

FMA LIMITED WARRANTY ON RADIO RECEIVER PRODUCTS

THE WARRANTY

Upon receipt of the original Owner's Registration found on the rear of this manual, FMA, Inc. warrants this receiver to be free of manufacturing defects for the term of one year. Should any defects covered by this warranty occur, the receiver shall be repaired or replaced with a unit of equal performance by FMA, Inc., or an authorized FMA service station.

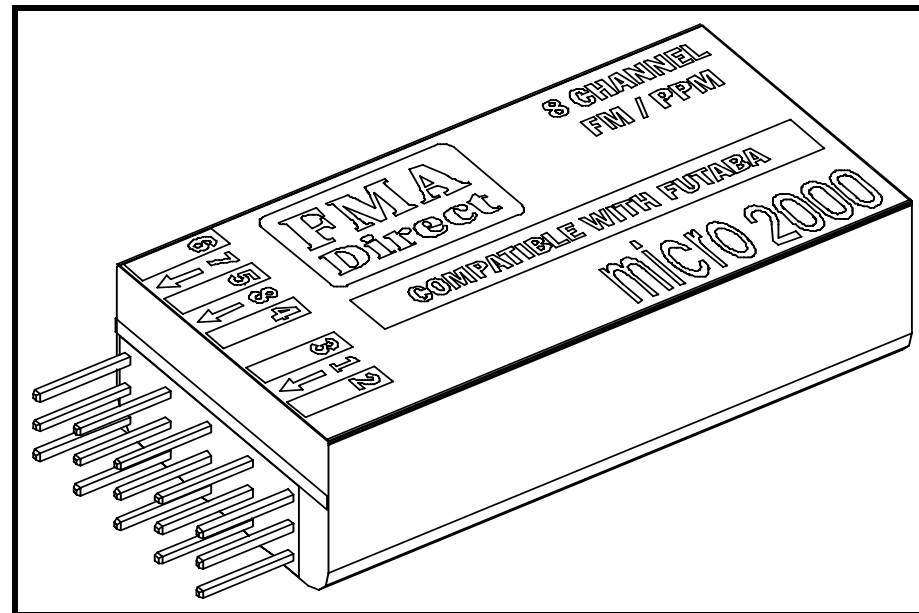
LIMITS AND EXCLUSIONS

This warranty may be enforced only by the original purchaser, who uses this receiver in its original condition as purchased, in strict accordance with the Micro 2000 owner's manual. Receivers returned for warranty service to an FMA service center will be accepted for service when shipped post-paid, with a copy of the original sales slip or warranty registration form, to the service station advised by FMA, Inc.

THIS WARRANTY DOES NOT APPLY TO

1. Consequential or incidental losses resulting from the use of this receiver.
2. Damage resulting from accident, crashes, misuse, abuse, neglect, electrical surges, reversed polarity on connectors, lightning or other acts of God.
3. Damage from failure to follow instructions supplied with the product.
4. Damage occurring during shipment of the product either to the customer or from the customer for service (claims must be presented to the carrier).
5. Damage resulting from repair, adjustment, or any alteration to product by any one other than an authorized FMA technician.
6. Installation or removal charges, or damage caused by improper installation or removal.

CALL (301) 668-7614 FOR MORE INFORMATION ABOUT SERVICE AND WARRANTY REPAIRS.



detach along this line and return to FMA, Inc.

WARRANTY REGISTRATION

1. _____
Last Name **M.I.** **First Name**

_____ **Street Address** _____ **City** _____ **State** _____ **ZIP**

2. **Date of Purchase:** ___ / ___ / ___ 3. **Telephone:** () - _____

4. **Serial Number (if applicable):** _____

5. **Specify receiver channel number:** _____, **for the following transmitter type:**

Futaba Airtronics
 J.R. Other

I have successfully range tested this receiver with my transmitter to at least 200 feet according to the FMA, Inc. range test instructions.

Signed: _____

Mail this form to: FMA Warranty, 5716A Industry Lane, Frederick, MD 21704

micro 2000

OWNER'S MANUAL

NOTE: PLEASE READ MANUAL COMPLETELY BEFORE OPERATION

INTRODUCTION:

FMA, Inc.
 5716A Industry Lane
 Frederick, MD 21704
 Sales: (800) 343-2934 -Technical: (301) 668-7614



CONGRATULATIONS!!! Your choice of the FMA Direct Micro 2000 receiver assures you of the highest standards of design available to the R/C industry. Your Micro 2000 receiver's exceptional performance is the result of countless hours of painstaking R&D time spent by FMA's technical team. The Micro 2000 receiver's design surpasses all present *and future* rigid FCC requirements at an affordable cost. The compact size and light packaging make it an ideal choice for installation in "tight" spots such as gliders and R/C cars where performance really counts. In addition to quality design and production, FMA Direct is dedicated to customer satisfaction working to ensure you countless hours of trouble-free, safe modeling.

SPECIFICATIONS:

SIZE:	2.30"L X 1.05"W X 0.54"H
WEIGHT:	0.6 OZ.
DESIGN:	DUAL CONVERSION, SUPERHETERODYNE
CHANNELS:	1 - 8
MODULATION:	FM/PPM (FREQUENCY MODULATION, PULSE POSITION)
FREQUENCY:	R/C CHANNELS 00 THROUGH 90 - U.S. LEGAL 50, 53, 72, 75 MHZ
ULTIMATE BANDPASS:	± 6.5 KHz @ >55 dB DOWN
IMAGE REJECTION:	>50 dB
USABLE SENSITIVITY:	BETWEEN -95 dBm AND -102 dBm
3OIP:	+12 dB
OPERATING VOLTAGE:	+4.8V DC, 4 CELL NICAD, TOLERATES FROM +3.2V TO +26V DC
LEGAL USE:	MEETS AMA GUIDELINES & 1999 FCC RADIATION REQ.*

* FCC Information: FCC ID: KH8-T2000 - This device complies with Part 15 of the Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept interference received, including interference that may cause undesired operation.

PACKAGE CONTENTS:

1. FMA Micro 2000 FM, 8 channel, PPM receiver. (see TABLE 1 below)

TABLE 1 TRANSMITTER COMPATIBILITY SERVO COMPATIBILITY

Micro 2000 LABEL	ACE	AIR	FUT	HITEC	JR	ACE	AIR	FUT	HITEC	JR
COMPATIBLE WITH AIRTRONICS		✓			✓	NO!	YES	NO!	NO!	NO!
COMPATIBLE WITH FUTABA	✓		✓	✓		YES	NO!	YES	YES	YES
COMPATIBLE WITH JR		✓			✓	YES	NO!	YES	YES	YES

2. Dealer or factory-installed channel crystal with "channel #" I.D. cover label attached.

CAUTION: REMOVAL OR REPLACEMENT OF CRYSTAL VOIDS WARRANTY!!!

3. Owner's Manual with Registration.

PREPARATION:

• **INSTALLATION, POWER AND SERVO CONNECTION**

1. Care must be taken when installing your receiver to isolate the electronics from vibration as much as possible. This can be done by wrapping the housing in a suitable foam rubber and affixing it to the fuselage using Velcro or a rubber band.
2. Always make sure to extend the antenna to its full length. Do not coil the antenna up or range will be shortened.
3. When hooking up servos to your receiver, use the compatible servo types as listed in TABLE 1. Use TABLE 2 and FIGURE 1 to check its plug wire color orientation. Note: with the receiver sitting label side up, the signal lead (marked #3 in FIGURE 1 and color coded as in TABLE 2) must match up to the pin farthest from the label side of the receiver. No damage will occur by plugging a servo in backwards, but the servo will not operate. You may mix and match Futaba and JR servos, but neither may be used in combination with Airtronics servos - see warning below. Your Micro 2000 comes standard as six channels including one pigtail for aileron on CH 1 (Futaba model) or CH 2 (JR or Airtronics models). You may elect to purchase the upgrade to 8 Channels through FMA Direct or your local FMA Direct dealer which will include 2 additional pigtailed for Channels 7 and 8. When hooking up power to your receiver, you may either connect a nicad battery pack to any unused channel input or splice a female battery connector into the plus and ground wires of any incoming servo leads. Splicers are also available through your local hobby dealer.

WARNING: AIRTRONICS SERVOS AND RECEIVERS ARE ELECTRICALLY INCOMPATIBLE WITH OTHER R/C ELECTRONICS. DAMAGE WILL RESULT EVERY TIME AIRTRONICS PRODUCTS ARE MIXED WITH OTHER R/C BRANDS. ANY ATTEMPT TO MIX AIRTRONICS COMPATIBLE EQUIPMENT WITH FUTABA/JR COMPATIBLE EQUIPMENT WILL VOID FMA WARRANTY!!!!

• **RANGE TEST**

To assure proper performance, the Micro 2000 receiver must be range tested with the "host" transmitter. Perform this test with the receiver antenna fully extended VERTICALLY into the air, and the transmitter antenna collapsed. Apply power and walk away from the receiver moving one stick on the transmitter. You should obtain at least 200 feet of line of sight

TABLE 2 SERVO PLUG COLOR ORIENTATION

RCVR MODEL:	1	2	3
FUTABA/ACE	BLACK	RED	WHITE
JR/HITEC	BLACK	RED	YELLOW
AIRTRONICS	RED	BLACK	BLACK

ground range if everything is operating properly. If any loss of servo control occurs, the system must be calibrated by an FMA service station. CALL (301) 831-8980 for FMA Direct technical assistance.

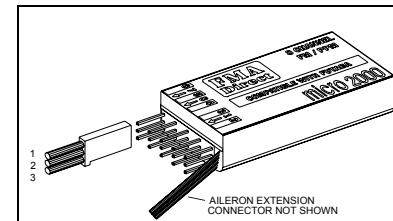


FIGURE 1

ACCESSORIES:

Aileron extension cables, Y-harness, switch harness, and numerous other accessories as well as a full line of servos is available for use with your FMA receiver direct or from your local FMA dealer.