Subject: Re: TMS7000 Series Devices (Manual section 2.1)
Posted by lynchaj on Mon, 01 Apr 2024 19:01:00 GMT
View Forum Message <> Reply to Message

Hi
On the duodyne project, there is a board I am currently working on with a CTS256 & SP0256 text-to-speech system along with dual SN76489 programmable sound generators and an ADC/DAC pair.

The CTS256 & SP0256 text-to-speech seems to work OK. At least I can get it to start and can hear it work. It is the full complement of IO as suggested by Radio Shack; serial port, parallel IO, expansion/exception EPROM, buffer SRAM, and UART PARMs register.

I am thinking this basic design can be modified nearly any TMS7xxx microcontroller. Especially TMS7xx1 or TMS7xx2 since they have the serial port. Possibly the TMS7xx0 series if you use only the parallel IO for input. As of now, we've been using the serial port exclusively for build and test because there is a debug monitor which has proven invaluable in debugging the system.

The CTS256 uses a simple memory mapping architecture so all the devices show up as regions of memory. Each device gets its own 4KB of memory. It is rather wasteful (IMO) but it was meant to be done on the cheap "back in the day" for low-cost commercial appeal. Can't fault them for that.

My plan is to make a new board solely to test the theory of external boot firmware. I don't see it using any other pins other than the ones it is currently using for the expansion EPROM and buffer SRAM options. Both seem to work just fine as best I can tell.

The board I am designing is called DAISY256. Not an April Fools Day joke. I am going to order some PCBs and build the design. If anyone wants to join me, please PM or email me.

Thanks, Andrew Lynch

PS, I'll send you a 160x100mm PCB for free if you will help with build and test

PPS, what I am proposing with DAISY256 is somewhat like the SE70P162. However, that piggy-back MCU chip is even more scarce that CTS256s. There seem to be very few in existence at all and even fewer for sale. Would be nice for debugging but not a suitable replacement for CTS256. We need something cheap and common as dirt to really move the extortionary prices of CTS256s down.