

ST8000A TECHNICAL MANUAL
CHAPTER 4, THEORY OF OPERATION

First Draft, September 4, 1990

Attached is an outline and the first draft of the "Theory of Operation" Chapter of the ST8000A Technical Manual. It has been called "Chapter 4" for convenience. This draft is far from complete and many portions will no doubt be changed. It is hoped that this version will give guidance and assistance to those new to the project - and help coordinate details as the design is completed. The format and arrangement of Chapter 4 follows that used for the ST8000 Technical Manual. The following are known weaknesses of this draft version:

1. Circuit component references (C1, R2, U7, etc) are to first draft schematics prepared during the first week of August, 1990, prior to circuit board layout. The CAD layout procedure will result in new component designators as each circuit board is designed. ALL component references will have to be changed at a later date.
2. The Figures are rough hand-drawn, and possible illegible at the reduction ratio duplicated. A set of full-sized (11x17) copies is attached for clarity. Some details in each Figure will no doubt change.
3. Connector pin-out and signal connections will also change as the design develops. In general, references tracing back to the August, 1990 schematic set are used. The cable tables at the end of Chapter 4 are exceptions. The pin-out and circuit labels in these Tables are suggestions and do not necessarily agree with assignments in the August schematic set. These, too, will no doubt change as the design matures.
4. Figure 4.5 (Interconnecting Signals) follows connector pin-outs shown on the August Schematics. These will change when some or all of the suggestions in Tables 4.17 through 4.31 are adopted.
5. Figure 4.15 (Front Panel Assembly) should also include the front panel circuit boards as part of the isometric explosion.
6. Figures 4.17 and 4.18 (Power Supply and AC Distribution) need total revision.
7. The majority of section 4.3 (CONTROL) and 4.4 (FRONT PANEL) will be written by Dr. Andrew White when convenient. Text, Tables, and Figures will no doubt be similar to those in sections 2.3 and 2.4 of the ST8000 Technical Manual. The Table list and Figures are suggested inclusions, based upon the previous manual. Figures 4.12, 4.13, and 4.14 will require revision to ST8000A standards.

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