Title: **Clock Information for AST 286 Computers**

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CLOCK INFORMATION FOR AST 286 COMPUTERS

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The battery backed clock is only read on startup and I could not find a way to adjust its rate. Once the time is read or set by "TIME" command (which does not set the battery clock) the AST keeps time from a second crystal oscillator. A rough block diagram is shown below.

Desired:
$$f_{osc} = 14.31818 \text{ MHz}$$
$$U_{36}\text{-}9 = 1.1931817 \text{ MHz}$$
$$1 \text{ sec/day} = 0.0000138 \text{ MHz}$$
$$\text{at } U_{36}\text{-}9$$
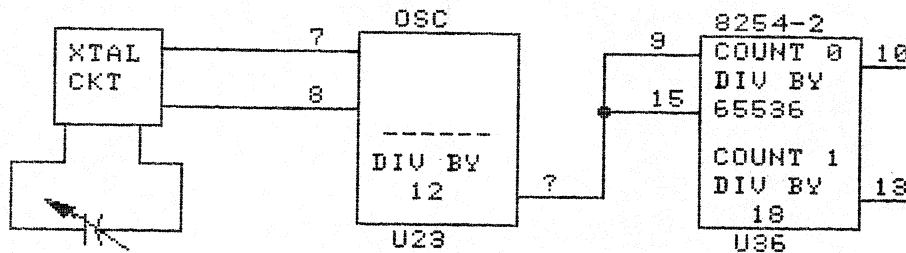
To prevent loading of oscillator I usually monitored pin 9 of U_{36}. Two oscillator circuits were used. The first AST used is shown below:
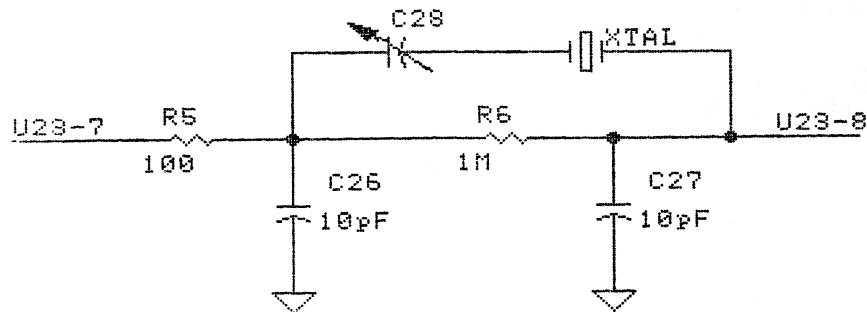
The adjustment range of C28 was not large enough so I had to put 55 pF in parallel with C27. This gave a range of 1.193627 to 1.193139 MHz. When using a counter not locked to maser or Rb 5 MHz, I would read the 5 MHz standard and correct for the offset when setting frequency. I did not record what the AST serial number was.

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The later units had a different oscillator circuit.
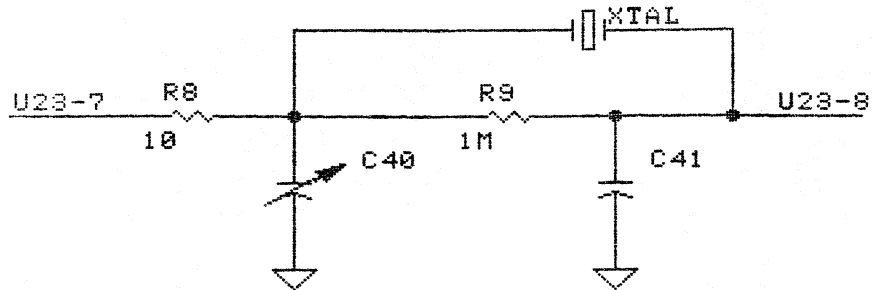
First one   SN   =   148516 (I think.)
             C min => 1.1933008 MHz |
             C max => 1.1931984 MHz | (Too high!)

Then tried 33 pF in parallel with C41:
             C min => 1.1930968 MHz |
             C max => 1.1929522 MHz | (Too low!)

Tried   11 pF in parallel with C41:
             C min => 1.1932097 |
             C max => 1.1931105 | o.k.
             Set 1.1931821 MHz.

Serial No. TW0061308 - 3-29-89:
             C min => 1.1932707 MHz |
             C max => 1.1931588 MHz | o.k.
             Set for 1.1931822 MHz correcting for counter.

Serial No. TW0090300 - 5-18-89:
             C min => 1.1932203 MHz |
             C max => 1.1931355 MHz | o.k.
             Set for 1.1931826 MHz correcting for counter.

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