Thank you for purchasing the MFJ-1225 Interface. The MFJ-1225 will allow you to receive RTTY and CW when used with your receiver and computer. The MFJ-1225 converts the CW or AFSK tones from your receiver into computer compatible TTL level signals. The computer then translates these signals into the represented alpha-numeric characters and displays them on the screen.

NOTE: The interpretation of the TTL signals requires a specialized HAM program which is not provided with the interface. This allows you to select a program which is compatible with your computer and which has the features you want.

When unpacking make sure that all of these items are included: 1-interface, 1-five pin plug, 1-eight pin plug, 1-RCA to RCA cable, 1-owner's manual. NOTE: 12 VDC AC adapter is optional.

FRONT PANEL

The front panel controls and indicators consist of five push button switches and three LEDs. From left to right, they are as follows:

ON/OFF - This switch controls the power to the interface. POWER

LED - This indicator is lit when the power is on.

PHASE LOCK LED - This indicator is used with DATA indicator aid in tuning the receiver. It indicates when the interface locked onto a RTTY signal. It also flashes in time with the Morse Code tone for CW reception.   t0 is

DATA LED - This indicator is used with the PHASE LOCK indicator to aid in tuning the receiver. It flashes on and off with the RTTY shift and also flashes with the Morse Code tone for CW reception.

RTTY/CW - This switch selects either the RTTY or CW mode of operation. The next two

switches control the shift used for RTTY.

In this position, the Interface receives with a 850 Hz audio shift.

In this position, the Interface receives with a 170 Hz audio shift.

In this position, the Interface receives with a 425 Hz audio shift.

NORM/REV - This switch inverts the demodulated RTTY signal being sent to the computer.

The MFJ-1225 provides inputs and outputs to allow interfacing to nearly any possible combination of computer and receiver. The paragraphs below describe their uses. Only a few of the available connections will be used for any given application; however, the availability of a variety of signals greatly enhances versatility of the interface.

The first connector is a five pin Kantronics compatible jack. Only two pins are used and they are:

DEMOD - This pin produces a TTL signal which corresponds to the coming RTTY or CW signal.

GROUND - This pin provides the ground connection between the interface and the computer.

Next is an eight-.pin general purpose connector which allows you to adapt the interface to most any computer and software. From left to right, the ping are as follows:

RTTY INV - This pin produces an inverted TTL level version (a received RTTY signal).

CW INV - This pin provides an inverted TTL level version (a received CW signal).

GND - This pin provides the ground connection between the computer and the interface.

RTTY - This output is a TTL level version of a received RTTY signal.

CW - This output is a TTL level version of a received CW signal. The next pin is not used.

DEMOD - This pin provides a TTL level signal which corresponds to the incoming CW or RTTY signal.

AUDIO IN - The audio input jack should be connected to the external speaker jack or headphone jack of your receiver with a shielded audio cable. The interface end of the cable requires an RCA type plug.

SPEAKER OUT - The speaker output jack should be connected to a speaker using shielded audio cable. The interface end of the cable requires an RCA type plug.

12. VDC - The power jack requires 12 VDC from a 2.5mm subminiature plug with the tip positive and the sleeve ground.

<u>INTERNAL CONTROLS</u>
The MFJ-1225 has two internal controls, as described below.

<u>INPUT LEVEL</u> - The input level pot is located in the left rear corner. It is very important that the input is set to the proper level for use with your rig. First tune the radio until no signal is heard (static *only)* then set the volume slightly louder than your normal listening level. Turn the input level pot to the point where the static does not cause any flickering of the Phase Lock and Data LEDs. This is important for receiving LW signals.
<u>PHASE LOCK</u> - The phase lock pot is located in the front, right corner. The phase lock control is set at the factory and should not need to be changed unless extended use causes the frequency to drift.

<u>CONNECTIONS</u>

For reception of CW, RTTY, or ASCII signals the following connections are necessary between the MFJ-1225 Interface and your Receiver:
1. A 12VDC power supply to the POWER jack of the interface.

2. A shielded audio cable from the external speaker jack of the receiver to the Audio IN jack of the interface.
3. If desired, a speaker may be connected to the SPEAKER OUT jack of the interface.

<u>Switch</u> <u>Operation</u> of the MFJ-1225 using different <u>Software</u>:
For recieving RTTY;

OPERATION	MFJ-1264 and 1265 Software	KANTRONICS Software
RTTY/CW	RTTY	RTTY
170/850	This Switch depends on the incoming signal.	
REV/NORM	This depends upon which side of the signal the radio is tuned.	

For recieving CW;

OPERATION	MFJ-1264 and 1265 Software	KANTRONICS Software
RTTY/CW	CW	CW
170/850	This switch is not used in the CW mode.	
NORM/REV	This switch is not used in the CW mode.	

<u>Interfacing the MFJ-1225 to</u> <u>the User</u> <u>Port of</u> <u>the C-64 or the VIC-20</u>

For interfacing the MFJ-1225 to the Computers, a cable has been included utilizing a user port connector and a 5-pin "K-connector". This 5 pin connector is used for both MFJ Software as well as Kantronics Software. The connection cable has been wired at the factory for use with the MFJ Software. Kantronics Software includes a cable.

<u>Interfacing the MFJ-1225 to other Computers;</u>

The MFJ-1225 can be used with almost any computer, as long as there is a Software program for that specific computer. To complete the versatility of the MFJ-1225 another 8 pin output has been included to be used for almost all connections necessary for any computer.

<u>OPERATION</u>

In both RTTY/ASCII and CW operation, the tuning of the receiver is the key to proper receptioN. Follow the guidelines below, but feel free to experiment. The optimum setting will vary from one rig to the next.

<u>FOR</u> <u>RTTY/ASCII</u>- To recieve RTTY or ASCII set the interface to the RTTY and 170 position and begin tuning the receiver until a station is heard. With the program set to 60 words per minute (WPM) operation, slowly tune the receiver so that the RTTY signal begins at a low pitch and slowly rises. Watch the PHASE LOCK and DATA L.E.D.s. When the receiver is properly tuned, the PHASE LOCK will light and remain lit, while the Data L.E.D. blinks in time to the tone shifts. Try the 425 and 850 positions also, to see which provides the clearest copy. If the signal appears to be received properly but the screen display is garbled, try changing the reception speed (WPM) speed or change the NORM/REV switch.

<u>FOR</u> <u>CW</u> - Connect the interface as described in the CONNECTIONS section. Load your Ham program and tune your receiver to a station. Set the interface to the CW position and program to the CW mode. Tune the receiver until a Morse signal is heard. Starting with a low pitched tone, tune the receiver so that the pitch slowly rises. When the receiver is tuned properly, the PHASE LOCK and DATA L.E.D.s should blink together in time with the CW tones. If the signal is very noisy, it will be necessary to set the volume of the receiver to a lower level.

In both RTTY/ASCII and CW operation, some signals may not be copyable. This may be because of high levels of noise, coding of the message, transmission in a foreign language or other reasons.

MFJ-1225

PAGE FOUR