8–3 POWER PERFORMANCE

8–3–1 Checking System Power

The only way to recover from an overcurrent fault is by cycling power on the system. Remember to wait 15 seconds between OFF and ON.

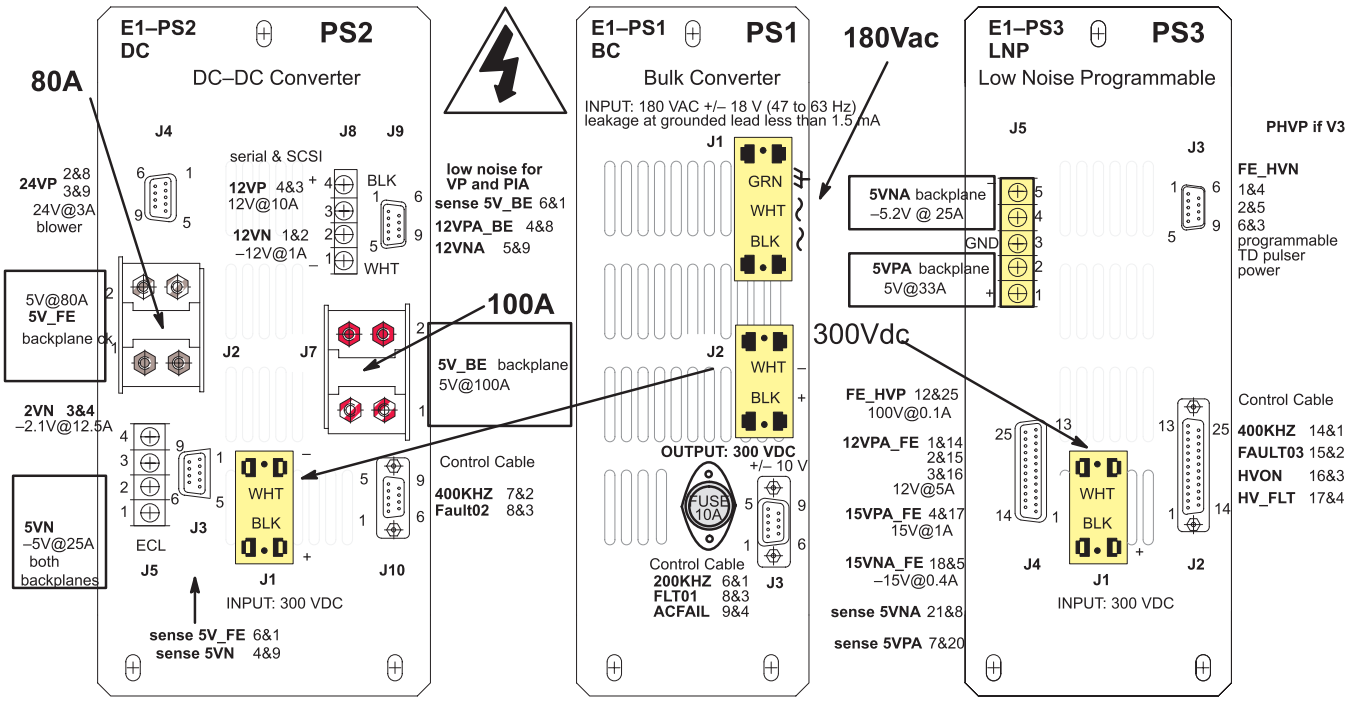
Measure the power supply output voltages shown in Illustration 8–2. Voltages that are boxed in the illustration have remote sensing and must be measured at their respective backplanes. The other voltages, those without remote sensing, may also be measured at the backplanes. (See Illustration 8–3.)

WARNING **ELECTRICAL HAZARD: High current power even at 5 volts can cause welding of leads, jewelry or other conductive materials!**

ATTENTION **DO NOT USE A SCOPE TO MEASURE THE 300 VDC OUTPUT OF PS1. Because the secondary of the transformer that supplies the 180 Vac for PS1 is floating, use a floating DVM across the positive and negative terminals of J2 on PS1. DO NOT measure the 300VDC power signal with a grounded device! This will alter the ground reference for the other outputs.**

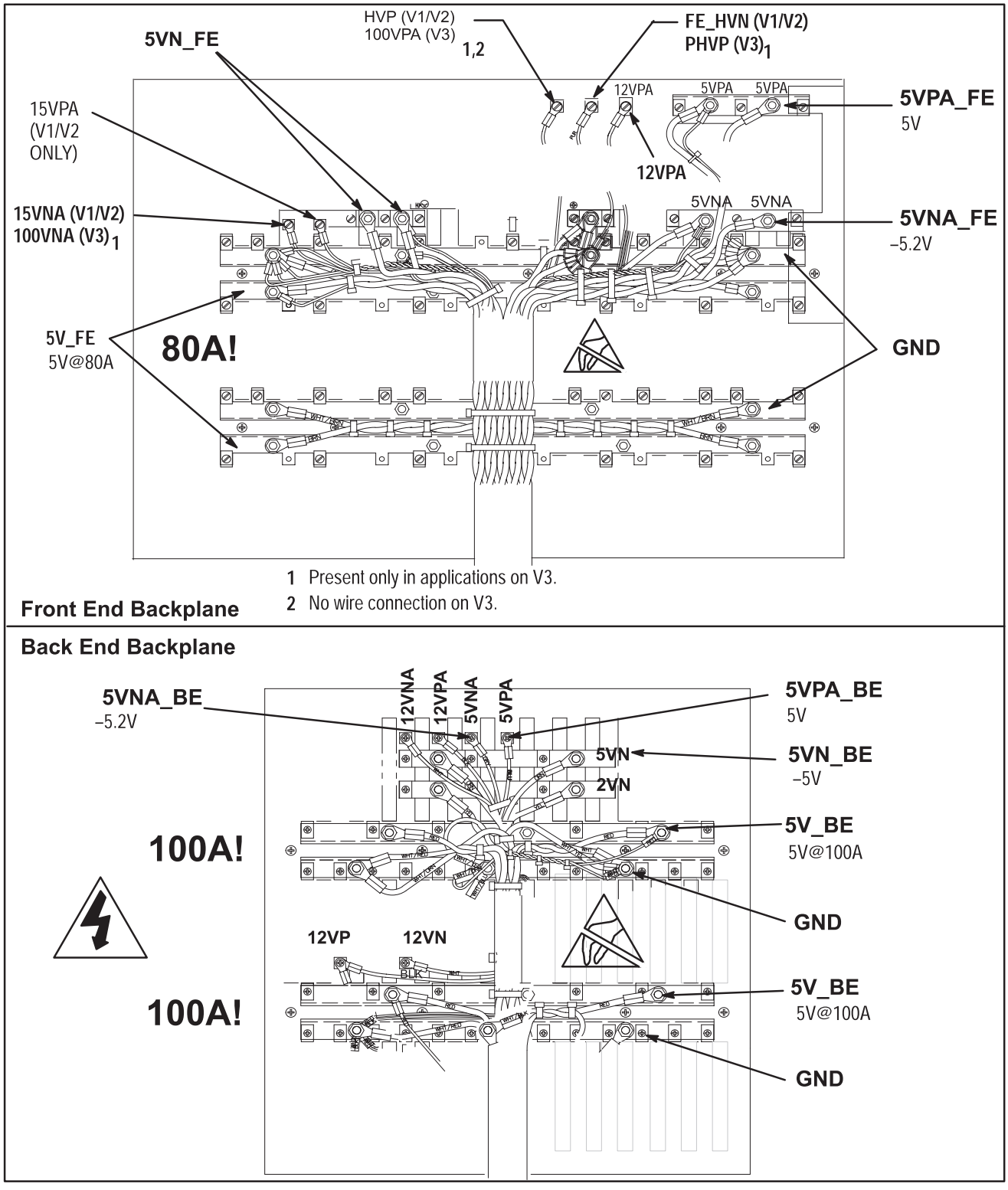
Note

Application software must be running and the Control Cable must be connected to PS3 J2 to get Pulser Power from PS3 J3.



SYSTEM POWER AT POWER SUPPLIES
ILLUSTRATION 8–2

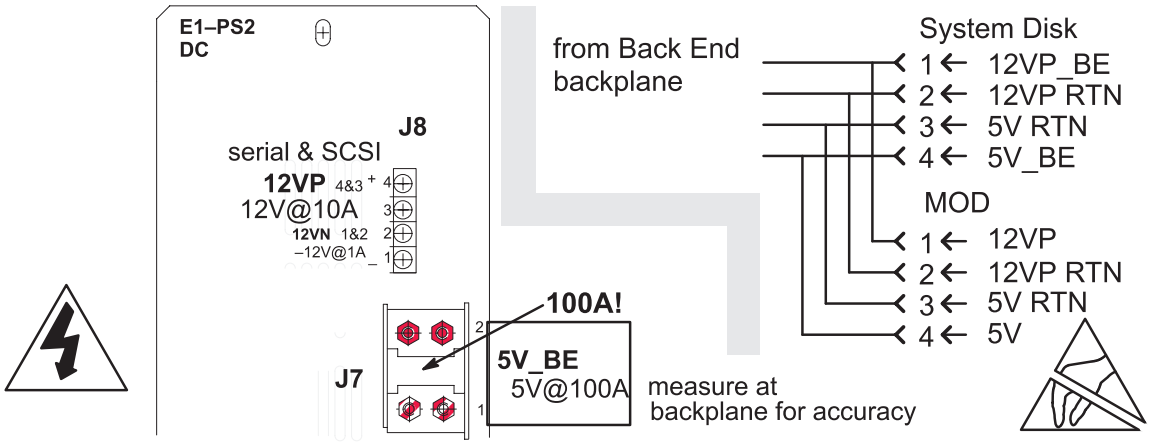
8–3–1 **Checking System Power (Continued)**



SYSTEM POWER DESTINATIONS AT BACKPLANE TERMINALS
ILLUSTRATION 8–3

8–3–2 Checking SCSI Power

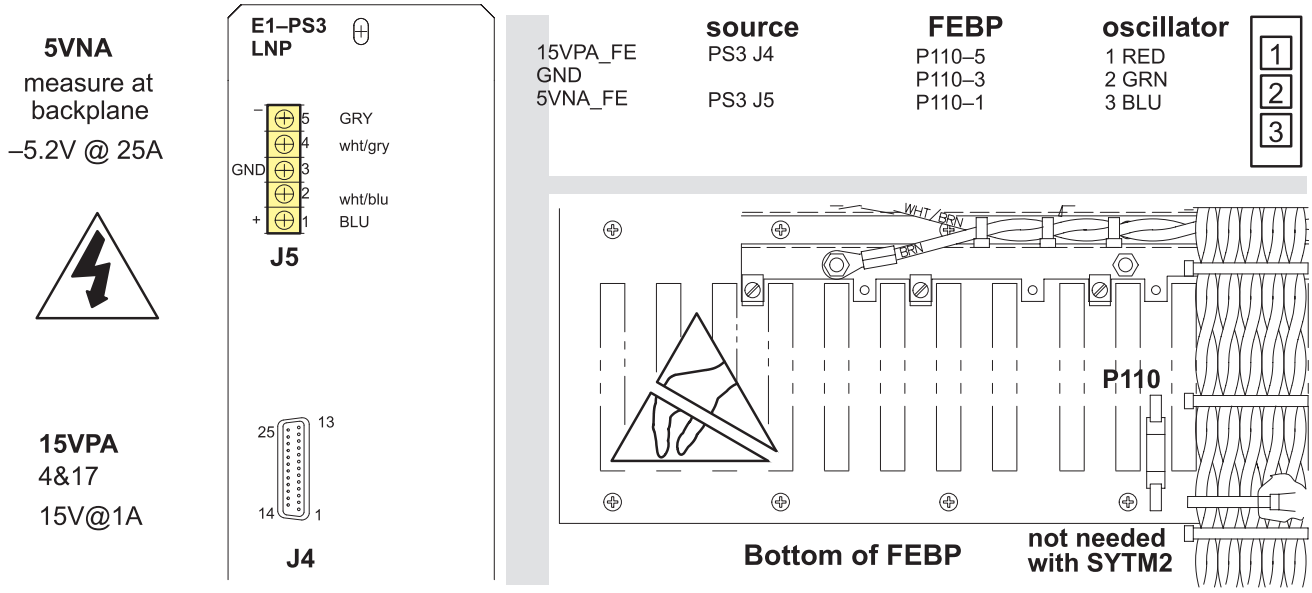
Power for the hard drive and MOD comes from PS2 via the Back End backplane. (See Illustration 8–3.) The source for 12VP is PS2 J8. The source for the digital 5V is PS2 J7. Illustration 8–4 shows the power source at PS2 and the destination at the drives.



SCSI POWER SOURCES AND DESTINATIONS
ILLUSTRATION 8–4

8–3–3 Checking Oscillator Power

The oscillator that supplies the basic clock for the system is located on the SYTM in all V2 and V3 units. In some V1 units that have not been modified, the basic clock comes from an oscillator external to the SYTM. Power for the external oscillator comes from PS3 via P110 on the Front End backplane as shown in Illustration 8–5. Power for the on–board oscillator is 5VN_FE from PS2.



EXTERNAL OSCILLATOR POWER SOURCE AND DESTINATION
ILLUSTRATION 8–5

8–4 SYSTEM TIMING PERFORMANCE

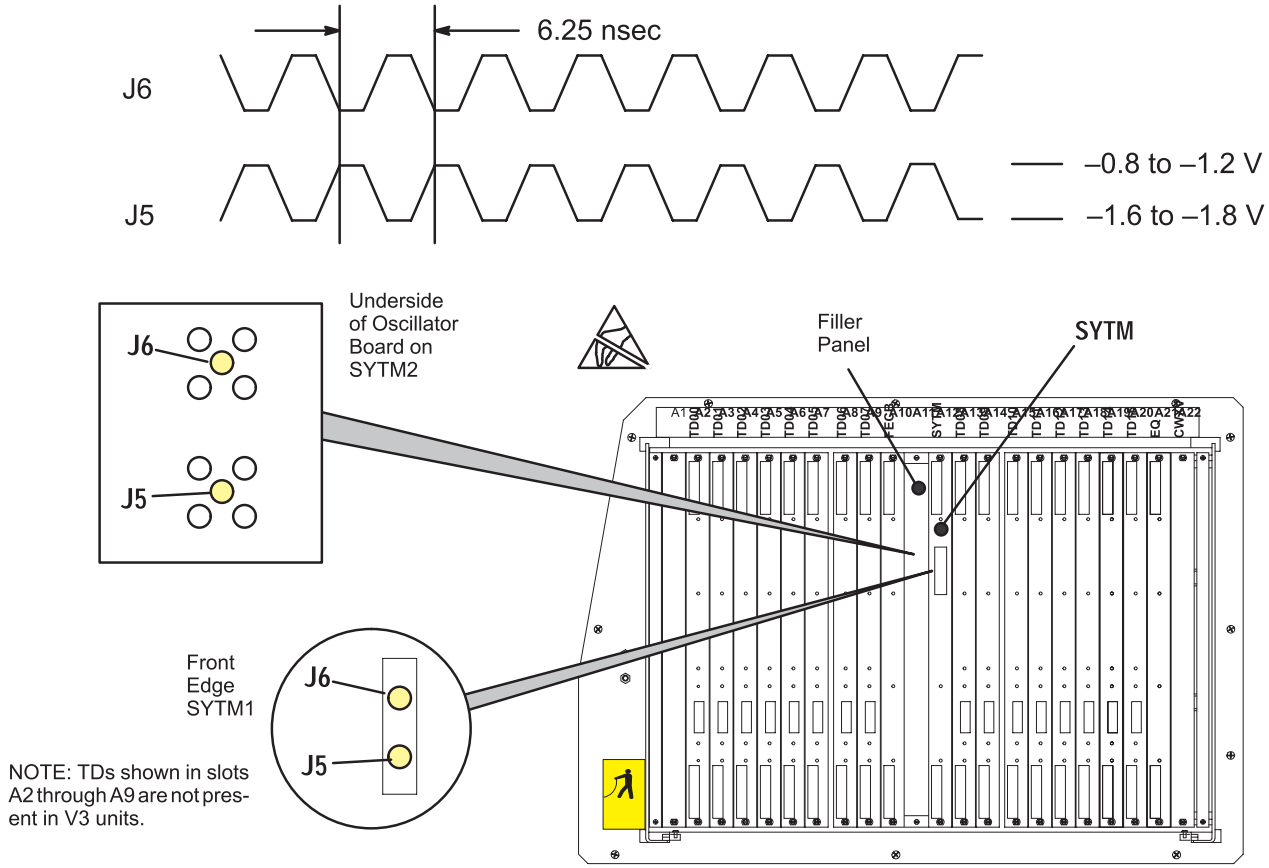
8–4–1 Checking 40 MHz and 10 MHz Clocks

Attach an oscilloscope to **J235** on the Front End backplane to observe the 40 MHz clock (25 nsec cycle) and to **J236** to observe the 10 MHz clock (100 nsec). They are located near the center, just left of the power harness. These clocks can be observed on an oscilloscope without an external load resistor. The levels are the same as shown below for 160 MHz.

8–4–2 Checking 160 MHz Oscillator Output

The system clock source is a 160 MHz oscillator with differential 100 K ECL outputs. The oscillator, which is external to the SYTM1, is located on the SYTM2. Oscillator outputs cannot be observed without the 50 ohm load resistor (connected to –2V) on the SYTM.

For access to terminals on SYTM2, remove filler panel from slot A11 of the FE cage. Attach an oscilloscope to J5 and J6 ; they output the 160 MHz ECL clock differentially. The four pins that surround J5 and J6 on the SYTM2 are grounds.



OSCILLATOR OUTPUT SIGNAL TERMINALS AND CHARACTERISTICS
ILLUSTRATION 8–6

PM Inspection Certificate

Customer Name		System ID	LOC/Dispatch Number	Date Performed	Contract/HBS/Warranty
LOGIQ ™ 700 Console		Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date
Probe	Frequency	Model Number	Serial Number		Manufacture Date

Preliminary Checks	Your Initials	Comments: Time Estimate: 15 min

Functional Checks	✓	Time Estimate: 90 min Comments
Power Supplies		

Voltage Measurement	PS2 output	Expected Voltage		Amps (max)	Voltage Measurement	PS3 output	Expected Voltage		Amps (max)
	2VN	–2.1	±0.1	12.5	I	5VPA Both	+5	±0.25	33
I	5VN Both	–5	±0.25	25	I	5VNA Both	–5.2	±0.1	25
	5V_FE	+5	±0.25	80		12VPA_FE	+12	±0.6	5
	5V_BE	+5	±0.25	100		15VPA_FE	+15	±0.75	1
	12VP_BE	+12	±0.6	10		HVP/100VPA	+100	±5	0.1
	12VN_BE	–12	±0.6	1		HVN_FE or PHVP (V3)	–96 120	±5	0.6 1.2
	12VPA_BE	+12	±0.6	1		15VNA_FE or 100VNA (V3)	–15 –100	±0.75	0.4 1.0
	12VNA_BE	–12	±0.6	1	measure shaded signal at backplane, system in apps mode				
	24VP	+24	±1.2	3		300 VDC	300	±10	6

VFD/Lamps		
Switches/Encoders		
Scanning Controls		
Measurements		
Digital Archive (option)		
Monitor Video		
VCR		
Printer		
Camera		
Other Equipment:		