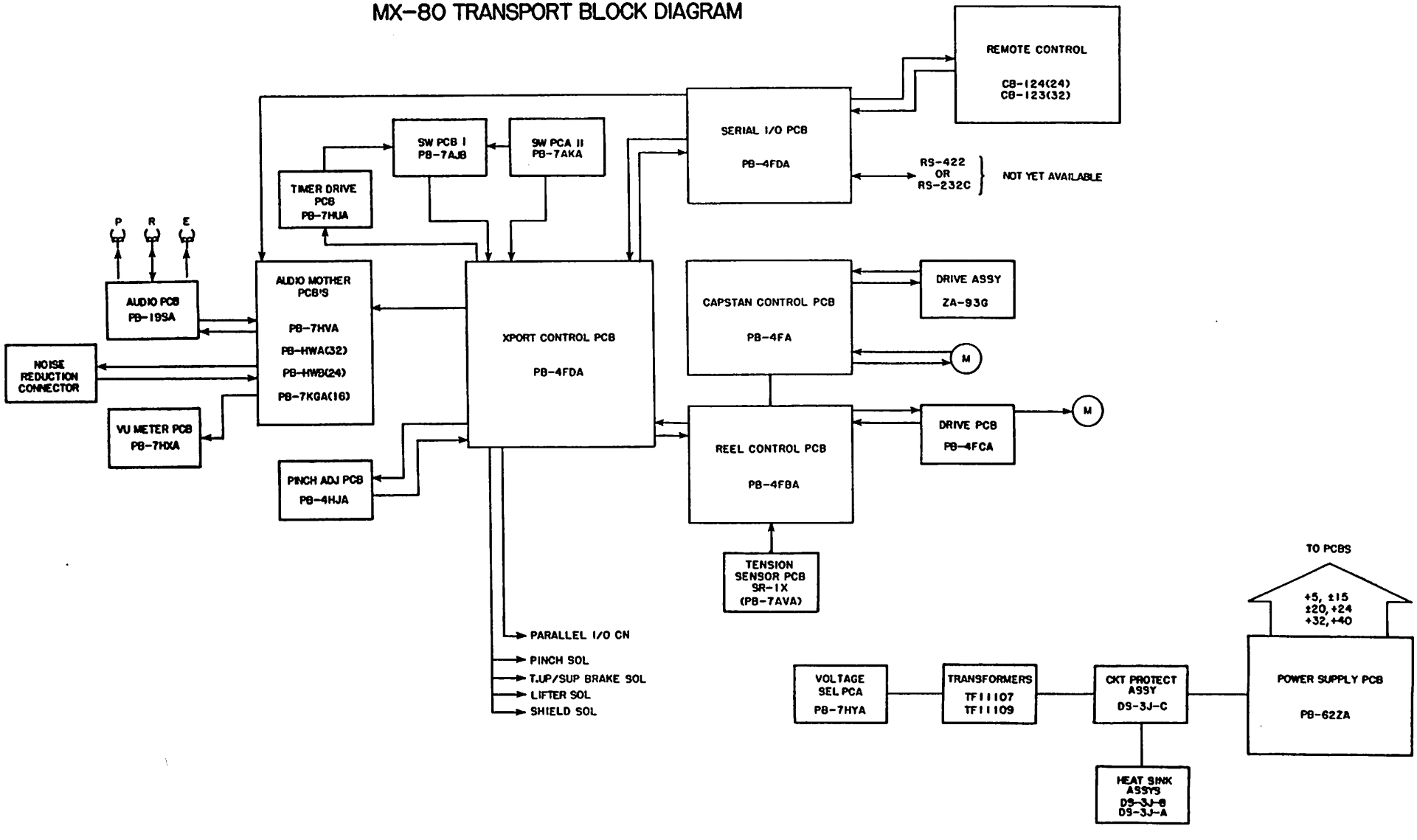
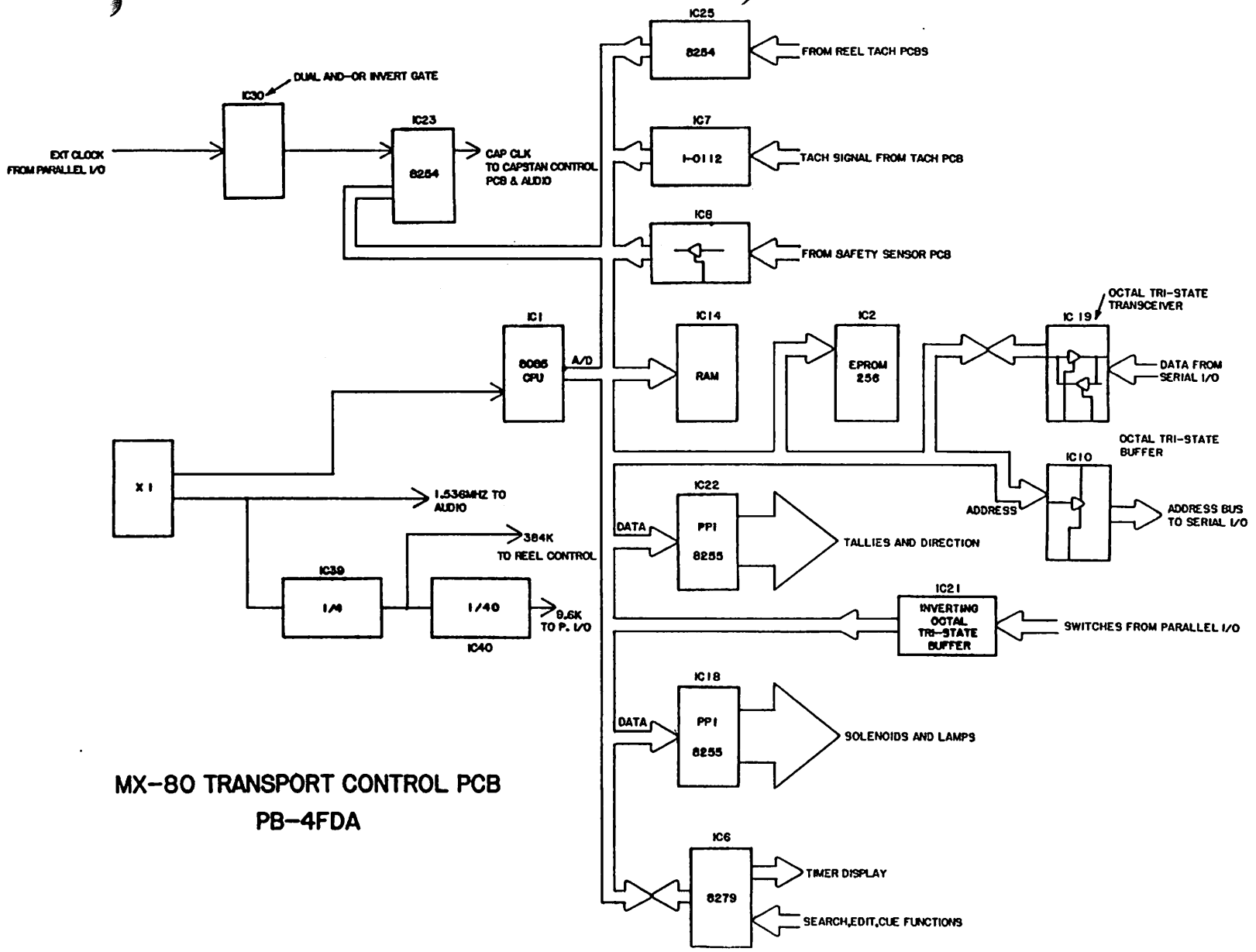
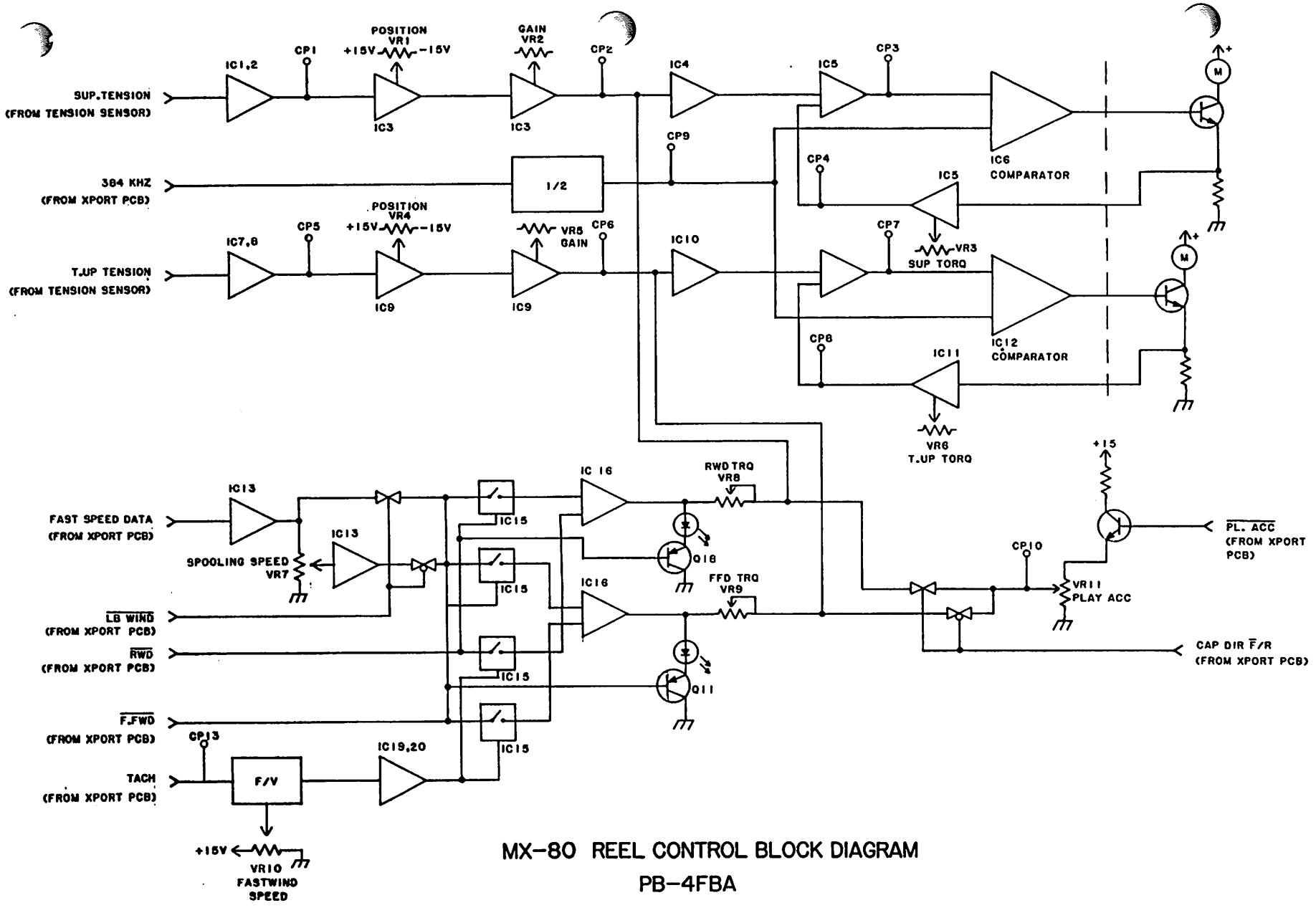
MX-80 TRANSPORT BLOCK DIAGRAM



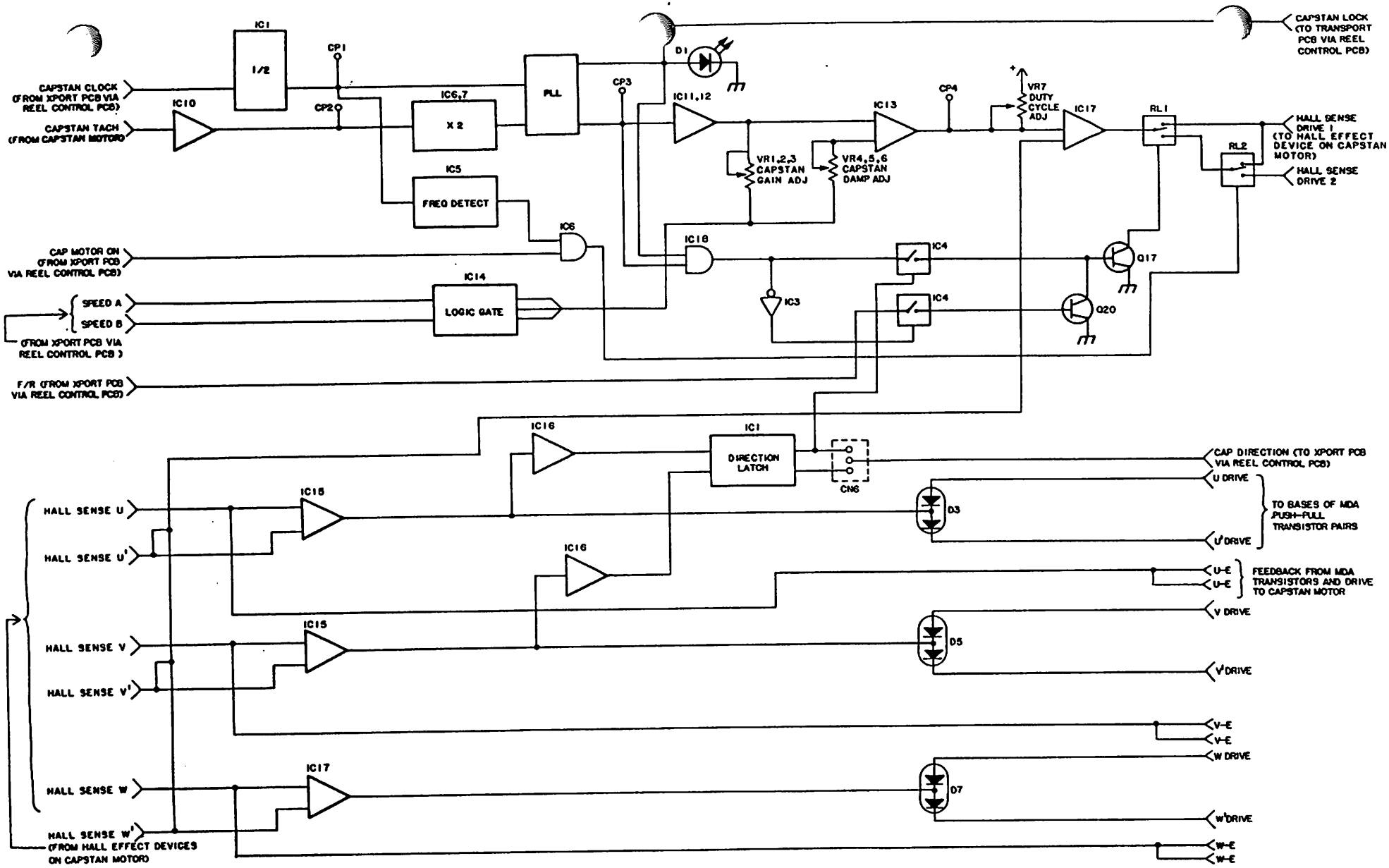


MX-80 TRANSPORT CONTROL PCB
PB-4FDA



MX-80 REEL CONTROL BLOCK DIAGRAM

PB-4FBA



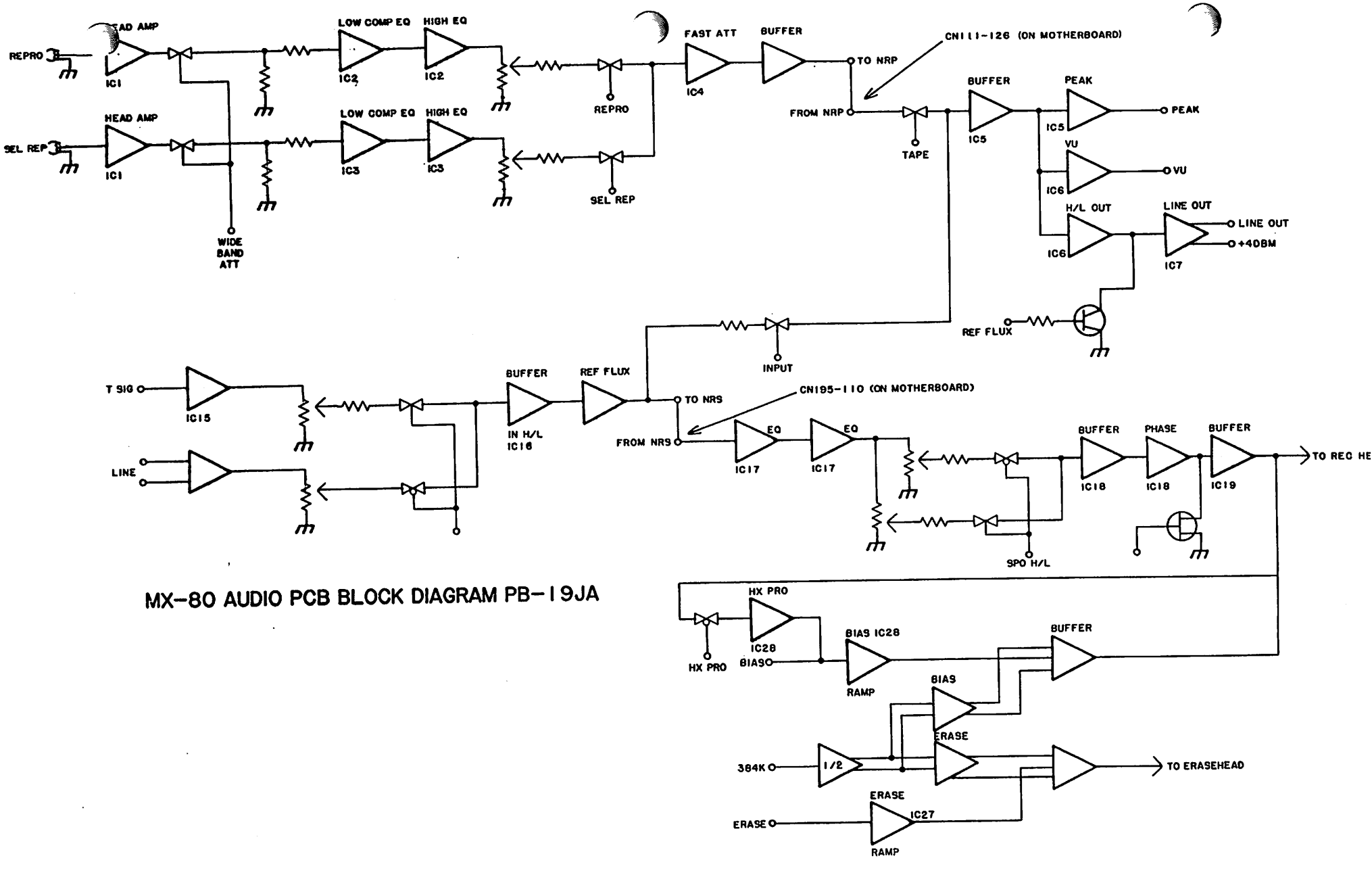
IC14 TRUTH TABLE

CAPSTAN SPEED	INPUT	
	SPEED A	SPEED B
7.5	0V	+15V
15	+15V	0V
30	0V	0V

CAPSTAN DIRECTION TRUTH TABLE

CN6 POSITION	OUTPUT	
	REV	FWD
1-2	0V	+5V
2-3	+5V	0V

MX-80 CAPSTAN CONTROL PCB BLOCK DIAGRAM PB-4FAA



MX-80 AUDIO PCB BLOCK DIAGRAM PB-19JA

MX-80 ERROR CODES

ERROR CODE #	DESCRIPTION
0	PROGRAM CHECK SUM ERROR
1	RAM READ/WRITE ERROR
2	TRANSPORT PCB IC18 ERROR (M5L8255)
3	TRANSPORT PCB IC22 ERROR (M5L8255)
4	SERIAL I/O PCB IC25 ERROR (M5L8255)
5	SERIAL I/O PCB NOT PLUGGED IN
20	TRANSPORT WILL NOT WIND PAST REPEAT POINTS
21	CUE POINTS SELECTED FOR REPEAT FUNCTION ARE IDENTICAL
70	TIME OUT ERROR IN COMMUNICATION WITH SERIAL I/O PCB
71	TIME OUT ERROR IN COMMUNICATION WITH OPTIONAL SERIAL I/O PCB #1
72	TIME OUT ERROR IN COMMUNICATION WITH OPTIONAL SERIAL I/O PCB #2

MX-80 REMOTE ERROR CODES

ERROR CODE #	DESCRIPTION
90	INITIAL COMMUNICATION ERROR
91	TIME OUT ERROR EX: MX-80 AND REMOTE ARE RECEIVING DIFFERENT INFORMATION
92	UNDEFINE ERROR EX: REMOTE RECEIVES UNDEFINED DATA OR GLITCHES
93	CHECK SUM ERROR
94	NO ACKNOWLEDGE SIGNAL RECEIVED
95	PARITY ERROR
96	OVER RUN ERROR
97	FRAMING ERROR
98	TRANSMIT BUFFER FULL
99	STX ERROR

NOTE: Dip switches 1-5 inside remote on CPU PCB will defeat indication of error codes 91-99. Error 90 will indicate with this switch in either ON or OFF position.

Error 90 indication on power up is common due to the different boot-up routines of the remote CPU and the serial I/O PCB.

MX-80 LIST O' TRICKS

I. SOFTWARE CHECKS

A. TRANSPORT SOFTWARE PG08211

Turn On power while pressing STOP switch. Machine Displays software number and version on tape counter. Example: PG08211C ——> 082 03

B. REMOTE SOFTWARE PG08411

Power up while pressing STOP on remote. Machine displays software number and version on tape counter.

C. SERIAL I/O/SOFTWARE PG08311

Remove serial I/O PCB and perform visual check.

II. TEST MODES

A. Hold down all five transport buttons on machine and press SEARCH ZERO button then release. After a short pause, machine will perform full-function test.

B. Hold down all 5 transport buttons on the machine and press SEARCH ZERO. Release SEARCH ZERO and press EDIT/UNLOAD while still holding down transport buttons then release. Machine will toggle between F.fwd and Rwd.

To exit test modes, press CLEAR. Tape control will display -A.Err-- until TIME/IPS/% button is pressed.

MX-80 SERIAL REMOTE PCB (PB-4FEA)

Sw 5 is an 8 position DIP Switch having the following functions:
Sw 5-1, 5-2, and 5-3: Baud Rate Select (NOTE: Must be set for 38.4 bps, 1 Stop bit, 8 bit characters, Parity On, Parity Even, and Point to Point Protocol to insure proper communication with the CB-123 or CB-124 Remote Control unit.

5-1	5-2	5-3	Baud Rate	TP 2
0	0	0	110	1.76 kHz
1	0	0	300	4.8 kHz
0	1	0	1200	19.2 kHz
1	1	0	2400	38.4 kHz
0	0	1	4800	76.8 kHz
1	0	1	9600	153.6 kHz
0	1	1	19200	307.2 kHz
1	1	1	38400	614.4 kHz

Sw 5-4: Number of Stop Bits
On - 2 Stop Bits
Off- 1 Stop Bit

Sw 5-5: Character Length Assign
On - 8 Bit Characters
Off- 7 Bit Characters

Sw 5-6: Parity Bit
On - Parity On
Off- Parity Off

Sw 5-7: Parity Select
On - Even Parity
Off- Odd Parity

Sw 5-8: Serial Protocol Select
On - Multi-Point (RS-422)
Off- Point to Point (RS-232C)

Factory Settings:

5-1	5-2	5-3	5-4	5-5	5-6	5-7	5-8
ON	ON	ON	OFF	ON	ON	ON	OFF

MX-80 TEST POINTS, POTS AND VOLTAGES
QUICK REFERENCE GUIDE

I. TRANSPORT PCB

A. TACH QUADRATURE ADJUSTMENT:
1. TP2 - Tach A from PB-7LAA(front tach PCB)
2. TP3 - Tach B from PB-7DSA(rear tach PCB)
3. TP4 - Tach C from PB-7LAA(front tach PCB) EBU

B. FAST WIND SPEED REFERENCE ADJUSTMENT:
1. TP5 - adjust VR2 for 0 V in Unload
2. TP5 - adjust VR1 for +7.0 in FFD

C. SYSTEM CLOCK
1. TP6 - 400 kHz clock

II. REEL CONTROL PCB

A. TENSION ARM GAIN ADJUSTMENT:
1. CP6 - adjust VR4 for 0 V with Take-up arm at top of travel
   - adjust VR5 for +10.0 V with Take-up arm at bottom of travel
2. CP2 - adjust VR1 for 0 V w/Supply arm at top of travel
   adjust VR2 for 10.0 V w/Supply arm at bottom of travel

B. PLAY ACCELERATION ADJUSTMENT:
1. CP10 - adjust VR11 for +7.0 V with both Arms at top in Play Mode

C. FASTWIND TORQUE ADJUSTMENT:
1. Top of R27 - adjust VR8 for -8.0 V in Rwd
2. Top of R71 - adjust VR9 for -8.0 V in F.fwd

D. REEL MOTOR TORQUE ADJUSTMENT:
1. CP4 - adjust VR3 for +7.5 V in Rwd holding Supply reel table
2. CP8 - adjust VR6 for +7.5 V in F.fwd holding Take-up reel table

E. TENSION ARM POSITION/TAPE TENSION ADJUSTMENT:
1. Adjust VR4 to align Take-up tension arm with deck plate drill mark while tape is loaded in Stop mode, or adjust for 320 g in Stop mode.
2. Adjust VR1 to align Supply Tension Arm with deck plate drill mark while tape is loaded in Stop mode, or adjust for 320 g in Stop mode

F. FASTWIND/SPOOLING SPEED ADJUSTMENT:
1. CP13 - adjust VR10 for 3 kHz in Fastwind mode
2. CP13 - adjust VR7 for 1 kHz in in Spool mode

III. CAPSTAN CONTROL PCB

A. CAPSTAN CLOCK:
   1. CP1 - 9.6 kHz at 30 ips from Transport PCB

B. CAPSTAN TACH:
   1. CP2 - 4.8 kHz at 30 ips from Capstan Motor

C. PHASE LOCKED LOOP DUTY CYCLE ADJ
   1. CP3 - 9.6 kHz at 30 ips from IC8

D. CAPSTAN GAIN ADJUSTMENT:
   1. CP3 - adjust: VR4 - 30ips
      VR5 - 15ips for 50% duty
      VR6 - 7.5ips cycle

E. CAPSTAN DAMP ADJUSTMENT:
   1. CP4 - 1.0V when locked
      - Adj VR1- 30ips for fast recovery of
      VR2- 15ips waveform when capstan
      VR3- 7.3ips is held and released
      -OR-
   2. Adjust VR1, 2, and 3 for minimum wow/flutter

IV. AUDIO PCB ON BOARD TRIMMERS

A. TEST SIGNAL LEVEL:
   1. Adjust VR13 for 0 VU with reference signal applied to Test Jack

B. INPUT LEVEL:
   1. Adjust VR14 for 0 VU with reference signal applied to Line Input

C. PEAK INDICATOR:
   1. Adjust VR11 for peak LED illumination at +14dBm input level

D. OUTPUT LEVEL:
   1. Adjust VR12 for output reference level

E. RECORD BIAS SYMMETRY:
   1. Adjust VR22 for minimum thump in Record mode; erase head disconnected

F. ERASE BIAS SYMMETRY:
   1. Adjust VR23 for minimum thump in Record mode; record head disconnected