

## TABLE OF CONTENTS

### SECTION 1 - GENERAL DESCRIPTION

	Page
1.1. General . . . . .	1-1
1.2. General Description of R-F Section. . . . .	1-2
1.3. General Description of Audio Section. . . . .	1-2
1.4. General Description of Power Supplies . . . . .	1-3

### SECTION 2 - INSTALLATION

2.1. Unpacking . . . . .	2-1
2.2. Location of the Transmitter . . . . .	2-1
2.3. Replacement of Units Removed for Shipping . . . . .	2-1
2.4. Power Input Connections . . . . .	2-2
2.5. Audio Input Connections . . . . .	2-3
2.6. R-F Output Connections. . . . .	2-3
2.7. Frequency Monitor Connections . . . . .	2-3
2.8. Modulation Monitor Connections. . . . .	2-3
2.9. Audio Monitor Connections . . . . .	2-3
2.10. Inter-Unit Cabling Diagram. . . . .	2-3
2.11. Control Circuit Connections . . . . .	2-6
2.12. Arc Gaps. . . . .	2-6

### SECTION 3 - OPERATION

3.1. Filament Control. . . . .	3-1
3.2. Time Delay. . . . .	3-1
3.3. Plate Control . . . . .	3-1
3.4. Automatic Sequence Starting . . . . .	3-2
3.5. Crystal Selector Switch . . . . .	3-2
3.6. Crystal Frequency Trimmer Controls. . . . .	3-2
3.7. Multimeter Switch . . . . .	3-2
3.8. First R-F Buffer Tank Circuit Trimmers. . . . .	3-2
3.9. R-F Driver Tank Trimmers. . . . .	3-3
3.10. Power Amplifier Plate Tuning and Loading Controls . . . . .	3-3
3.11. Power Change Switch . . . . .	3-3
3.12. PA Drive Control. . . . .	3-3
3.13. Audio Hum Controls. . . . .	3-4
3.14. Modulator Bias Adjustments. . . . .	3-4
3.15. Arc-Suppression Circuit . . . . .	3-4
3.16. Starting the Equipment in a New Installation. . . . .	3-5
3.17. Adjustment of Audio Section . . . . .	3-7
3.18. Overload Relay Adjustment . . . . .	3-7
3.19. Starting in Normal Operation. . . . .	3-7

SECTION 4 - MAINTENANCE

	Page
4.1. Routine Maintenance . . . . .	4-0
4.2. Trouble Shooting . . . . .	4-1
4.3. Ordering Replacement Parts . . . . .	4-1

SECTION 5 - PARTS LIST

SECTION 6 - ILLUSTRATIONS

SECTION 7 - LINE DRAWINGS

**LIST OF TABLES**

Table		Page
1-1	20V-2 Transmitter Specifications . . . . .	1-3
1-2	Tube Complement . . . . .	1-4
2-1	List of Wire Types . . . . .	2-5
2-2	List of Wire Sizes and Color Codes . . . . .	2-5
2-3	Approximate Output Tank Tuning Data . . . . .	2-7
4-1	Typical Meter Readings . . . . .	4-2
4-2	Typical Voltages and Currents . . . . .	4-3
4-3	Primary Power Input . . . . .	4-4

## LIST OF ILLUSTRATIONS

Figure No.	Title	Page
1-1	Collins 20V-2 1000/500/250 Watt AM Transmitter. . . . .	v
1-2	Collins 20V-2 Transmitter, Rear View. . . . .	1-0
2-1	Inter-Unit Cabling Example. . . . .	2-4
6-1	Transmitter Parts Arrangement, Front View . . . . .	6-1
6-2	Transmitter Parts Arrangement, Rear View. . . . .	6-2
6-3	R-F Chassis Parts Arrangement . . . . .	6-3
6-4	R-F Chassis Parts Arrangement, Bottom View. . . . .	6-4
6-5	Audio Chassis Parts Arrangement . . . . .	6-5
6-6	Audio Chassis Parts Arrangement, Bottom View. . . . .	6-6
6-7	Output Network Parts Arrangement, Bottom View . . . . .	6-7
6-8	Power Supply Chassis Parts Arrangement. . . . .	6-8
6-9	Rear Panel Parts Arrangement. . . . .	6-9
6-10	Relay Panel Controls. . . . .	6-9
6-11	Location of Controls and Instruments. . . . .	6-10
7-1	Primary Control Circuit Simplified Schematic. . . . .	7-1
7-2	T-102 and T-103 Internal Connections. . . . .	7-2
7-3	Arc-Suppression Circuit Simplified Schematic. . . . .	7-3
7-4	Transformer Details . . . . .	7-4
7-5	Typical Installation Diagram. . . . .	7-5
7-6	Inter-Unit Cabling Diagram. . . . .	.7-7/7-8
7-7	Main Schematic. . . . .	.7-9/7-10