



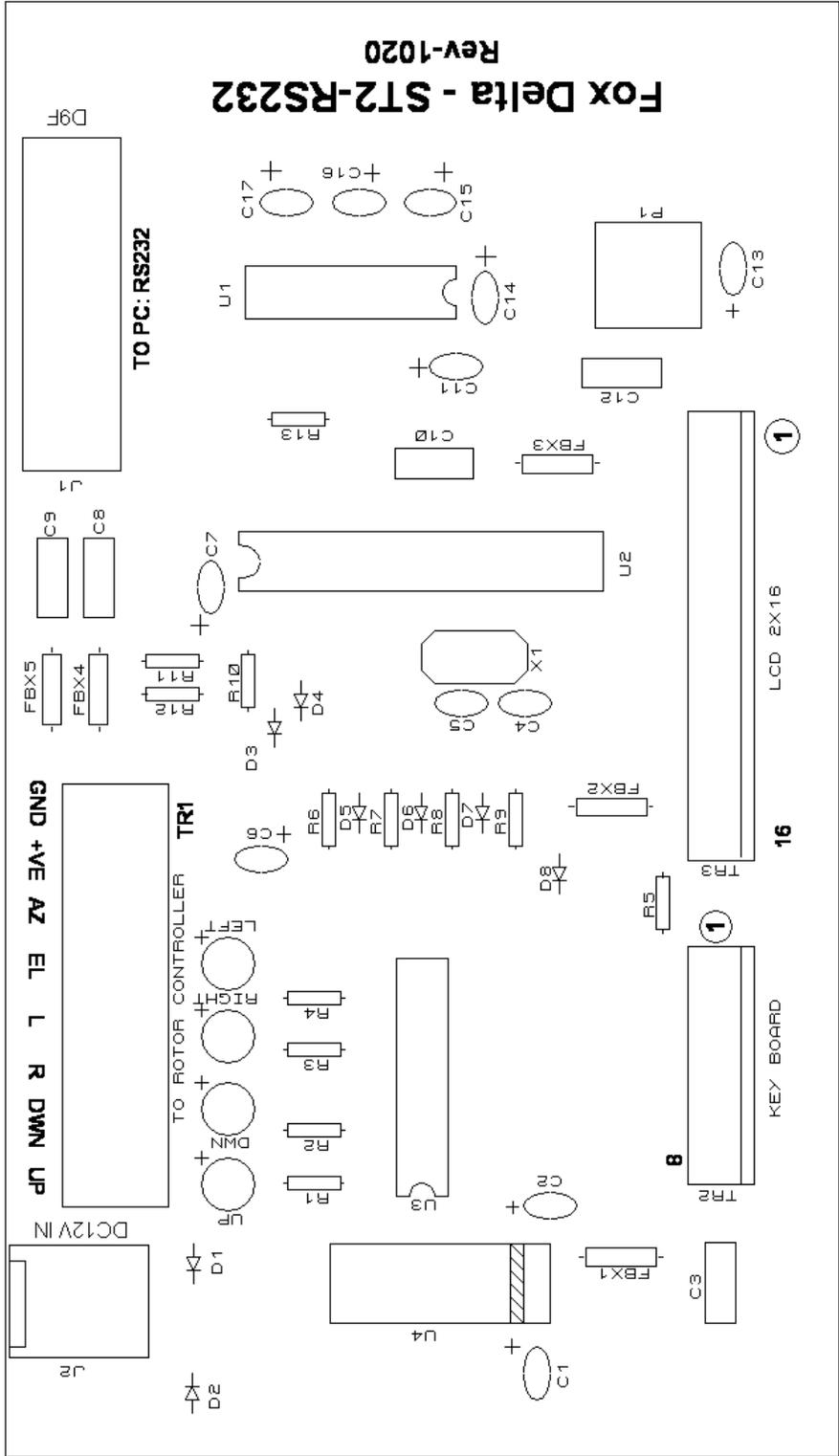
ST2 RS232 KIT PARTS LIST & Schematic

ST2 – RS232: [PCB Rev1020 Parts List:](#)

Part	Quantity	Details
U2: PIC16F876A DIP28	1	Processor Pre-Programmed
U3: ULN2803 DIP18	1	Relay Driver
U1: MAX232 DIP16	1	RS232 Driver
U4: 7805 TO220	1	5V Regulator
16x2 LCD	1+2	LCD Display with SIL8 X 2 Male
X1: Crystal	1	4MHZ HC49U
ST2 RS232 PCB	1	ST2-RS232-1020 DSPTH PCB
TR3: SIL16 Male (8+8)	2	LCD connector
8PIN Ribbon	2	Ribbon for LCD Connect
TR2: SIL8 Male	2	PCB mounted for KB + Main Board
SIL 8 Ribbon	1	Key Board connection
IC SOCKET DIP16	1	MAX232
IC SOCKET DIP28	1	PIC16F876A
IC SOCKET DIP18	1	ULN2803
FBX 1- 5	5	RFCs
J2: DC Socket	1	+12V External
TR1: Terminal 8	1	8 Terminal block (2x4)
P1: 10K Preset	1	LCD Contrast
J1: D9F	1	PCB R/A D9 Female Connector
Push Buttons	4	12MM FOR KEYBOARD
KB PCB	1	Keyboard PCB
LED 3mm	4	UP / DOWN / RIGHT / LEFT

Part	Quantity	Details
1uf Tantalum	10	C1, 2, 6, 7, 13, 11, 14, 15, 16, 17
0.1uf Ploy	3	C3, 10, 12,
0.001/0.01uf Poly	2	C8, 9
27/33pf Ceramic	2	C4, 5
1N4007	1	Diode D1
1N4148	7	Diode D2, 3, 4, 5, 6, 7, 8,
1K	7	R1, 2, 3, 4, 10, 11, 12
100K	4	R6, 7, 8, 9
4.7K	1	R13
22 Ohms	1	R5

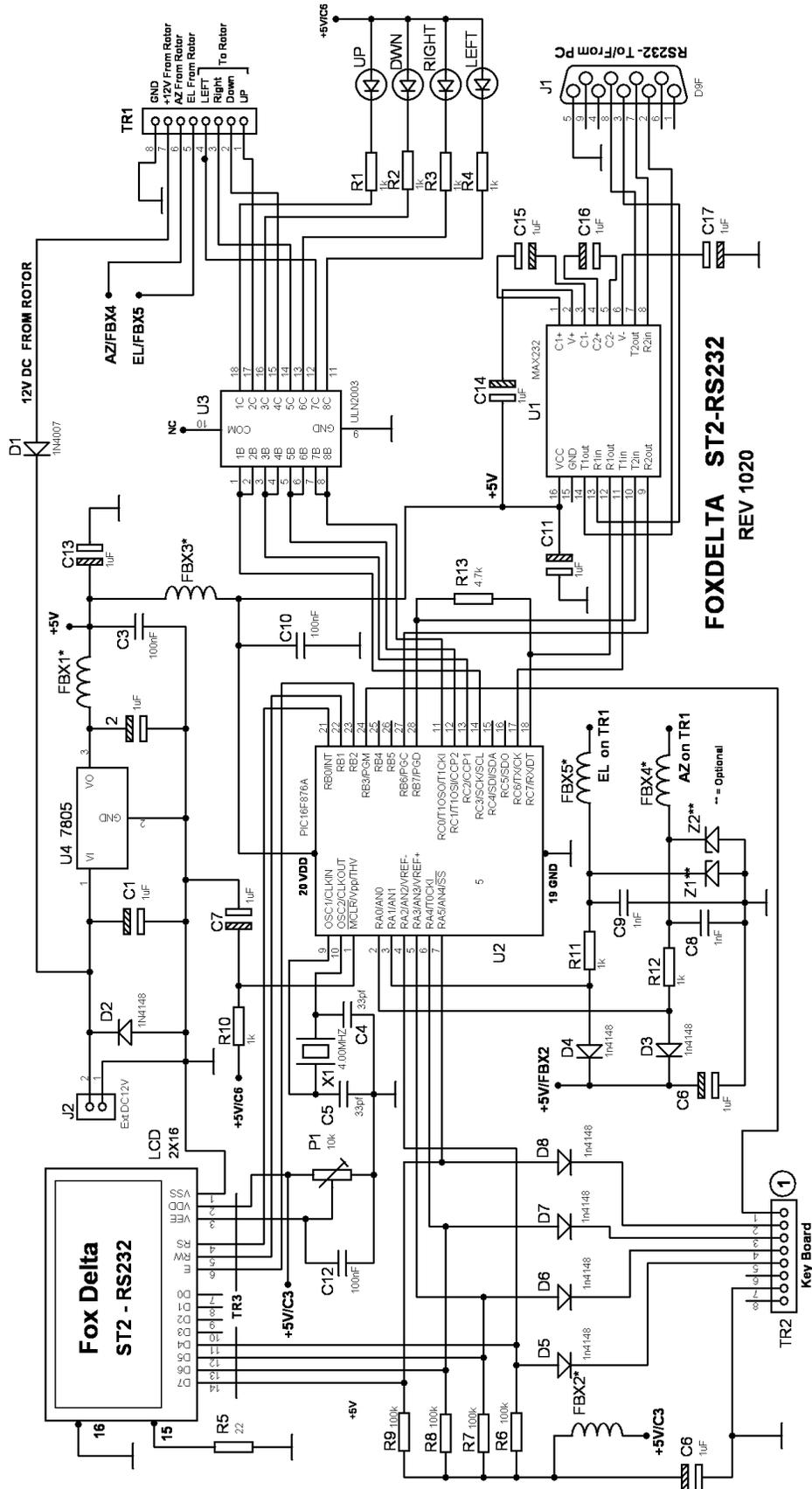
ST2 RS232 PCB Rev 1020 Silk:



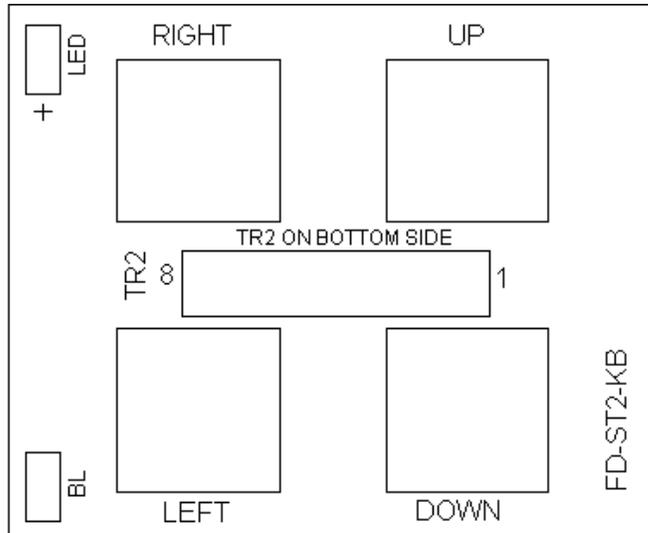
ST2 RS232 is powered by applying DC12V at J2. It may be powered from Rotor Controller's DC12V at TR1/Screw Terminals (from Yaesu Rotor Controller)

Ensure that you power ST2 from either of the source, not both!

Schematic: ST2 RS232 PCB Rev 1020:



Silk View of Key Board:



TR2 is an 8 Pin SIL socket and installed on the bottom side of the Key Board.

“LED” and “BL” pads are un-used. They no longer exist on new lot of KB PCBs

In some KB PCBs, silk labels are as follows:

Right = A
UP = B
LEFT = C
Down = D

TR1 Connections: (Goes to Yaesu Rotor Controller: DIN8)

Connections count from “TR1”

1. GROUND
2. +VE (_12V from ROTOR)
3. AZ (Analog Feedback From Rotor)
4. EL (Analog Feedback From Rotor)
5. LEFT
6. RIGHT
7. DOWN
8. UP

Using USB Adapter:

As most PCs do not have a COM port these days, ST2 may be used with an USB Adapter available in market.

Select one with good USB to RS232 chips, like, FTDI chips. Make sure that you install driver provided by Adapter supplier.

USB to RS232 Adepter create a Virtual COM port on your system, which we use in our satellite PC Program to access ST2.

73s / Dinesh Gajjar / VU2FD 05th Nov 2020

For more details, please visit Project Page: <http://www.foxdelta.com>