LOGIC (Continued)

PIN NO.	IC U614	IC U615	IC U616	LEAD	Q200	Q201	Q300	Q301
1	P	P	P	E	P	P	H	P
2	P	P	P	B	P	P	H	P
3	P	P	P	C	P	H	H	H
4	P	P	P					
5	P	P	P					
6	P	P	P					
7	P	P	P					
8	P	P	P					
9	P	P	P					
10	L	L	L					
11	P	P	P					
12	P	P	P					
13	P	P	P					
14	P	P	P					
15	P	P	P					
16	P	P	P					
17	P	P	P					
18	P	P	P					
19	P	P	P					
20	H	H	H					

NOTE: Logic probe readings taken with computer in Power Up mode (Main title screen displayed) unless otherwise noted.

Logic Probe Display
L = Low
H = High
P = Pulse

SAFETY PRECAUTIONS

1. Use an isolation transformer for servicing.

2. Maintain AC line voltage at rated input.

3. Remove AC power from the computer before servicing or installing electrostatically sensitive devices. Examples of typical ES devices are integrated circuits and semiconductor "chip" components.

4. Use extreme caution when handling the printed circuit boards. Some semiconductor devices can be damaged easily by static electricity. Drain off any electrostatic charge on your body by touching a known earth ground. Wear a commercially available discharging wrist strap device. This should be removed prior to applying power to the unit under test.

5. Use a grounded-tip, low voltage soldering iron.

6. Use an isolation (times 10) probe on scope.

7. Do not remove or install boards, floppy disk drives, printers, or other peripherals with computer AC power On.

8. Do not use freon-propelled sprays. These can generate electrical charges sufficient to damage semiconductor devices.

9. This computer is equipped with a grounded three-pronged AC plug. This plug must fit into a grounded AC power outlet. Do not defeat the AC plug safety feature.

10. Periodically examine the AC power cord for damaged or cracked insulation.

11. The computer cabinet is equipped with vents to prevent heat build-up. Never block, cover, or obstruct these vents.

12. Instructions should be given, especially to children, that objects should not be dropped or pushed into the vents of the cabinet. This could cause shock or equipment damage.

13. Never expose the computer to water. If exposed to water turn the unit Off. Do not place the computer near possible water sources.

14. Never leave the computer unattended or plugged into the AC outlet for long periods of time. Remove AC plug from AC outlet during lightning storms.

15. Do not allow anything to rest on AC power cord.

16. Unplug AC power cord from outlet before cleaning computer.

17. Never use liquids or aerosols directly on the computer. Spray on cloth and then apply to the computer cabinet. Make sure the computer is disconnected from the AC power line.

CC 2
TEXAS INSTRUMENTS
TI-99/4A MODEL PHC004A

LINE DEFINITIONS

A0 Thru A15 .... Address Lines	MEMEN .... Memory Enable
A0D7 Thru A6D1 .... Combined Address and Data Lines	R/W .... Read/Write
A3B Thru A14B .... Buffered Address Lines	RAM BLK .... RAM Blanking
A15 CRU .... Communications Register Unit Address 15	RAS .... Row Address Strobe
CAS .... Column Address Strobe	READY .... Ready for Memory Access
CD0 Thru CD15 .... Converted Data Lines	RESET .... Reset Computer and Peripherals
CRU CLK .... Communication Register Unit Clock	ROMEN .... ROM Enable
CRU IN .... Communication Register Unit Data Input	RST 1 .... Reset
CRU OUT .... Communication Register Unit Data Output	SBE .... Speech Block Enable
CSR .... Chip Select Video Display Processor Read	SGC CLK .... Central Processing Unit Clock
CSW .... Chip Select Video Display Processor Write	SND IN .... Audio Input
D0 Thru D7 .... Bi-Directional Data Lines	SND OUT .... Audio Output
DBIN .... Data Bus Input	SPEECH .... Speech Synthesizer Input
DLY RST .... Delayed Reset	SYS RDY .... System Ready
EXT INT .... External Interrupt	VDP INT .... Video Display Processor Interrupt
GROM CLK .... Graphics ROM Clock	WE .... Write Enable
IAQHA .... Instruction Acquisition or Hold A	Ø1 .... Phase One
INT REQ .... Interrupt Request	Ø2 .... Phase Two
LOAD .... CPU executes a Non-Maskable Interrupt	Ø3 .... Phase Three
MBE .... Memory Block Enable	Ø4 .... Phase Four
MB4 .... Memory Block Four	

Any Bar above any alphabetical or numerical combination indicates line active in a low (0) state.