

Timing Generator Configuration

Master Mode Reg: 8AF0

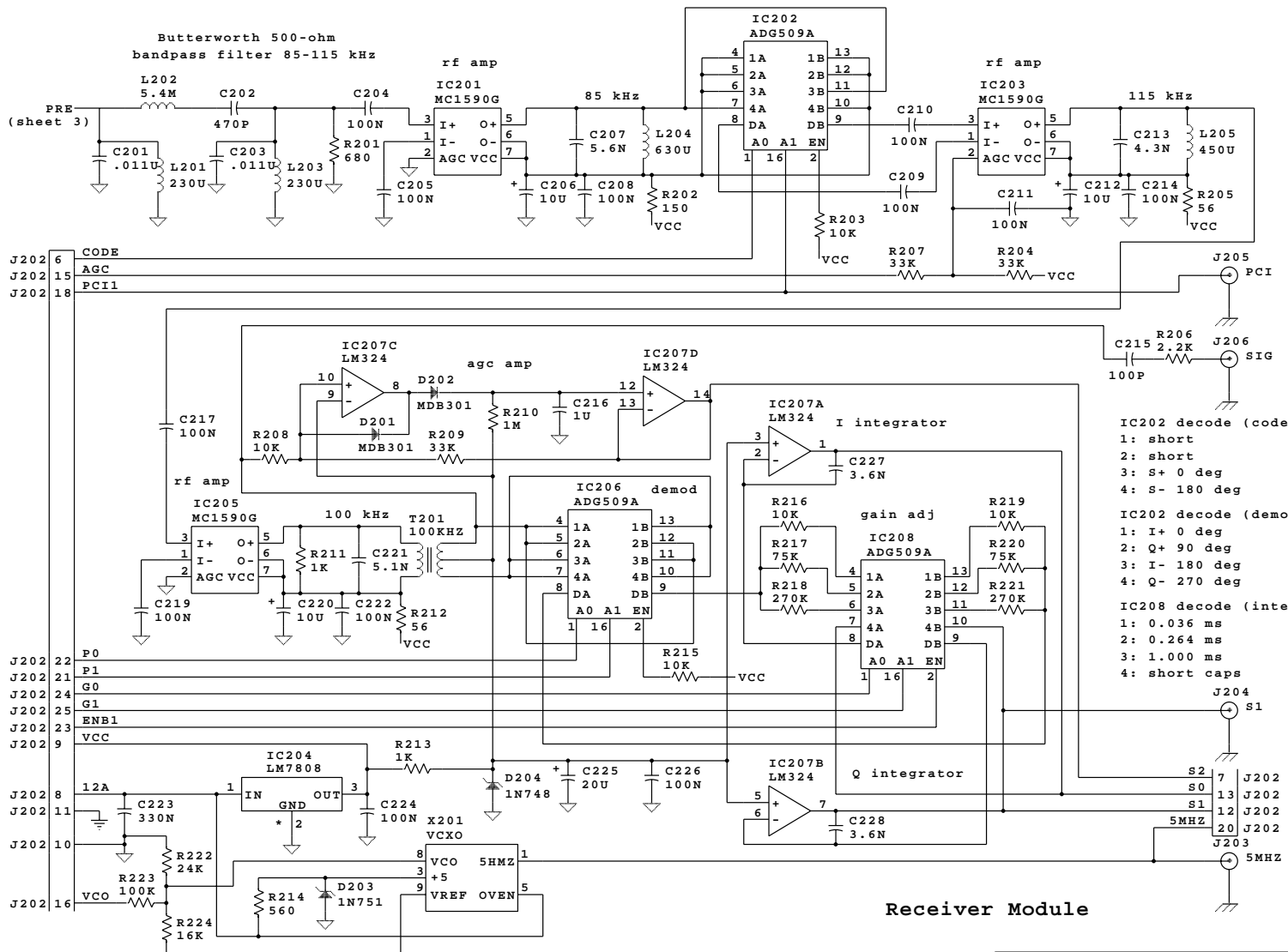
Reg	Function	Load	Hold	Mode
1	200-kHz clock	0012	0013	J-0162
2	GRI	9160	0800	J-0262
3	PCX	1500	3500	K-8162
4	STB	0000	0050	L-C162
5	FOUT x 10 ⁵	0025	0025	K-0162

LORAN-C pulse coding

	Master	Slaves
GRA	+++--+ +	++++--
GRB	+++-----	+-+-----

System Diagram

Loran Timing Receiver	
100-0001-001	REV 2C
16 Feb 1992	SHEET 1 OF 8



* note: connect digital and analog grounds together at IC204 pin 2

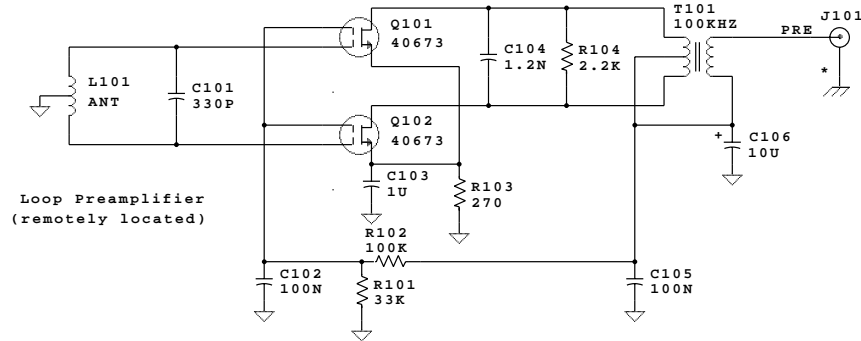
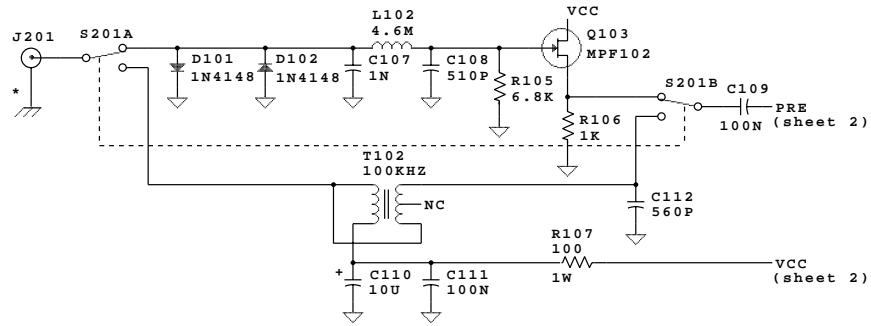
T1: 100-kHz transformer 3 windings each 500U
14x3 turns #28 Amidon FT50/75 ferrite

Receiver Module

Loran Timing Receiver

100-0001-001	REV 2C
16 Feb 1992	SHEET 2 OF 8

Longwire Preampifier
(part of Receiver Module)



Preampifier Modules

L101: 100-kHz loop antenna 12.5M
50x2 turns #28 24" diameter shielded
T101, T102: 100-kHz transformer 3 windings 500U each
14x3 turns #28 Amidon FT50/75 ferrite

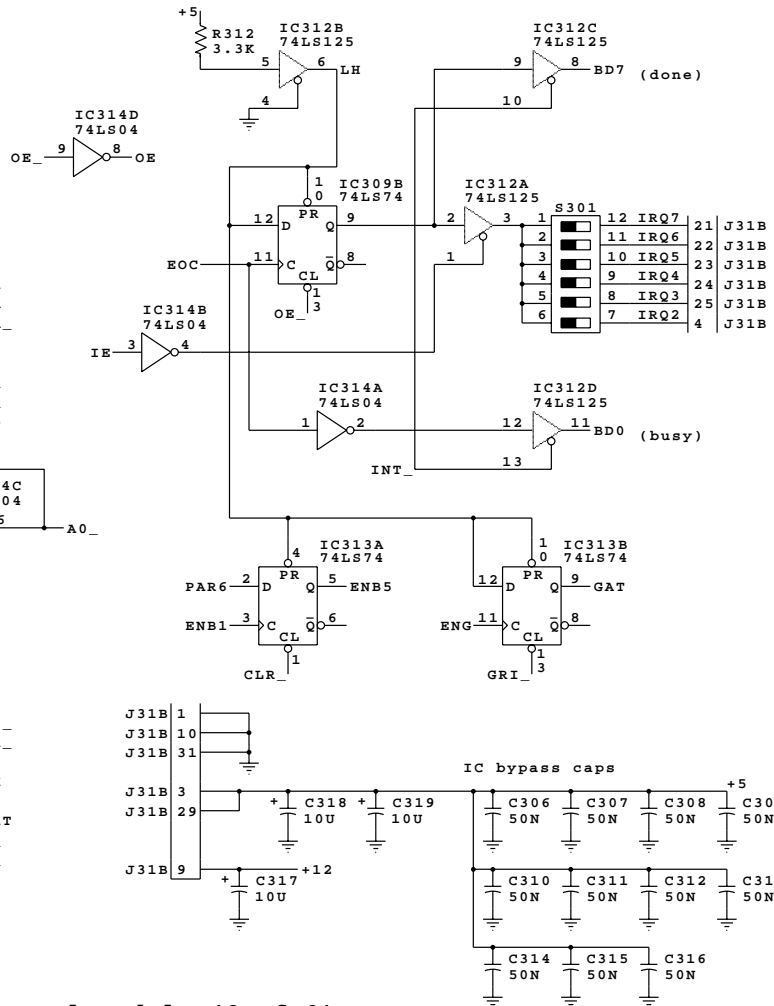
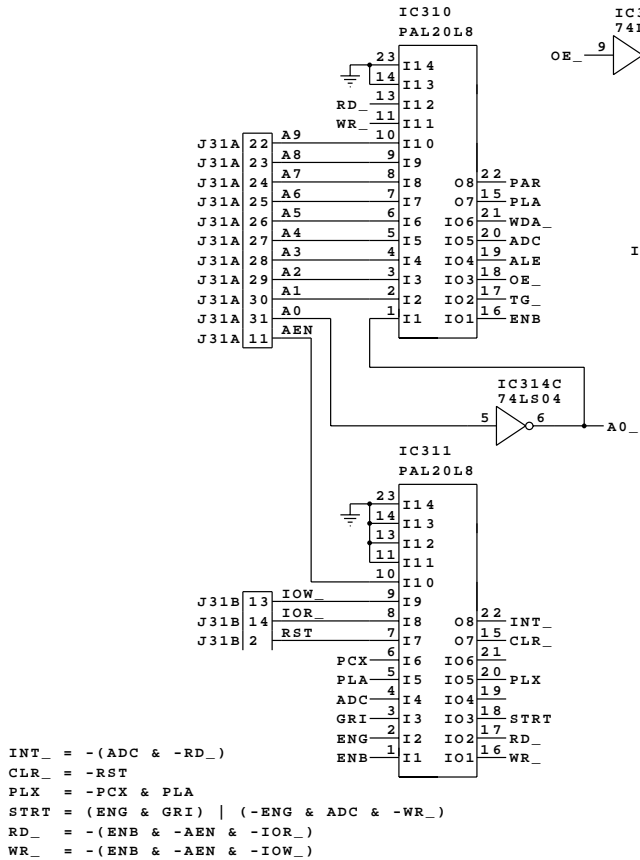
* note: connect analog and chassis grounds
together at J101 and J201 shields

Loran Timing Receiver

100-0001-001	REV 2C
16 Feb 1992	SHEET 3 OF 8


```

111W PAR = -(A2 & A1 & -A0_ & -WR_)
110W PLA = -(A2 & A1 & A0_ & -WR_)
10XW WDA_ = -(A2 & -A1 & -WR_)
011X ADC = -A2 & A1 & -A0_
010W ALE = -(-A2 & A1 & A0_ & -WR_)
010R OE_ = -(-A2 & A1 & A0_ & -RD_)
00XX TG_ = -(-A2 & -A1)
ENB = A9 & A8 & -A7 & -A6 & -A5 & -A4 & -A3
    
```



Receiver Control Module (2 of 2)

Loran Timing Receiver	
100-0001-001	REV 2C
16 Feb 1992	SHEET 5 OF 8

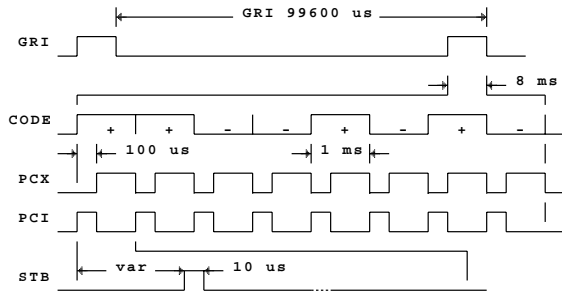


Figure 1. Gating Signals

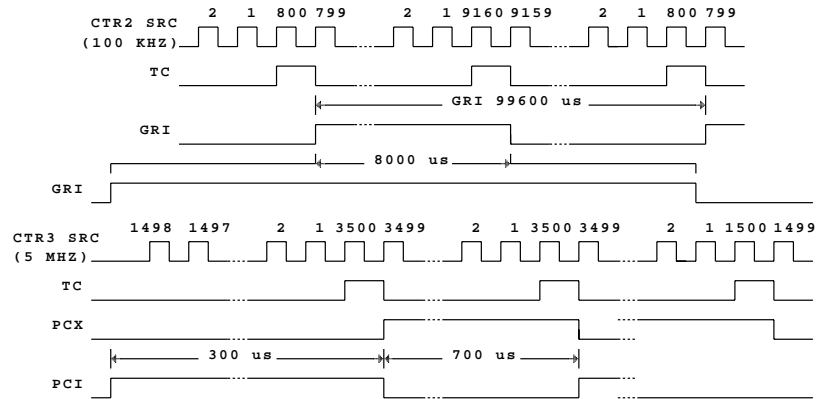


Figure 2. Timing Generator

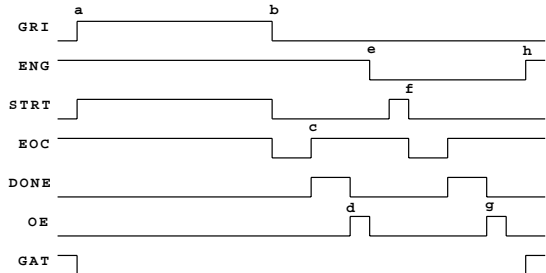


Figure 3. System Operation

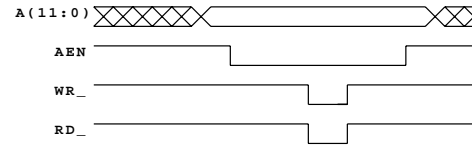
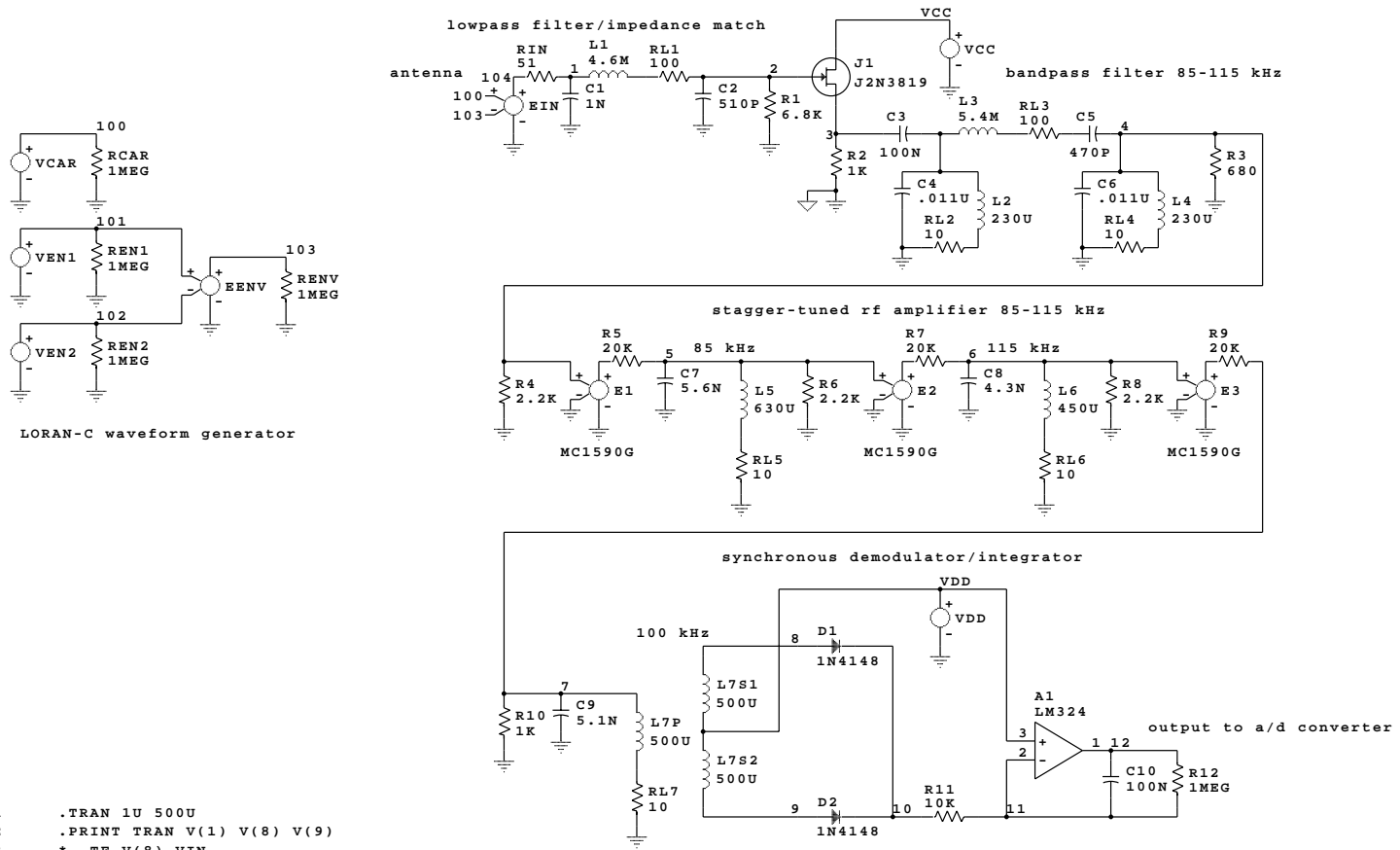


Figure 4. Computer Bus Interface Sequencing

Timing Diagrams

Loran Timing Receiver	
100-0001-001	REV 2C
16 Feb 1992	SHEET 6 OF 8



```

.1 .TRAN 1U 500U
.2 .PRINT TRAN V(1) V(8) V(9)
.3 * .TF V(8) VIN
.4 * .AC DEC 200 30K 300K
.5 .PRINT AC VCB(8) VDB(6) VDB(5) VDB(4) VDB(1)
.6 .PROBE
.7 .LIB EVAL.LIB
X1 VDD 11 VCC 0 12 LM324
K1 L7P L7S1 L7S2 0.9
    
```

PSPICE Simulation - Rf Circuits

Loran Timing Receiver	
100-0001-001	REV 2C
16 Feb 1992	SHEET 7 OF 8

