

**INTRODUCTION**

The MFJ-554 is the finest keyed oscillator on the market. Its professional quality is well suited for demanding classroom use and abuse. The MFJ-554's unique design removes any harsh key clicks. Making the MFJ-554 a perfect complement to any keyer paddle. This unit enhances classroom instruction of Morse Code by delivering a full watt of power to the internal 3 inch speaker.

Key clicks can be especially annoying in high output units where they tend to bounce around the room. The MFJ-554 produces a true pure sinewave so you'll hear the clearest sounding tone you have ever heard from a code practice oscillator. You'll get low distortion CW--typically less than .2% total harmonic distortion from its BTL (Bridge-Tied-Load) amplifier.

**FRONT PANEL**

- Power (On/Off) ..... Power Switch
- Volume..... Volume Control
- Tone ..... Tone Control
- Pwr ..... Power Indicator
- Key Input..... 1/4" Phone Jack

**REAR PANEL**

- Power ..... 2.1mm Coaxial Jack
- Ext. Speaker ..... 3.5mm Speaker Jack

**OPERATION**

The MFJ-554 requires a 12V source for power operation. The power jack accepts a 2.1mm coaxial type plug with the outside sleeve as the ground pole and the inside as the positive pole. Apply power to the unit by plugging a power adaptor to the jack on the back of the unit labeled "Power". With the switch in the Off position (out), connect a keyer paddle to the "Key Input" of the MFJ-554. The Key Input requires a 1/4" mono or stereo plug with a 2-conductor wire from the keyer. The sleeve is connected to ground and the other wire is connected to the tip. Once the power and keyer have been attached, the MFJ-554 is ready to use. Push in the power switch to the On position and verify that the indicator labeled "Pwr" is lit.

**WARNING: Do Not Place The Output Speaker Of This Unit In Close Proximity To Your Ears. The Amplification On This Unit Is Very High And Could Cause Damage.**

The volume control for the MFJ-554 is located on the front of the unit. To increase the output volume, push in the power switch to the On position, key the keyer and turn the knob labeled "Volume" in the clockwise direction. The tone control is also located on the front of the unit. With the volume at a comfortable level and the keyer keyed, adjust the tone by varying the knob labeled "Tone".

To use the MFJ-554 with the optional external speaker, plug a speaker, with a 3.5mm plug, into the jack labeled "Ext. Speaker". This jack is located on the back of the unit.

The MFJ-554 comes with a trimpot to generate a symmetrical rise time and fall time of the input signal. This feature eliminates the unwanted key clicks that are normally heard from keyers. *The setting on this trimpot (R20) is made at the factory and should not be changed.*

To add even more output to your unit, the MFJ-281 *ClearTone*<sup>™</sup> speaker is available to all MFJ customers.

## **TECHNICAL ASSISTANCE**

If you have any problem with this unit first check the appropriate section of this manual. If the manual does not reference your problem or your problem is not solved by reading the manual you may call *MFJ Technical Service* at **601-323-0549** or the *MFJ Factory* at **601-323-5869**. You will be best helped if you have your unit, manual and all information on your station handy so you can answer any questions the technicians may ask.

You can also send questions by mail to MFJ Enterprises, Inc., 300 Industrial Park Road, Starkville, MS 39759; by Facsimile to 601-323-6551; or by email to [techinfo@mfjenterprises.com](mailto:techinfo@mfjenterprises.com). Send a complete description of your problem, an explanation of exactly how you are using your unit, and a complete description of your station.

## **PARTS LIST**

<b>P/N</b>	<b>DESCRIPTION</b>	<b>REFERENCE</b>
100S-2100	100Ω RESISTOR	R17
100S-3100	1KΩ RESISTOR	R4,R11,R14
100S-3390	3.9KΩ RESISTOR	R7
100S-3470	4.7KΩ RESISTOR	R2,R13
100S-4100	10KΩ RESISTOR	R1,R6,R8,R12,R16
100S-4270	27KΩ RESISTOR	R5
100S-4470	47KΩ RESISTOR	R9,R10
100S-5150	150KΩ RESISTOR	R3
100S-5330	330KΩ RESISTOR	R15
130-5100	100KΩ TRIMPOT	R20
155-3100-1	1KΩ POT	R22
155-4100-1	10KΩ POT	R21
200S-1110	.01 μF CAPACITOR	C6
200S-1122	.022 μF CAPACITOR	C2,C3
200S-1210	.1 μF CAPACITOR	C4,C5
203-1470	470 μF, ELECTROLYTIC CAPACITOR	C7,C8
203S-3110	1 μF CAPACITOR ELECT	C1
300S-0914	1N4148 SWITCHING DIODE	D1,D2,D3,D4
305-7002-SM	2N7002 TRANSISTOR	Q1
307-1020	+8V VOLTAGE REGULAR	U2
311-0040-SM	LM324 OP AMP	U1
311-27052	TDA7052AN AUDIO AMP	U3
320-1002	3mm RED LED	CR1
410-0169	3" 8Ω SPEAKER	SPK1
504-0022	2P2T PUSH BUTTON SWITCH	SW1
601-0012	1/4" PHONE JACK	J3
601-5005	3.5mm CLOSED STEREO JACK	J2
601-6021	2.1mm COAXIAL, POWER JACK	J1

## **SCHEMATIC**