X-C 6250 Computer

XCPOWER User Guidelines

XCPower is a custom X-C 6250 power management driver implemented as a DOS TSR.

XCPower will only load on an XC 6250 that has a BIOS that supports the new low voltage threshold.

XCPower will activate the new low voltage threshold in the BIOS when it loads. The BIOS will not go to the new low voltage threshold if XCPower is not loaded.

XCPower should be loaded in CONFIG.SYS with: **INSTALL = C:\XCTOOLS\XCPOWER.EXE**

If BATTMON is loaded, it should be loaded in CONFIG.SYS in the same manner just before XCPOWER is loaded.

Optional command line parameters are as follows:

XCPOWER [/U] [/D] [/E] [/A] [/X] [/H] [/?]

Only one parameter at a time is allowed and they can only be entered after XCPOWER is loaded without any parameters.

    /U - Uninstall the previously loaded copy of the TSR from memory

    /D - Disable CPU throttling

    /E - Enable CPU throttling

    /A - Always throttle CPU at ½ speed

    /X - Ignore AC power in setting throttle

    /H - User Higher LowVolt threshold of 6.6v

    /? - List these parameters

This power conservation mode can be varied or disabled with Battery Status or by an application interface if it is found to interfere with any peripherals or custom applications.

XCPOWER Power Management Functionality After Loading

Check once a second…

      If auto throttling enabled and one of the following conditions just changed

            If AC connected and not DeepCycleDischarging

                set speed to 100%

            Else If DeepCycleDischarging,

                set speed to 75%

            Else if the radio is on and landline modem not on,

                set speed to 75%

            Else

                Set speed to 50%

            Log to Battmon

      Else if auto throttling disabled

            Set speed to default speed (unspecified default speed is 100%)

      If we just completed a resume,

            restore the back light brightness to a default (full - 3)

      If the battery was just swapped

            If we just had low volts and the new one is less then 10%

                command XC to suspend

      If voltage is OK but we just had low volts and gas gauge is still less then 10%

            command XC to suspend

      If the volts are low,

            turn off the mono backlight

Track and store in the battery the battery powered run time.

Log power change events to BATTMON.

XCPOWER Int15 API Functional Descriptions

If an app requests the XCPOWER version (Function 5E00h)

      Provide it

If an app commands us to set Throttle (Function 5E01)

      Set new default throttle and disable auto-throttling

If an app requests our current throttle setting, (Function 5E02)

      Provide it

If an app commands us to set new default SW low Batt (Function 5E03)

      Set new default SW Low Batt within accepted ranges (6.3-6.94Vdc)

If an app requests the landline modem power status (Function 5E11)

      Provide it

Detailed XCPOWER Int15 API

Get XCPower Version

Function: AX: 5E00h

Input	Description
None	

Output	Description
AH	Major software version (Example: 1 for v1.02)
AL	Minor software version (Example: 2 for v1.02)
BH	ASCII 'P'
BL	ASCII 'W'
CH	ASCII 'R'
CL	00h=Real Mode (no VxD);
	01h=Connected to Windows VCD.VXD

Set CPU Throttle

Function: AX: = 5E01h

Input	Description
BH	0 to Disable
	1 to Enable by program logic
	> 1 to always throttle at value (in percent of full speed), rounded down to nearest eighth

Output	Description
AH	0

Get CPU Throttle

Function: AX: = 5E02h

Input	Description
None	

Output	Description
AL	Throttle Value in percent of full throttle
BL	Throttling Disable Value (TRUE or FALSE)

Set S/W Low Volts

Function: AX: = 5E03h

Input	Description
BH	Desired Default LowVolt in Raw A/D

Output	Description
AH	Error Status (TRUE or FALSE)

Get Landline Modem Power Status

Function: AX: = 5E11h

Input	Description
None	

Output	Description
AL	Modem power Status (0=> Modem off, Not 0=> Modem on)