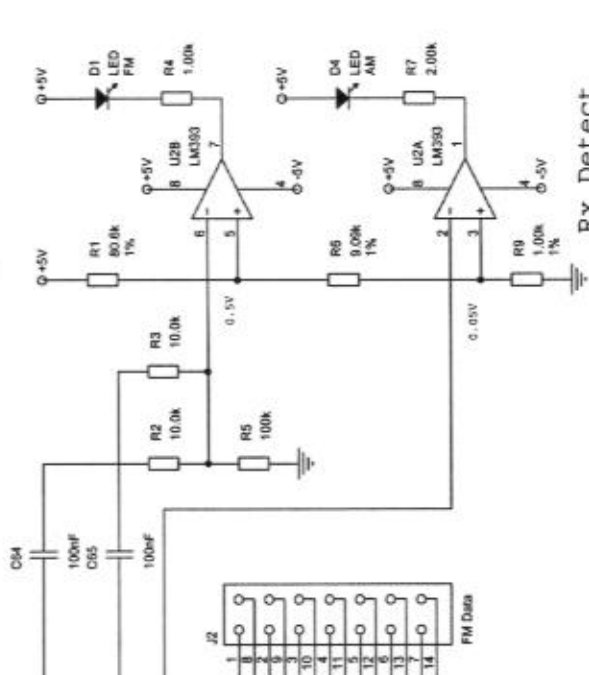
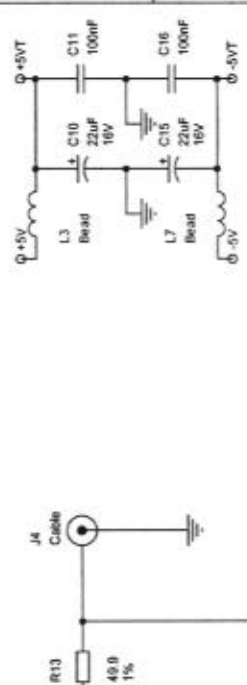
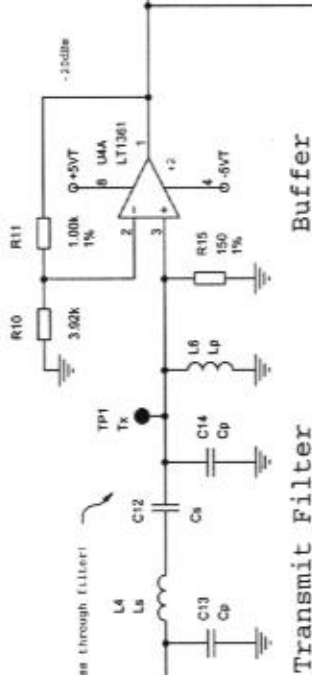


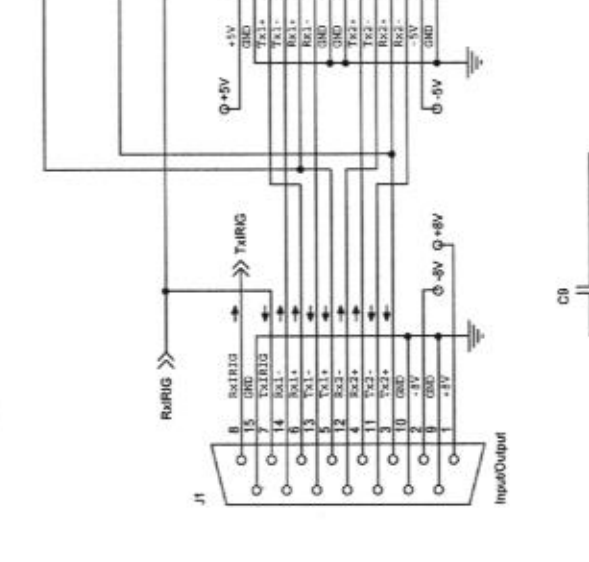
Regulators



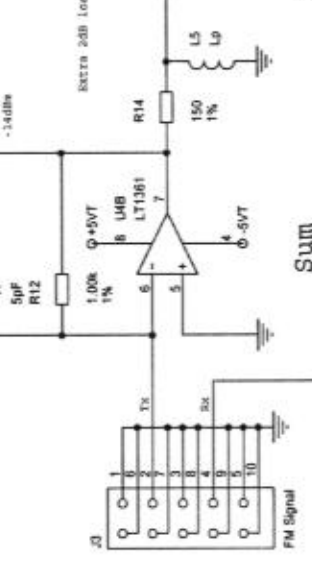
Rx Detect



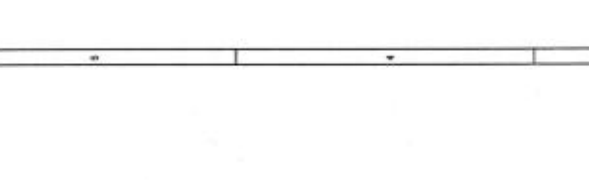
Buffer



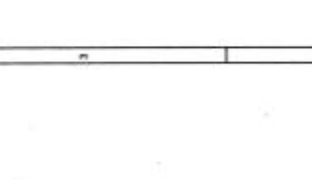
Sum



Transmit Filter



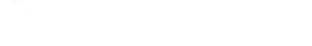
Buffer



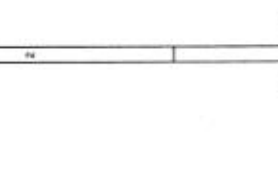
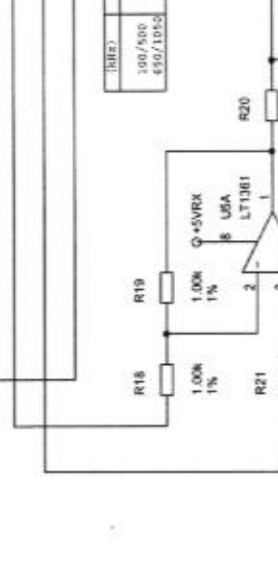
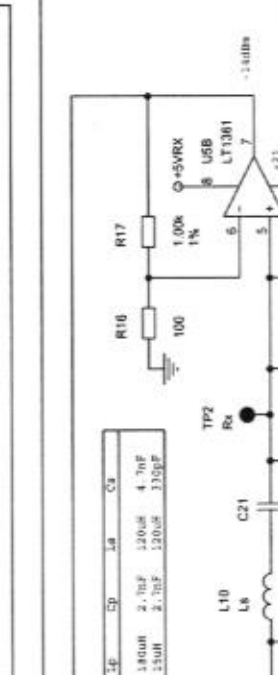
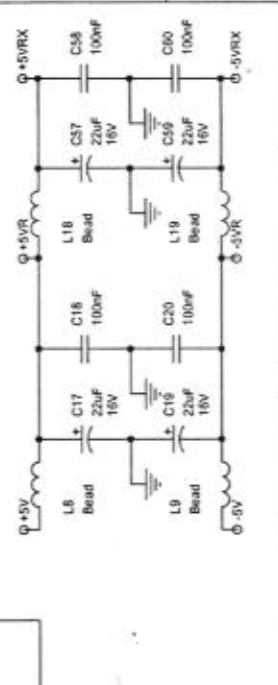
Receive Filter



Duplex

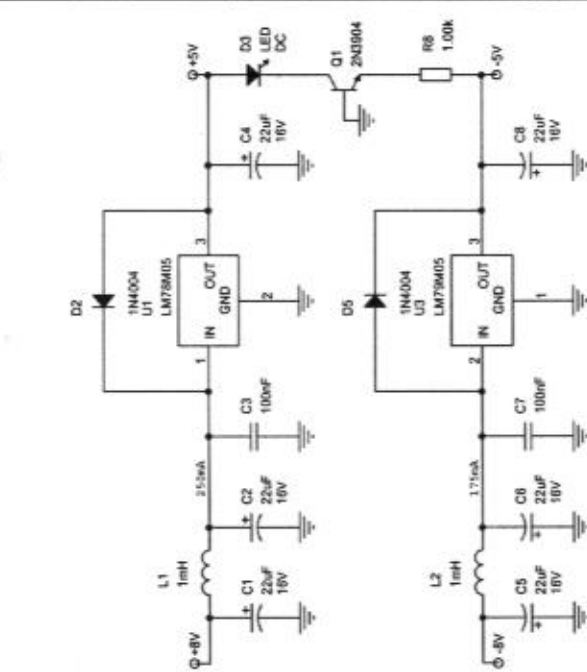


Buffer

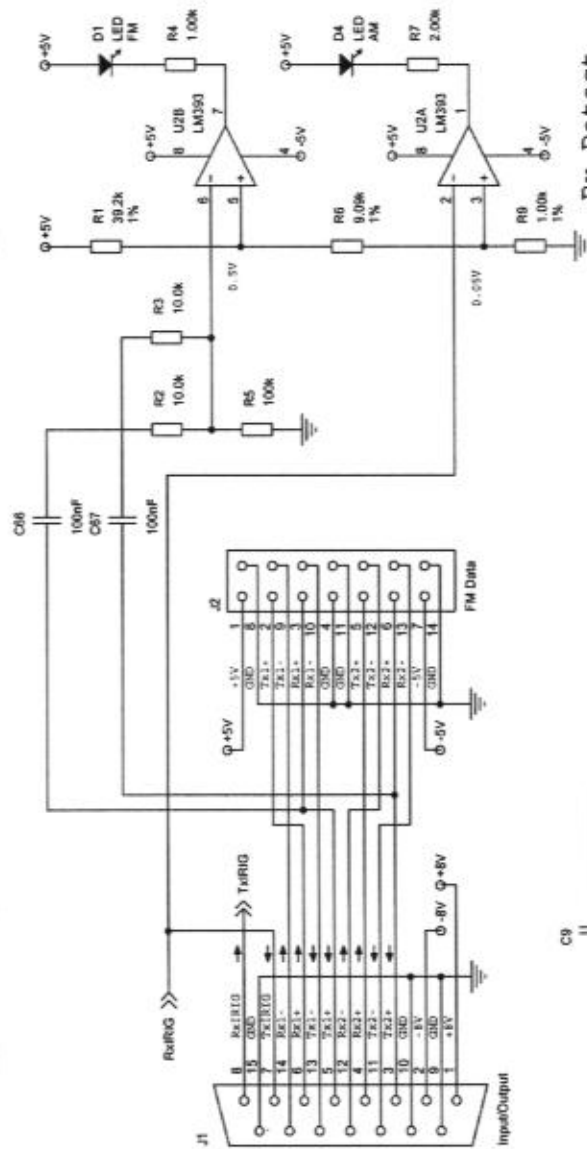


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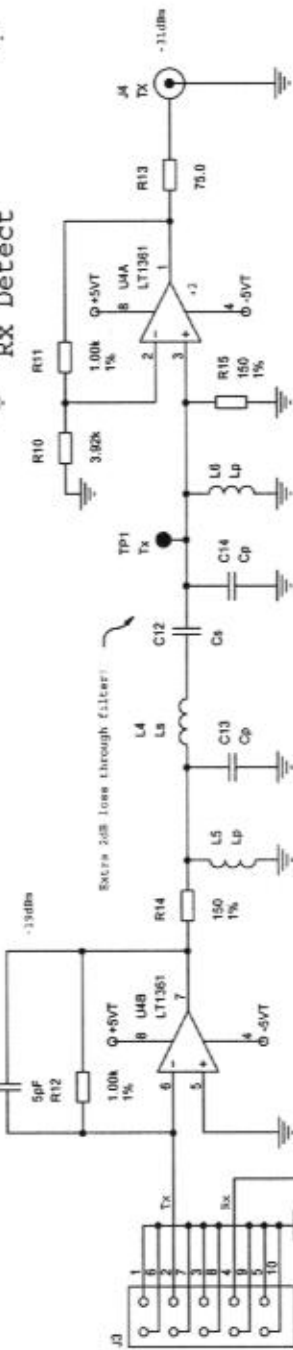
SeaModem: Duplex (JB)



Regulators

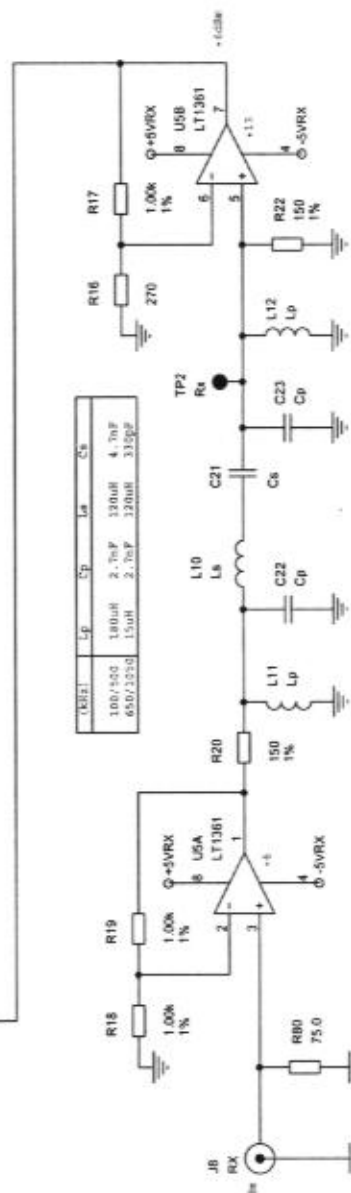


Rx Detect



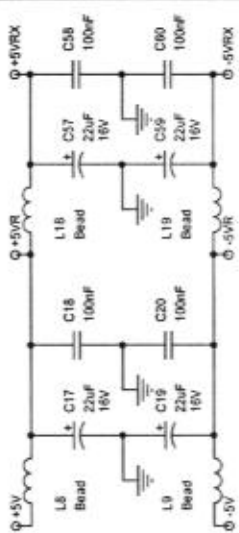
Transmit Filter

Buffer



Duplex

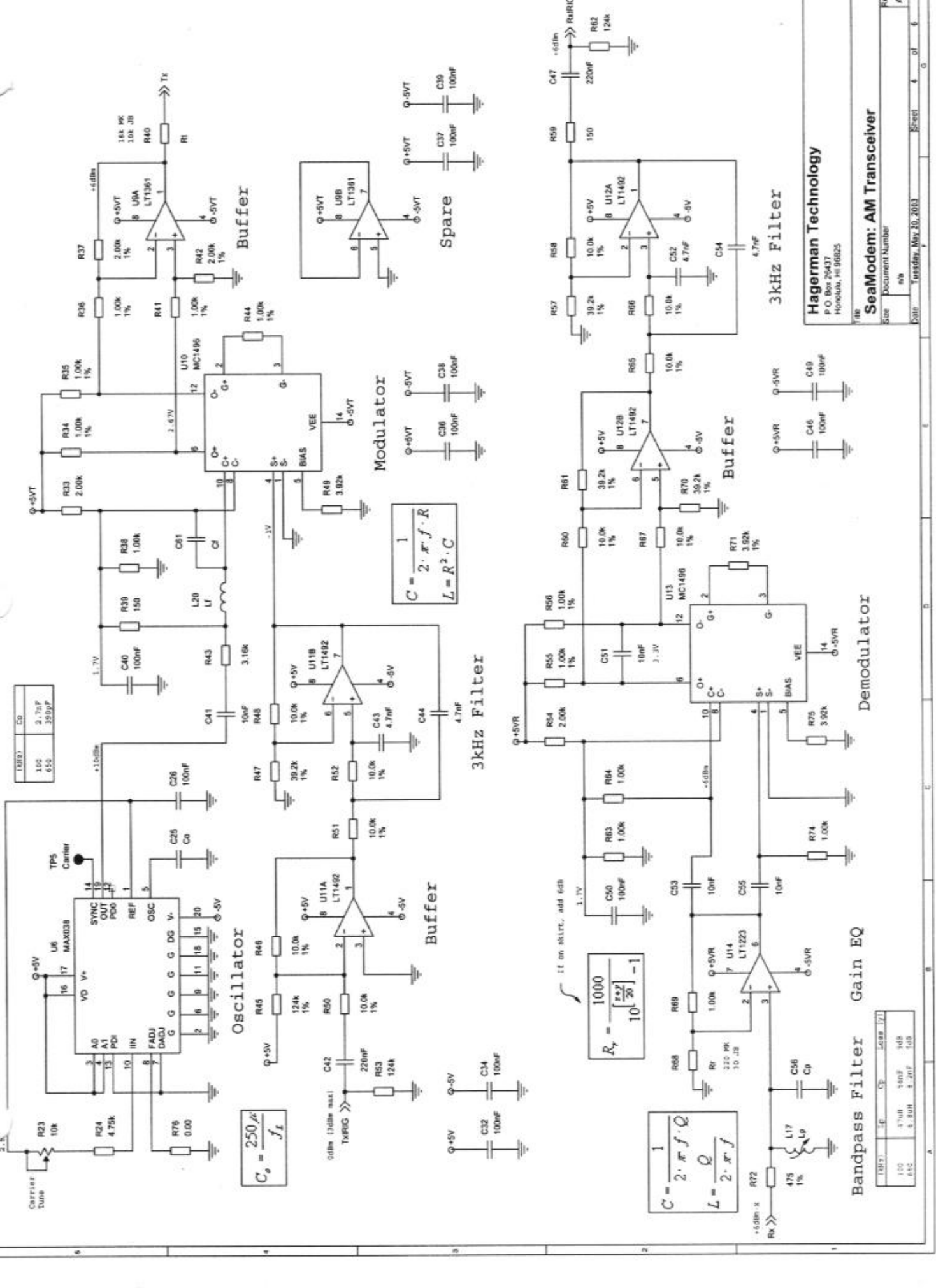
Receive Filter



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SeaModem: Duplex (Makaha)
 Document Number
 Date: Tuesday, May 26, 2003

Sheet 3 of 6
 Rev A



REF	CD
100	2.7k
655	390pF

$$C_s = \frac{250 \mu\text{F}}{f_s}$$

$$C = \frac{1}{2 \cdot \pi \cdot f \cdot R}$$

$$L = R^2 \cdot C$$

$$R_y = \frac{1000}{\left[\frac{1+y}{20} \right] - 1}$$

$$C = \frac{1}{2 \cdot \pi \cdot f \cdot Q}$$

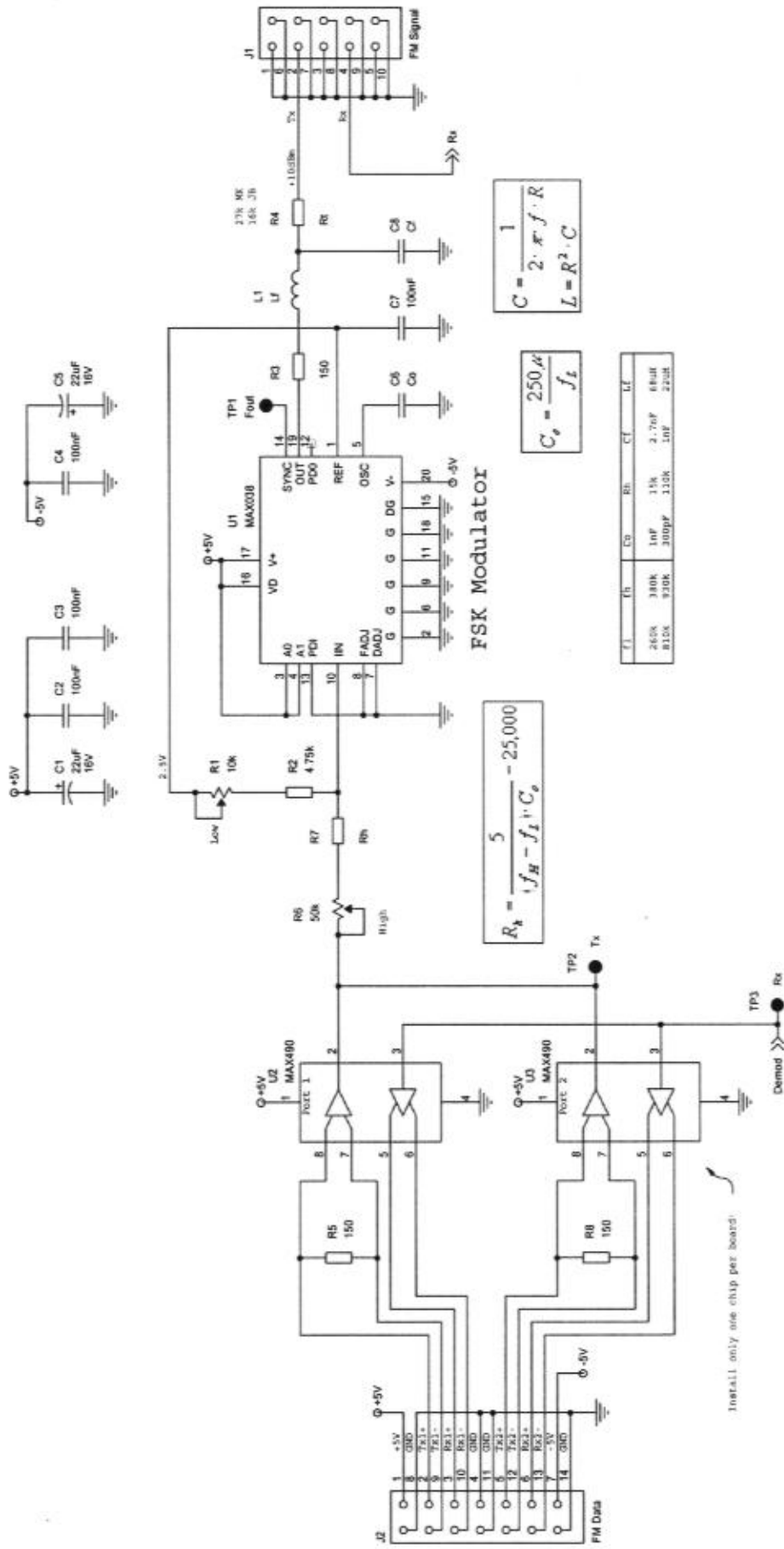
$$L = \frac{Q}{2 \cdot \pi \cdot f}$$

REF	CD	Value
100	3.7k	150F
655	5.9k	5.2kF
		50B

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SeaModem: AM Transceiver
 Document Number: sea
 Date: Tuesday, Mar 20, 2003
 Sheet 4 of 6

REF	CD	Value
100	3.7k	150F
655	5.9k	5.2kF
		50B



FSK Modulator

$$R_k = \frac{5}{f_H - f_L} \cdot C_o - 25,000$$

$$C_o = \frac{250 \mu\text{s}}{f_L}$$

$$C = \frac{1}{2 \cdot \pi \cdot f \cdot R}$$

$$L = R^2 \cdot C$$

f1	f2	C1	R1	R2	C2	LF
240K	330K	1nF	11K	2.7nF	68nF	
810K	330K	300pF	110K	1nF	22nF	

Install only one chip per board.

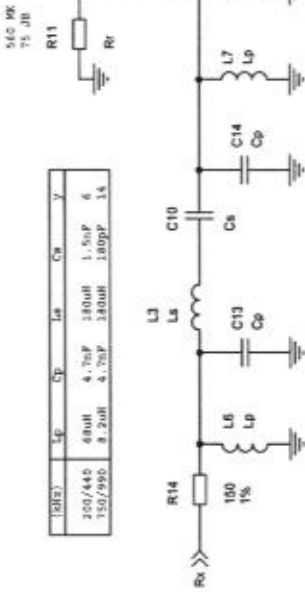
RS-422

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SeaModem: FSK TX

Type: _____
 Size: _____
 Document Number: _____
 Date: Tuesday, May 20, 2003
 Sheet 1 of 6
 Rev B

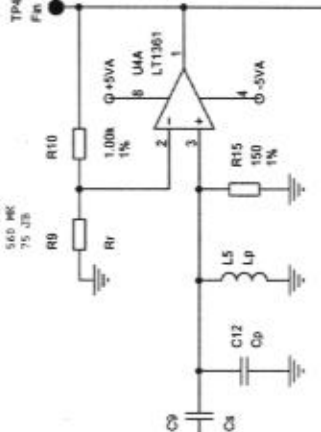
kHz	Lp	Cp	Ls	Cs	Y
300,445	88uH	4.7nF	180uH	1.5nF	6
150,990	8.2uH	4.7nF	180uH	150pF	14



Bandpass Filter

Gain EQ

$$R_f = \frac{1000}{\left[\frac{2+3+12}{40} \right] - 1}$$



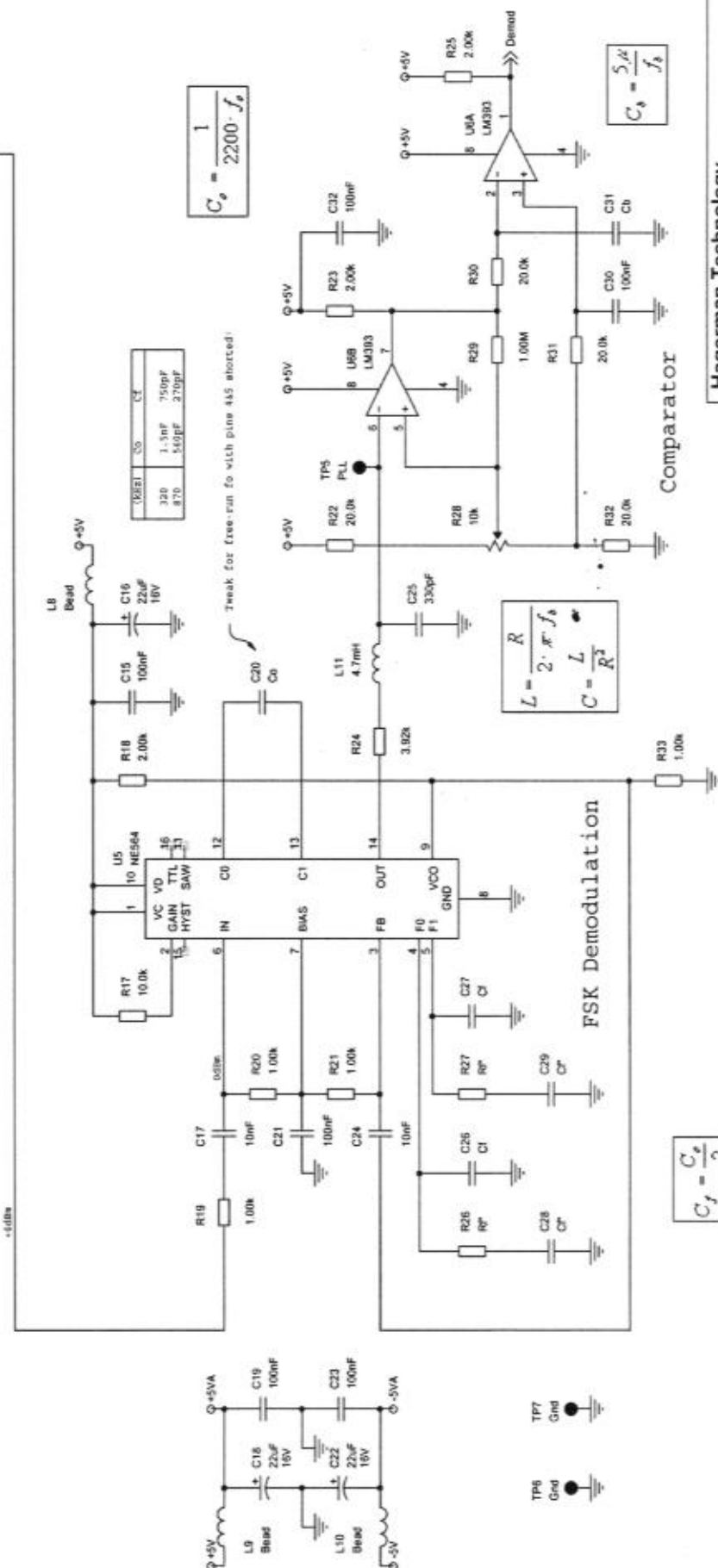
Bandpass Filter

Gain EQ

kHz	Co	Cf
320	1.5nF	750pF
870	550pF	370pF

Tweak for free-run to w/ich pins 4&5 shorted!

$$C_o = \frac{1}{2200 \cdot f_o}$$



$$L = \frac{R}{2 \cdot \pi \cdot f_b}$$

$$C = \frac{L}{R^2}$$

$$C_f = \frac{C_o}{2}$$

Comparator

FSK Demodulation

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File: SeaModem: FSK RX
Size: Document Number
n/a

Date: Tuesday, May 20, 2003
Sheet: 6 of 6

Rev: B