



**MFJ ECONO KEYER II**

**MFJ-401B**

## MFJ-401B ECONO KEYER

The MFJ-401B 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-401B is operated with either a battery or external power supply. A 9 V 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 9 V battery.

A 12 VDC, 300 mA power supply may also be used to power the MFJ-401B. 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-401B). 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-401B to the transmitter. The grid block output keys a maximum negative voltage of 200 Volts to ground at 10 mA.

To key a **solid state transmitter**, use the output labeled "direct." Connect a shielded cable from the "keying output" of the MFJ-401B 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-401B 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-401B may be turned off to conserve power if using a battery.*

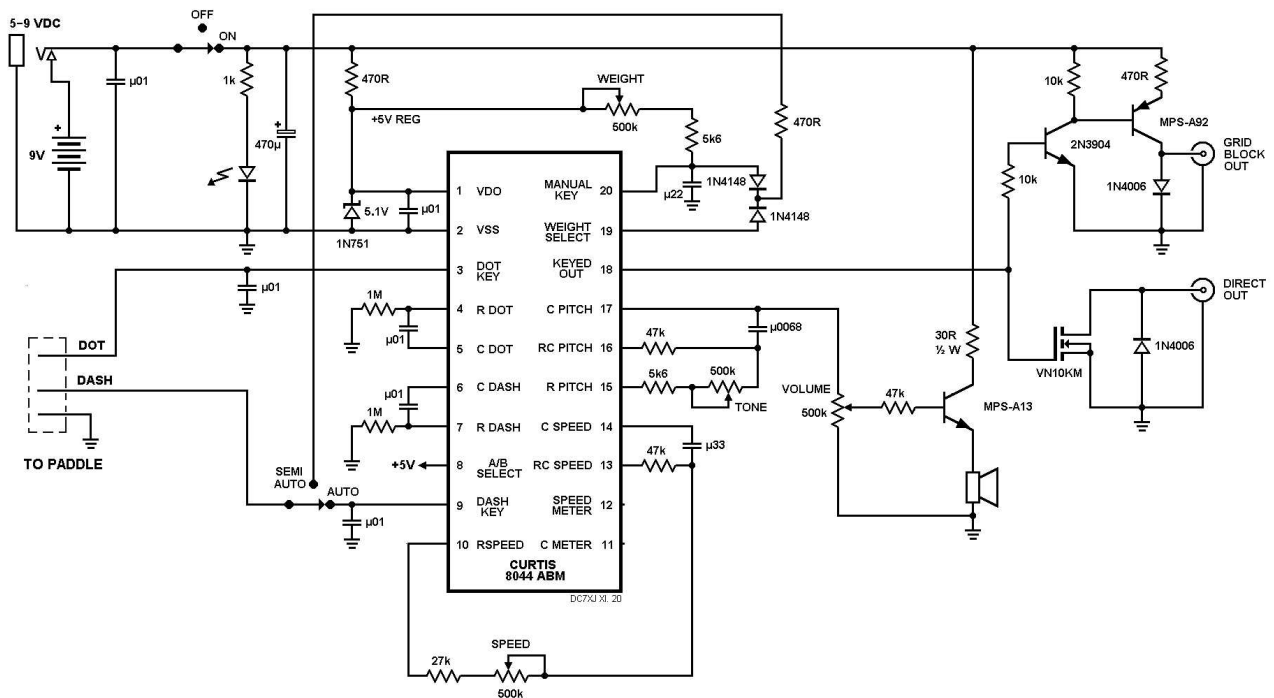
The **code weight** has been preset at the factory to a 1:3:1 level. However, the internal weight control may be adjusted by inserting a small screwdriver into the hole on the side of the casing. this hole is found toward the front of the keyer.

**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-401B SCHEMATIC DIAGRAM**