



- NOTES:
- Char.Gen EPROM has normal and reverse versions of each character. Set bit D7=1 for reverse video version of the character.
 - Z80 uses RAM from 32-64k; 6845 uses RAM from 48-64k.
 - VGA output (instead of NTSC). Characters formed in 8w x 16h matrix. 80 characters x 25 lines, so resolution is 640w x 400h pixels (in a field of 781w x 480h). Monochrome, but color is jumper-selectable. DOTCLK=24.576MHz. CHARCLK=DOTCLK/8=3.072MHz (ACE baud rate clock). Active video = 26.042us out of 31.779us/line. Hor 31.467 KHz, front porch 0.636us, neg.sync 3.813us, back porch 1.907us. Vert 59.94Hz, front porch 0.318ms, neg.sync 0.064ms, back porch 1.048ms.
 - VGA output: 0.7vpp, 74 ohms double-terminated. Black background color. Foreground color jumpers selectable to RGB, with 2 levels for each. Reverse video swaps foreground/background colors.
 - PS/2 Keyboard: KCIN = ACE RI KCOU = ACE /OUT1 (inverted by Q2) KDIN = ACE /RLSD KDOU = ACE /OUT2
 - Output latch U441: D0=FONT, D1=REVERSE, D2-D6=Audio freq, D7=Audio on/off.
 - H19 board is 10"x11". Noberto's H89-SBC is 5.625"x9.25".
 - C27+, D7+, R2, R4, R5, R20+, U33+ not used.

Improved H19 Logic Board
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Title	H199 LOGIC BOARD	REV
Size	Document Number	
C	H19B.SCH	
Date:	January 7, 2015	Sheet of