

The Console Station

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When I first became a homeowner, I set out to arrange my hamshack in a manner which was reasonably neat looking as well as maintainable. Twenty years later, I am still arranging. In the beginning, the "good stuff" was rack mounted (R-390) or comparatively bulky (Kenwood TS-820). Early on I did some swapping and obtained an equipment console rack with sloping front. This console has been the centerpiece of my shack ever since. This paper is a collection of notions that I have applied in my continuing optimization of the console. I am presently disassembling the console in preparation for a cross country move, so I want to share its features and benefits with you. Maybe you can incorporate some features into your setup.

Most hams use some sort of desk to place their main gear on. When you get into VHF and microwaves, the number of boxes seems to increase out of proportion to the number of bands you try to get on. The result is that desk "real estate" runs out quickly. We have all been tempted to stack gear on top of other gear. Don't. It's not good from a heat dissipation standpoint. But it mostly limits your accessibility to the bottom-most items. A better solution is to use shelves or a "carrel". In the case of my console, each major item rests on a custom made rack mounted shelf.

Another layout problem is the tendency to back a desk up against a wall. Instead, leave sufficient space to get to the back of the gear anytime. My console carries this a step further in that there are doors which can be closed to cover up the messy cabling. (I'll clean up the mess someday).

I have included a drawing of my console layout. Refer to the drawing as each portion is discussed.

On top of the console I place power amplifiers. This allows heat produced to simply convect up. The only exception to this placement is that I like to place smaller amplifiers alongside their companion transceivers if space permits, as I have done for 222 MHz (Mirage C1012/ICOM 375, left section middle). Other items can be placed on top of the console as well. I leave my Heath Most Accurate Clock on top of the console. I also have a television camera stationed on the console for ATV use (not shown).

In the top of the left section, as well as in the other sections, I have inserted narrow filler panels. These panels are made from telephone style jack fields with the inserts removed. The holes are then filled with thin aluminum. This makes it convenient to add switches or indicators later as needed.

The lowest radio in the left section is HF/6M. This unit is operated often, so it is placed at operating work surface height. In the center is the 2 meter/432 MHz transceiver, which is the most used rig in my station. Similarly, 1296 is active enough to warrant the strategic right hand operating work surface position.

Above the 2 meter rig in the center section is a general coverage VHF/UHF receiver and LCD television monitor. Above them are the CW keyer and rotator control (Heath Intellirator). A voice keyer is also available on the operating work surface.

The right console middle operating position contains a spare 2 meter transceiver which is used as an IF on 902/2304/3456. The 1296 rig also doubles as an IF rig for 5760 MHz. AZ/EL rotor controls are located high in the right section.

Below the operating work surface are seldom accessed items. On the left is a 50 amp Astron supply. On the right is a section reserved for a computer to be added later. The lower center section is a simple bookshelf containing telephone books and reference materials which might need to be accessed while operating.

Now let's go inside the console. There are several "systems" built into the console, including power distribution, CW keying, microphone selection and speaker audio.

Power distribution is the conventional tree of outlet strips. One large power cord exits the console at the center of the rear base. On the console front is a push-on/push-off switch which activates a power sequencer. This unit applies power to each of four banks of equipment in turn. Its purpose is to minimize the turn-on surge. Shutdown is also sequenced by the same device.

CW keying is applied to all transceivers simultaneously using a steering diode array. Caution must be exercised to select CW mode only for bands which transmission is desired, or else some combinations will tax the big 12 volt supply. Most of the transceivers I use have internal AC supplies, but the amplifiers typically all

require large DC currents.

Microphone selection is done using a one-of-many gang switch in the console center section. The microphone connections are routed through the switch to each selected transceiver. Be sure to switch the microphone audio common, or you will learn about ground loops (not the flying kind). The up/down tuning is also switched. And PTT also, of course. The voice keyer operates on whichever radio selected for microphone use.

Speaker audio is taken from the external speaker jacks of all sources. A 10 ohm load terminates each. The audio is summed through 1K resistors and fed to an audio equalizer/amplifier to two speakers. The audio equipment is typical automotive stuff.

Feedlines and rotor and control cables are brought to a common point to exit the console. This point can be at the bottom or top. I like to bring them up through the top and into a cable race which connects to an equipment rack containing transverters. A row of coax switches is located in just above the console for easy access.

The transverter rack contains transverters in ascending frequency from the bottom up. The transverters with a common 2 meter IF are selected using a switch bank located in the console just above the IF transceivers. The transverter switching was described in the 1993 CSVHF Proceedings.

That's it. I hope there was an interesting or useful notion in here somewhere.





