107AA) Amplifier Module Control and Indicators	3-1
4-1	MCR20XX Series (NTL107AC) Two Module Amplifier System	4-2
4-2	G3X-800 Series (NTL107AA) Power Amplifier Module Functional Block Diagram	4-3
5-1	Amplifier System Test Setup Diagram	5-3

LIST OF TABLES

Table No.		Page No.
1-1	Major System Components	1-2
1-2	Generation 3.1 Multicarrier Cellular Amplifier System Functional Specifications	1-5
2-1	MCR20XX Series Subrack Power, Monitor, Control, and Input/Output Connectors	2-2
2-2	J1 SYSTEM ALARM Connector Definition	2-5
2-3	J7 RS485 Connector Definition	2-6
2-4	J8 MICRO-PROCESSOR INTERFACE Connector Definition	2-7
2-5	Amplifier Module DC and Logic Connector Definition	2-8
2-6	Amplifier RF Connector Definition	2-9
3-1	Amplifier Module Status Indicators and RF Control.....	3-2
3-2	Amplifier Module Alarm Indicators.....	3-3
5-1	Periodic Maintenance	5-1
5-2	Test Equipment Required.....	5-2
5-3	Multicarrier Cellular Amplifier System Test Data Sheet.....	5-5
6-1	Troubleshooting.....	6-1