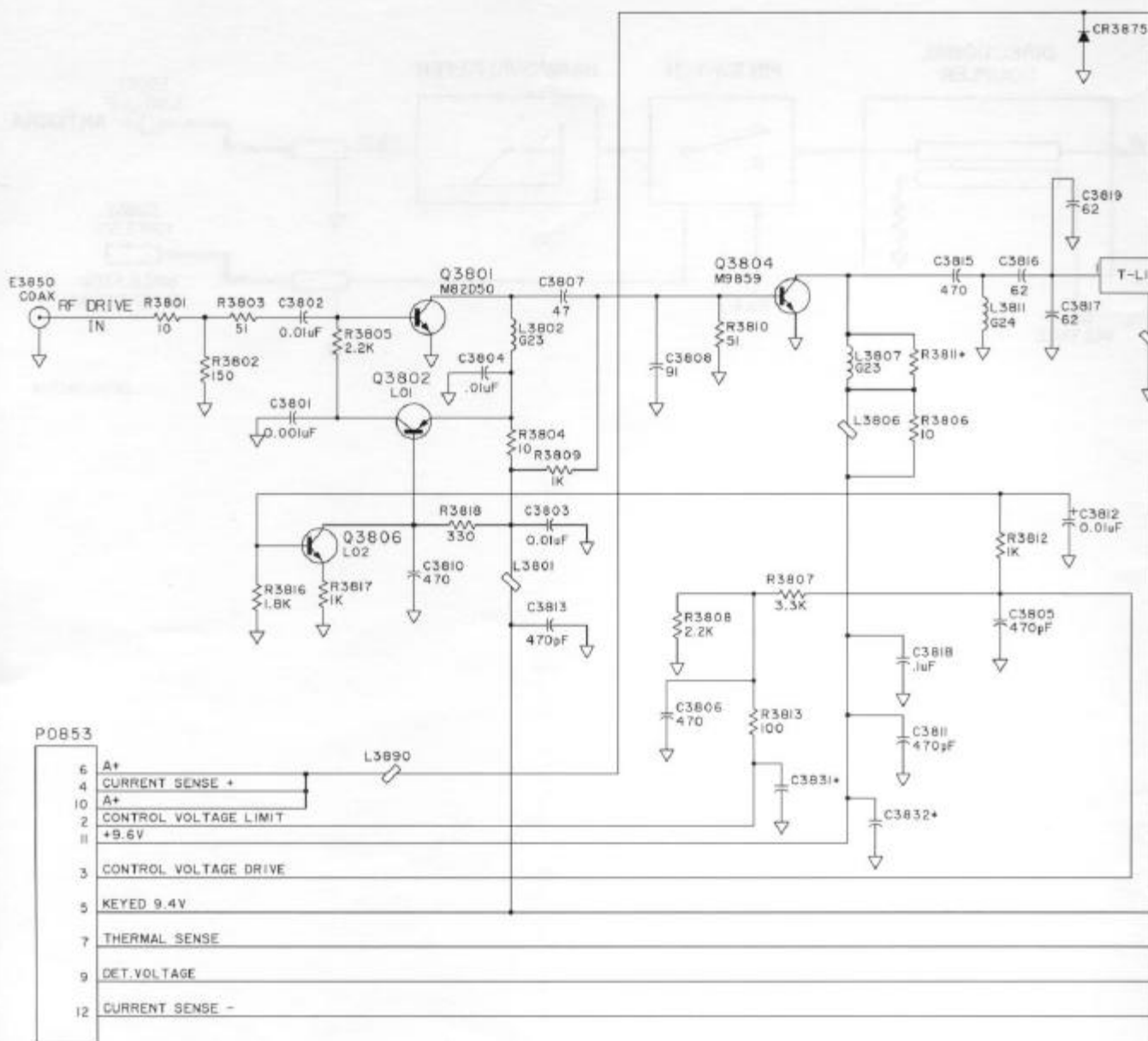


CIRCUIT SCHEMATICS

Pursuant to 47CFR 2.1033(c)10

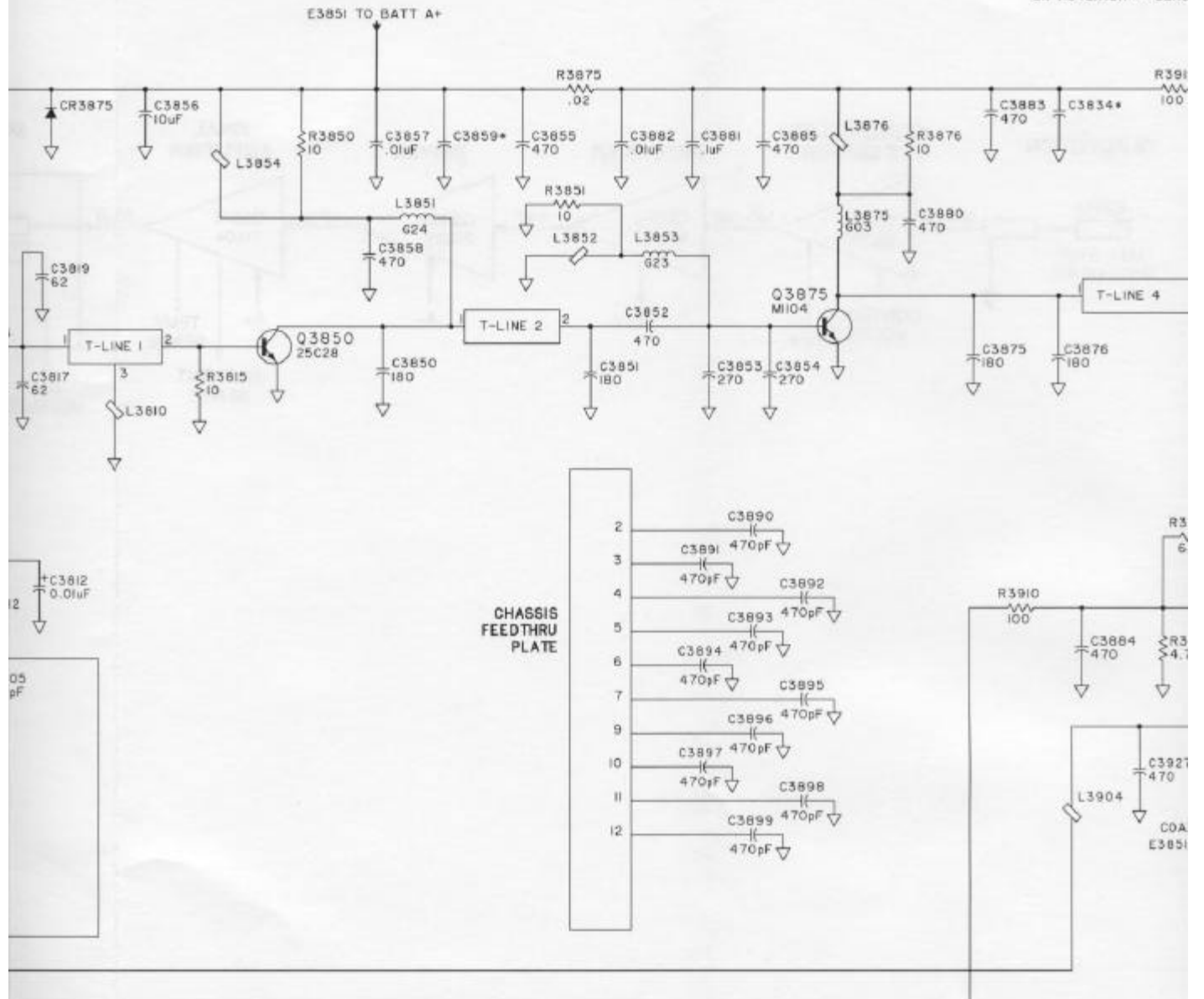
<u>EXHIBIT</u>	<u>DESCRIPTION</u>
5A	RF POWER AMPLIFIER/HARMONIC FILTER
5B	EXCITER



Schematic, Circuit Board Diagrams, and Parts List
 for HLD6022B Spectra VHF 50-Watt PA
PW-6505-A
 (Sheet 1 of 2)
 3/30/90

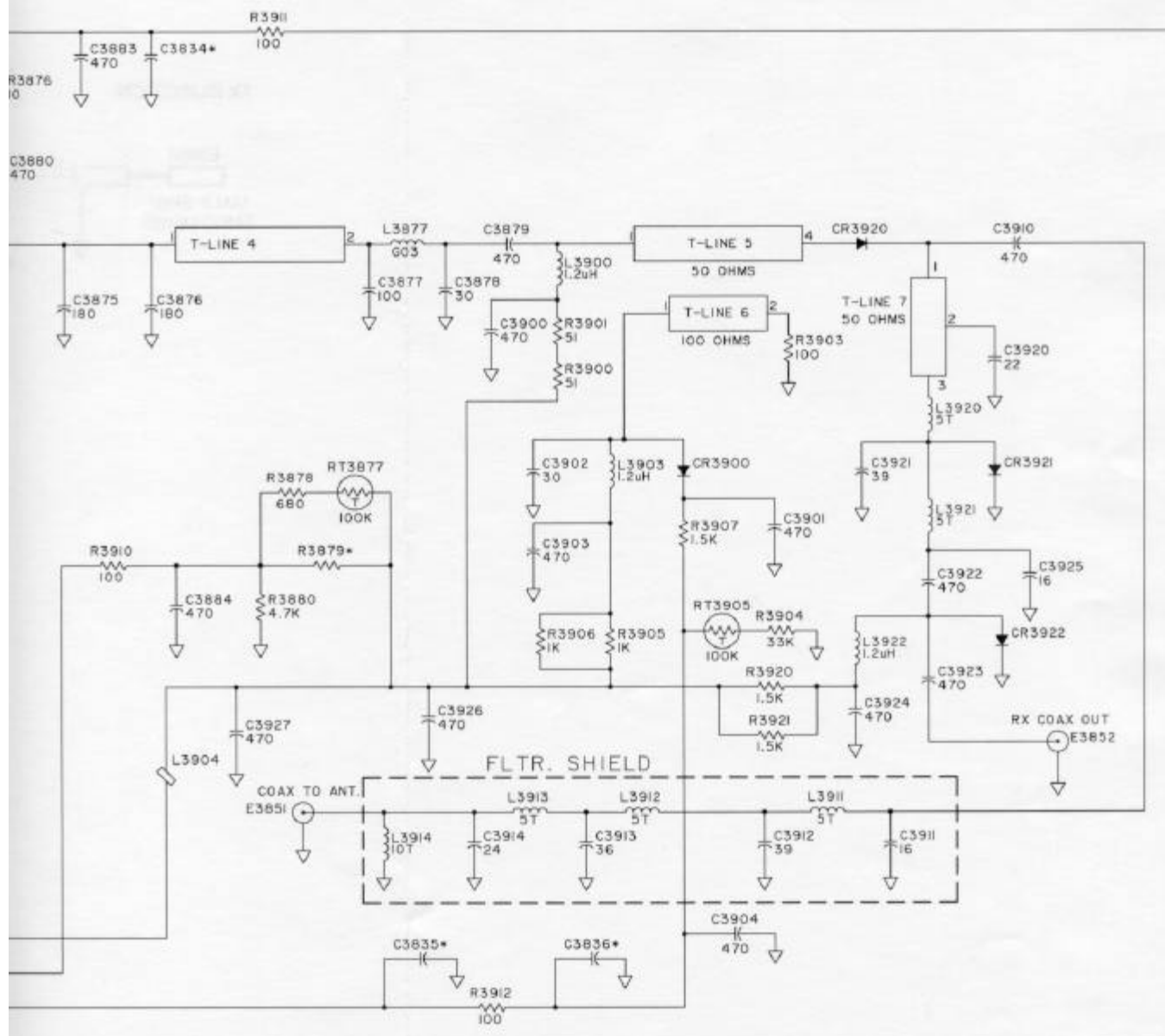
HLD6022B VHF 50-WATT PA SCHEMATIC

NOTES:
 1.) ALL RESISTANCE IS
 IN PICO FARADS.
 2.) ASTERISK * DENOT



NOTES:

- 1.) ALL RESISTANCE IS IN OHMS. ALL CAPACITANCE IS IN PICOFARADS UNLESS NOTED OTHERWISE.
- 2.) ASTERISK * DENOTES CONTINGENCY PARTS.



GXM-6506-A

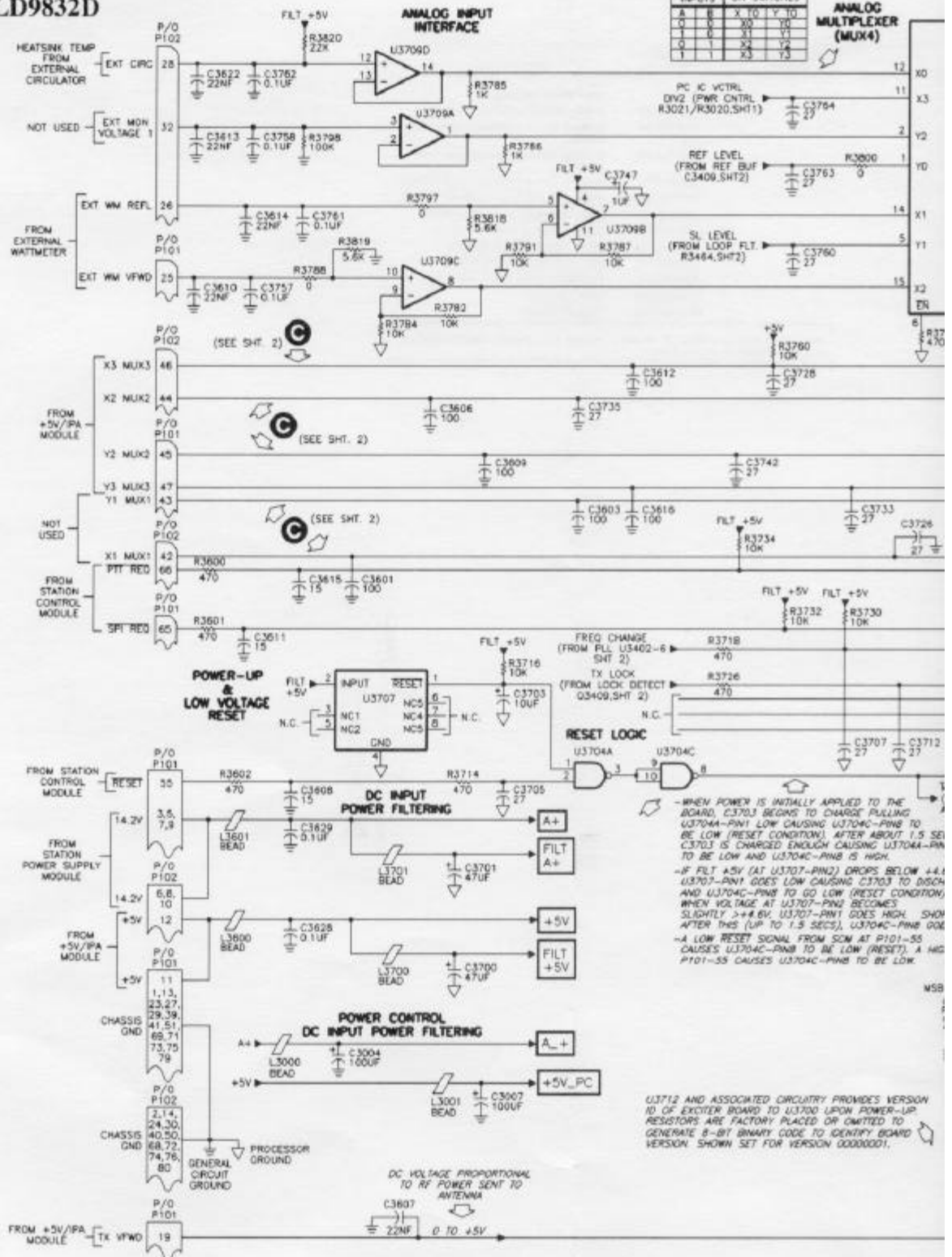
VHF EXCITER BOARD

MODELS TLD9831D TLD9832D

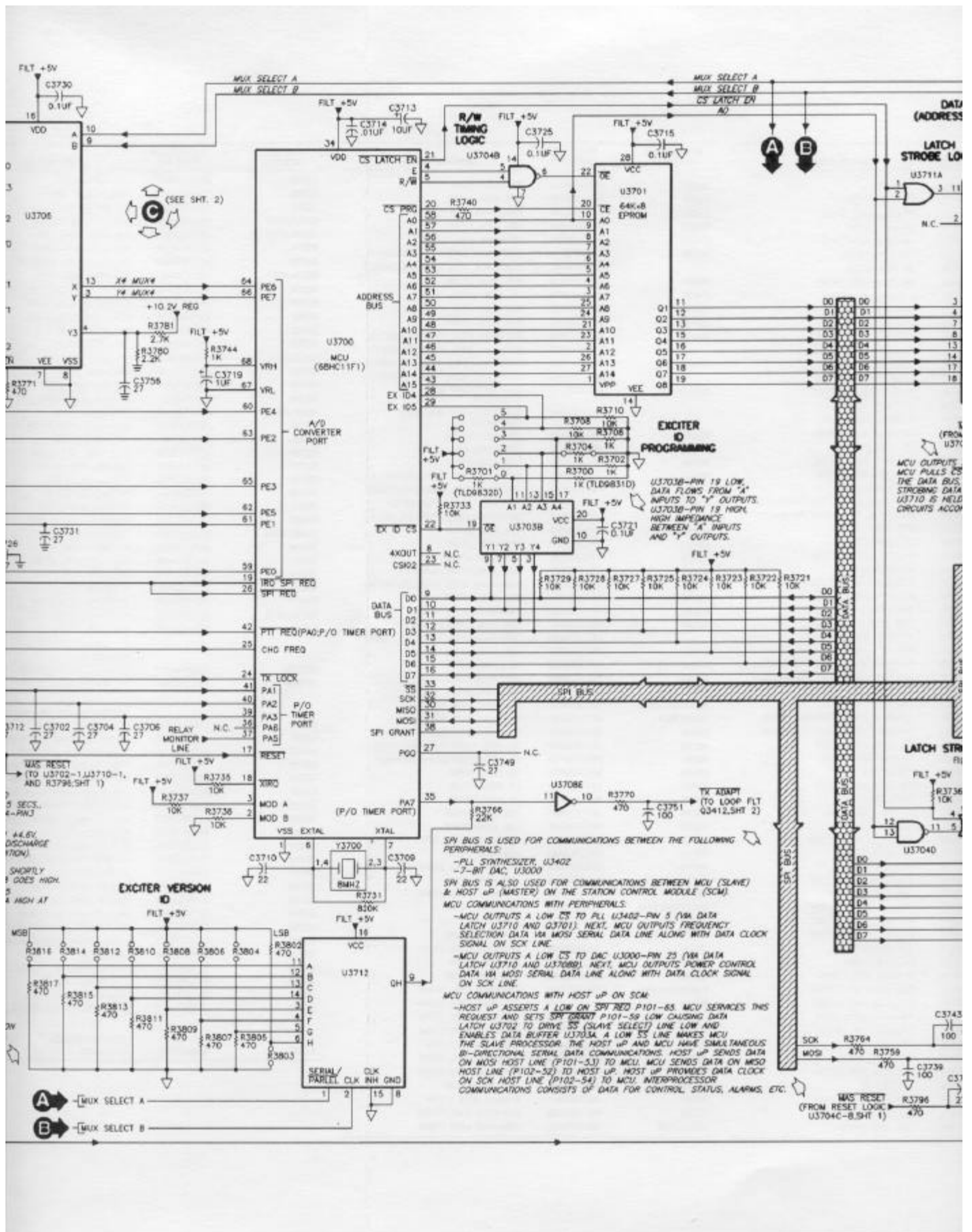
THE FOLLOWING STATE TABLE SHOWS
U370B INPUT/OUTPUT OPERATION:

SELECT INPUTS		ON SWITCHES			
A	B	X	Y	Z	TO
0	0	X0	Y0	Z0	
0	1	X1	Y1	Z1	
1	0	X2	Y2	Z2	
1	1	X3	Y3	Z3	

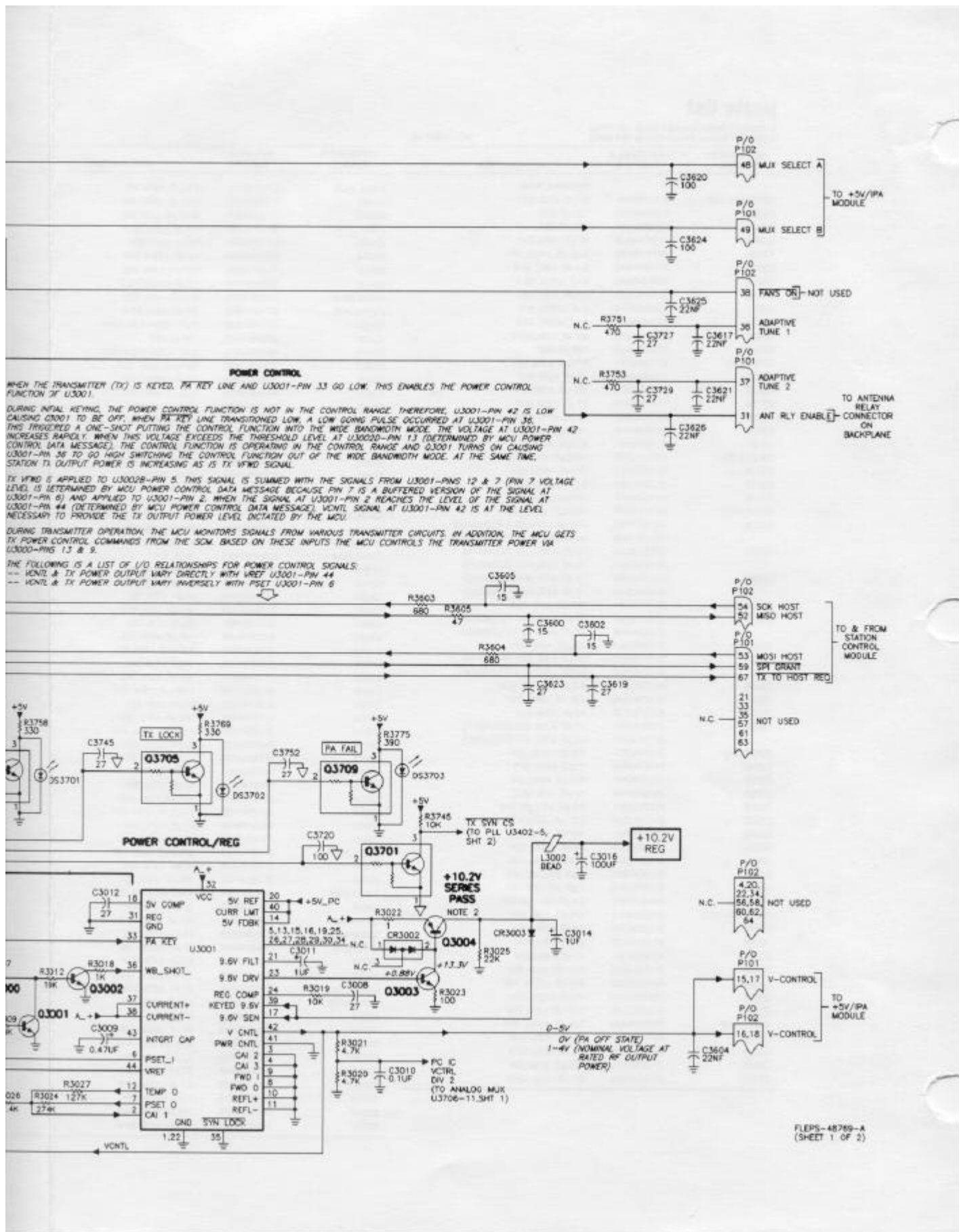
ANALOG
MULTIPLEXER
(MUX4)

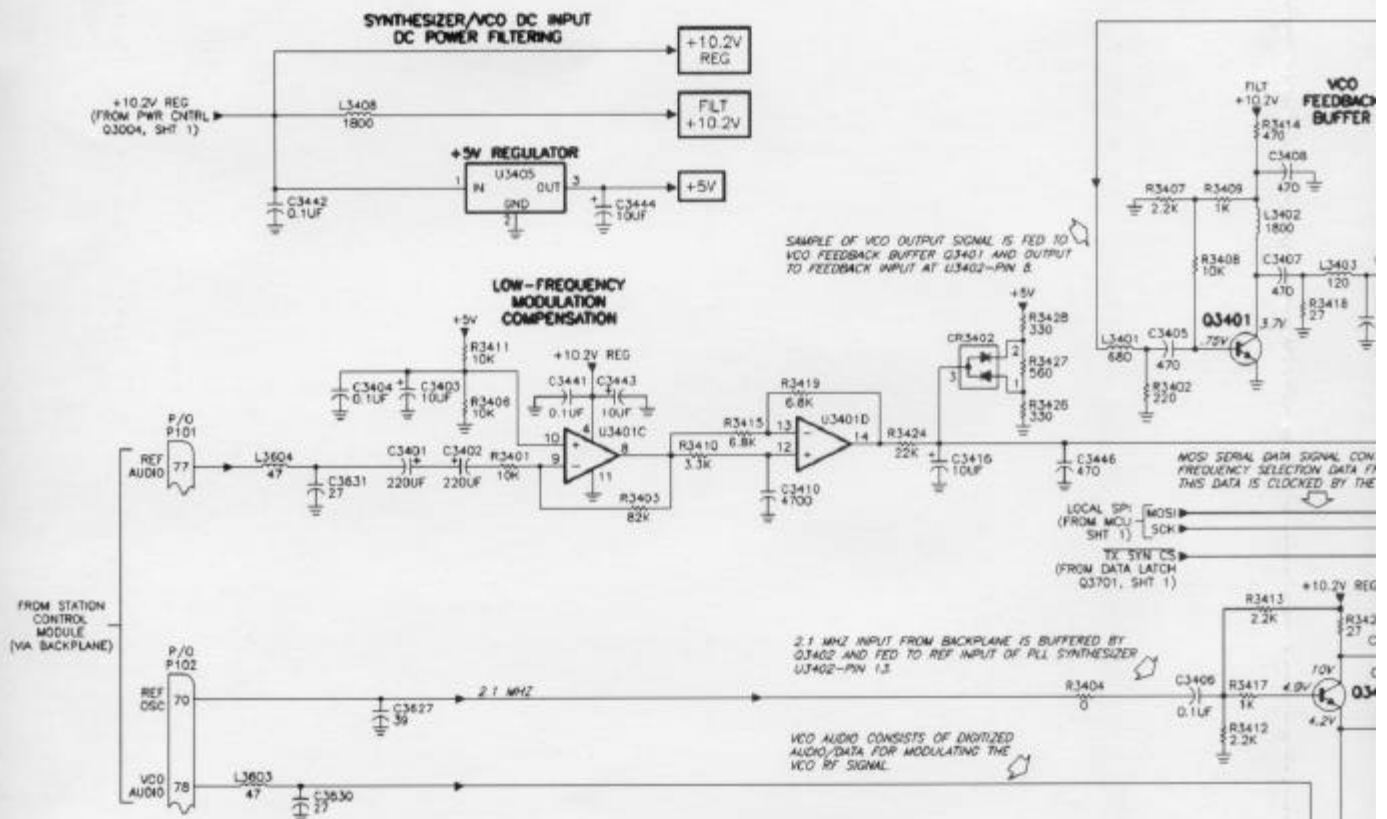


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(Sheet 4 of 5)
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DURING DIAGNOSTIC ROUTINES, MCU U3700 VIA DATA LATCH U3702 ASSERTS MUX SELECT A & B LINES AND THEN MONITORS THE FOLLOWING MUX OUTPUT LINES:

- | | |
|---------------------|--------------------------|
| - X1 MUX1 (P102-42) | - X3 MUX3 (P102-46) |
| - Y1 MUX1 (P101-43) | - Y3 MUX3 (P101-47) |
| - X2 MUX2 (P102-44) | - X4 MUX4 (U3706 PIN 13) |
| - Y2 MUX2 (P101-45) | - Y4 MUX4 (U3706 PIN 3) |

MOD U3700 POLLS EACH MUX OUTPUT LINE DURING A 10-20mS LOOP CYCLE.

EACH MUX OUTPUT LINE CONTAINS FOUR 200MS CHANNELS 0 THRU 3. EACH CHANNEL CORRESPONDS TO A MUX INPUT SIGNAL X0 THRU X3 OR Y0 THRU Y3. EACH MUX INPUT SIGNAL RANGES BETWEEN 0 TO +5V (SEE FIG. 1).

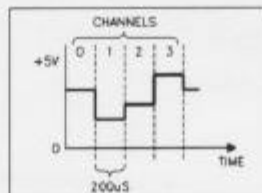
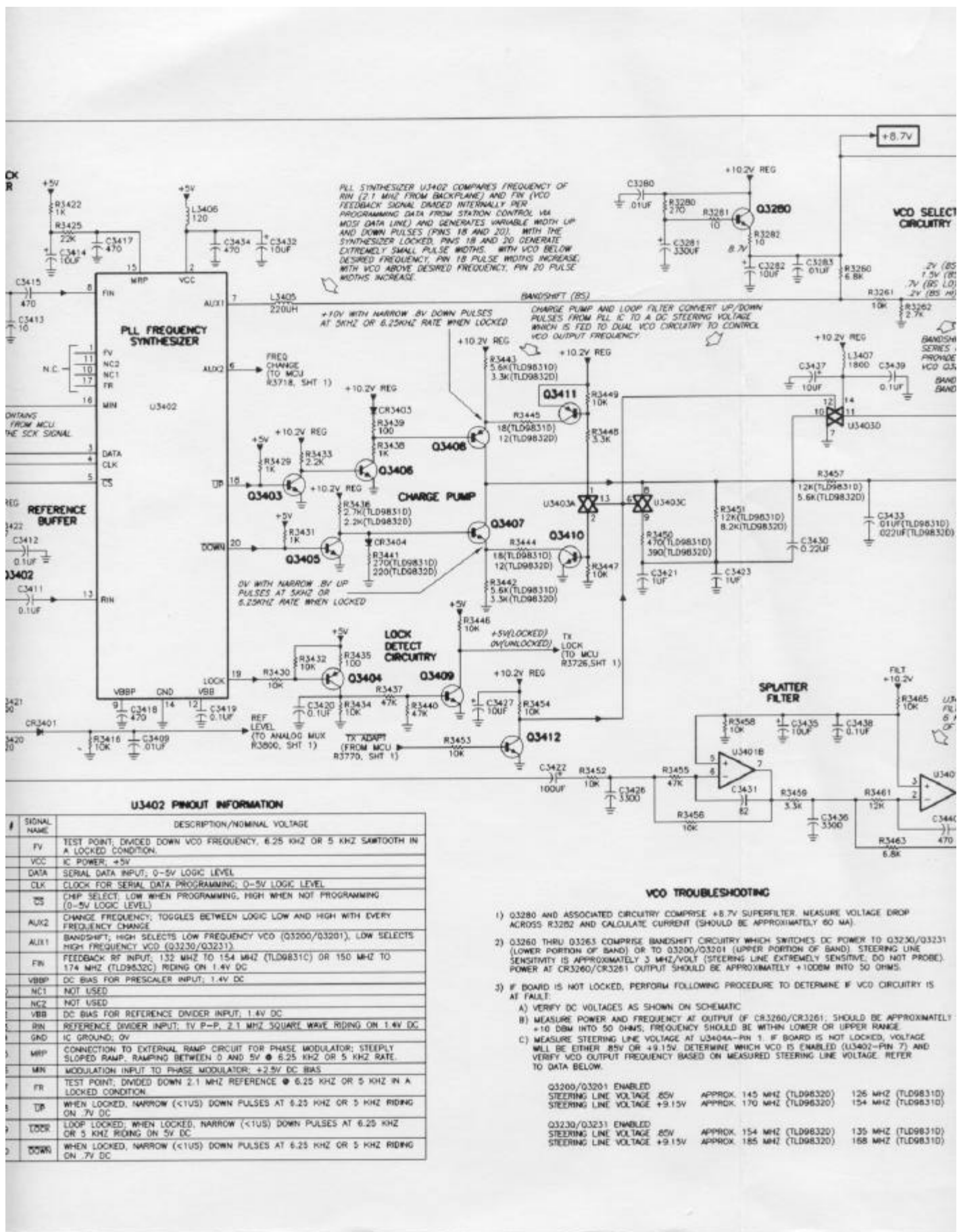


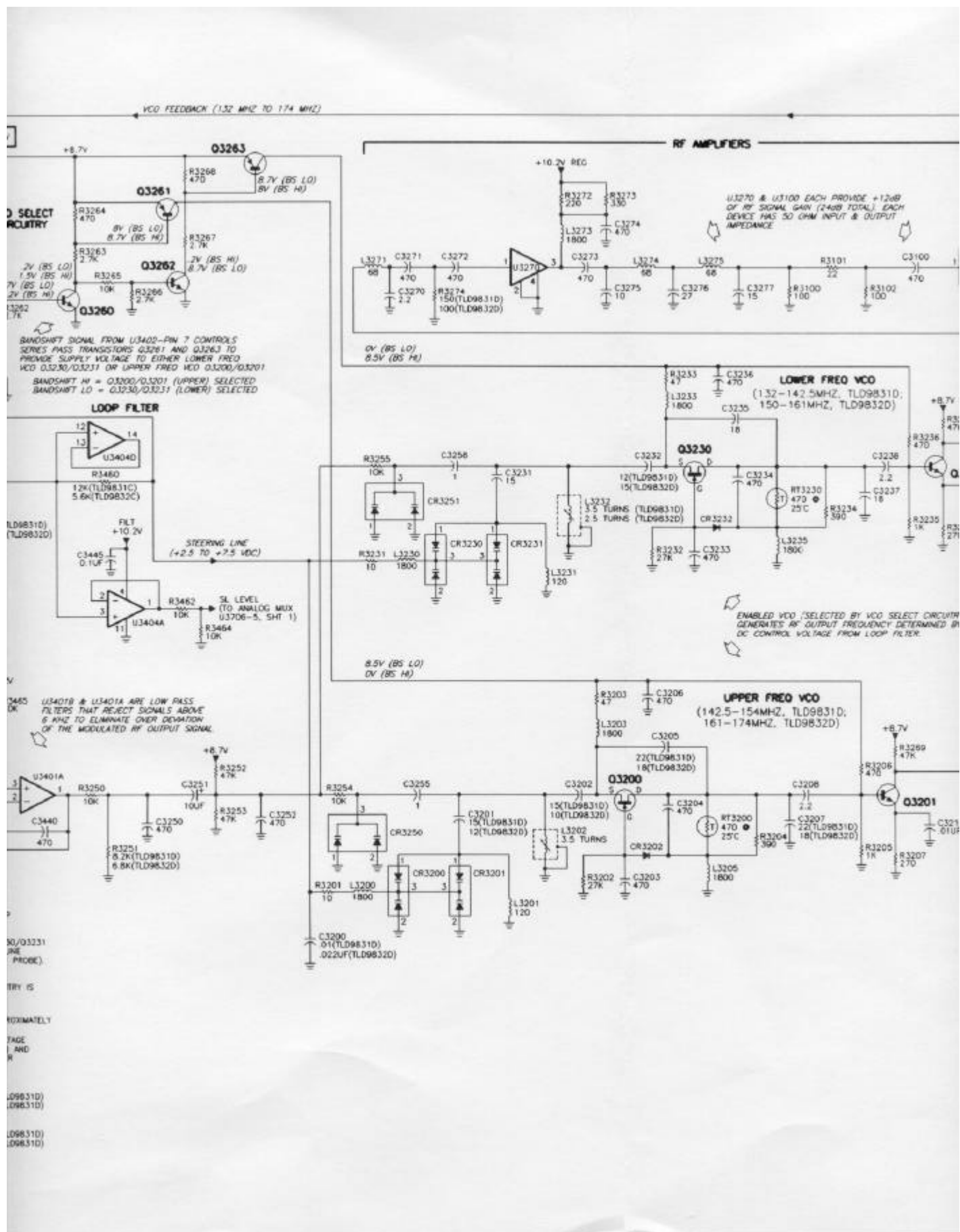
FIG. 1 TYPICAL DATA STREAM ON MUX OUTPUT LINE

FOR THIS CIRCUIT BOARD APPLICATION, THERE ARE NO MUX1 SIGNAL INPUTS. U3706 MUX4 SIGNAL INPUTS CAN BE DETERMINED FROM THIS SCHEMATIC DIAGRAM. TO DETERMINE MUX2 & MUX3 SIGNAL INPUTS, SEE THE FOLLOWING TABLE.

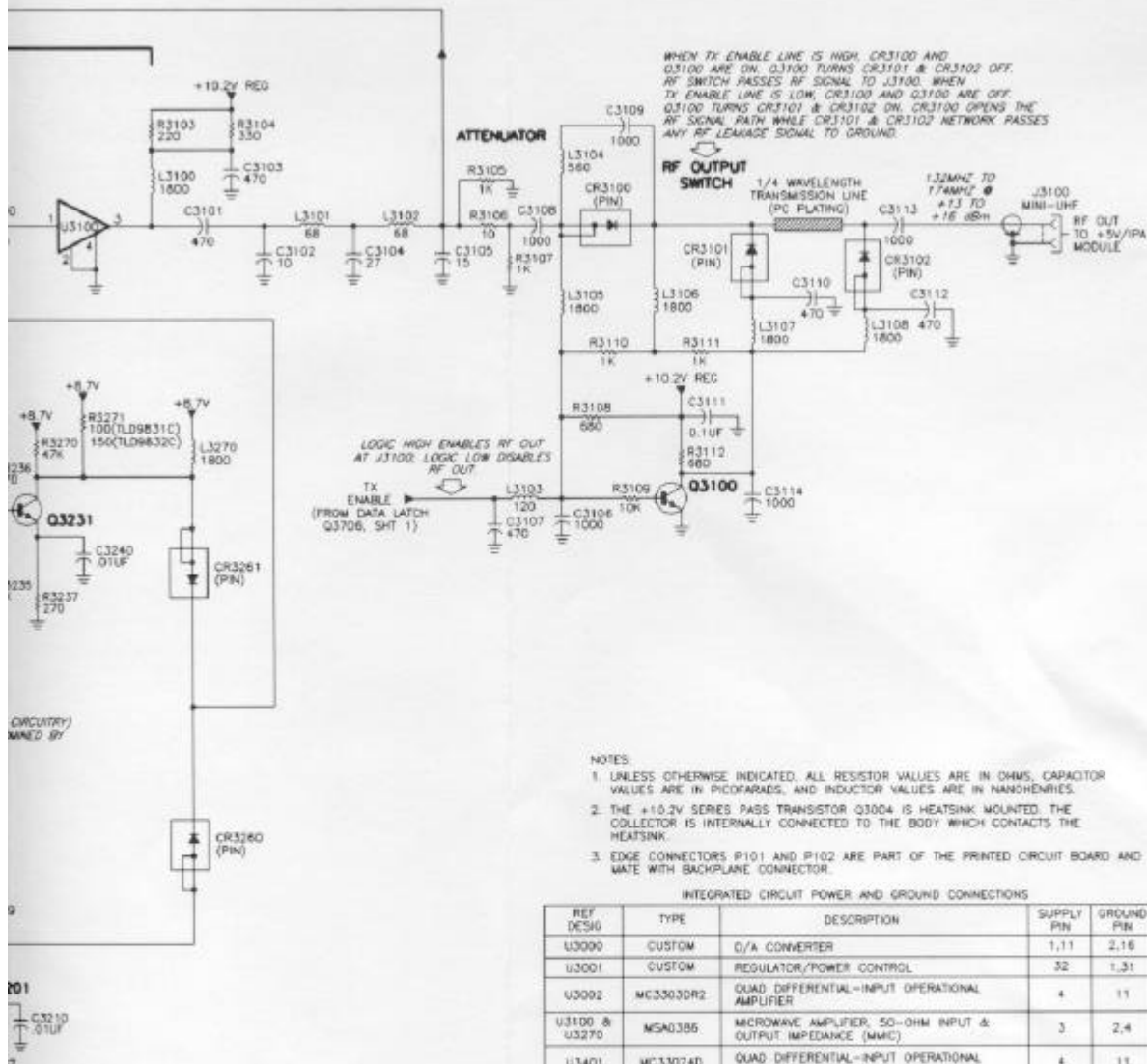
OUTPUT LINE	SIGNAL INPUTS				OUTPUT LINE	SIGNAL INPUTS			
X2M0X02 (P102-44)	X0	12V_FAN			X0	N.C.			
	X1	OVERVOLTAGE			X1	N.C.			
	X2	VDNRN_REF			X2	IPA_IDA			
	X3	FPA_TEMP			X3	IPA_IDB			
	X4				X4				
	X5				X5				
Y2M0X02 (P101-45)	Y0	CIRCULATOR TEMP			Y0	OPA_VFWD (HIGH POWER ON)			
	Y1	N.C.			Y1	N.C.			
	Y2	N.C.			Y2	OPA_VREF1			
	Y3	N.C.			Y3	OPA_VREF0			
	Y4				Y4				

PIN #
1
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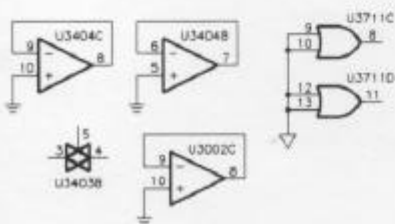




VHF EXCITER BOARD



UNUSED GATES



INTEGRATED CIRCUIT POWER AND GROUND CONNECTIONS				
REF DESIG	TYPE	DESCRIPTION	SUPPLY PIN	GROUND PIN
U3000	CUSTOM	D/A CONVERTER	1,11	2,16
U3001	CUSTOM	REGULATOR/POWER CONTROL	32	1,31
U3002	MC3303DR2	QUAD DIFFERENTIAL-INPUT OPERATIONAL AMPLIFIER	4	11
U3100 & U3270	MSA03B5	MICROWAVE AMPLIFIER, 50-ΩHM INPUT & OUTPUT IMPEDANCE (MMIC)	3	2,4
U3401	MC33074D	QUAD DIFFERENTIAL-INPUT OPERATIONAL AMPLIFIER	4	11
U3402	CUSTOM	PHASE LOCKED LOOP SYNTHESIZER	2	14
U3403	MC74HC4066	QUAD ANALOG MULTIPLEXER/DEMULTIPLEXER	14	7
U3404	MC33154	LOW POWER QUAD OPERATIONAL AMPLIFIER	4	11
U3405	MC7805	+5V VOLTAGE REGULATOR	1	2
U3700	M68HC11F1	MICROCONTROLLER (MCU) W/SCL SPI (NON-MULTIPLEXED ADDRESS/DATA BUS)	34	1
U3701	27C512	64K X 8-BIT EPROM, PROGRAMMED	26	14
U3702	MC74AC273	DCTAL D-TYPE FLIP-FLOP	20	10
U3703	MC74AC244	DCTAL BUFFER/LINE DRIVER, WITH 3-STATE OUTPUTS	20	10
U3704	MC74AC00	QUAD 2-INPUT NAND GATE	14	7
U3706	74HC4052	ANALOG MULTIPLEXER/DEMULTIPLEXER	16	7,8
U3707	MC33064	UNDERVOLTAGE SENSING CIRCUIT	2	4
U3708	MC74AC04	HEX INVERTER	14	7
U3709	MC3303DR2	QUAD DIFFERENTIAL-INPUT OPERATIONAL AMPLIFIER	4	11
U3710	MC74AC273	DCTAL D-TYPE FLIP-FLOP	20	10
U3711	MC74AC132	QUAD 2-INPUT OR GATE	14	7
U3712	MC74HC165	8-BIT SERIAL OR PARALLEL INPUT SHIFT REGISTER	16	8

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(SHEET 2 OF 2)

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