

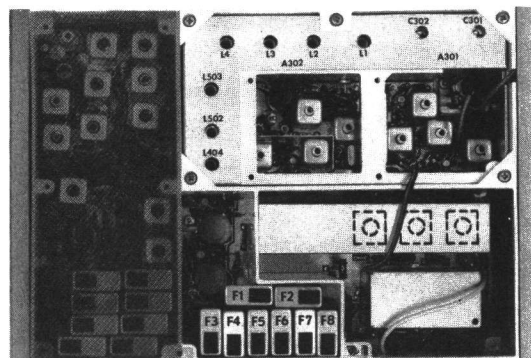
# MASTR II<sup>®</sup> MAINTENANCE MANUAL

**30-50 MHz DUAL FRONT END (WITH NOISE BLANKER)**

**OPTION 9201 (MATCHING IF FREQ.)**

**OPTION 9202 (NON-MATCHING IF FREQ.)**

**Maintenance Manual LBI30022 A**  
(DF1110, THIS SHEET ONLY)  
(Supersedes LBI4795)



## TABLE OF CONTENTS

SPECIFICATIONS .....	ii
COMBINATION NOMENCLATURE .....	ii
DESCRIPTION AND MAINTENANCE .....	LBI30108 (DF1110)
RF MIXER ASSEMBLY AND MIXER-IF-NOISE BLANKER BOARD .....	LBI4991 (DF1107)
OSCILLATOR-MULTIPLIER BOARD .....	LBI4993 (DF1106)
RF STEERING AND MIF SWITCH/2nd CONVERTER BOARDS ...	LBI30038 (DF1110)

**30-50 MHz DUAL FRONT END  
(WITH NOISE BLANKER)**

**SPECIFICATIONS\*****Sensitivity**

DFE

12-dB SINAD

(EIA Method)

20-dB Quieting Method

0.275  $\mu$ V0.385  $\mu$ V

Receiver

Sensitivity degraded not more than 1 dB from standard receiver specifications.

**Selectivity**

EIA Two-Signal Method

20-dB Quieting Method

-100 dB (adjacent channel, 20 kHz Channels)

-100 dB at  $\pm 15$  kHz**Spurious Response**

-100 dB

**Frequency Stability**

5C-ICOM with EC-ICOM

5C-ICOM or

EC-ICOM

2C-ICOMS

 $\pm 0.0005\%$  ( $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ ) $\pm 0.0002\%$  ( $0^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$ ) $\pm 0.0002\%$  ( $-40^{\circ}\text{C}$  to  $+70^{\circ}\text{C}$ )**Modulation Acceptance** $\pm 6.5$  kHz (narrow-band)**RF Input Impedance**

50 ohms

**Intermodulation (EIA)**

-80 dB

**Maximum Frequency**

Separation

0.8% (42-50 MHz)

0.4% (25-42 MHz)

**Current Drain (Typical)**

Non-Matching IF's - 100 mA

Matching IF's - 75 mA

**Maximum Frequency Spread:**

(2 to 8 channels)

30-36 MHz

36-42

42-50 MHz

Full Specifications

1 dB Degradation

.120 MHz

.340 MHz

.160 MHz

.400 MHz

.360 MHz

.640 MHz

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

**COMBINATION NOMENCLATURE**

1st Digit	2nd Digit	3rd & 4th Digits	5th Digit
Frequency Capability	Options	Frequency Range	Oscillator Stability
<b>A</b> 1 - Freq.	<b>N</b> Noise Blanker	<b>13</b> 30 - 36 MHz	<b>A</b> $\pm 5$ PPM ( $\pm 0.0005\%$ )
<b>D</b> 2 - Freq.		<b>23</b> 36 - 42 MHz	<b>B</b> $\pm 2$ PPM ( $\pm 0.0002\%$ )
<b>E</b> 3 - Freq.		<b>33</b> 42 - 50 MHz	
<b>F</b> 4 - Freq.			
<b>G</b> 5 - Freq.			
<b>H</b> 6 - Freq.			
<b>J</b> 7 - Freq.			

**WARNING**

Although the highest DC voltage in the MASTR II receiver is +12 Volts DC, high current may be drawn under short circuit conditions. These currents can possibly heat metal 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!