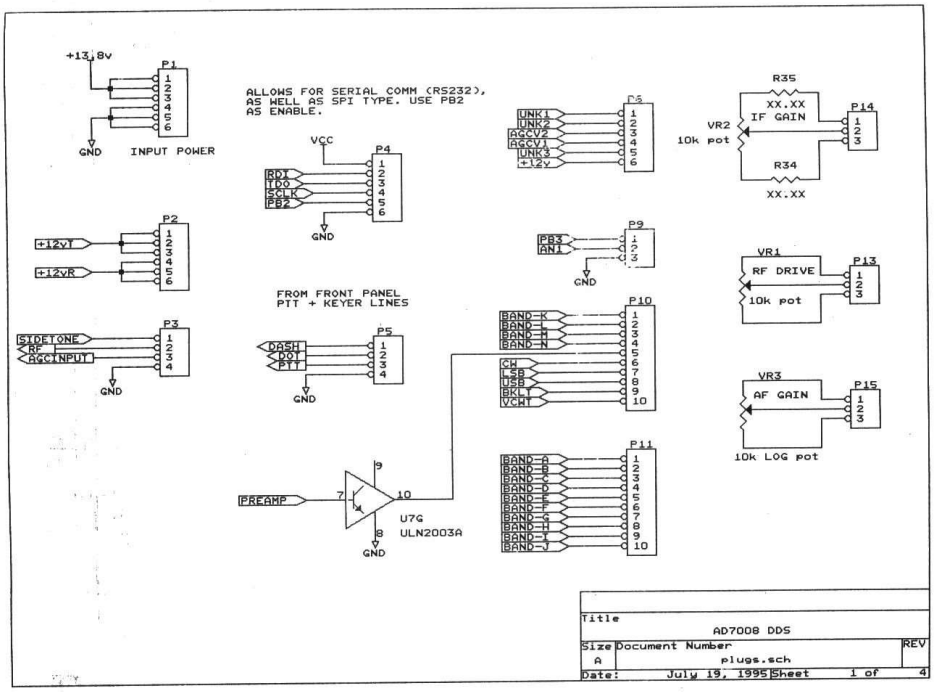
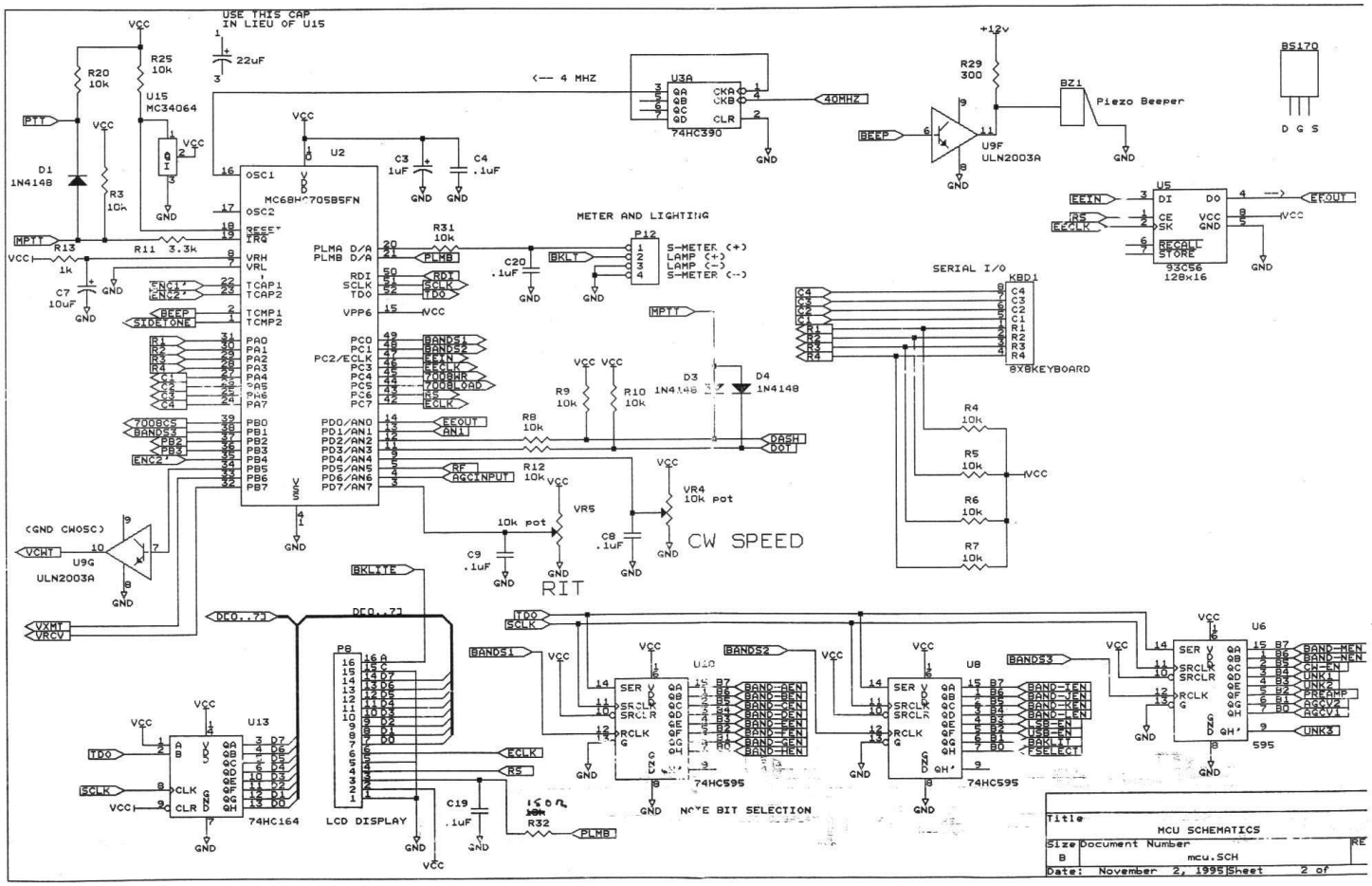
PARTS LIST

R1,2	0.68R	Q5,6,7,8,9	MPQ2N906 or EP2015CN
R3,4,5,6,7,8,9		ABOVE IS DIL ARRAY	
10,12,20,23,25,31	10K	U1	MC78T05 or LM340T5
R11,27,28	3K3	U2	MC68HC705B5FN
R13 1K R14,15,16,17,32	470R	U3	74HC390
R18,19	2K2	U4	40MHZ DIL OSC
R21	390R	U5	93C56
R22,24	51R	U7,9,11	ULN2003A
R26	150R	U6,8,10	74HC595
R29	300R	U12	AD7008JP50
R30,33	20K	U13	74HC164
R34,35	NOT INSTALLED	U14	74HC14
RN1,3 [PIN1 COMMON]	3K3	U15	MC3406
RN2,4,5,6 [ISOLATED]	2K2	U16	78L08
VR1-5	10K	LCD1	16chr X2line
C1 47uF			
C2,5,7,17,18	10uF TANT		
C3,14	1uF TANT		
C4,6,8,9,10,11,12,19,20	100N [104]		
C13,16	470PF [471K]		
C15	820PF [821K]		
D1,3,4,5	1N4148		
D2	MR2535L /1N5408		
Q1,2	MJE350		
Q3,4	2N3904		


+13.8v
P1
INPUT POWER
GND
ALLOWS FOR SERIAL COMM (RS232),
AS WELL AS SPI TYPE. USE PB2
AS ENABLE.
VCC
P4
RDI
TDO
SCLK
PB2
GND
P2
+12vT
+12vR
P3
SIDETONE
RF
AGCINPUT
GND
FROM FRONT PANEL
PTT + KEYER LINES
P5
DASH
DOT
PTT
GND
PREAMP
U7G
ULN2003A
GND
P8
UNK1
UNK2
AGCV2
AGCV1
UNK3
+12v
P9
PB3
AN1
GND
P10
BAND-K
BAND-L
BAND-M
BAND-N
CW
LSB
USB
BKIT
VCHT
P11
BAND-A
BAND-B
BAND-C
BAND-D
BAND-E
BAND-F
BAND-G
BAND-H
BAND-I
BAND-J
R35
XX.XX
IF GAIN
VR2
10k pot
R34
XX.XX
P14
VR1
RF DRIVE
10k pot
P13
VR3
AF GAIN
10k LOG pot
P15
Title
AD7008 DDS
Size
A
Document Number
plugs.sch
REV
Date:
July 19, 1995
Sheet
1 of
4


USE THIS CAP
IN LIEU OF U15
22uF
VCC
R20
10k
R25
10k
U15
MC34064
PTT
D1
1N4148
R3
10k
MPTT
R13
1k
R11 3.3k
C7
10uF
GND
U2
MC68HC705B5FN
OSC1
OSC2
RESET
IRQ
VRH
VRL
ENC1
ENC2
TCAP1
TCAP2
TCMP1
TCMP2
BEEP
SIDETONE
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
700BCS
BANDS3
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PC0
PC1
PC2/ECLK
PC3
PC4
PC5
PC6
PC7
PD0/AN0
PD1/AN1
PD2/AN2
PD3/AN3
PD4/AN4
PD5/AN5
PD6/AN6
PD7/AN7
BANDS1
BANDS2
PTTN
PTTY
700BHR
700BLOAD
ECLK
EEOUT
AN1
RF
AGCINPUT
C3
1uF
C4
.1uF
<— 4 MHZ
U3A
74HC390
40MHZ
R29
300
+12v
BZ1
Piezo Beeper
BEEP
U9F
ULN2003A
BS170
D G S
U5
93C56
128x16
EEIN
EECLK
EEOUT
RECALL
STORE
METER AND LIGHTING
R31
10k
C20
.1uF
BKLT
P12
S-METER (+)
LAMP (+)
LAMP (-)
S-METER (-)
SERIAL I/O
KBD1
@XBKEYBOARD
R9
10k
R10
10k
D3
1N4148
D4
1N4148
R8
10k
DASH
DOT
R12
10k
VR5
10k pot
VR4
10k pot
C8
.1uF
C9
.1uF
CW SPEED
RIT
R4
10k
R5
10k
R6
10k
R7
10k
(GND CWOSC)
VCHT
U9G
ULN2003A
VXMT
VRCV
BKLITE
DFQ..7]
P8
LCD DISPLAY
C19
.1uF
R32
PLMB
ECLK
RS
TDO
SCLK
U13
74HC164
U10
U8
74HC595
BAND-DEN
BAND-CEN
BAND-BEN
BAND-AEN
BAND-DEN
BAND-CEN
BAND-BEN
BAND-AEN
NOTE BIT SELECTION
U6
595
BAND-DEN
BAND-CEN
BAND-BEN
BAND-AEN
CW-EN
UNK1
UNK2
PREAMP
AGCV2
AGCV1
UNK3
Title
MCU SCHEMATICS
Size
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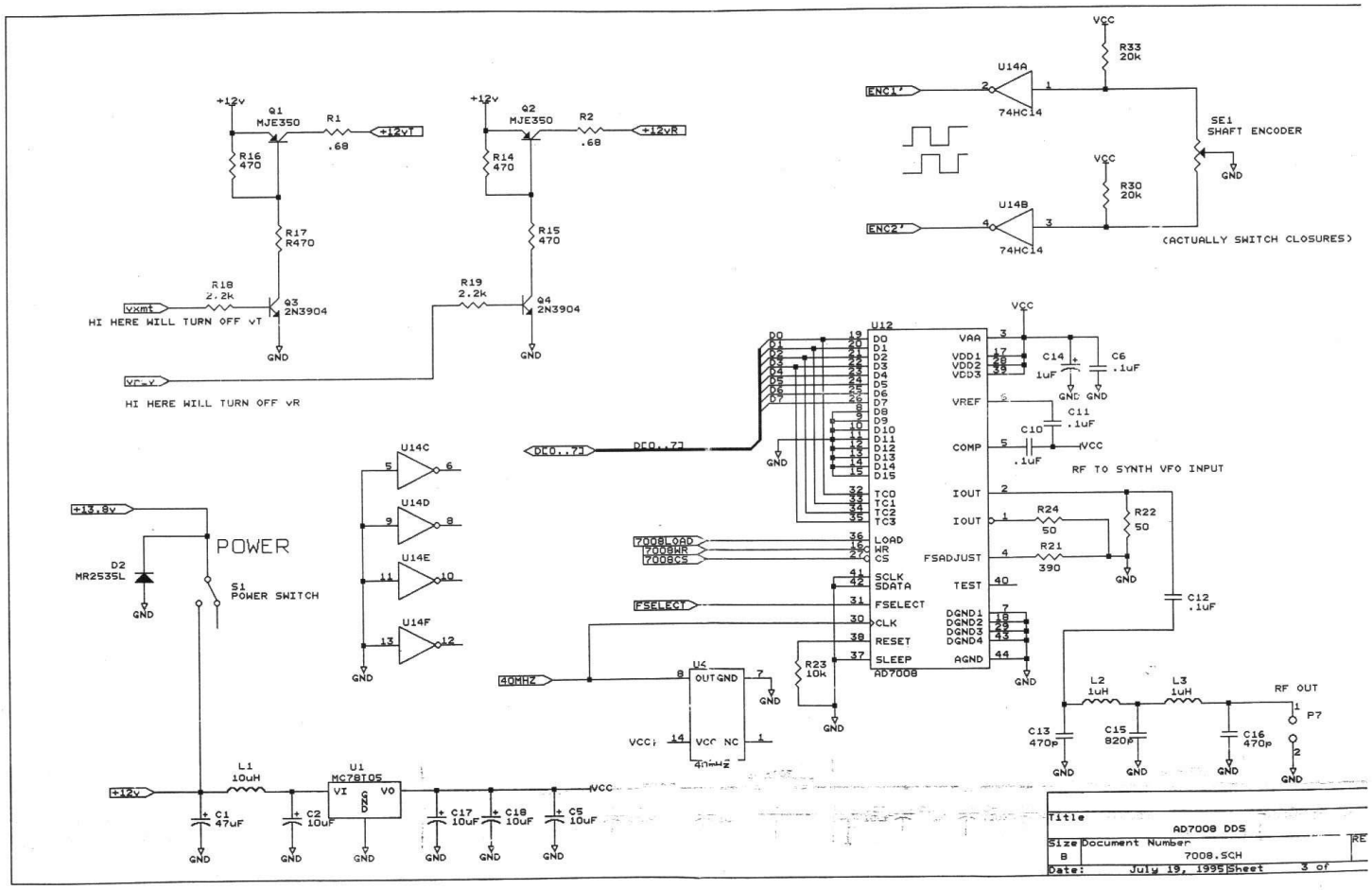
Sheet 2 of


+12v
Q1
MJE350
R1
.68
+12vT
R16
470
R17
R470
R18
2.2k
vxmt
Q3
2N3904
HI HERE WILL TURN OFF vT
GND
Q2
MJE350
R2
.68
+12vR
R14
470
R15
470
R19
2.2k
Q4
2N3904
vr_v
HI HERE WILL TURN OFF vR
VCC
R33
20k
U14A
ENC1'
74HC14
SE1
SHAFT ENCODER
R30
20k
U14B
ENC2'
(ACTUALLY SWITCH CLOSURES)
U12
DO
D1
D2
D3
D4
D5
D6
D7
D8
D9
D10
D11
D12
D13
D14
D15
DCLO..7J
DFO..7J
TCO
TC1
TC2
TC3
7008LOAD
7008WR
7008CS
LOAD
WR
CS
SCLK
SDATA
FSELECT
CLK
RESET
SLEEP
AD7008
VAA
VDD1
VDD2
VDD3
VREF
COMP
IOUT
IOUT
FSADJUST
TEST
DGND1
DGND2
DGND3
DGND4
AGND
C14
1uF
C6
.1uF
C11
.1uF
C10
.1uF
RF TO SYNTH VFO INPUT
R24
50
R22
50
R21
390
C12
.1uF
R23
10k
U14C
U14D
U14E
U14F
+13.8v
POWER
D2
MR2535L
S1
POWER SWITCH
40MHZ
U4
OUT
GND
VCC
NC
L2
1uH
L3
1uH
RF OUT
P7
C13
470p
C15
820p
C16
470p
L1
10uH
U1
MC78T05
VI
GND
VO
C1
47uF
C2
10uF
C17
10uF
C18
10uF
C5
10uF
Title
AD7008 DDS
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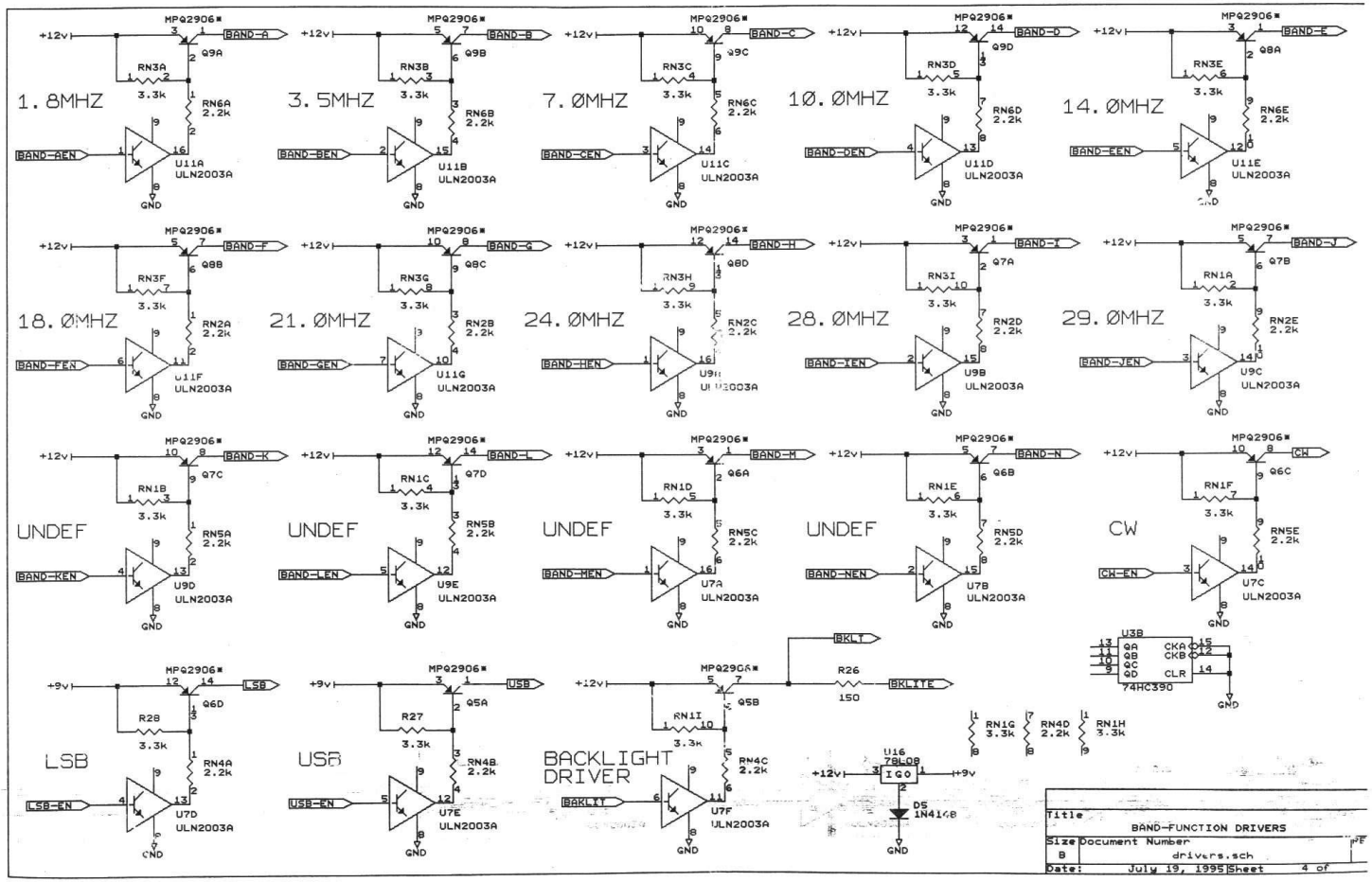
1.8MHZ
3.5MHZ
7.ØMHZ
10.ØMHZ
14.ØMHZ
18.ØMHZ
21.ØMHZ
24.ØMHZ
28.ØMHZ
29.ØMHZ
UNDEF
UNDEF
UNDEF
UNDEF
CW
LSB
USB
BACKLIGHT DRIVER
MPQ2906
ULN2003A
74HC390
78L09
1N4148
BAND-A
BAND-B
BAND-C
BAND-D
BAND-E
BAND-F
BAND-G
BAND-H
BAND-I
BAND-J
BAND-K
BAND-L
BAND-M
BAND-N
CW
LSB
USB
BKLT
BKLITE
+12v
+9v
GND
Title
BAND-FUNCTION DRIVERS
Size
B
Document Number
drivers.sch
Date:
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Sheet
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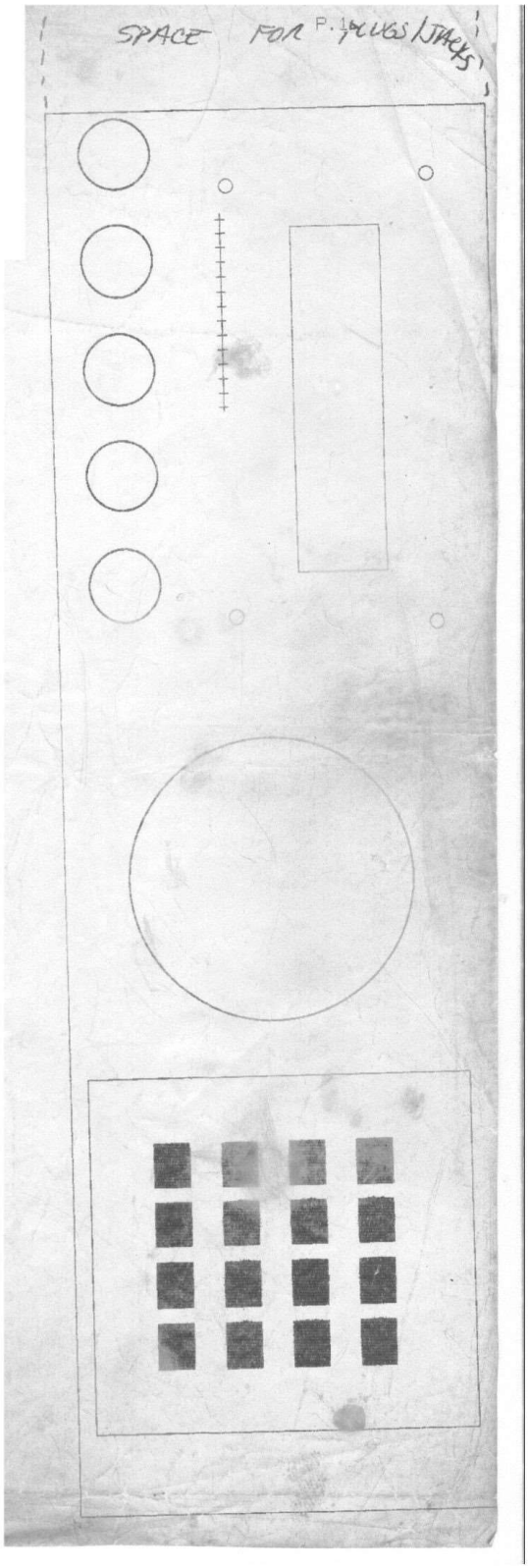
MAR 01 '95 11:51AM MCU APPS

TO: SHELDON HANDS

8 PAGES



P.2

SPECIFICATIONS:

1. DRILL FROM TOP SIDE.
2. HOLE DIAMETERS ARE AFTER PLATING.
3. ALL DIMENSIONS ARE IN INCHES AND ARE +/- .010 UNLESS NOTED.
4. ALL HOLES TO BE PLATED THRU UNLESS OTHERWISE NOTED.

MATERIAL:

1. BOARD THICKNESS: .062 INCHES.
2. FR4

FINISH:

1. 2 OUNCE COPPER.
2. SOLDER COAT.

DESIGN RULES	
MINIMUM TRACK WIDTH	13
PAD TO PAD CLEARANCE	13
PAD TO TRACK CLEARANCE	13
TRACK TO TRACK CLEARANCE	13

LAYER: SDRSCREEN

NOTE: ALL LAYERS OF THIS ARTWORK ARE VIEWED FROM THE TOP SIDE

AERO ELECTRONICS	
PROJECT: RTX DDS/MCU	
SCHEMATIC REVISION: 1	PCB REVISION: A
SCHEMATIC FORMAT: Orcad PCB LAYOUT FORMAT: Tango	DATE: 2/28/95

DRILL SCHEDULE

SYMBOL	DRILL SIZE +.003/-.003	QUANTITY (PLATED)
+	.028	62
X	.038	277
Y	.046	18
T	.073	6
⧖	.125	9
⋈	.140	1
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---	---	---
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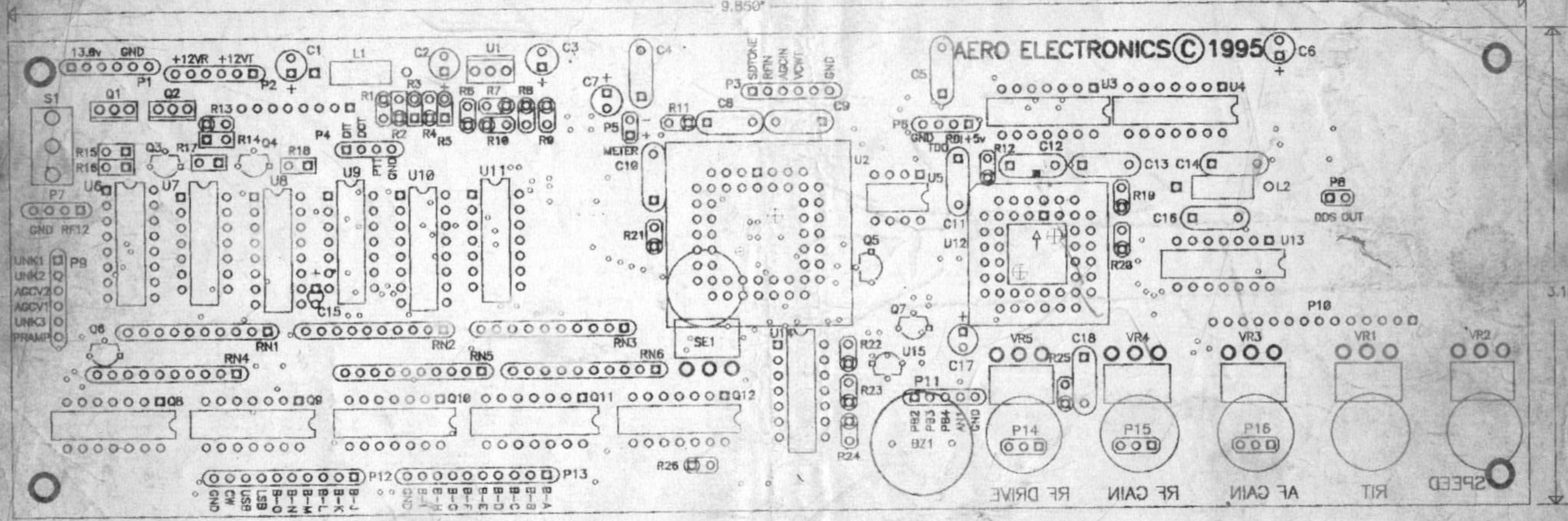
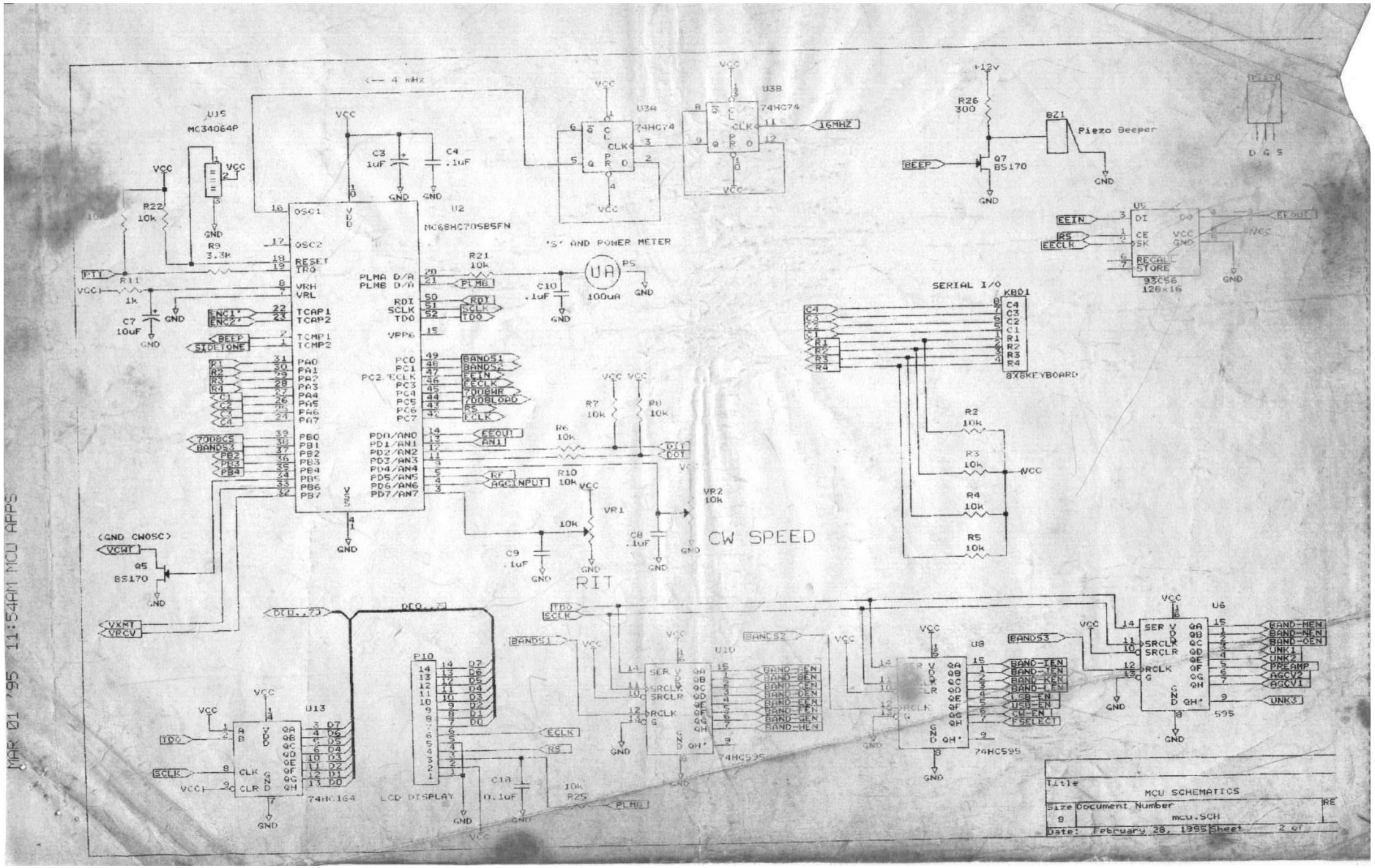
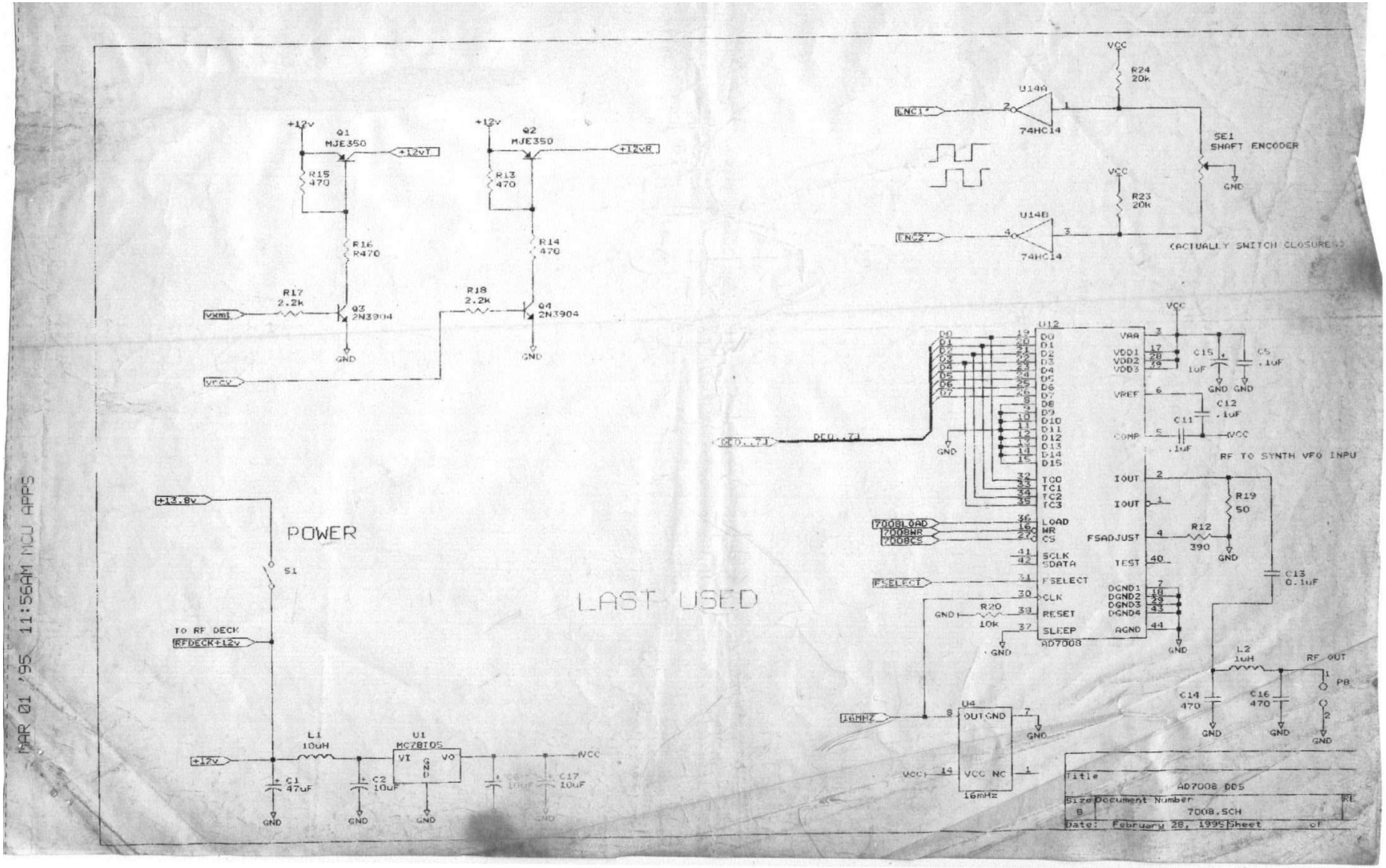



MAR 01 '95 11:54AM MCU APPS
<-- 4 mHz
U15
MC34064P
U2
MC68HC705B5FN
"S" AND POWER METER
SERIAL I/O
KBD1
8X8KEYBOARD
93C56
128x16
Piezo Beeper
CW SPEED
RIT
(GND CWOSC)
LCD DISPLAY
74HC164
74HC595
MCU SCHEMATICS
mcu.SCH
February 28, 1995


MAR 01 '95 11:56AM MCU APPS
+12v
Q1
MJE350
+12VT
R15
470
R16
R470
R17
2.2k
VXMT
Q3
2N3904
GND
VTCV
Q2
MJE350
+12VR
R13
470
R14
470
R18
2.2k
Q4
2N3904
+13.8v
POWER
S1
TO RF DECK
RFDECK+12v
L1
10uH
U1
MC78T05
VI
VO
GND
C1
47uF
C2
10uF
C17
10uF
VCC
LAST USED
VCC
R24
20k
U14A
ENC1*
74HC14
SE1
SHAFT ENCODER
R23
20k
U14B
ENC2*
74HC14
(ACTUALLY SWITCH CLOSURES)
U12
D0..7
VAA
VDD1
VDD2
VDD3
C15
1uF
C5
.1uF
VREF
C12
.1uF
C11
.1uF
COMP
RF TO SYNTH VFO INPU
IOUT
IOUT
R19
50
R12
390
FSADJUST
TEST
C13
0.1uF
DGND1
DGND2
DGND3
DGND4
AGND
LOAD
WR
CS
SCLK
SDATA
FSELECT
CLK
RESET
SLEEP
AD7008
R20
10k
L2
1uH
RF OUT
P8
C14
470
C16
470
16MHz
U4
OUT
VCC NC
Title
AD7008 DDS
Size
B
Document Number
7008.SCH
Date: February 28, 1995
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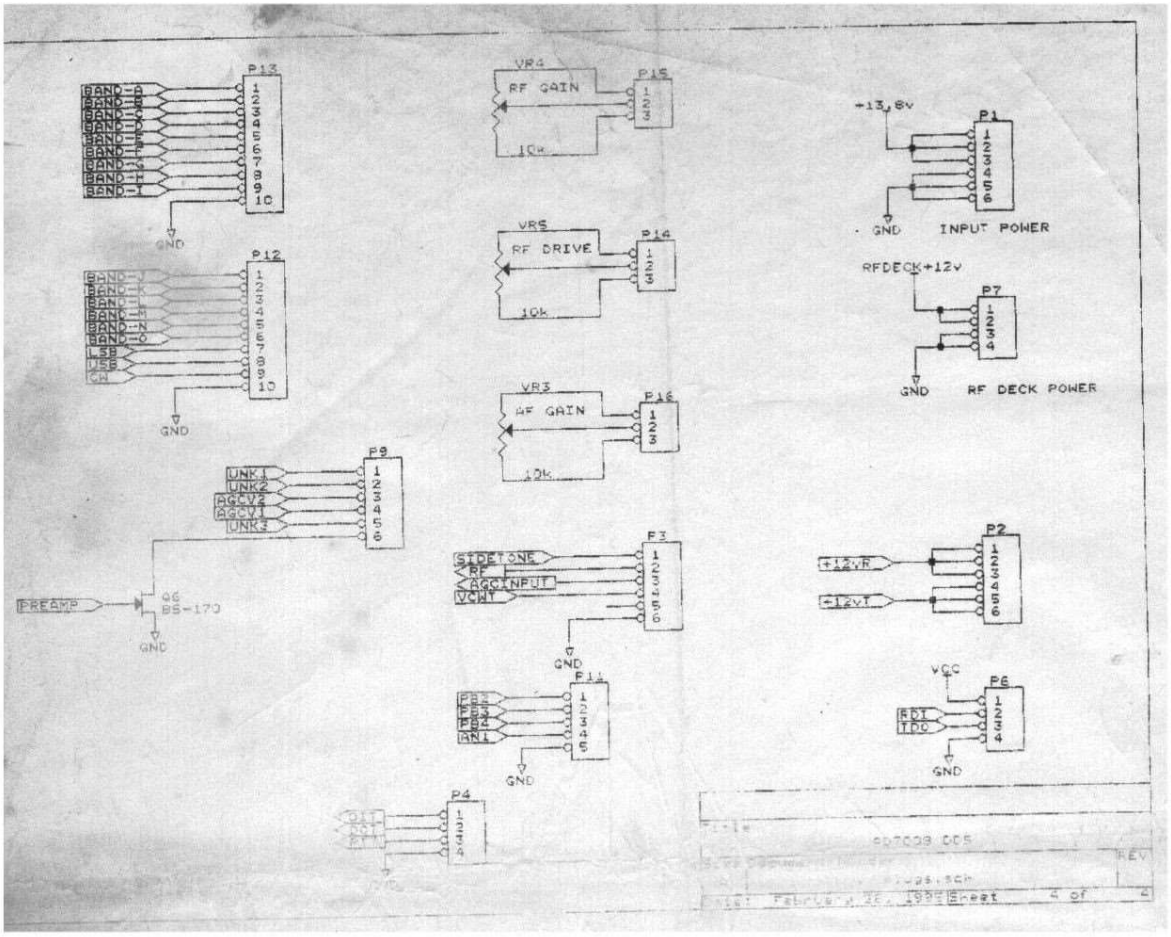
P13
BAND-D
BAND-E
BAND-F
BAND-G
BAND-H
BAND-I
BAND-J
BAND-K
GND
P12
BAND-A
BAND-B
BAND-C
LSB
USB
CW
VR4
RF GAIN
10k
P15
VR5
RF DRIVE
10k
P14
VR3
AF GAIN
10k
P16
+13.8v
P1
GND
INPUT POWER
RFDECK+12v
P7
GND
RF DECK POWER
P9
UNK1
UNK2
AGCV2
AGCV1
UNK3
PREAMP
Q6
BS-170
GND
P3
SIDETONE
RF
AGCINPUT
VCNT
GND
P2
+12vR
+12vT
P11
GND
VCC
P6
TDI
TDO
GND
P4
Title
SD7008 005
REV
Sheet 4 of