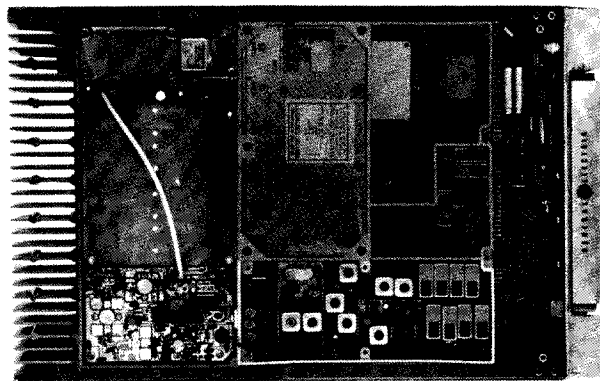


# MASTR® II MAINTENANCE MANUAL

406-512 MHz, 40-WATT TRANSMITTER-MOBILE AND STATION

(DF3158, THIS SHEET ONLY)

**Maintenance Manual LBI30211C**



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EXCITER .....	LBI30200 (DF3165)
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406-512 MHz EXCITER 19D423865G2,4  
40-WATT PA ASSEMBLY 19D42488G5-8, G22-25, G35, G36  
& 19D424895G5-8, G22-25, G36, G37

## SPECIFICATIONS\*

## Power Output

406-420 MHz, 450-494 MHz	40 Watts (Adjustable from 12 to 40 Watts)
440-450 MHz	30 Watts (Adjustable from 12 to 30 Watts)
420-440 MHz, 494-512 MHz	35 Watts (Adjustable from 12 to 35 Watts)

## Crystal Multiplication Factor

36

## Frequency Stability

5C-ICOM with EC-ICOM	$\pm 0.0005\%$ ( $-40^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ )
5C-ICOM or EC-ICOM	$\pm 0.0002\%$ ( $0^{\circ}\text{C}$ to $+55^{\circ}\text{C}$ )
2C-ICOMS	$\pm 0.0002\%$ ( $-40^{\circ}\text{C}$ to $+70^{\circ}\text{C}$ )

## Spurious and Harmonic Emission

At least 85 dB below full rated power output.

## Modulation

Adjustable from 0 to  $\pm 5$  kHz swing with instantaneous modulation limiting.

## Modulation Sensitivity

75 to 120 Millivolts (Mobile)  
10 to 120 Millivolts (Station)

## Audio Frequency Characteristics

Within  $\pm 1$  dB to  $-3$  dB of a 6 dB/octave pre-emphasis from 300 to 3000 Hz per EIA standards. Post limiter filter per FCC and EIA.

## Distortion

Less than 2% @ 1000 Hz  
Less than 5% @ 300 Hz  
Less than 3% @ 3000 Hz

## Deviation Symmetry

0.6 kHz maximum

## Maximum Frequency Spread

	Full Specifications	1 dB Degradation
406-470 MHz	5.50 MHz	9.00 MHz
470-494 MHz	5.80 MHz	9.50 MHz
494-512 MHz	6.00 MHz	9.75 MHz

## Duty Cycle

EIA 20% Intermittent (Mobile and Stations)  
Continuous (Stations)

## RF Output Impedance

50 Ohms

\* These specifications are intended primarily for the use of the serviceman. Refer to the appropriate Specification Sheet for the complete specifications.

## WARNING

Although the highest DC voltage supplied to the MASTR II transmitter is +12 Volts DC, high current may be drawn under short circuit conditions. These currents can possibly heat objects such as tools, rings, watchbands, etc., enough to cause burns. Be careful when working near energized circuits!

High-level RF energy in the transmitter Power Amplifier assembly can cause RF burns. KEEP AWAY FROM THESE CIRCUITS WHEN THE TRANSMITTER IS ENERGIZED!

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