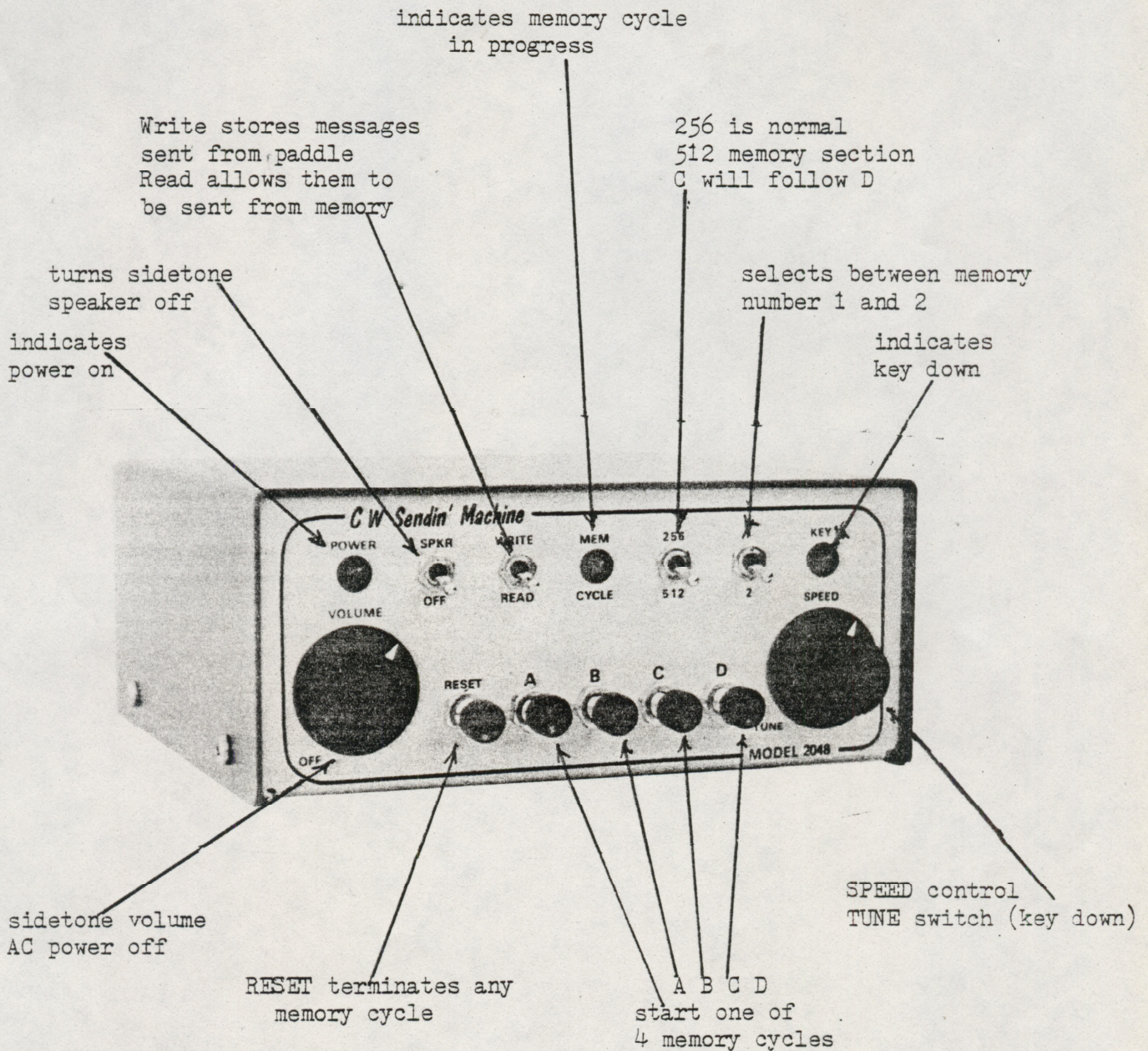


# CW Sendin' Machine



CW Sendin' Machine H. Alan Harp K4PB 718 Magnolia Dr Lake Park FL 33403

305-848-4017

## IMPORTANT

### ANSWER TO THE MOST FREQUENTLY ASKED QUESTION OF NEW OWNERS

The CW Sendin' Machine when turned on with the switch in the READ position may come on key down. This is due to the fact that random data is in the Memory until good data is written into it. Setting the switch to WRITE will correct the key down problem. The same is equally true when turning the switch from one Memory to another for the first time since turn on.

A power crash may cause the unit to lose its Memory and come on key down also.

It is O.K. to leave the unit turned on all the time, but do not leave it connected to a rig with VOX ready to go or a power crash may leave you key down creating QRM and damage to your rig.

### UNPACKING INSTRUCTIONS

Carefully unpack the CW Sendin' Machine. There should be a package containing three cables. The TV cheater cord is for AC power and connects to the mating socket on the back. The three conductor cable is for connecting to the paddle. The clear insulation wire is ground. The red is the dah wire, the black is the dit. The cable with the miniature phone jack and phone plug connects from the miniature phone jack on the back to the key jack on your transmitter.

There are two key jacks on the back of the CW Sendin' Machine. Looking from the back, the one in the upper right corner is for keying positive keyed transmitters such as Drake TR7, ICOM 701, Ten Tec, Atlas, etc. The one in the lower left next to the paddle plug is for grid block keying such as the Kenwood TS520, or most transmitters with tubes in the final stages.

Connect the power cable and a paddle to the unit.

### OPERATION

Set the toggle switches as follows:

- SPKR, WRITE, 256, and 1.
- Connect the power cord to an AC outlet.
- Turn power on, (switch on the volume control).

Start sending with the paddle. Adjust the speed control to a comfortable speed. The POWER LED should be lit. The KEY LED should flash with the code. If the paddle is not wired properly, correct it at this time. Practice sending until you become proficient.

To write a section A of Memory #1, depress A and start sending a short message. The MEM CYCLE LED will light and remain lit as long as the Memory is cycling. As long as it is lit, your message is being stored in Memory. If it goes out before you are finished with your message, it is too long for a 256 bit section. After you have finished your message, wait until the MEM CYCLE LED goes out.

It is important to start sending immediately after depressing the button. Any delay will be evident on play back.

To send the stored message, set the switch to READ. Depress A. The message you have just stored will be sent automatically.

Similarly, messages may be stored in other section of the Memory. Stored messages will remain and can be sent again and again until another message is written in the section on Memory or the power is turned off. For this reason, you may want to leave your keyer turned on all the time.

Depressing the RESET button will cancel a memory cycle in progress. Reset may also be accomplished with the switch in the READ position by operating the paddle. After any reset, another Memory cycle may be started immediately. Our automatic reset feature allows you to interrupt one message with another simply by pressing another button. A message may be started over by pressing the button again.

If when writing a message to Memory an error is made, you may reset and start over without waiting for the cycle to complete. If you do not wish to resend the entire message, you may start the cycle in the read mode, allow it to run to a point just prior to the error, then quickly set the switch to WRITE and complete the message while the cycle continues.

To use Memory #2, simply set the switch to 2. Repeat the same procedure used with Memory #1. Actually, there are eight 256 bit sections of memory available to store message in.

### DOT AND DASH MEMORIES

This feature can be demonstrated as follows:

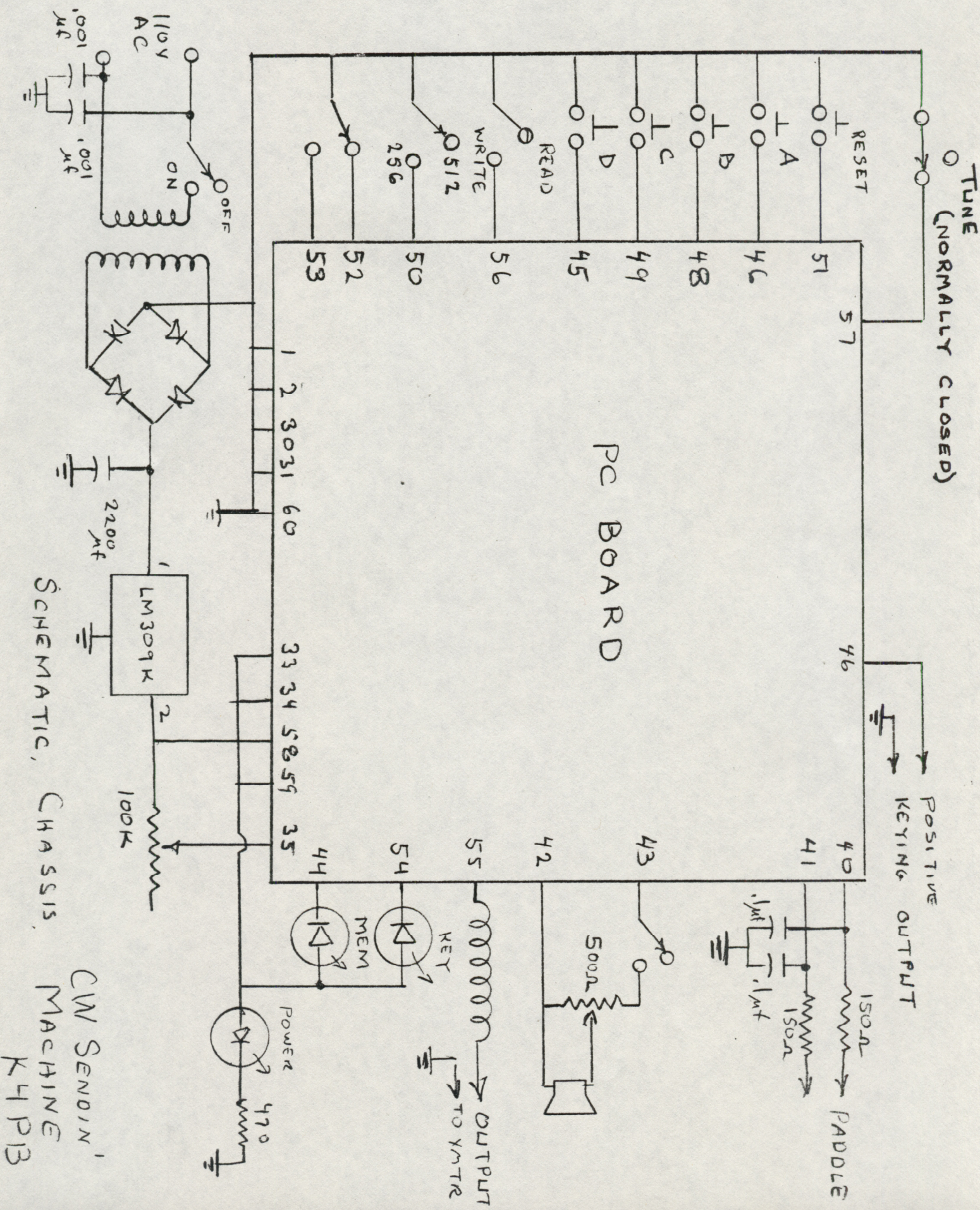
- Set the keyer to its lowest speed.
- Close first the dah paddle then the dit.
- Quickly release both contacts before the dah completed.

You will note that the dah does complete and the dit follows. The opposite can be demonstrated by closing first the dit then the dah paddle and releasing before the dit completes. This feature allows the paddle to be one dit or dah ahead of the keyer.

### IAMBIC OPERATION

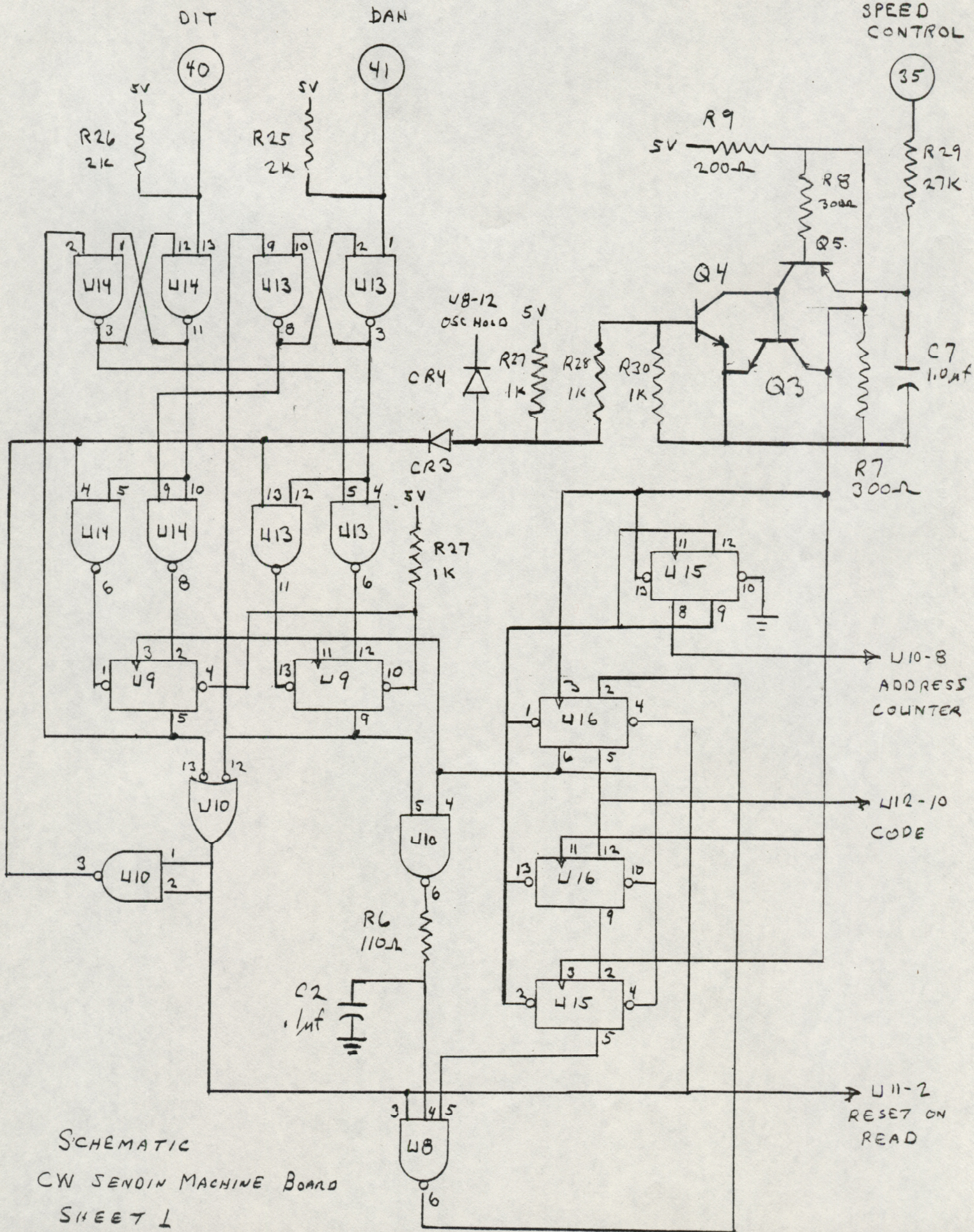
Using a dual lever paddle, note that if both contacts are closed, the keyer alternates between dits and dahs. Of course it makes first whichever was closed first. If both levers are opened during a dah, a dit will follow and vice versa. Using this feature, the C, R, K, F, L, Y and Q can be sent with fewer finger motions than with a single lever paddle. For instance, to make a C, close first the dah then the dit paddles. Open them both during the second dah. To send an F, close the dit lever and tap in the dah during the second dit. To make a K, close the dah then the dit, release both during the dit. To make an R, close dah, tap the dit during the first dah, release the dah during the last dah. To make an L, close the dit and tap the dah during the first dit, release the dit during the last dit.

This method may be difficult to become accustomed to if you have already learned the other way. However it can be easier once learned and may allow you to send faster once you have mastered it.

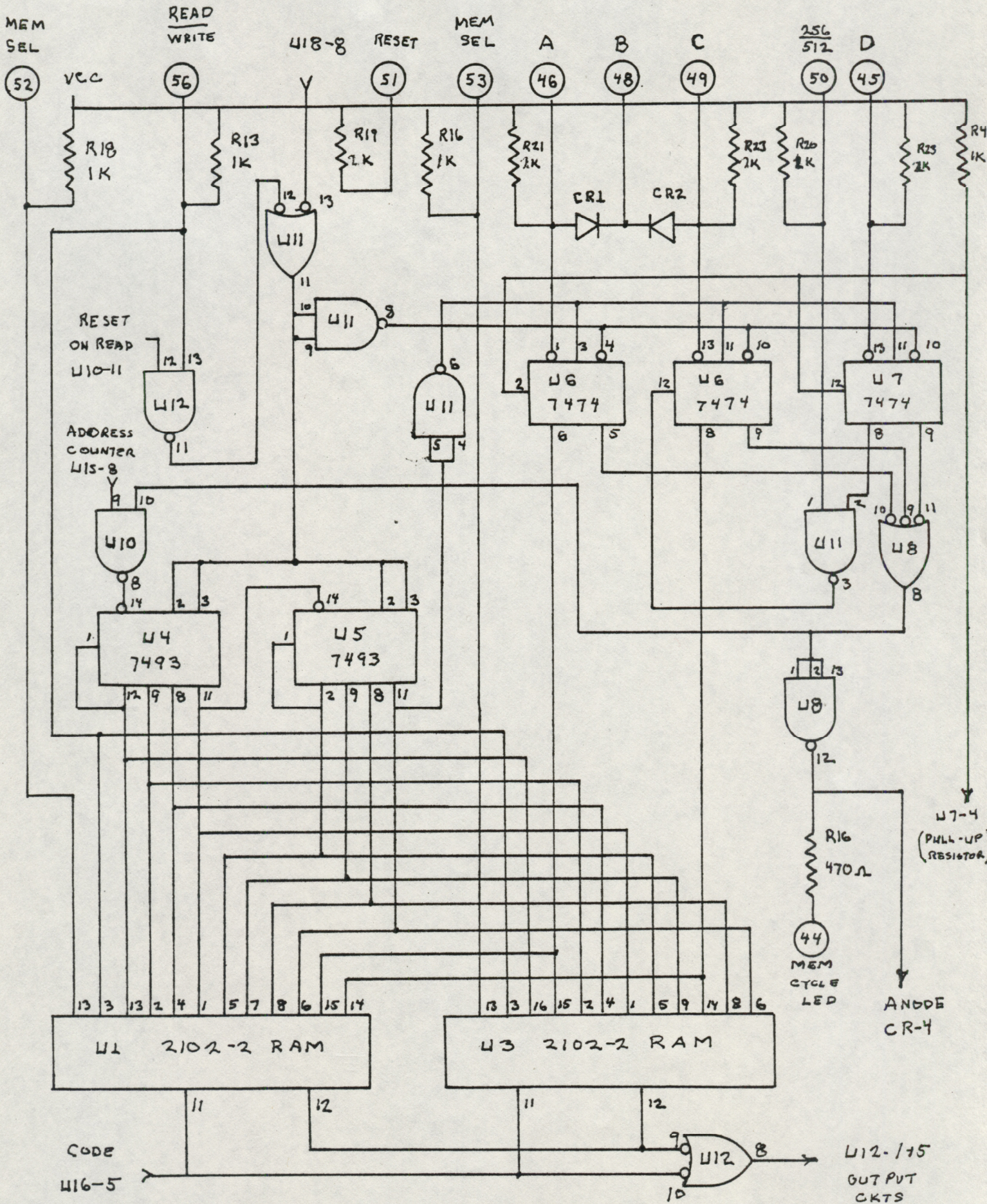


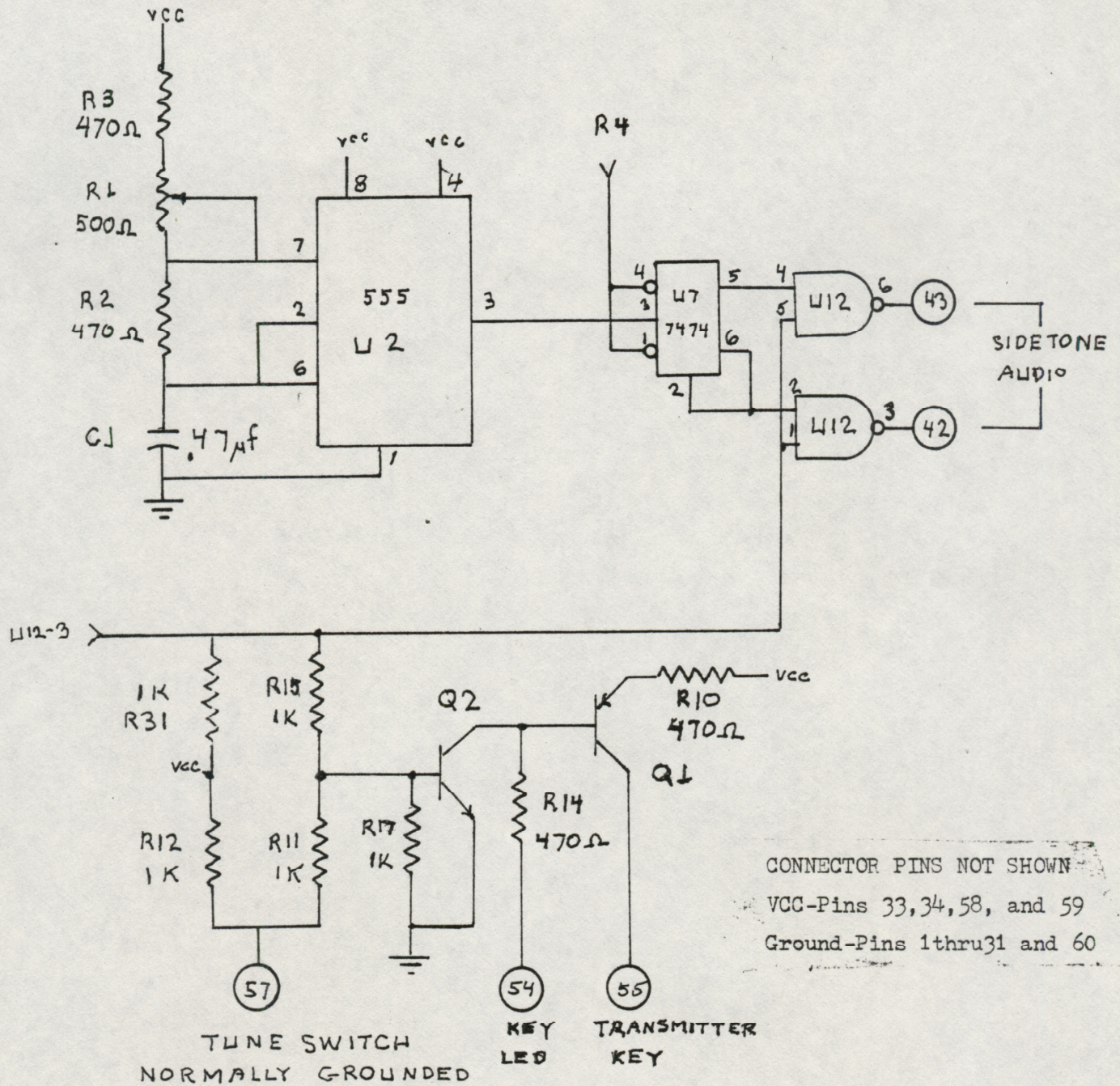
SCHEMATIC, CHASSIS.

CW SENDER  
MACHINE  
K4PIB



SCHEMATIC  
 CW SENDIN MACHINE BOARD  
 SHEET 1



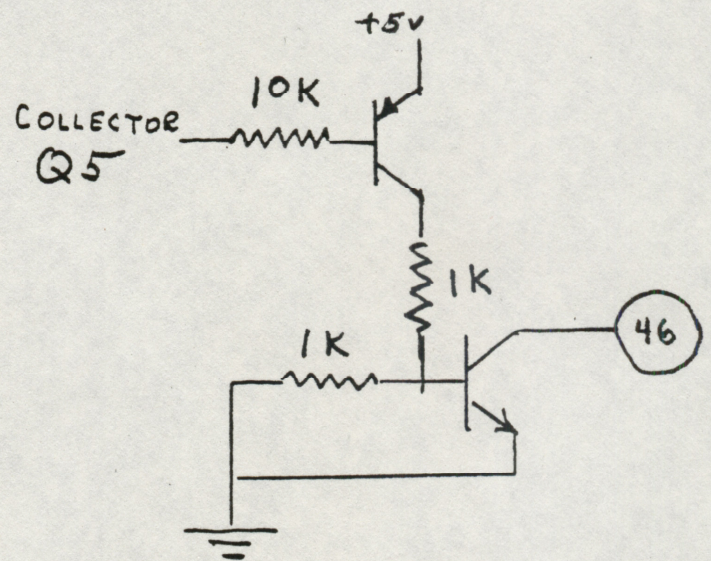


CWSM-5  
SCHEMATIC  
SHEET 3

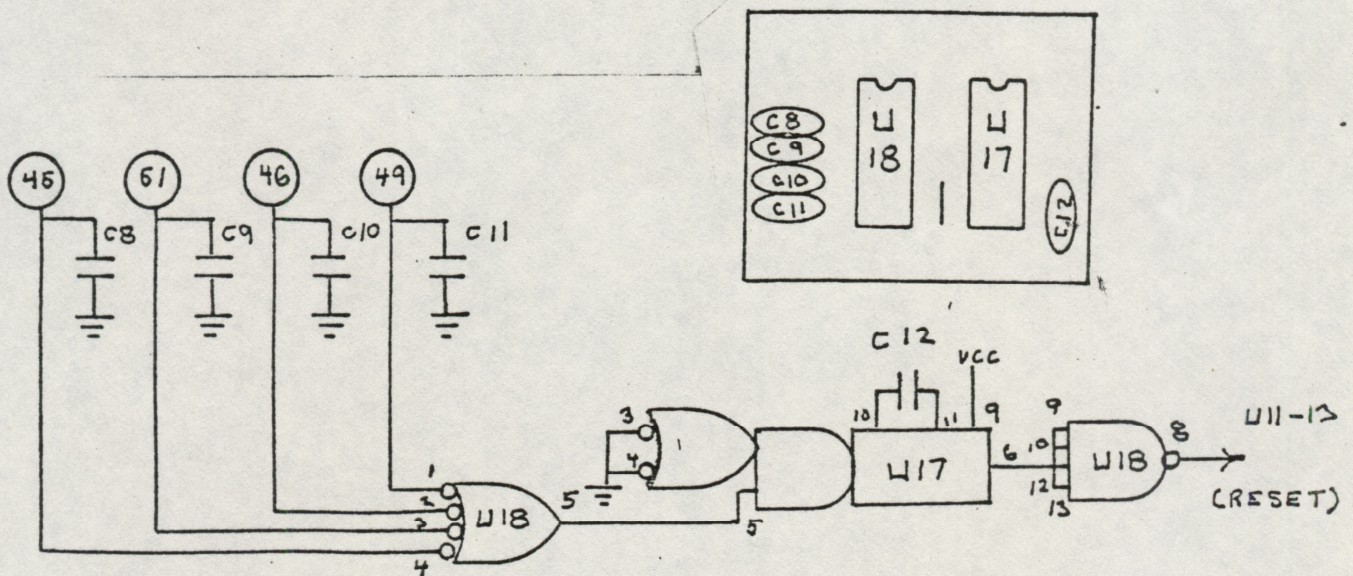
POWER CONNECTIONS NOT SHOWN

VCC TO U1, U3-Pin 10; U4, U5-Pin 5; U6 thru 16-Pin 14  
Ground TO U1, U3-Pin 9; U4, U5-Pin 10; U6 thru 16-Pin 7

# POSITIVE KEYING OUTPUT CIRCUIT



# AUTOMATIC RESET FEATURE - AUXILIARY BOARD



CONNECTIONS NOT SHOWN IN SCHEMATIC

U17 - U18 PIN 7 TO GND

U17 - U18 PIN 14 TO VCC

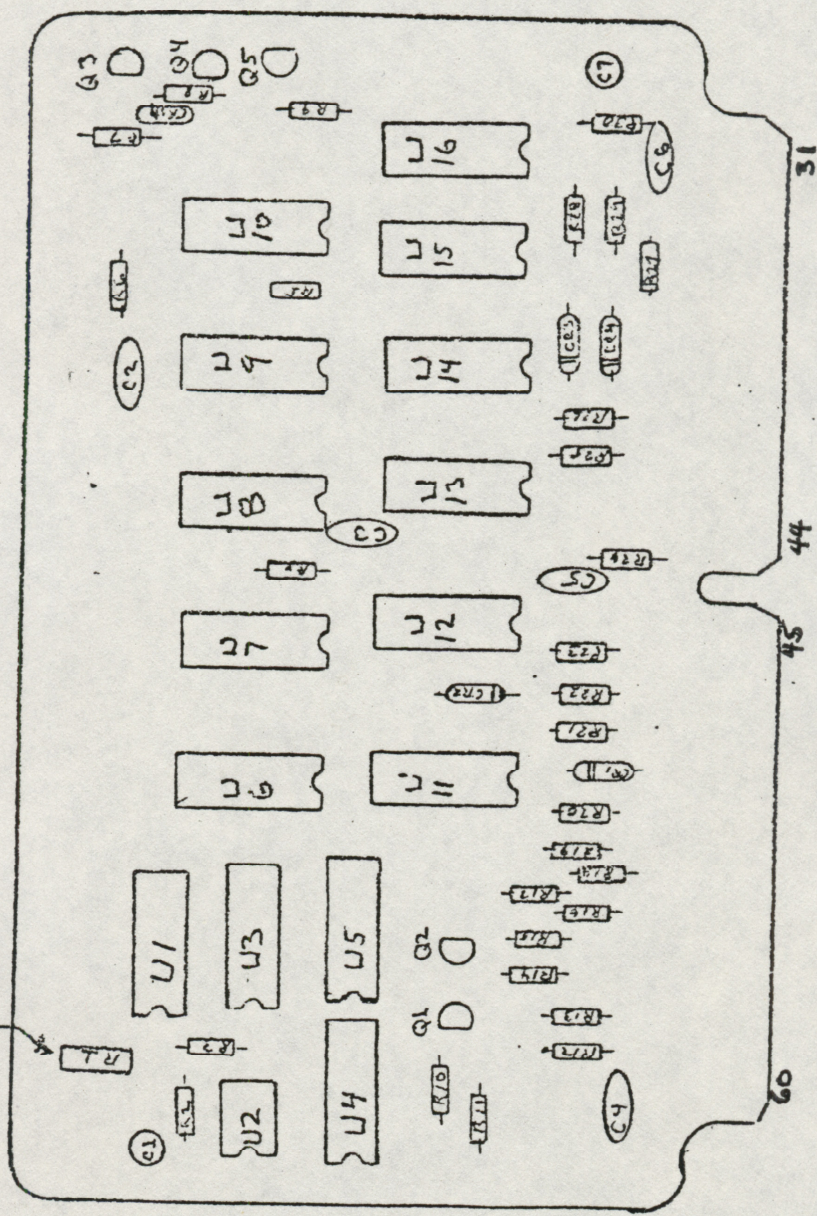
U-18 - 7413

U-17 - 74121

C8, C9, C10, C11, C12 .1μfd.



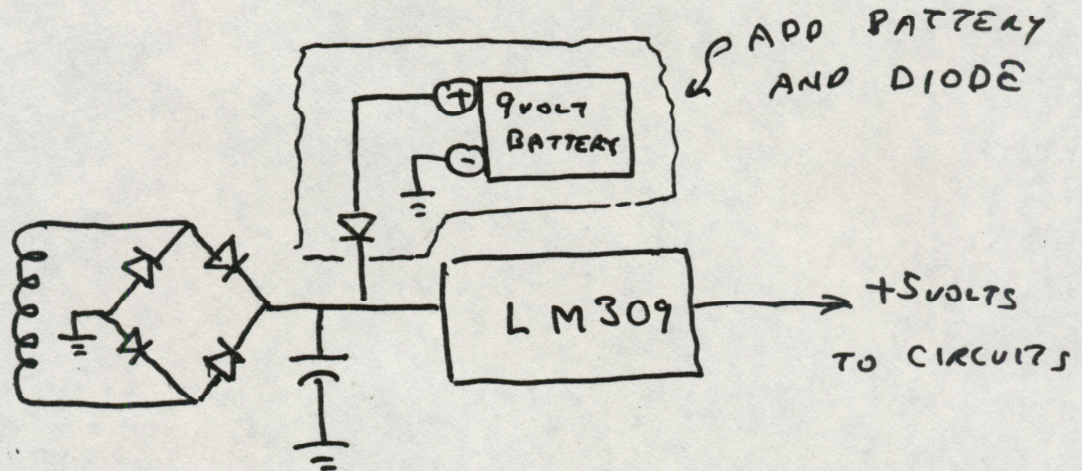
R1  
SIDE TONE  
PITCH CONTROL



COMPONENT LAYOUT  
BOARD  
CW SM-5

BATTERY HOLD-UP FOR CW SENDIN' MACHINE

7/30/79



This circuit can be added to keep memory alive through power crashes. However a 9 volt battery will not operate the keyer for long periods of time. We recommend mounting the battery externaly on the back with some sort of strap. Disconnect the battery when power is removed from the keyer intentionally.

A battery strap in reverse could be used to connect this point to a DC source that could operate the keyer free from its AC source. DC voltages from 9 to 15 volts could be used. The current drain is from 200 to 500 ma.

We offer this information to those who may wish to modify their CW Sendin' Machines to include this feature.

H. Alan Harp K4PB

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