



MFJ ECONO KEYSER II
MODEL MFJ-401C

OWNER'S MANUAL

CAUTION: Read all instructions before operating equipment

MFJ ENTERPRISES, INC.

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MFJ-401C ECONO KEYER

The MFJ-401C econo-keyer provides iambic key operation and dot-and-dash memory to make sending easier. Please read all instructions before attempting to operate the keyer.

INSTALLATION

The MFJ-401C is operated with either a battery or external power supply.

A **9V battery** may be installed by loosening the two screws on the side of the casing and removing the cover. A battery clip and a holder on the top of the cover are provided for installing a 9V battery.

A **12 Vdc, 300 mA** power supply may also be used to power the MFJ-401C. A **2.1 mm coaxial plug** with a positive center and a negative sleeve should be used with this power supply. The MFJ-1312B, an optional 12 Vac adapter is available from MFJ Enterprises, Inc.

Select either iambic or straight key operation.

Iambic key operation is enabled by connecting a squeeze key to the keyer using a standard 1/4-inch stereo phone plug. This plug should have either two conductor-common shielded cables, or two single-conductor shielded cables with the shields tied together and attached to the ground wire. The dot wire should be attached to the ring of the plug, and the dash should be attached to the tip. The shield should be connected to the ground wire.

Straight key operation also uses a standard 1/4-inch stereo phone plug. (a mono plug will not work with a straight key on the MFJ-401C) The straight key wire should connect to the tip of the plug, but nothing should be connected to the ring of the plug. Note: For straight key operation, the Auto/Semi-Auto switch should be pushed in.

Output keying circuit allows keying of gridblock and solid-state transmitter.

To key the **gridblock**, use the RCA jack with the "grid block" label. Connect a shielded cable from the "keying output" of the MFJ-401C to the transmitter. The grid block output keys a maximum negative voltage of 200 volts to ground at 10mA.

To key a **solid state transmitter**, use the output labeled "direct." Connect a shielded cable from the "keying output" of the MFJ-401C to the transmitter. The direct output keys a maximum positive voltage of 60 volts to ground at a maximum current of 200 mA.

Note: Consult the transmitter's instruction manual to determine which output to use. When in doubt, try both jacks. The transmitter will key continuously when the cable is connected to the wrong jack.

OPERATION

After the unit is properly connected to the transmitter, the MFJ-401C is activated by using the red "on/off" switch. After the power is on, speed and volume controls may be adjusted to desired levels.

The **tone control** is located internally and may be adjusted by inserting a small screwdriver into the hole on the side of the casing. This hole is found toward the back of the keyer. Note: When operated with a transmitter that has a built-in side tone, the sidetone on the MFJ-401C may be turned off to conserve power if using a battery.

The **code weight** has been preset at the factory to a 1:3:1 level. However, the internal weight control may be adjusted by inserting a small screwdriver into the hole on the side of the casing. this hole is found toward the front of the keyer.

Choose either automatic or semi-automatic code generation.

The keyer is in the **semi-automatic** mode, the "bug" operation, when the "auto/semi-auto" switch is in the *in* position. This mode generates dots automatically when the dot key is held in. Dashes must be manually generated and terminated in this mode. Note: When the dash key is held in during the semi-automatic mode, the keyer will continually key the transmitter for tuning.

The keyer is in **automatic** mode when the "auto/semi-auto" switch is in the *out* position. This mode generates either dots or dashes automatically, when their respective keys are held. While the dash key is held and dashes are being automatically generated, a dot may be inserted by tapping the dot key while continuing to hold the dash key. Dashes are inserted into repeating dots in the same manner. Automatic mode also makes use of **dot memory** and **dash memory**.

The **dot memory** and **dash memory** each allow faster keying by automatically finishing a sequence of alternating dots and dashes. To use this feature, first press and hold one of the paddle keys, and then tap the other key. Release both keys simultaneously. This procedure will generate a three-part dot and dash sequence. If neither paddle key is released, the keyer will continue to generate an alternating sequence of dots and dashes until the keys are released. Ex: To generate a "K," or "dah-dit-dah," press and hold the dash key, tap the dot key, and release both keys at the same time. Experiment to determine the exact paddle key strokes needed to perform this operation.

MFJ-401C SCHEMATIC

FULL 12 MONTH WARRANTY

MFJ Enterprises, Inc. warrants to the original owner of this product, if manufactured by MFJ Enterprises, Inc. and purchased from an authorized dealer or directly from MFJ Enterprises, Inc. to be free from defects in material and workmanship for a period of 12 months from date of purchase provided the following terms of this warranty are satisfied.

1. The purchaser must retain the dated proof-of-purchase (bill of sale, canceled check, credit card or money order receipt, etc.) describing the product to establish the validity of the warranty claim and submit the original of machine reproduction or such proof of purchase to MFJ Enterprises, Inc. at the time of warranty service. MFJ Enterprises, Inc. shall have the discretion to deny warranty without dated proof-of-purchase. Any evidence of alteration, erasure, of forgery shall be cause to void any and all warranty terms immediately.
2. MFJ Enterprises, Inc. agrees to repair or replace at MFJ's option without charge to the original owner any defective product provided the product is returned postage prepaid to MFJ Enterprises, Inc. with a personal check, cashiers check, or money order for **\$7.00** covering postage and handling.
3. MFJ Enterprises, Inc. will supply replacement parts free of charge for any MFJ product under warranty upon request. A dated proof of purchase and a **\$5.00** personal check, cashiers check, or money order must be provided to cover postage and handling.
4. This warranty is **NOT** void for owners who attempt to repair defective units. Technical consultation is available by calling (601) 323-5869.
5. This warranty does not apply to kits sold by or manufactured by MFJ Enterprises, Inc.
6. Wired and tested PC board products are covered by this warranty provided **only the wired and tested PC board product is returned**. Wired and tested PC boards installed in the owner's cabinet or connected to switches, jacks, or cables, etc. sent to MFJ Enterprises, Inc. will be returned at the owner's expense unrepared.
7. Under no circumstances is MFJ Enterprises, Inc. liable for consequential damages to person or property by the use of any MFJ products.
8. **Out-of-Warranty Service:** MFJ Enterprises, Inc. will repair any out-of-warranty product provided the unit is shipped prepaid. All repaired units will be shipped COD to the owner. Repair charges will be added to the COD fee unless other arrangements are made.
9. This warranty is given in lieu of any other warranty expressed or implied.
10. MFJ Enterprises, Inc. reserves the right to make changes or improvements in design or manufacture without incurring any obligation to install such changes upon any of the products previously manufactured.
11. All MFJ products to be serviced in-warranty or out-of-warranty should be addressed to **MFJ Enterprises, Inc., 921A Louisville Road, Starkville, Mississippi 39759, USA**, and must be accompanied by a letter describing the problem in detail along with a copy of your dated proof-of-purchase.

- 12.** This warranty gives you specific rights, and you may also have other rights which vary from state to state.