

Interface 12 w/ Optional PTT Sequencing – K1NQ

Intro

A 4 port transistor switch that allows 6 or 12 I/O to, drive or translate voltage or ground switched devices. A perfect example is translating a +12V Band decoder or KK1L 2x6 Switch output to drive an ICE 6 band TX filter. You can configure use all 12 ports to translate just 1 state or build a 2- 6 ports to switch +voltage and Ground. Each port is designed to sink 200mA. Drive antennas switches, relays, filters ECT. \$8 (inc. shipping) for PCB. Parts are available from mouser for ~\$11. Email K1NQ_nhdjinn@yahoo.com (include call and qty) to get on the PCB list Jan 09. Don't send money now

Inputs can be ganged or used separately. Only PNP require voltage. Header P1 is provided for external voltage if none is available via j1-j4.

J1 = Q1-Q6 inputs. J1 Pin 7 is voltage VC1 and Pin 8 is ground on the RJ45 connector

J3 = Q1-Q6 outputs J3 Pin 7 is voltage VC1 and Pin 8 is ground on the RJ45 connector

Voltage and ground can pass through J1 and J3 to provide power for the INFT12

J2 = Q7-Q12 inputs. J2 Pin 7 is voltage VC2 and Pin 8 is ground on the RJ45 connector

J4 = Q7-Q12 outputs J4 Pin 7 is voltage VC2 and Pin 8 is ground on the RJ45 connector

Voltage and ground can pass through J1 and J3 to provide power for the INFT12

Ground is common.

Transistors are 50V .2A typical. Any TO-92 general purpose transistors can be used.

Use higher Voltage transistors if need. PCB line widths are set up to handle a max of 2.7A max

This arrangement allows multiple configurations: See Figure 2 for optional PTT sequencing with adjustable delay.

Good for sequencing the 6 band Receive Filter project to prevent damage to relays. See Figure 3 for an example application.

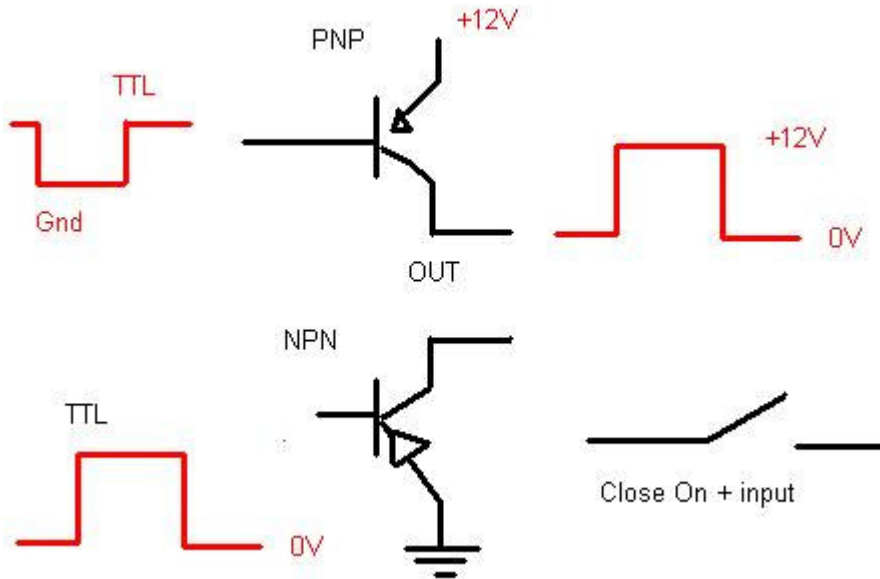


Table 1- Conf. Options

	Q1-Q6	Q7-Q12	Q1-Q12	Q1-Q12	Q1-Q12
PNP		Yes		Yes	Yes
NPN	Yes		Yes		
VC1				VC1	VC1
VC2		12V		VC2	VC2
VC1=VC2				Yes	NO
State 1	Ground		Ground	VC1	VC1
State 2		VC2	Ground	VC2	VC2
Diodes	D1-D6		D1-D12		
	NP		No Place	D1-12	D1-12

P4	No place			No place	Jump	NO			
Jumper									
Reference	SW GND	SW DC	qty	Name	Description	Package	Mouser		
C1-C26			26	0.01	Capacitor	C315A	C315C103K1R	0.09	2.34
R1-R12			12	3K 914	Resistor	1/8W	299-3K-RC	0.1	0.1
D1-D12	NP		12	type	diode	D0-35	512-1N914A	0.02	0.24
P1			1	Conn2	conn2	2SIP100	22-23-2021	0.24	0.24
J1-J4			4		DB15FRA	FCI	649-54602-908LF	0.37	1.48
Q1-Q12	NP		12	PNP	2N3906	TO-92	512-KSA733OBU	0.06	0.72
Q1-Q12 case		NP	12	NPN	2N3904	TO-92	512-KSC945OBU	0.05	0.6
			1	4.25 in L x 2.6 in W x 1.12 in H			635-A-21(B/G)	4.25	4.25
			1	POWER	conn2			1.25	1.25
pcb			1		(inc shipping)			8	8.00
								npn	18.98

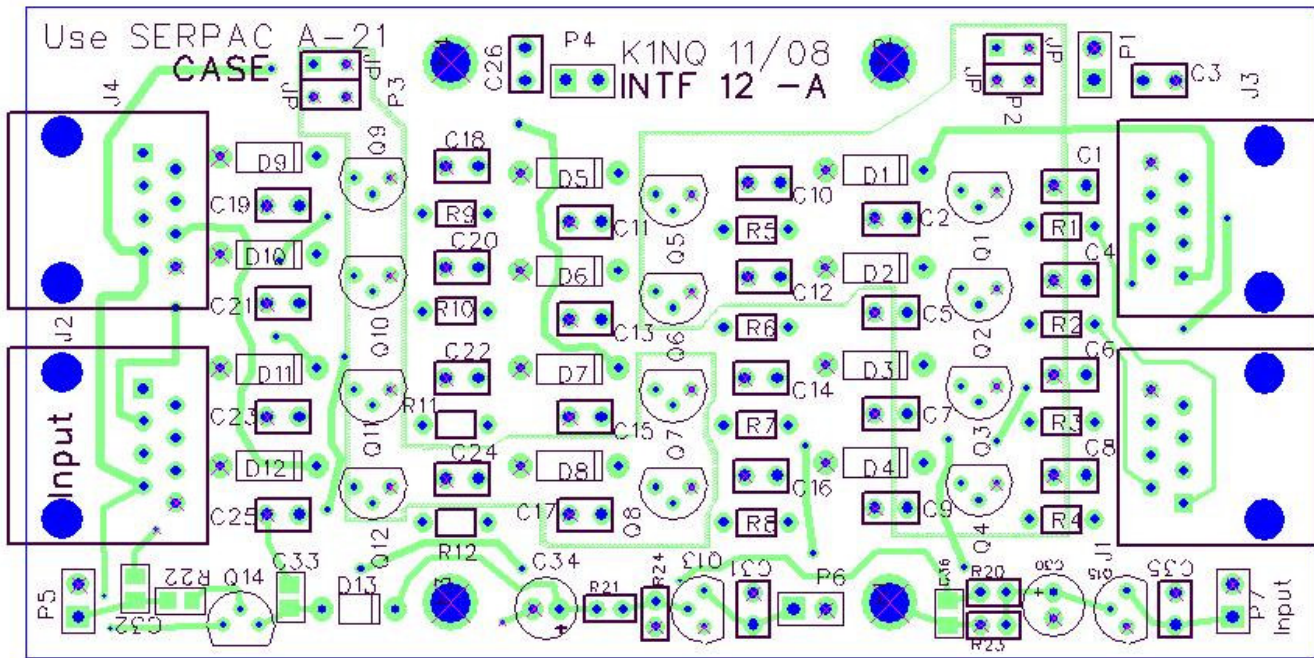


Figure 1 pcb

RJ45 Plug Colour Code
Contact Side - Tab is on Back

8		BROWN/White
7		WHITE/Brown
6		GREEN/White
5		WHITE/Blue
4		BLUE/White
3		WHITE/Green
2		ORANGE/White
1		WHITE/Orange

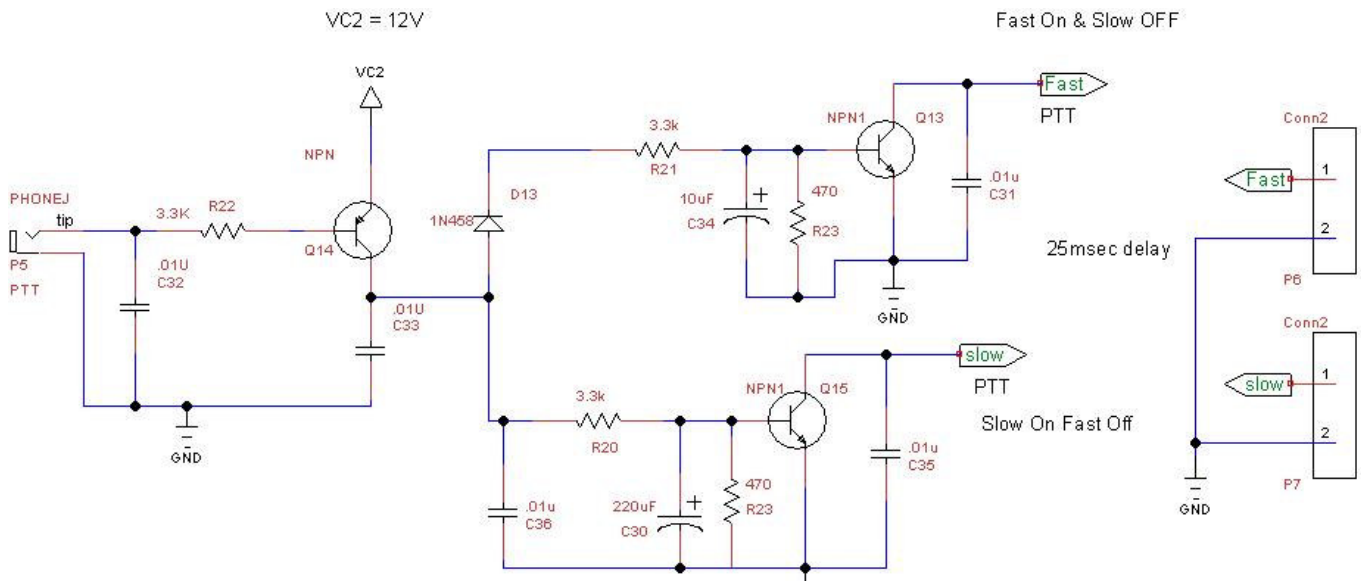
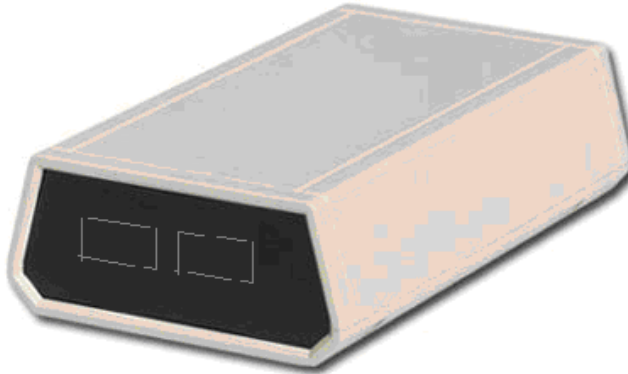
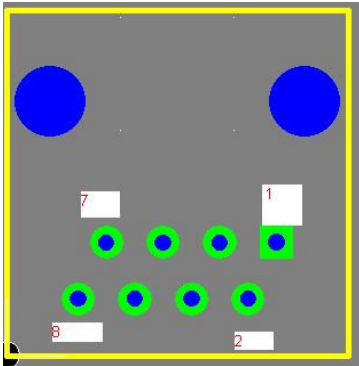
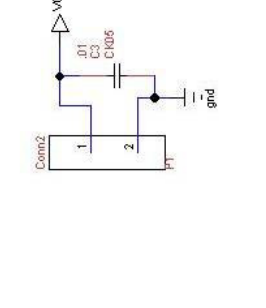
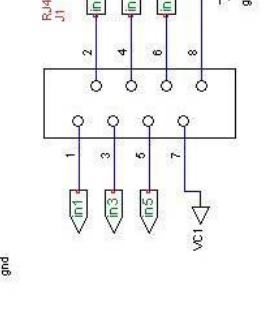
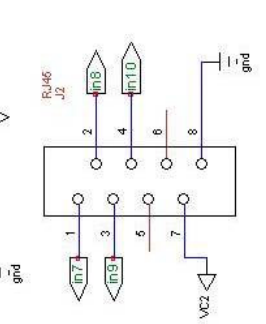
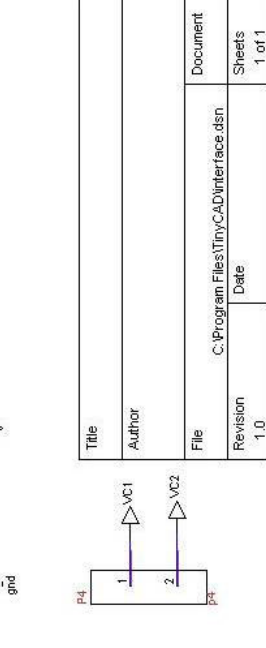
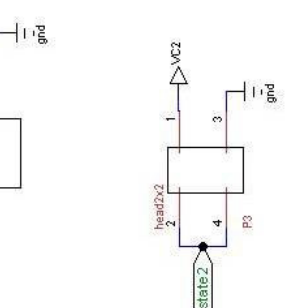
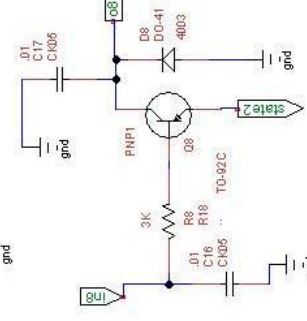
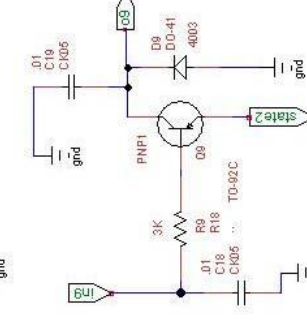
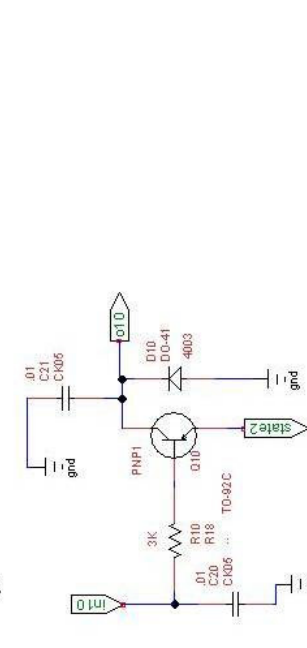
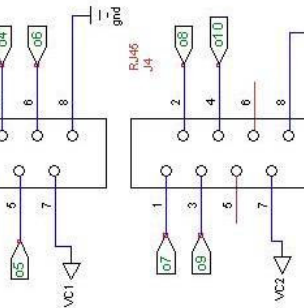
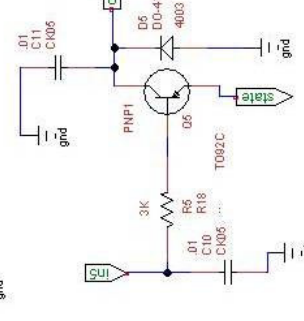
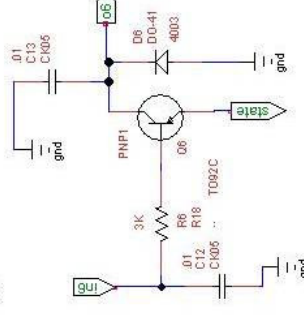
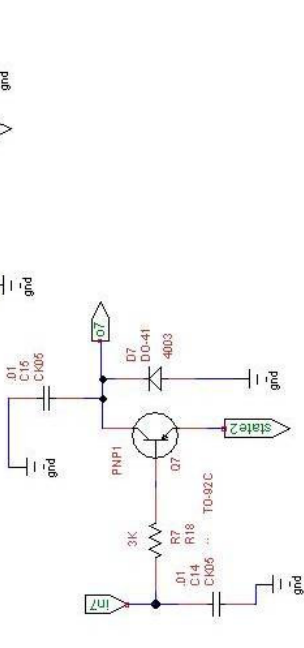
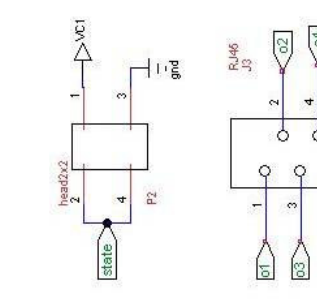
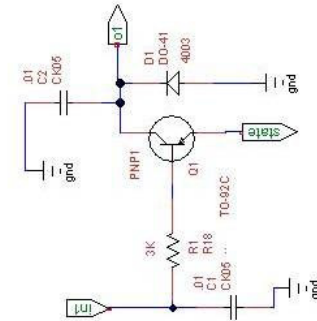
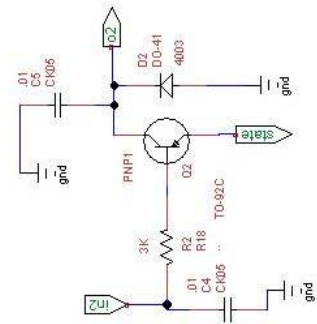
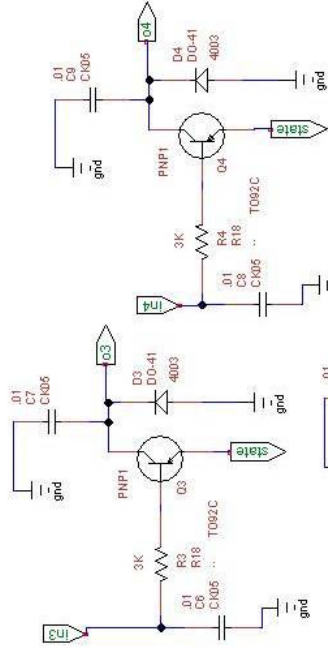
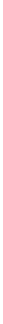
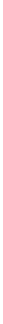
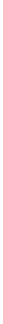
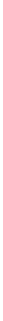
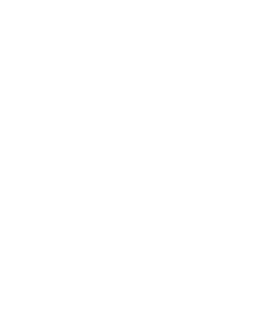
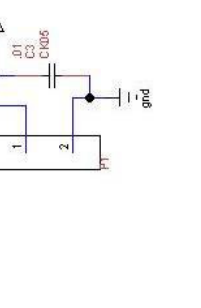
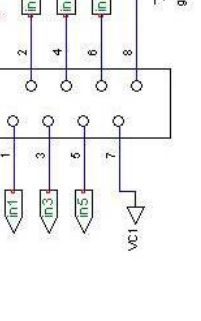
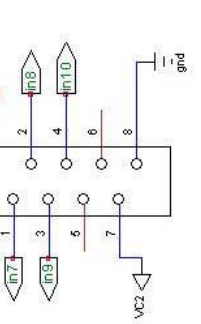
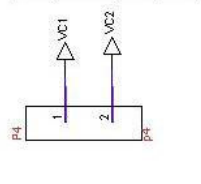


Figure 2 Optional PTT Sequencing (good for 6 band RX filter) use 300V NPN/PNP
Q14 MSPA92 Q13,Q15 MPSA42



Title	Author	Document
Revision	Date	Sheets
1.0		1 of 1



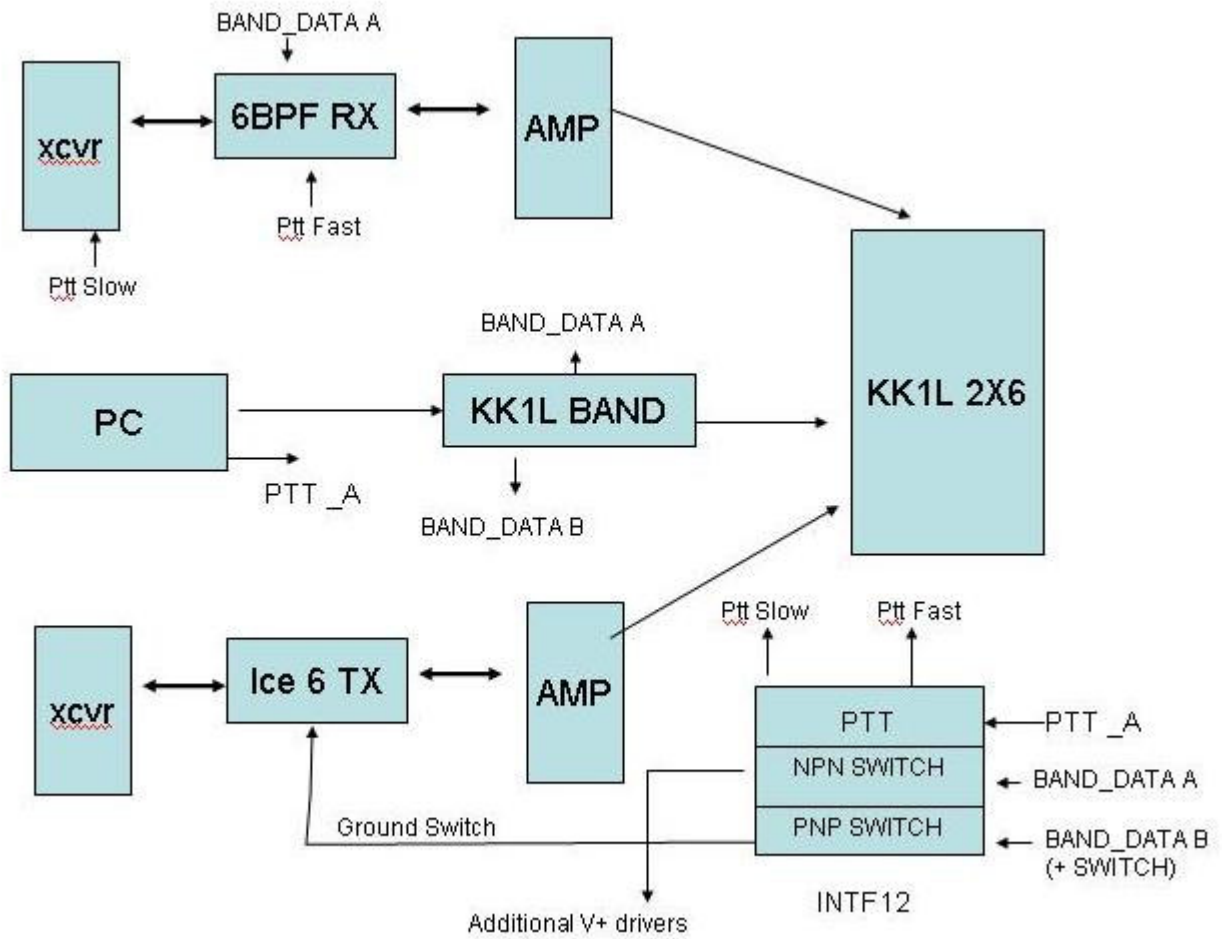


Figure 3 EXAMPLE