

MATERIAL:		
PROCESSES:		
DRAFTSMAN		DATE
DESIGNER		DATE
CHECKER		DATE
ENGINEER		DATE
APPROVED		DATE
RELEASED		DATE
TOLERANCES UNLESS SPECIFIED		
.XXX ± .010		
.XX ± .020		
.X ± .030		
ANGLES ± 1°		
MACHINED DIAMETERS CONCENTRICITY .002" DIA		
REMOVE ALL EDGES AND SHARP EDGES		
ALL DIMENSIONS ARE IN INCHES		
HOLE TOLERANCES		SURFACE
0.133 THRU .125 ± .004 - .001		
.126 THRU .250 ± .005 - .001		
.251 THRU .500 ± .006 - .001		
.501 THRU .750 ± .008 - .001		
.751 THRU 1.000 ± .010 - .001		
1.001 THRU 2.000 ± .012 - .001		
TEXAS INSTRUMENTS INCORPORATED SEMICONDUCTOR OPERATIONS		CODE IDENTIFY NUMBER 01295
TITLE: Morse Code Receiver/Transmitter		
TI PROPRIETARY INFORMATION		
SCALE	C	SHEET 1/2

PWB2

C SIZE

MORSE CODE INTERFACE BOX DESCRIPTION

INPUTS:

1. HAS A KEYSER INPUT JACK TO HOOK UP TO A KEYSER.
2. HAS A RECEIVER INPUT JACK TO RECEIVE CODE FROM A MORSE CODE RECEIVER UNIT.

CAUTION: HOOK UP ONLY ONE SOURCE. EITHER 1 KEYSER OR A RECEIVER BUT NOT BOTH SIMULTANEOUSLY. ALTHOUGH SIMULTANEOUS HOOK UP OF TWO INPUTS DOES NOT CAUSE ANY DAMAGE TO THE UNIT IT CERTAINLY WOULD NOT FUNCTION PROPERLY.

CONTROL SWITCHES:

3. BAND SELECT SWITCH: USUALLY LEAVE IT ON "WIDE" UNLESS RECEIVING FROM A NOISY STATION WHEN YOU COULD SWITCH IT TO "NARROW".
4. ATTENUATOR ON/OFF: NORMALLY IN "OFF" POSITION. WHEN THE "RED LED" INDICATOR COMES ON INDICATING THE INCOMING SIGNAL TO THE INTERFACE UNIT IS TOO STRONG PUT THE SWITCH TO "ON" POSITION.
5. TONE CONTROL POT: USED TO ADJUST THE TONE CONTROL FOR OPTIMUM RECEPTION BY LOOKING AT THE RECEIVER DISPLAY ON THE SCREEN AND SIMULTANEOUSLY LISTENING TO THE TONE AND LOOKING AT BLINKING GREEN LED.

VISUAL INDICATORS:

AMBER LED: INDICATES INCOMING SIGNAL AMPLITUDE IN TO THE INTERFACE UNIT IS TOO LOW. WHEN THIS HAPPENS INCOMING SIGNAL VOLUME NEEDS TO BE INCREASED AT THE SOURCE.

RED LED: LIGHTS WHEN THE INCOMING SIGNAL AMPLITUDE IS TOO HIGH.

GREEN LED: GIVES VISUAL INDICATION OF DOT'S & DASHES.

POWER: THE INTERFACE UNIT HAS ITS OWN POWER SUPPLY AND AC CORD.

OPERATION AND PROCEDURES

1. PLUG THE MORSE CODE INTERFACE UNIT IN TO THE I/O PORT OF THE HOME COMPUTER.
2. CONNECT THE MORSE CODE RECEIVER OUTPUT FROM THE KEYER TO THE KEYER INPUT OR OUTPUT FROM RECEIVER TO THE RECEIVER INPUT JACK OF THE INTERFACE UNIT.
3. TURN THE HOME COMPUTER ON AND YOU WILL SEE THE MESSAGE:

TEXAS INSTRUMENTS HOME COMPUTER
PRESS ANY KEY TO BEGIN

4. PRESS ANY KEY AND YOU WILL SEE THE MESSAGE:
 1. PRESS 1 FOR BASIC.
 2. PRESS 2 FOR EQUATION CALCULATOR.
5. PRESS "1" KEY AND YOU WILL SEE TI BASIC READY.
6. TYPE OLD CW AND PRESS ENTER. THE PROGRAM ENTERS THE MORSE CODE RECEIVER TRANSMITTER MODE. YOU WILL SEE THE MENU FOR TONE SELECTION.

PRESS 1 FOR 300 HERTZ
PRESS 2 FOR 600 HERTZ
PRESS 3 FOR 1200 HERTZ
PRESS 4 FOR 2400 HERTZ

PRESS THE KEY OUT OF 1,2,3, OR 4 FOR TONE OF YOUR CHOICE AND YOU WILL SEE THE MESSAGE:

TRANSMITTER SPEED SELECTION:

PRESS 1 FOR 5 WORDS/MINUTE.
PRESS 2 FOR 10 WORDS/MINUTE.
PRESS 3 FOR 12 WORDS/MINUTE.
PRESS 4 FOR 15 WORDS/MINUTE.
PRESS 5 FOR 20 WORDS/MINUTE.
PRESS 6 FOR 25 WORDS/MINUTE.
PRESS 7 FOR 30 WORDS/MINUTE.

7. AS YOU PRESS ONE OF THE ABOVE KEYS YOU WILL SEE THE FOLLOWING MESSAGE:

CONTROL SELECTION:

PRESS SHIFT-R FOR RECEIVER.
PRESS SHIFT-T FOR TRANSMITTER.
PRESS SHIFT-M FOR MENU SELECTION.
PRESS SHIFT-C FOR CONTROL SELECTION.
PRESS SHIFT-Q FOR MASTER RESET.

AS YOU PRESS SHIFT KEY AND THE "R" KEY YOU WILL GO TO RECEIVE MODE AND SEE THE FLASHING CURSOR AT THE BOTTOM HALF OF THE SCREEN. THE SET WOULD KEEP RECEIVING MORSE CODE FROM THE KEYS OR THE MORSE CODE RECEIVER.

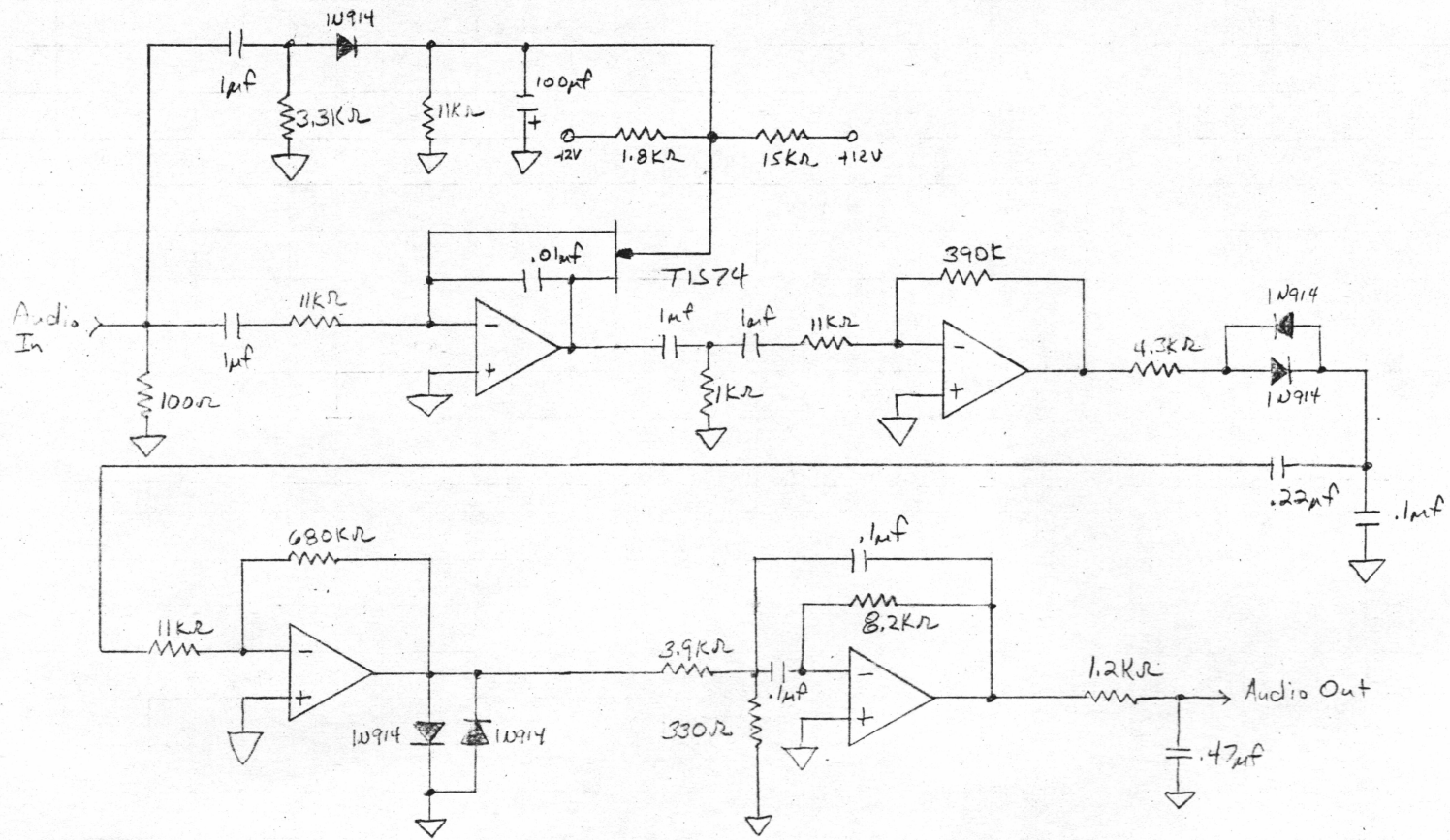
AS THE BOTTOM HALF OF THE SCREEN GETS FILLED THE MESSAGE WOULD START SCROLLING THUS DISPLAYING THE MOST RECENT TEXT.

8. TUNE THE TONE CONTROL ON THE INTERFACE FOR OPTIMUM RECEPTION.
9. THE PROGRAM ADJUSTS TO THE INCOMING CODE SPEED DYNAMICALLY. BUT IF THE CHARACTER SPACING IS TOO WIDE PRESS THE "S" KEY ON THE KEYBOARD UNTIL YOU SEE GOOD SPACING ON THE SCREEN AND RELEASE IT.
10. IF THE CHARACTERS ARE TOO CLOSE, PRESS THE "D" KEY UNTIL YOU SEE OPTIMUM SPACING ON THE SCREEN AND RELEASE.

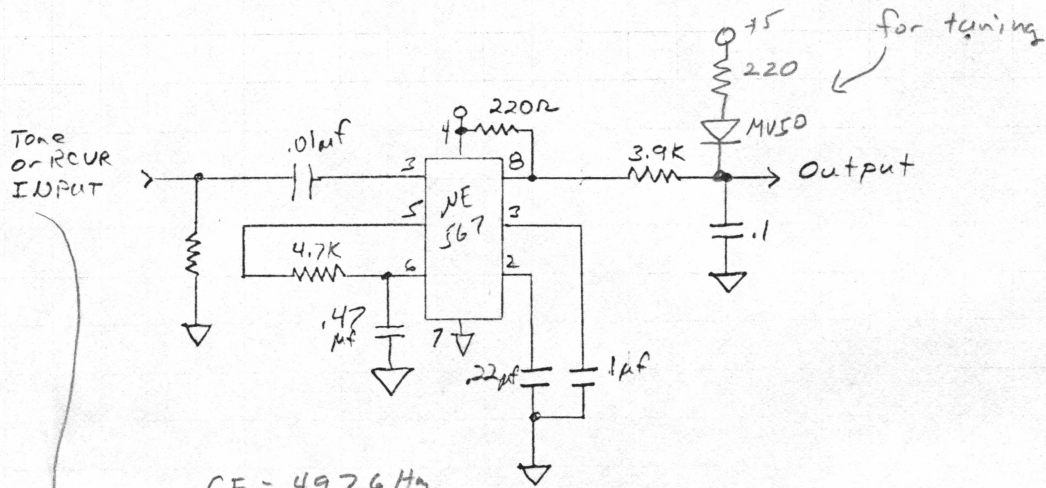
TO GET OUT OF RECEIVE MODE:

11. PRESS SHIFT KEY AND "C" KEY SIMULTANEOUSLY AND RELEASE.
12. TO GET INTO TRANSMIT MODE PRESS "SHIFT" KEY AND "T" KEY SIMULTANEOUSLY AND RELEASE THE FLASHING CURSOR IS IN THE TOP HALF OF THE SCREEN.
 - A) TYPE IN ANY MESSAGE.
 - B) PRESS ENTER.

YOU CAN LISTEN TO THE MORSE CODE BEING TRANSMITTED AT THE END OF TRANSMISSION. THE WHOLE MESSAGE SCROLLS UP AND THE FLASHING CURSOR APPEARS. NOW, TO TRANSMIT NEW DATA ENTER NEW DATA AND PRESS ENTER. TO RETRANSMIT THE SAME DATA PRESS ENTER AGAIN.



Tone Decoder



$CF = 497.6 \text{ Hz}$

Lock Range 460-558 Hz
 Track Range 458-566 Hz