

Application 11: Configurable 512 channels of PWM controller

1. The PWM controller can provide the following functions:

- The frequency can be as low as 40 Hz
- The frequency can be as high as 2.5M Hz
- The high level of PWM is programmable
- The low level of PWM is programmable
- Every controller provides two independent channels of PWM output
- One PC can link to 256 PWM controllers max. in one RS-485 network. So there are total 512 channels of PWM output.

2. The hardware of PWM controller: 7188XC + X108

X1=channel_1

X2=GND

X3=channel-0

3. The firmware of PWM controller: 7521 with modification, open for reference

4. The specifications of X108: 3-channels of buffer from I/O expansion bus to X1, X2, X3

5. The command sets of PWM controller = 7521 + the following commands:

(COM1 <-- exchange --> COM2)

so COM1 will download program & accept Host-command

So \$aaB0115200 --> change COM1 to 115200

So \$aaB09600 --> change COM1 to 9600

#aaA0 (freq) (high) (low) --> !aa chan_0 (freq) (high) (low) --> set pwm-0

#aaB00 --> !aa chan_0 OFF --> turn pwm-0 off

#aaB01 --> !aa chan_0 0n --> turn pwm-0 on

#aaC0 --> !aa (freq) (high) (low) (0n0ff) --> read pwm-0 status

#aaA1 (freq) (high) (low) --> !aa chan_1 (freq) (high) (low) --> set pwm-1

#aaB10 --> !aa chan_1 OFF --> turn pwm-1 off

#aaB11 --> !aa chan_1 0n --> turn pwm-1 on

#aaC1 --> !aa (freq) (high) (low) (0n0ff) --> read pwm-1 status

6. The configuration of 2-channels PWM controller is given as follows:

PC ← CA0910F → COM1 of 7188XC (with RS-232 interface) → for channel-0/1

7. The configuration of 512-channels of PWM controller is given as follows:

PC ← 7520 → COM1 of 7188XC (with RS-485 interface) → for channel_0/1

→ COM1 of 7188XC (with RS-485 interfcae) → for channel_2/3

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→ COM1 of 7188XC (with RS-485 interfcae) → for channel_511/512