ADVANCED POWERSTRIP (APS)
SWITCHING THRESHOLD ADJUSTMENT

OVERVIEW
• An APS operates on a simple master / slave principle.
• When the Master Outlet is ON, the Slave Outlets switch ON automatically. Conversely when the Master Outlet is OFF, the Slave Outlets switch OFF automatically.
• A Master Outlet typically has a TV or a PC plugged into it. Slave Outlets typically have devices such as: DVD player, games console, printer, scanner, monitor etc. plugged into them.
• Note: ‘Master Outlet’ = ‘Control Outlet’ or ‘Control Device’. ‘Slave Outlet’ = ‘Switched Outlet’ or ‘Switched Devices’.

WHAT DOES A SWITCHING THRESHOLD DO?
• The APS needs to determine whether the Control Device is ON or OFF.
• The APS achieves this by using current sensing on the Control Outlet, i.e. it will sense how much power the Control Device (TV or PC) is drawing and then determine whether it is ON or OFF – thereby enabling the master / slave functionality.

SWITCHING THRESHOLD VALUES
There are 3 switching threshold values on the APS:

<table>
<thead>
<tr>
<th>Level</th>
<th>Threshold</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>42W</td>
</tr>
<tr>
<td>Med</td>
<td>22W</td>
</tr>
<tr>
<td>Low</td>
<td>10W</td>
</tr>
</tbody>
</table>

EXAMPLE 42W SWITCHING THRESHOLD (TV)
• TV in OFF states uses <1W
• TV in ON state uses 250W
• In OFF state (1W), TV < 42W threshold and APS determines TV is OFF.
• In the ON state (250W), TV > 42W threshold and APS determines TV is ON = correct operation.

HOW DOES A SWITCHING THRESHOLD WORK?
• When a Control Device is ON, it uses more power than when it is OFF.
• The APS uses current sensing to determine how much power the Control Device.
• The threshold is a current value that differentiates between the ON and OFF states of the Control Device.
WHY ARE DIFFERENT SWITCHING THRESHOLDS REQUIRED?

- Control Devices have different ON and OFF state power consumption.
- PC's may draw 1W in the OFF state and 30W in the ON state. This requires a different threshold value in order to operate correctly – as a 42W threshold will not work correctly.

EXAMPLE 42W SWITCHING THRESHOLD (PC) -> INCORRECT OPERATION

- PC in OFF state uses <1W
- PC in ON state uses 30W
- In OFF state (1W), the PC < 42W threshold and APS determines PC is OFF.
- In ON state (30W), the PC < 42W threshold and APS determines PC is OFF.
- Result = APS incorrectly determines that the PC is always OFF as it never exceeds the 42W switching threshold.
- In order for the PC to operate correctly, the switching threshold needs to be adjusted lower to correctly discriminate between the ON and OFF states.

EXAMPLE 10W SWITCHING THRESHOLD (PC) -> CORRECT OPERATION

- PC in OFF state uses <1W
- PC in ON state uses 30W
- In OFF state (1W), the PC < 10W threshold and APS determines PC is OFF.
- In ON state (30W), the PC > 42W threshold and APS determines PC is ON.
- Result = correct operation.

RECOMMENDED SWITCHING THRESHOLDS

- High = 42W   TV
- Med = 22W  TV, Desktop PC
- Low = 10W  TV, Desktop PC, NoteBook PC

FAQ / TROUBLESHOOTING

How do I determine if I have selected the correct switching threshold?

If the Switched Devices follow the state of the Control Device (i.e. when Control Device ON + Switched Devices ON and Control Device OFF + Switched Devices OFF). Note there is an audible click, as the relay for the switched outlets changes state and the Switched LED will illuminate.

Can I damage the APS or connected devices by using the incorrect switching threshold?

No. You cannot damage either. An incorrect switching threshold selection will only result in incorrect APS operation.

Must I select the switching thresholds as described above?

No, simply select what results in correct operation. For TV applications in >95% of installations you can use any switching threshold. Typically it is only Notebook PC's and older TV's with higher standby power values that require adjustment.

Do I have to power down the APS to change switching thresholds?

No, you can change the threshold while the APS is powered.