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EXCLUSIVELY AMATEUR RADIO TELETYPE

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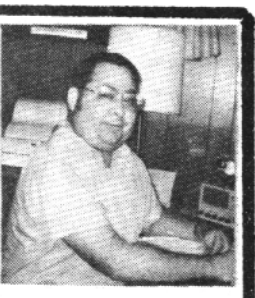
VHF RTTY NEWS



Arny Gamson, K6PXA, 8034 Gentry

N. Hollywood, CA 91605

Congradulations to two very rapidly growing RTTY Clubs who are very successfully promoting RTTY from the mile-high city of Denver, Colorado- and the heart of America, Iowa-Illinois.

Both are reflecting their pride with wide area coverage, exclusive RTTY repeaters and excellent newsletters.

If you wish to support their Club-Society and operate their repeaters if you are in that area of the country, contact WBØQCD and KØOST/WDØBZA, Ok in latest call book, officers of the metro amateur FM-RTTY Club and the Bi-State VHF Teleprinter Society respectively.

Our editor, Chuck, W6MNO is not doing so shabby as President of the SDTG (San Diego Teleprinter Society). The last dinner meeting that I attended was actually overcrowded with avid RTTYers and larger accomodations are being considered to welcome the many newcomers. Much activity and interest was generated at the San Diego Convention held locally and internationally.

The San Diego group is actually an accomplished spin-off from the Los Angeles-Orange County Southern California Amateur Teleprinters Society (SCATS), which has members of up to 200miles to the North of the SDTS.

Vast numbers may necessitate another split next year of the SCATS group - Orange County and Los Angeles North West. This will eliminate the inconvience- Saturday timing - long distance problems and permit a much more convienient night and perhaps a dinner meeting like practically all other radio clubs have.

Chucks' group of about 60 members has an attendance of approximately 80% while SCATS, in 3 1/2 years has rarely had more than 20%.

It is interesting to see how other RTTY Clubs handle this problem and something to watch for; being too successful in our zeal to promote RTTY. We have an unofficial motto:" are U an active member or do you just belong?"

Hope other clubs and individuals are responding to the FCC's requested NOTICE OF INQUIRY. "NOI", regarding ASCII legalization. The SCATS Club and AMRAD in Washington, D.C. area are formally preparing their response, it really works!

In fact, we may respond to other "noi'S" such as FCC refund of license fees and such important issues.

This is an important Club project for all to consider.

Looking forward to a great 1979 for RTTY and Ham Radio!

SEE U ENJOY --ARNY

Editors note- Arny Gamson, is of this writing, in the hospital suffering from Cushmans disease, which entails the removal of the Pituitary gland. I am sure cards and letters to his home will be much appreciated.

a plus output with reference to the center tap or chassis ground. Now if we also do the same thing except reverse the diodes the output will be negative with respect to the center tap or chassis ground So what we now have are two 12v. power supplies., one positive and one negative with respect to ground.

The diagram shows an easy way to make one of these split 12v. power supplies (regulated) using the LM340T-12 3-terminal positive regulator and the 320T-12 negative regultor. These devices give good regulation and are rated at lamp. Each has a metal tab on the back side which can be bolted to a heat sink. On the LM340-12 this tab is the ground connection and is common to one of the pins so it can be bolted to the chassis using a nylon bolt and nut. Unless you expect to draw the full 1 amp. it is not necessary to use a heat sink, the metal chassis will serve just as well. The ground pin on each regulator should be connected to the chassis ground.

There is another series of these 3 terminal regulators which are interchangeable with the 340 and 320 series. They are the 7812 (plus 12v.) and the (-12v.0. Their size is a little larger.

AFSK GENERATOR

AFSK GENERATOR

Martin Geisler, WA6TIC
11300 Hartland St.
North Hollywood, CA 91605

FEATURES:

Crystal stability without crystals
Sinewave distortion less than 1%
Excellent temperature stability (20 PPM/C)
Insensitive to supply voltage change.
No need for regulation (12 to 20Volts causes only 1 Hz change).
Independent Mark and Space adjustment
High output level
3 Volts into 600 ohms
Simple adjustments
Inverted and upright operation possible

The one IC that will do all this is made by EXAR (XR-2206) and was designed with FSK generation in mind. It has an internal current switch that transfers the oscillator current to any one of the two external timing resistors to produce two discreet frequencies. The AFSK generator circuit shown is layed out so that it is possible to operate with two totally independent tone frequency pairs, by the external timing capacitor C1 across pins 5 and 6, and by a timing resistor connected to either pin 7 or pin 8 to ground. The frequency is given as F equals 1/RC(in HZ). The range of the resistor should be between 4k and 200k ohms. It will operate with a supply voltage of 10 to 26 volt. The output amplitude is inversely proportional to the resistance of R 17, the Output Gain control. Thus, for example,R 17 equals 50K ohms would produce approximately 3V sine waves and R17 equals 25k would give 1.5 V out.

C1 is the timing capacitor and should be the best quality capacitor you can obtain. The frequency stability of the oscillator, with respect to temperature, is dependent on the capacitor and resistors.

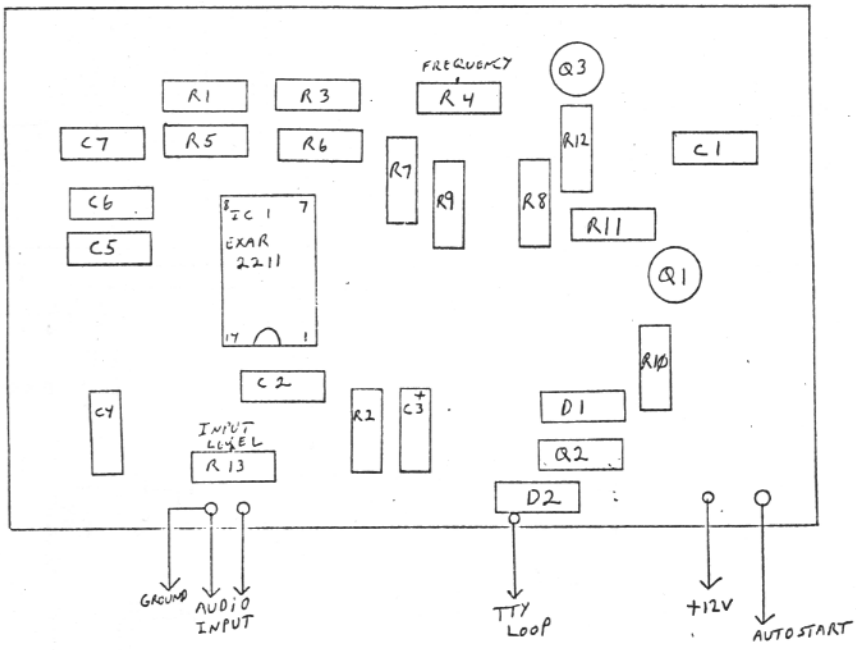
The resistors R1, R4, R7, and R10 should be a 1% type and to solve the problem of obtaining a large selection of resistors to chose from, a 5% to 10% carbon resistor (R2, R5, R8, and R11) may be paralleled to trim the frequency so it will reach the range of the adjustment pot. The true resistance shown in the parts list is based on an exact .01 uf capacitor for C1.

The loop input through the use of a bridge and opto-isolator will accomodate a series loop of any polarity that is between 20 and 100 ma. The logic input can be driven by most logic families that have a low less than 1.2V and a high above 2.0V.

Reprinted from RTTY JOURNAL-July-August 1975. Retyped by Glenn Charnock, WB6JKM.

"CHARLIE SPECIAL" Teletype AFSK Demodulator

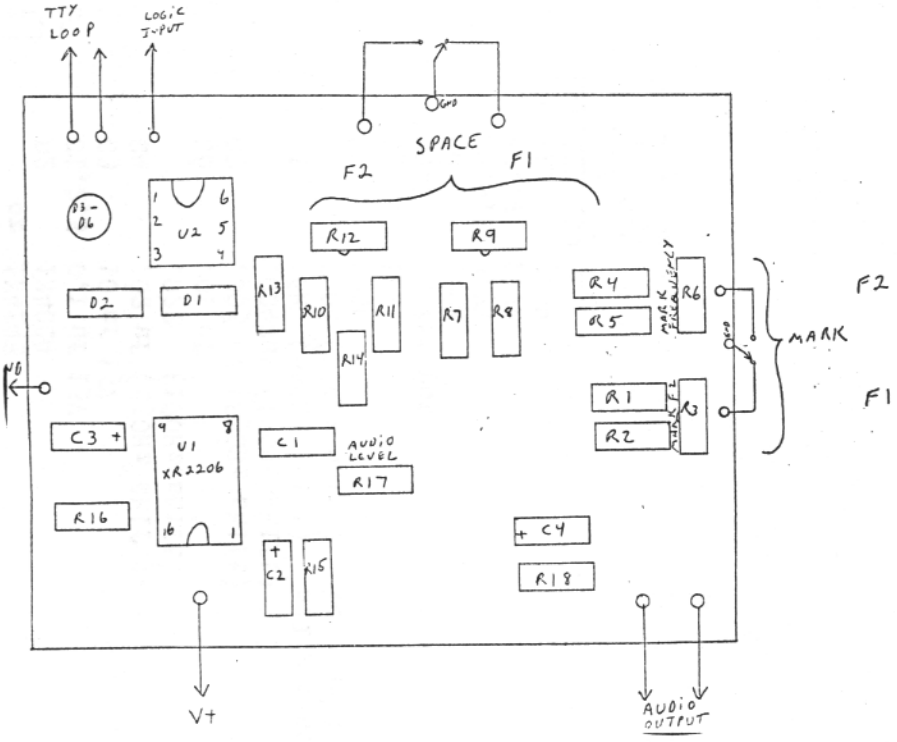
Parts Layout (Viewed from top of printed circuit board)
Drawing by Glen Charnock WB6JKM



AFSK GENERATOR by Martin Geisler WA6TIC

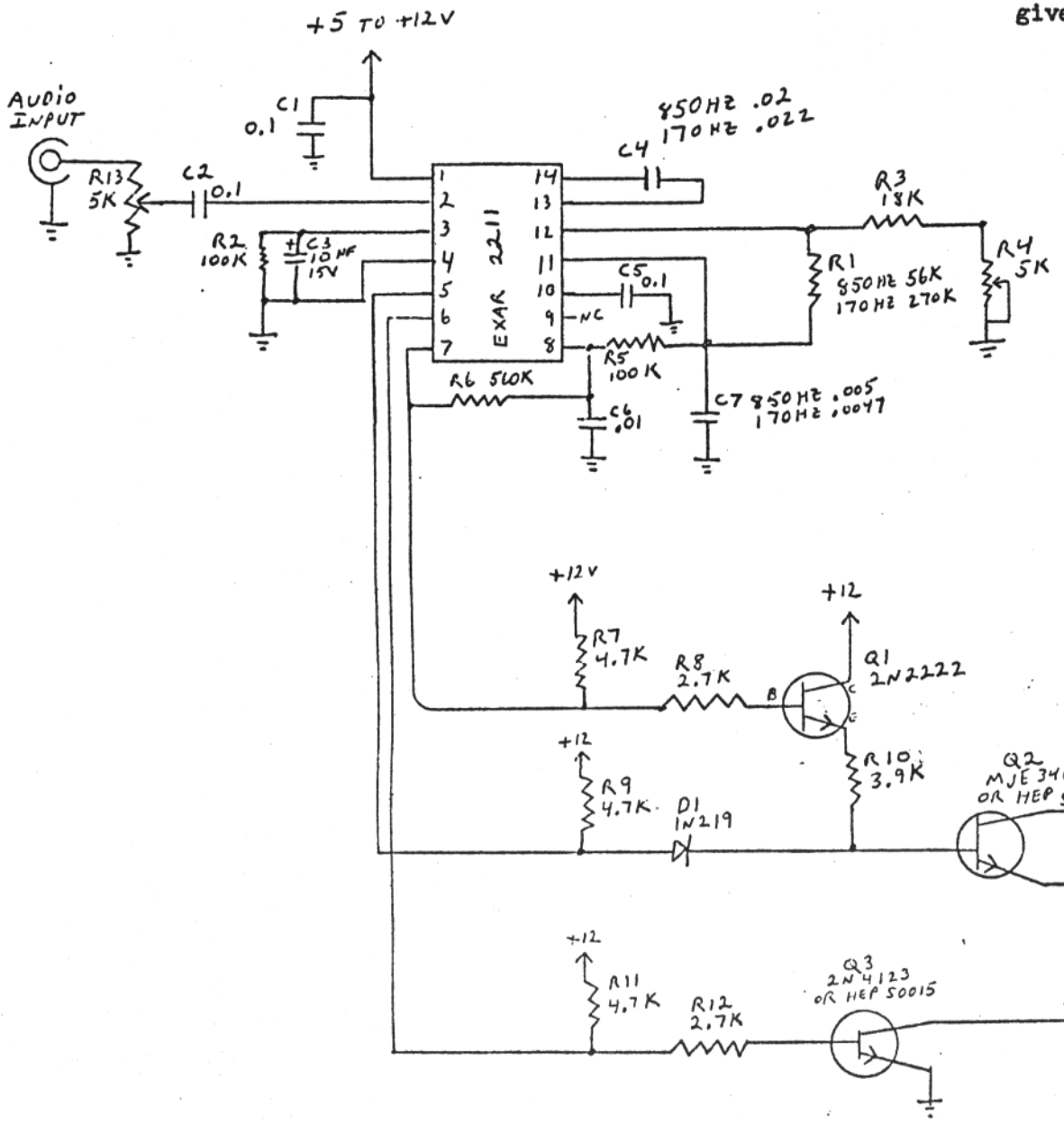
Parts Layout (seen from top of PC board)

Drawing by Glen Charnock WB6JKM



"CHARLIE SPECIAL" Teletype AFSK Demodulator
Designed by W6PNM February 1976

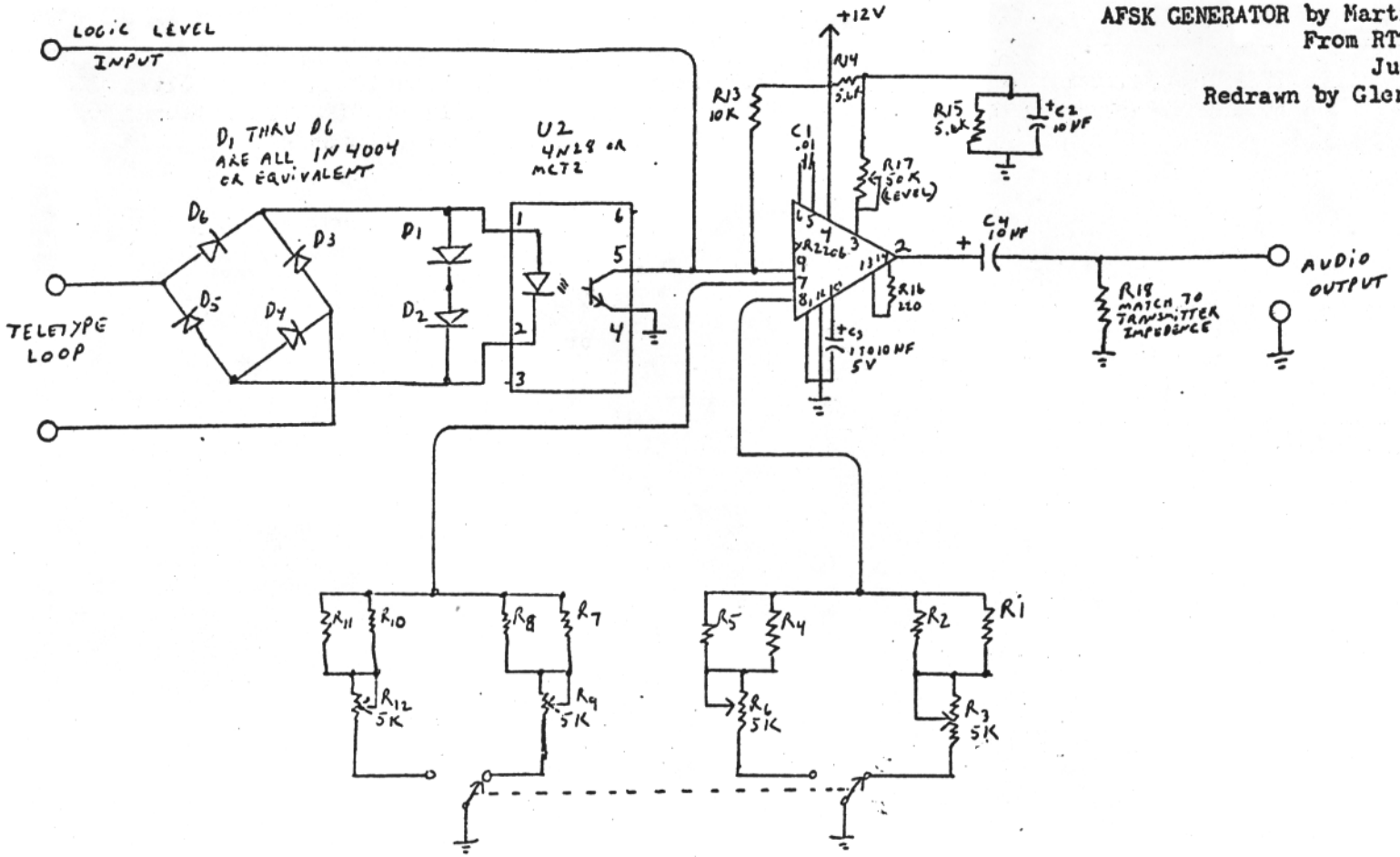
Redrawn by Glen Charnock WB6JKM
This circuit draws about 10 ma at 12 volts.
It operates quite well on VHF RTTY but will not give satisfactory operation on HF.



PARTS LIST

Q1	2N2222	
Q2	MJE340	
or	HEP S5015	
Q3	2N4123	
or	HEP S0015	
D1	1N219	
or	1N914	
or	1N4148	
D2	1N4004	
C1,2,5	0.1 uf 15V	
C3	10 uf 15V	
C4	.02 uf (850Hz shift)	
	.022 (170Hz shift)	
C6	.01 uf	
C7	.005 uf (850Hz shift)	
	.0047uf (170Hz shift)	
R1	56k (850Hz shift)	all resistors may be $\frac{1}{4}$ watt
	270k (170Hz shift)	
R2,5	100k	
R3	18k	
R4,13	5k trimpot	
R6	560k	
R7,9,11	4.7k	
R8,12	2.7k	
R10	3.9k	

AFSK GENERATOR by Martin Geisler WA6TIC
From RTTY Journal
July-August 1975
Redrawn by Glen Charnock WB6JKM



PARTS LIST

C1	.01 uf polystyrene, polycarbonate, or 1% type	U1	XR2206
C2, 4	10 uf 15V	U2	4N28, MOC, 1003, MCT2 etc. opto-isolator
C3	1 to 10 uf 15V	D1,2	1N4004
R1,R2,R3	The net resistance of this group should be 47.06k (2125 Hz) R1 can be 46-52k 1% then trim with R2 and adjust with R3 (5k pot)	D3-D6	1N4004 or 400V bridge at 100ma or more.

R7,8,9 Similarly adjust for 33.61k for 29.75 Hz (850 Hz shift)
R10,11,12 adjust for 43.57k for 2295Hz (170 Hz shift)
NOTE: R4,5,6 are not needed as the 2125 Hz mark frequency is the same for 170 and 850Hz shift

R13	10k
R14,15	5.6k
R16	220
R17	50k trimpot
R18	output load to match transmitter impedence