NOTE 2007.8

If you like playing around with TV remotes, like a friend of mine, this little note is for you. The Picaxe 08M micro has built in commands for sending and receiving IR transmissions. Twenty years ago, I hacked into my SONY multimedia remote to decipher the transmission format and codes. I was building an environmental control system for a quadriplegic friend of mine. I spend several days deciphering the code and writing an APPLE computer assembly language program to generate the transmissions using a single switch input. You can do all that in a Picaxe 08M in a couple of minutes! The SONY system uses a nice LOGICAL serial data format that is ideal sending DATA. Other makers just send CODES......so go out and buy one of those universal remotes and program it to emulate a SONY TV remote and have some fun playing with a Picaxe.

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;SONY remote control code scanner. This first simple little program will look for IR transmissions
;echo them back 1 second later. A usefull little program to check our whether your hardware is working.

;INFRA is the system variable name where the received SONY IR code will be placed...

        SYMBOL      DEVICE = 1      'Which SONY device type to control = tv
                                    '       common devices are:
                                    '       1 = TV
                                    '       2 = VCR1
                                    '       3 = TEXT ??
                                    '       4 = WIDESCREEN
                                    '       7 = VCR2
                                    '       12= SURROUND SOUND
                                    '       16= AUDIO
                                    '       17= CD PLAYER
                                    '       26= DVD PLAYER


SCAN:  Infrain2                 'wait for the next SONY IR command

       Pause 1000               'wait 1 sec.

       Infraout DEVICE,INFRA    'echo the received command back out
       Goto SCAN                'keep watching for SONY IR signals

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;STATUS QUO here is a little program that tries to maintain the status quo on with your SONY TV
;       configure your AXEme kit with the IR LED on Pin0 and the IR decoder on input 3
;       hide it in view of both your SONY remote and TV and watch what happens when someone
;       tries to turn the tv on/off or increment/decrement the channel or volume
;               you may have to change the value of RPT to make the program work reliably in noisy IR
;               locations.

        SYMBOL DEVICE = 1        'SONY TV = device type 1
        SYMBOL CMD = b5          'SONY send data in variable b5 now named CMD
        SYMBOL CODE = b6         'a generic variable for working with Lookdown/Lookup
        SYMBOL RPT = 1           'number of times to repeat the IR transmission

SCAN: Infrain2                                   'wait for an IR transmission
        CODE=255                                         'an impossible  receive code
        Lookdown INFRA,(16,17,18,19,21),CODE    'match the code to our action list (P+,P1,V+,V-,Pwr)
        If CODE=99 Then SCAN                             'no match so ignore this command
        Lookup CODE,(17,16,19,18,21),CMD        'Lookup opposite command to maintain status quo
        For I= 1 to RPT                          'Repeat transmission loop
                Infraout DEVICE,CMD              'send the status quo command
                Pause 45                                 'wait for 45 msec for button down repeat
        Next I                                   'RPT times
        GOTO SCAN                                        'keep looking for IR commands to counter....

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