

AUB60 XTC POWER CONVERTER UNIT

DATA SHEET

SLC® SERIES 5 CARRIER SYSTEM

The AUB60 power converter unit (XPCU), in the extended test controller (XTC) for the SLC Series 5 system, utilizes the -48 V dc signal grade battery supply to generate -5, +5(A&B), +12, +48, -48, +130 and -130 V dc outputs necessary to power other XTC units and for control signals within the shelf.

Standard dc-to-dc converter power modules are used to provide the low voltage outputs. Two modules supply +5A and +5B, each at 6 amps; a third module supplies -5V at 2 amps; and a fourth module supplies +12V at 0.83 amps. A chopper circuit is used to provide +48V, +130V, and -130V. A separate -48V output is supplied via LC filtering of the input battery supply.

Voltage detection circuitry monitors under- and over-voltage conditions on the +5A, +5B, and +12V supplies and under-voltage on the -5V supply. Also monitored is the loss of +48V and -48V outputs. The loss of +48V will also indicate a failure of ± 130 volts. The occurrence of any of these conditions will initiate an alarm to the XTC alarm display unit (XADU) and cause a faceplate LED (FAIL) to be lighted on this XPCU. In conjunction with this, six relay alarm output closures are provided.

As a security measure, the voltage detection and alarm circuitry operate from the -48 V dc supply, and thus do not rely on any module outputs. Another feature of this circuitry is that it is powered via a separate edge-connector pin (-48V_A). This pin allows the alarm circuitry to be tested apart from the rest of the unit, and saves having to "disconnect" the module outputs from the alarm circuitry during manufacture.

In addition to the FAIL LED on the faceplate, there are five pin jacks which allow craftspersons to verify the -48 V dc battery input as well as the +5A, +5B, -5V, and +12V (within ± 2 percent). A pin jack switch (S1) is also provided to test the LED and alarm outputs.

Figure 1 is a functional block diagram of the XTC XPCU. Figure 2 shows the faceplate. Table A shows the distribution of voltage outputs to the various shelf plug-in units.

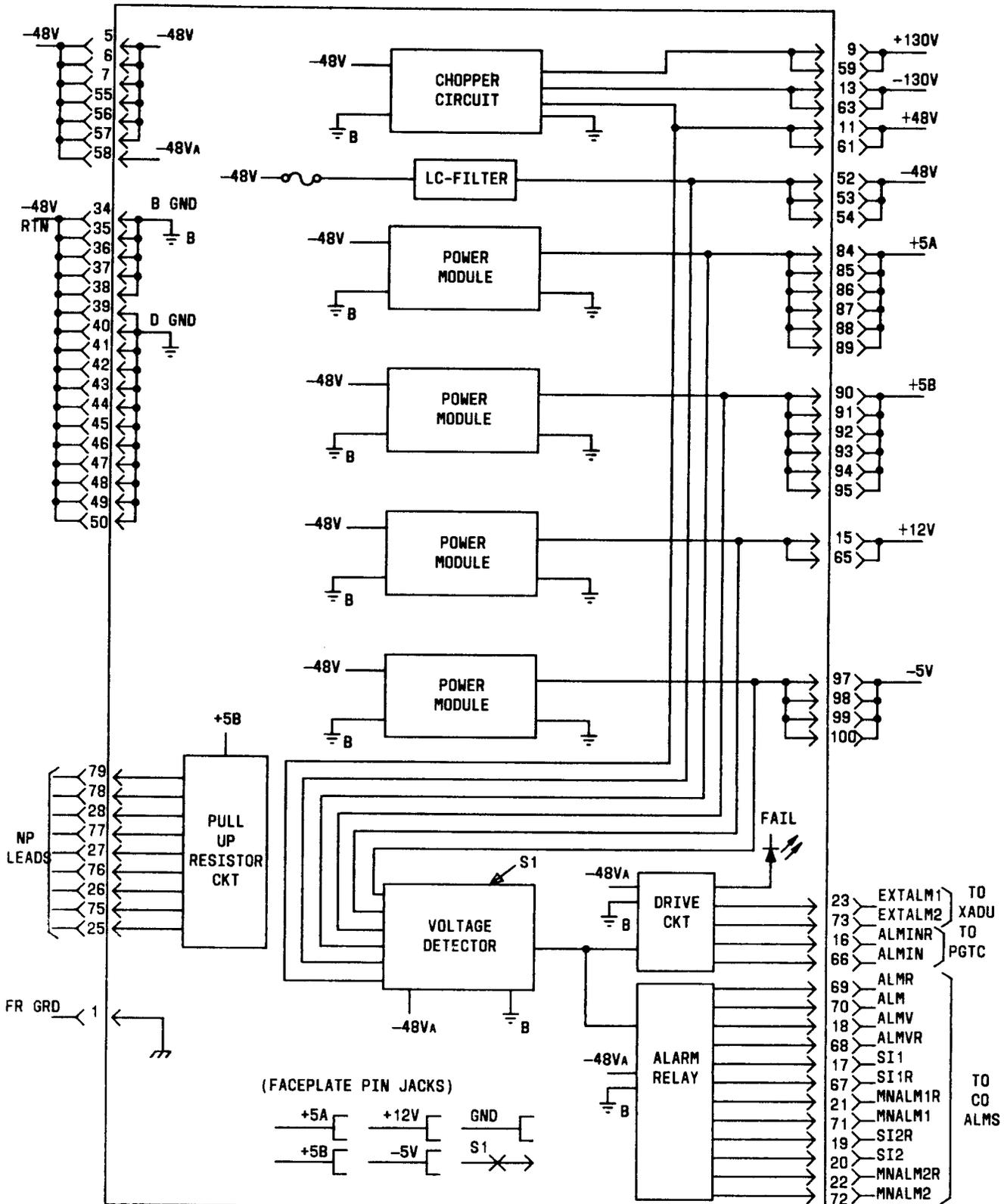


Fig. 1 — AUB60 XPCU Block Diagram

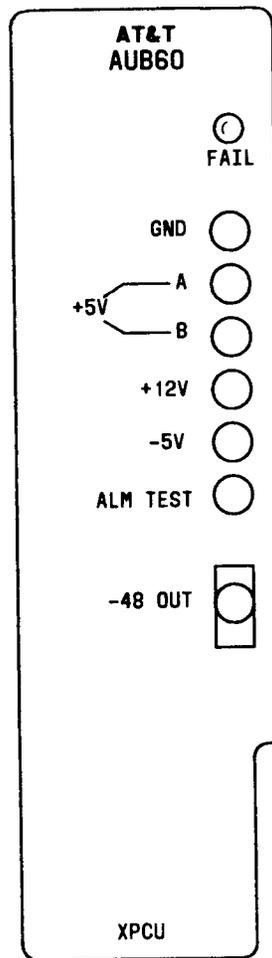


Fig. 2—AUB60 Faceplate Diagram

TABLE A

OUTPUT VOLTAGE	CONTROL SHELF	FIRST EXPANSION SHELF
	DESTINATION	DESTINATION
+5A	XCU, 2 XDLUs, 10 XFOUs, XCCU	3 XDLUs, 10 XFOUs
+5B	XADU, 4 XTUBs, 4 XTUCs, 4 XTUDs	4 XTUBs, 4XTUCs, 4 XTUDs
+12V	XCU, 2 XDLUs	3 XDLUs
-5V	All Shelf Units	All Shelf Units
+48V, +130V, -130V	4 XTUCs	4XTUCs
-48V	All Shelf Units	All Shelf Units