Strays – Reviving a water-damaged radio

If you have a radio that's been immersed in water, and would like to salvage it, bringing your unit back to operation can get involved. To be clear (no pun intended), if your unit has been submerged in some liquid other than water, it might be better off being discarded (trashed), due to the myriad possibilities of how different chemicals (oil, gasoline, alcohol, septic, ammonia, acetone, cleaning agents, acid, etc.) might have acted on the device. Many substances can behave corrosively in different ways as they react to the variety of internal parts made of different substances (metals, solder, flux, fiberglass, component film, paint, enclosures, plastics, etc.) within.

Assuming you're attempting to revive a transceiver that has been immersed ***in water only***, how long it's been underwater might be the consideration that'll determine your next step. ***Do not power up the device until you've dried it completely***, for obvious reasons.

Drying it completely can be difficult because water can get trapped under flat components such as ICs (integrated circuits), knobs, and transformers. Using rice to dry your unit is ***not recommended***, and placing the unit in direct sunlight can permanently damage the display.

Immersion time matters

If your device was dropped into the drink for just a few seconds, it likely stands a good chance of survival if you can dry it out quickly. If it's been immersed in water for longer than, say, a week, its likelihood of survival drops dramatically the longer your radio has been submerged. Even so, it's still possible to recover the device once you've completely dried it out.

If the water isn't pure, such as with rain or pond water, slightly conductive dirt, grit, and debris can collect on circuit boards, potentially resulting in low-impedance short circuits and high contact resistance. Microphone, external speaker, key, power, and separation sockets can also collect buildup, possibly resulting in intermittent contact and rendering plug insertion more difficult. These must be thoroughly cleaned, even scrubbed if necessary. A good scrub brush (metal for contacts and the exterior, gentle nylon for more sensitive parts) can often help remove this buildup from your unit.

If the speaker got wet, you might need to replace it.

If the display got wet, you should make sure it's completely dry before attempting to open up the control head, because it can be the most damaged of all its components and the most delicate to clean.

If the knobs have gotten wet, you might need to swish some contact cleaner in their swiping contacts. Embedded residue can immobilize knobs, bearings, and pushbuttons. If possible, use a soft brush (like a small solder flux brush) to clean grit and hard water calcite off components and brush cleaner on them. In some places, a little vinegar might help, but not on every component, so you'll need to research that a little for your particular unit.

Unknown immersion time

If you have no idea how long your unit was immersed in water, maybe because the spouse of a silent key gave it to you, or it shows signs that it's been submerged, you could have a bit of a chore on your hands. Rather than trash the rig, you might be looking forward to the adventure of restoring it to its pristine beauty, or at least to operational ability. In other words, your work is cut out for you.

Finally, besides its unattractive appearance, rust is conductive, and must be removed completely. Even after it's dry, microscopic pieces of rust can break off and lodge in places that can short out components, sometimes in spectacular ways.