

OCIUG GENERAL MEETING

Hardware SIG Featured Presentation

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- Water Cooling
 - “Water cooling”, in the context of this presentation, is the use of recirculating “water” to cool one or more PC components, typically for overclocking. Also facilitates lower profile PCs (esp. HTPCs) and generally quieter PCs.
 - Components typically considered for cooling:
 - CPU
 - Video card GPU and memory
 - Chipset
 - Memory (system RAM)
 - Hard drive

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- Water Cooling (continued)
 - Water cooling **system components**:
 - “Water block“ - the plate or other “contact piece” that goes next to the heat source to be cooled and which includes fittings through which to receive and expel the “water”.
 - Recirculation pump
 - Heat exchanger (radiator), which may incorporate a reservoir or which may require a separate reservoir; with or without cooling fan(s)
 - Interface tubing and intermediate fittings
 - “Water”

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- Water Cooling (continued)
 - **Examples** of those components:
 - “**Water blocks**”
 - CPU - [here](#) and [here](#)
 - Video card - [here](#), [here](#), [here](#), and [here](#)
 - Chipset - [here](#) and [here](#)
 - Memory - [here](#) and [here](#)
 - Hard drive - [here](#) and [here](#)

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- Water Cooling (continued)
 - Examples of those components (continued):
 - Recirculation **pumps** - [here](#) and [here](#)
 - **Radiator** w/o reservoir - [here](#) and [here](#)
 - Radiator w/ integrated reservoir - [here](#), [here](#), and [here](#)
 - **Reservoir** (separate) - [here](#) and [here](#)
 - **Tubing** - [here](#) and [here](#)
 - Intermediate **fittings** - [here](#) and [here](#)
 - “**Water**” - [here](#) and [here](#) [follow the component manufacturers’ requirements re anti-freeze, dyes, and other additives]

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- Water Cooling (continued)
 - System diagram - [here](#) (manual Pg 6) and [here](#)
 - Component and system suppliers:
 - [Corsair](#)
 - [Danger Den](#)
 - [Koolance](#)
 - [Swiftech](#)
 - [Thermaltake](#)
 - [Zalman](#)
 - [FrozenCPU.com](#)
 - Complete systems (photos) - [link](#)

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- Water Cooling (continued)
 - **Warnings:**
 - **Read the product reviews!!!**
 - Potential problems with leaks and pump failure; consider adding a [flow meter](#) and [non-conductive “water”](#).
 - Use a very good thermal compound, e.g., [Arctic Silver 5](#).
 - Were I to purchase one, I'd run it separately (test bed, next to the PC, with only the water cooling system components, and a power lead from the PC power supply to the pump) for about **six (6) months** before installing in my PC. And I'd use a Arctic Silver 5, a high quality/well-reviewed flow meter, and non-conductive “water”.