

**MFJ GRANDMASTER MEMORY KEYS**  
**MODEL MFJ-482B**

**OWNER'S MANUAL**

**CAUTION: Read All Instructions Before Operating Equipment.**

**MFJ ENTERPRISES, INC.**

**P. O. BOX 494, MISSISSIPPI STATE, MS. 39762, USA**

## MFJ-482B MEMORY KEYS

The MFJ-482B GRANDMASTER MEMORY KEYS is a sophisticated memory keys using CMOS Integrated Circuits and Random Access Memory. It has 1042 bits of memory space that will store approximately 100 characters (four 25 character or two 25 and one 50 character message). To insure full benefit of this memory keys. Please read this instruction manual before operating.

### CONTROL FUNCTIONS

1. **SPEED CONTROL.** Speed is variable from 8 to 50 wmp.
2. **WEIGHT CONTROL.** This control is located on the rear panel. When turned fully counter clockwise, dot-dash-space ratio is a perfect 1:3:1. Turn this control clockwise to increase dot and dash lengths.
3. **TONE CONTROL.** This control is located on the rear panel. Use it to adjust for desired sidetone pitch.
4. **VOLUME CONTROL.** Use to adjust the loudness of the built-in sidetone.
5. **RECORD, SEND, REPEAT, TUNE FUNCTION SWITCH.** The RECORD position sets the memory keys in the record mode for recording messages into memory. The SEND position allows playing back recorded messages and allows the memory keys to be used as an electronic keys. The REPEAT position allows repeating the recorded messages continuously. The TUNE position keys your transmitter continuously for tuning.
6. **COMBINE A/B SWITCH** Push this switch in to combine A and B memory addresses.
7. **ON/OFF SWITCH** Push this switch in to turn on the memory keys. All messages stored in the memory are erased when this switch is let out. Keep power on to maintain memory.
8. **RESET BUTTON** It is used to stop memory from operating. When sending a recorded message, memory can be stopped by pressing the reset button or by tapping the keys paddle. This resets all memory addresses to the beginning.
9. **LED INDICATOR.** shows when memory is in operation.
10. **MEMORY ADDRESS.** Four push buttons A, B, C and D are used to directly address the memory. Press a MEMORY ADDRESS button to start a message. Memory operation can be interrupted by pressing another MEMORY ADDRESS button without pressing the RESET button first.
11. **MEMORY SAVER.** An internal 9 volt battery (not provided, alkaline type recommended) switches in automatically when a power failure occurs. This allows all messages to be retained. A battery clip and holder are provided for installation of a 9 volt alkaline battery. If the side tone is not used, the memory backup battery has an operation time of approximately eight hours. If longer storage time is needed an external battery of 12-15 VDC may be connected to the battery jack on the memory keys. **NOTE: MEMORY SAVER is also turned off when the ON/OFF switch is turned off.**

## INSTALLATION

1. To install the memory saver battery, remove the two screws near the rear top. Slide the cover toward the back and remove. Connect a 9 volt battery to the battery snap then insert the battery into the holder. A 9 volt alkaline battery should be used. When the memory saver battery is not used, cover the battery snap with the plastic tubing supplied to prevent shorting.
2. The MFJ-482B requires a 12-15VDC for operation. A 2.5mm sub miniature plug is needed. Wire the plug so that the tip is positive and the sleeve is ground. AC adaptor (MFJ-1312) is optional. First plug the adapter into the sub miniature jack on the rear panel, mark "adaptor", and then plug the adapter in the 110 VAC wall socket. It is not necessary to unplug the AC adapter when the memory key is not in use.
3. During portable use when 110 VAC is not available, plug external batteries into the 12-15 VDC sub miniature jack on the rear panel. External batteries and the memory saver can never come into use unless power from the adapter is lost. The tip of the sub miniature plug is positive and the sleeve in ground, for the AC adapter and external batteries.
4. A squeeze or single lever key can be used. Squeeze key allows IAMBIC operation. Use a standard quarter inch stereo phone plug and a two conductor shielded cable or two separately shielded cables. Tie the shields together and use it for ground. The dot wire should be connected to the ring of the plug, the dash wire to the tip and the shield to ground.
5. A reliable solid state keying circuit allows keying of all grid block, cathode, and solid state transmitters. For grid block keying use the "Grid Block" keying output. For cathode keyed and solid state transmitter, use the "Direct" keying output. Try both outputs if you are uncertain to which output to use. The keyer outputs are self protected. The "Grid Block" output keys a maximum negative voltage of 300 volts to ground at 10 ma. The "Direct" output keys a maximum positive voltage of 300 volts to ground at a maximum current of 100 ma. Use a shielded cable to connect between the memory keyer and the transmitter key input.

## OPERATION PROCEDURE

### I KEYER OPERATION

1. Apply power to the memory keyer.
2. Plug in key paddle to the KEY jack. A dual paddle squeeze key or a single lever key can be used.

3. Turn Function Switch to SEND position.
4. Start sending with paddle and adjust volume, tone, weight and speed. The TONE and WEIGHT controls are located in the back panel. NOTE: The weight control may cause a steady tone at high speed. Should this occur, the weight or the speed must be reduced by turning the controls counter clockwise until it stops.
5. The dot and dash memories ease sending by allowing keying the dot before the completion of the dash or vice versa. This feature can be checked by setting to the lowest speed and tap first the dash lever then the dot lever before the completion of the dash. The keyer will provide both the dash and the dot. The dash memory can be checked by first tapping the dot then the dash. The dot insertion features allows you to tap the dot side to insert a dash while holding the dot side in. When using squeeze key and with both paddles squeezed together the iambic operation feature allows sending of alternate dots and dashes. The first contact determines whether a dot or dash occurs first.

#### MEMORY OPERATION

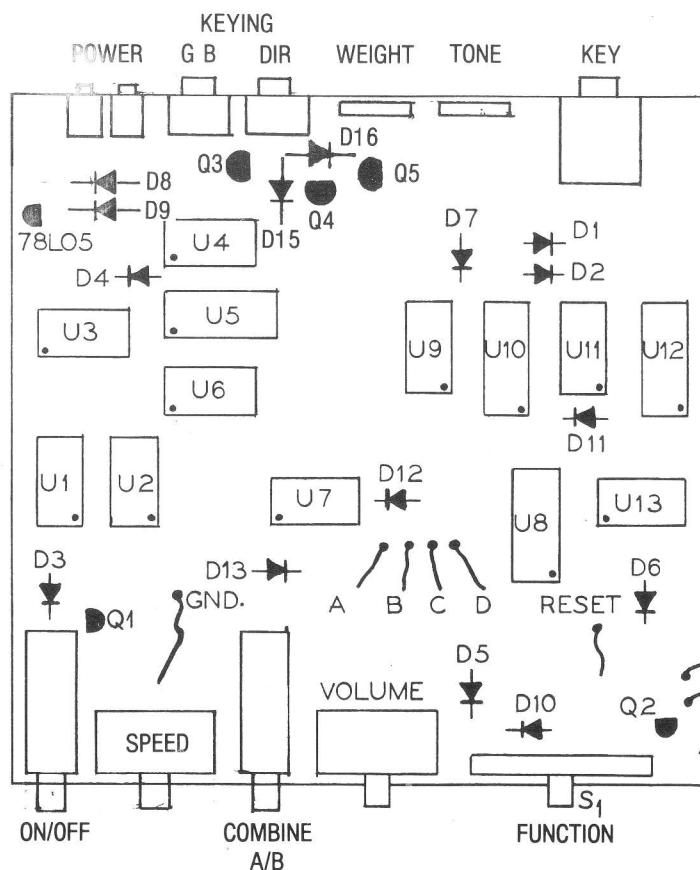
##### A. RECORDING

1. Turn the Selector Switch to the RECORD position.
2. Adjust SPEED control for the desired speed. Press a MEMORY ADDRESS button (A, B, C or D) and start sending immediately. (NOTE: Recording will not start until a MEMORY ADDRESS button is pressed while in the record mode.) Memory LED will light up when memory is in operation. Message including spaces is being recorded as long as the LED is lit in the record mode. When LED goes out, this indicates the memory is full. If LED goes out before sending is completed, the message is too long. Combine memory addresses A and B by pushing in the COMBINE A/B switch to double the memory space. When recording, the internal clock runs continuously to allow spaces of any length to be entered into the memory; thus, there is a random delay from zero to the length of one dot. This requires you to synchronize your sending with the keyer to some extent. At low speed (10-15 wpm) dots may even be missed occasionally. This can be avoided by not releasing the dot lever until a dot starts.
3. Occasionally, an unwanted dot may appear in the beginning of a recorded message; this is due to improper erasing. To insure a complete erasure of previously recorded message in the memory when recording it is best to press the address button two or three times before sending. Note that the MEMORY ADDRESS, when pressed, resets the memory to the beginning of that address either record or play mode; therefore, the reset button need not be pressed when programming. A recorded message can also be corrected by

first playing the correct part of the message and just before the mistake turn to record mode to complete recording the message. NOTE: The memory keyer will key the transmitter in the record mode. It must be disconnected from the transmitter during recording. The transmitter may also be disabled by switching the transmit/receive switch to the receive mode.

## B. PLAY BACK

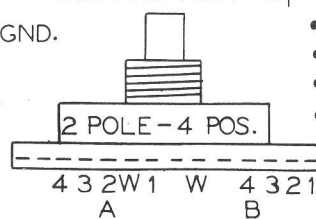
1. Turn the Function Switch to SEND. This puts the memory keyer in the play mode. Press the desired MEMORY ADDRESS button.
2. The LED indicates memory is in operation. MEMORY ADDRESS resets message to the beginning once it is pressed.
3. To interrupt a playing message or to make an insertion, simply send at the point where changes are to be made. The message can be continued by pressing another MEMORY ADDRESS button which contains the remainder of the message.
4. To repeat, turn the function Switch to the REPEAT Position, then press the same MEMORY ADDRESS button. The recorded message will repeat continuously until it is interrupted. NOTE: The repeat function will repeat both messages and any length of space at the end of a message. Recording a pause at the end of a message will allow you to listen before the message is repeated again.



MFJ-482B

U1	4011
U2	4011
U3	4023
U4	4011
U5	4027
U6	4001
U7	4001
U8	2102
U9	4011
U10	4027
U11	4001
U12	4027
U13	4024

BOTTOM VIEW - S<sub>1</sub>



- RECORD
- SEND
- REPEAT
- TUNE