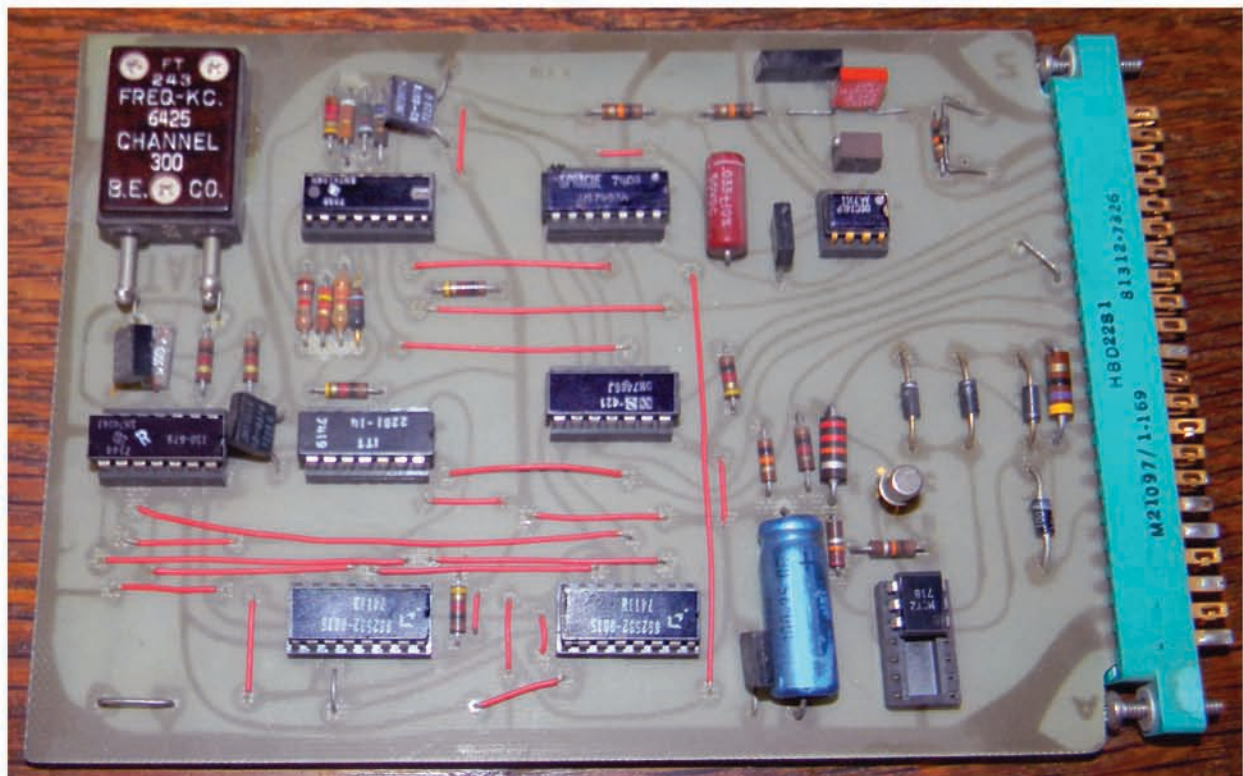
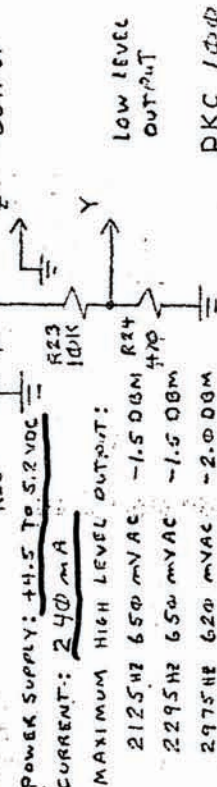


DKC 100
RTTY AFSK Oscillator

N0FXC
N0VLX
N0XCE
N0BKL

17 June 1977





TONI	FREQ	DIVISOR	PRESET DECIMAL	COUNTER PRESET MSD LEO DCAN DCBA	TTY	NRX/ND
WSPACE	2975	125	121	0111 1001	0	1
WSPACE	2225	175	81	0101 0001	0	0
NRX/N	2125	187	67	0100 0011	1	X

REV 17 JUN 77

SHEET 1 OF 2

RTTY AFSK OSCILLATOR

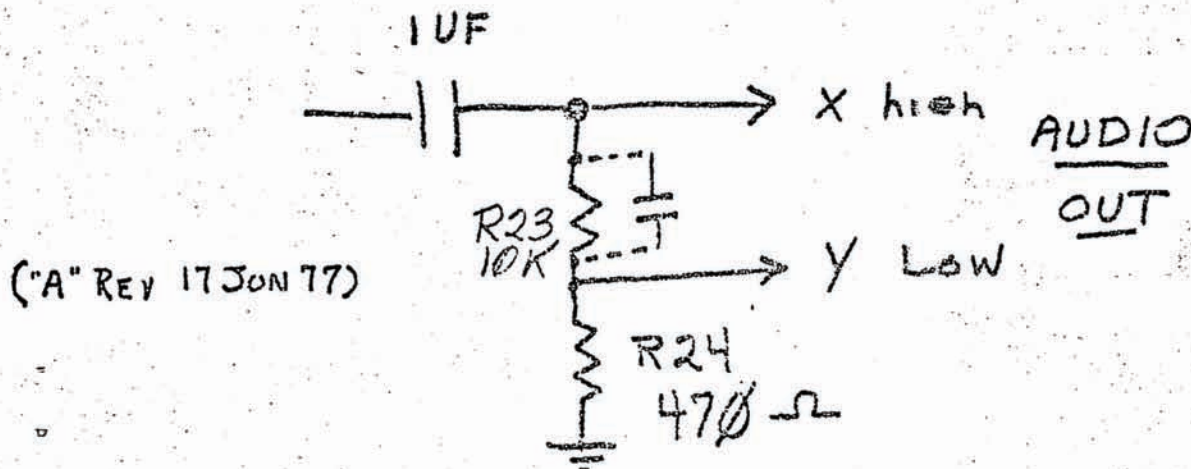
NININØFXE/VLX/XCE/3KE 4 JAN

ENGINEERING NOTES ON THE DKC-100

1. If the sinewave output is clipped replace U4 the 74156 and note that it may not be defective but just not suitable for this application



2. Harmonics of a low order of the counter output have been noted at 80 meters so a box is recommended and if problem is severe bypass all leads .001UF (OR CUT POWER WHEN NOT USING)
3. Provisions have been made for the addition of a compensation capacitor in the output attenuator to emphasize higher frequencies:



4. Select R24 to obtain the approximate output level suitable to your transmitter input (example I use 470 ohms for my Icom 22A this level was found to require 17W with enough range for even higher output if needed)

DKC-100 PARTS LIST BY VALUE REVISION "A" 17 JUN 77

QTY VALUE DESIG REMARKS

FIXED RESISTORS, $\frac{1}{4}$ WATT (EXCEPT R1) 10% EXCEPT * SHOULD BE 5%

1	47 OHMS	R1	$\frac{1}{2}$ WATT, FOR TIL 17 USE 68 OHMS AND FOR 20 MA LOOP USE 270 OHMS (60 MA LOOP W-4N26-4N28 USE 47- Ω)
1	470 "	R24	
1	680 "	R20 ***5%	
1	750 "	R19 ***"	
1	910 "	R18 ***	
7	1 K "	R6 -R12	-MAY USE ANY VALUE 680 TO 1.5K OHMS R6-R11.
1	1.2K"	R17***5%	
1	1.8K"	R13***	
1	2.5K"	R14***	
1	3.3K"	R15***	
1	3.9K"	R16***	
5	10K "	R3,R5,R21,R22,R23	
1	22K "	R2	ANY VALUE 15K TO 33K DEPENDS ON BETA OF Q1

PONTENTIOMETERS, BECKMAN MODEL 91AR2K

1	2K "	R25	ANY VALUE 2K TO 25K THREE TO TEN TURN IS BEST..
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CAPACITORS, CERAMIC 10 VOLTS OR HIGHER

1	50 PF	C1	any VALUE 20PF TO 50PF
1	.001 UF	C2	ANY VALUE 330PF TO .001UF
1	.002 UF	C3	
1	.005 UF	C4	ANY VALUE .003 TO .005 UF
4	.1 UF	C6 TO C9	ANY VALUE .02 TO .2 UF

CAPACITORS TANTALUM OR ELECTROLYTIC 10 VOLTS MIN

1	1.0 UF	C5	ANY VALUE 0.5 TO 2 UF (CHECK BOARD SIZE)
1	100 UF	C10	ANY VALUE 33 TO SIZE ?

DIODES, SILICON RECTIFIER OR SIGNAL, 50 VOLTS MIN

4	1N4001	D1-D4	4001 THRU 1N4007 OR 1N914
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TRANSISTOR, MINIMUM BETA 40

1	NPN	Q1	ANY TYPE OR 2N3904
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INTEGRATED CIRCUITS

1	7400	U6	
1	7404	U7	
1	7486	U5	
1	7493	U3	
2	74156	U1,U2	
1	74163	U4	
1	4N26	U8	MAY USE 4N28 OR TIL17 NOTE R1 RESISTOR
1	741	U9	(8 pin dip package)

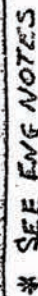
MISCELLANEOUS

1	6426 KHZ	CRYSTAL, OR SURPLUS 6425 KHZ FT-243 holder
3	SPST	TOGGLE SWITCHES, USED IF INVERT/NORMAL, WIDE/NARROW AND OFF/ON ARE USED

$705 = 741$
 $2281 \text{ LD } 14 = 7400$
 $2532 - 0015 = 74161$
 $2286 - 0016 = 7404$

GOOD LUCK ES 73'S

~~NNN~~BKL
~~NNN~~ACE } TECHNICAL
~~NNN~~VLX
~~NNN~~PCB...ARTWORK



DKC 100 PARTS PLACEMENT DIAGRAM

17 June 1977