

PSK-31

Keyboard to Keyboard Chat Mode Similar to RTTY

Performance better than traditional Baudot, especially for rag chewing

Lets you use upper case and lower case letters

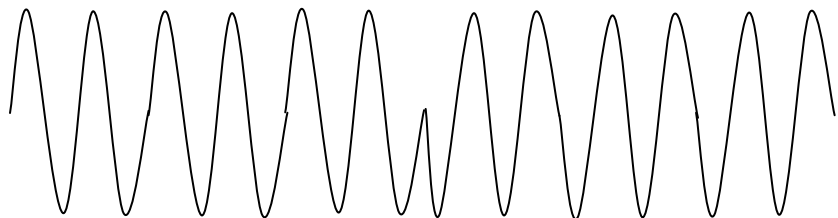
Backspace gets sent out so you can fix your mistakes

Minimum cash outlay to get on PSK-31 – PC, Rig, Interface Box

Several shareware and freeware programs are available

PSK-31 Waveform

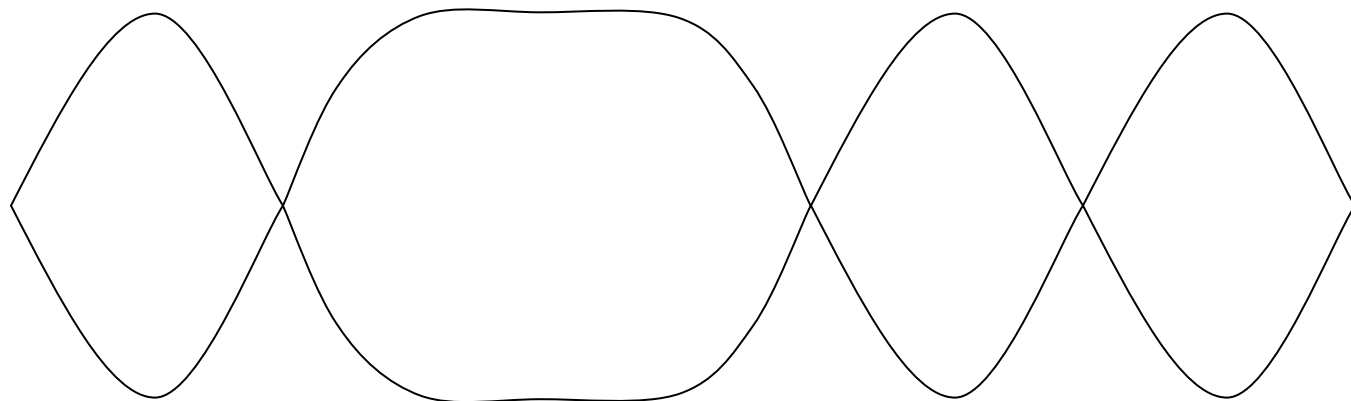
Phase
Shift
Keying



Shaped
Phase
Shift
Keying



PSK-31
Envelope

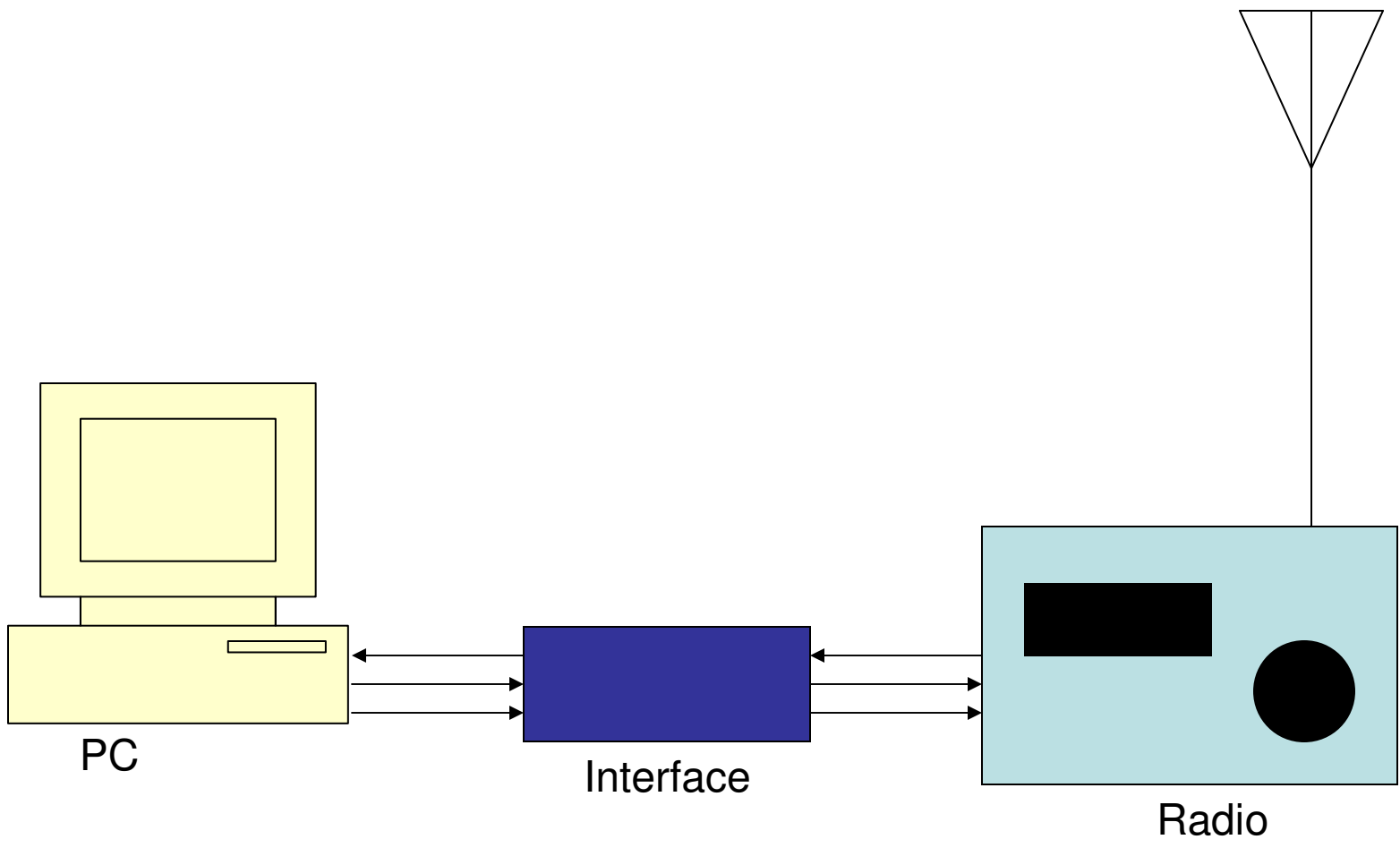


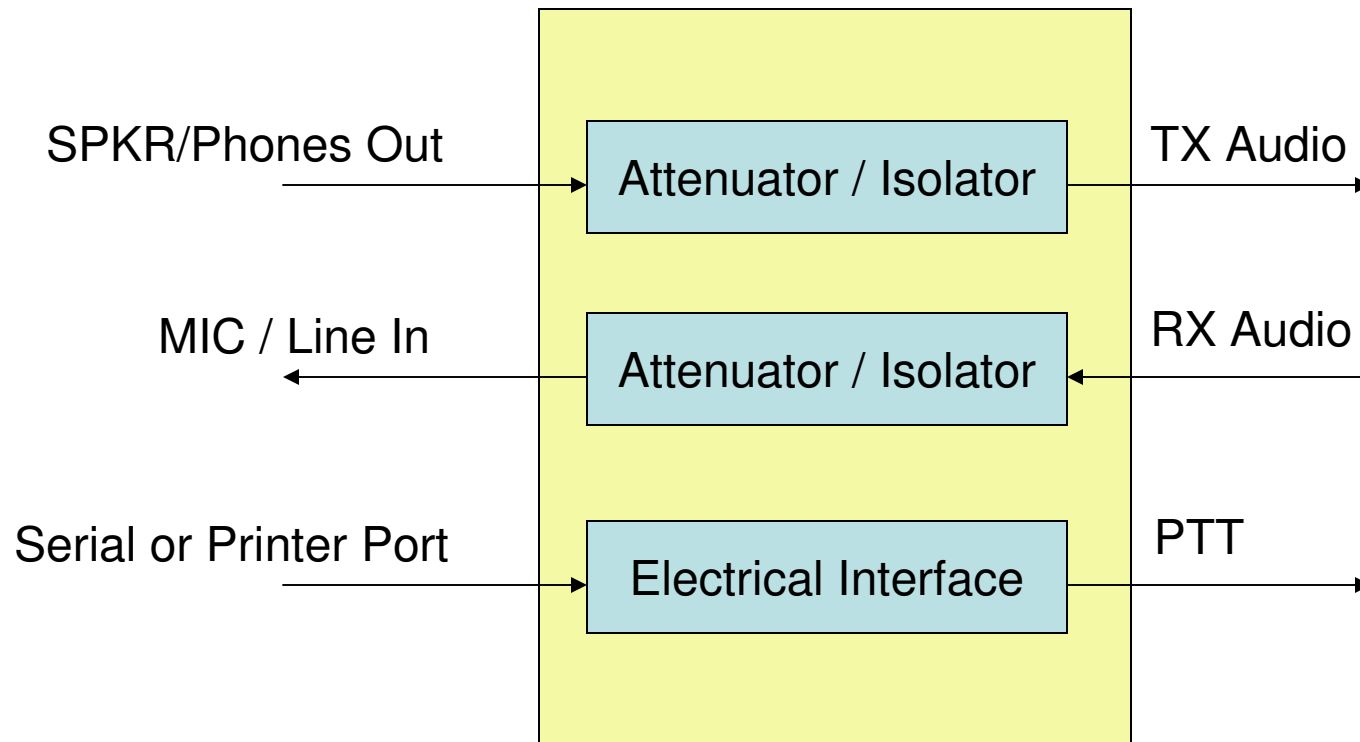
PSK 31 Varicodes

SP 1	C 10101101
! 11111111	D 10110101
" 10101111	E 1110111
# 111110101	F 11011011
\$ 111011011	G 11111101
% 1011010101	H 101010101
& 1010111011	I 1111111
' 101111111	J 111111101
(11111011	K 101111101
) 11110111	L 11010111
* 101101111	M 10111011
+ 111011111	N 11011101
, 1110101	O 10101011
- 110101	P 11010101
. 1010111	Q 111011101
/ 110101111	R 10101111

0 10110111	S 1101111
1 10111101	T 1101101
2 11101101	U 101010111
3 11111111	V 110110101
	W 101011101
4 101110111	X 101011101
5 101011011	Y 101110101
6 101101011	Z 101111011
7 110101101	[1010101101
8 110101011	\ 111110111
9 110110111] 111101111
: 11110101	^ 111111011
; 110111101	_ 1010111111
< 111101101	. 101101101
= 1010101	/ 1011011111
> 111010111	a 1011

? 1010101111	b 1011111
@ 1010111101	c 101111
A 1111101	d 101101
B 11101011	e 11
f 111101	s 10111
g 1011011	t 101
h 101011	u 110111
i 1101	v 1111011
j 111101011	w 1101011
k 10111111	x 11011111
l 11011	y 1011101
m 111011	z 111010101
n 1111	{ 1010110111
o 111	110111011
p 1111111	} 1010110101
q 110111111	~ 1011010111
r 10101	DEL 1110110101





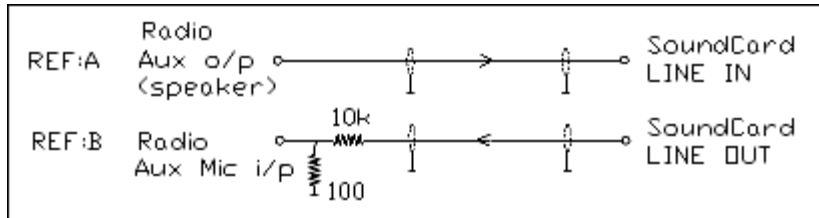
PSK Interface – Easy to homebrew

Several Inexpensive “Store Bought” Units Available

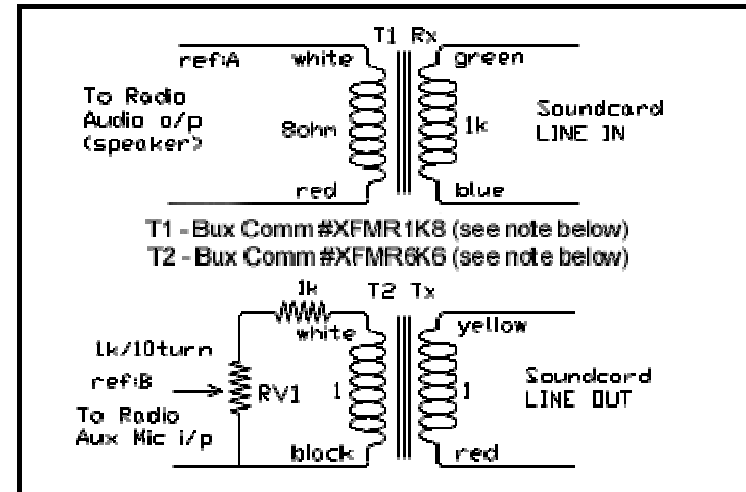
Can be used for several other digital modes, not just PSK-31

Circuits for Homebrew Interface Boxes

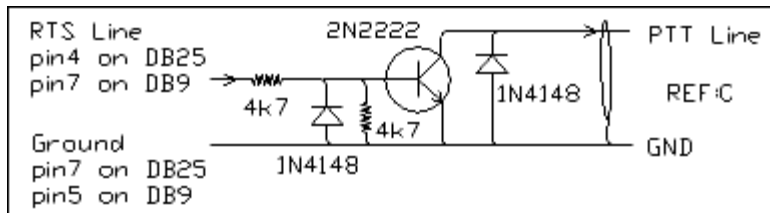
Simplest



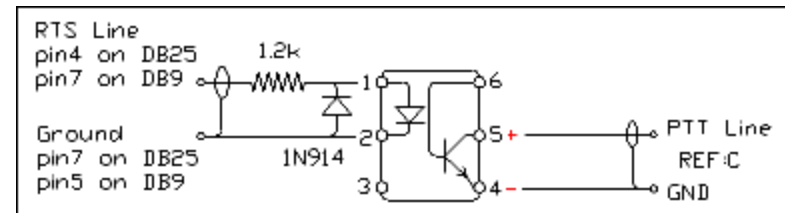
Isolation Transformers for Audio



Add Serial Port PTT Control



Opto-Isolator for PTT



Credit goes to WM2U's PSK-31 Web Page <http://www.qsl.net/wm2u/psk31.html>

RIG Basics

Increase TX drive until RF output power stops increasing, then back off a little

Maximum power – 50% of rig's "rated" power (PO meters rarely show peak power)

Speech Processor – OFF!

Leave RIT and XIT turned off

Use rig's Freq LOCK function if available – let the PC take care of frequency control

Start with widest filter

AGC – Slow or OFF

For very weak signals, go to narrow filter. You may need to adjust the IF Shift to center the filter over the station of interest

Recommended PSK-31 Frequencies

PSK31 HF Frequencies		PSK31 VHF Frequencies	
Band	Frequency	Band	Frequency
160 meters	1.838 MHz	6 meters	50.290 MHz
80 meters	3.580 MHz	2 meters	144.144 MHz
40 meters	7.035 MHz	1.25 meters	222.07 MHz
30 meters	10.140 MHz	70 centi-meters	432.2 MHz
20 meters	14.070 MHz	33 centi-meters	909 MHz
17 meters	18.100 MHz		
15 meters	21.080 MHz		
10 meters	28.120 MHz		