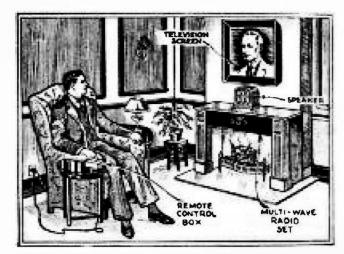
## **Wired Television Remote Controls**

By Mark Nelson

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The television receiver of the near future. Remote control buttons are used to select any type of picture with its accompanying sound.

A suggested layout is shown here.

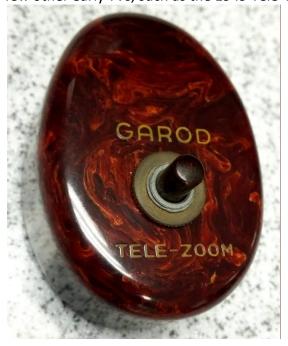
Radio Craft magazine, February 1932

To those of us who grew up having to make the long trek to the family television in order to change the channel or adjust the picture or sound, the TV remote control that we've all come to take for granted has been a godsend. Remote controls appeared with the first generation of post-war televisions, but they were not at all like what we enjoy now. First of all, they all had <u>wires</u> that connected them to the TV!

Zenith has long claimed that they were the first with a TV remote control, when they introduced the "Lazy Bones" in 1950. This was a rather stylish gadget that fitted nicely into one's hand, and permitted the changing of channels – only – on Zenith's 1951 H-series sets. It was an extra-cost dealer-installed option, using a bulky motor and gear assembly that attached to the tuner's channel selector shaft. A 17 foot 3-conductor cable ran between the hand unit and the motor assembly, allowing the proud owner to select channels up or down.



But there were at least two predecessors to the Zenith that I have found. In 1948 Garod introduced the "Telezoom" feature on its 10TZ20 set, enabled by a pushbutton switch atop a little round pillbox remote control. Pushing that switch activated a relay to expand the vertical and horizontal deflection of its 7 inch CRT, giving the effect of a zoom lens for the received picture. This simple, gimmicky function was also offered on a few other early TVs, such as the 1949 Tele-Tone TV-209, but the Garod made it an easy-chair operation.



Also in 1948, Transvision announced a multifunction television remote control, the TRCU. The owner could select channels, adjust brightness and contrast, and turn the set on and off. A 25 foot cable joined the TRCU to "any TV receiver." Exactly how this inaugural remote control was attached to the TV set, and accomplished all these adjustments was not indicated in the advertisements. Two different styles of cabinet appeared inside

of 4 months in early 1949 – Transvision was moving fast! But apparently no unit, nor any literature about it, has survived. Perhaps none were made.



RCA offered in 1949 a remote control as standard equipment for its high-end projection TV console, the 9PC41. It only provided adjustment of picture brightness and contrast, though in an elegant wooden box that matched the finish of the \$795 console.

The Lazy Bones and the TRCU represent two distinct types of early wired remotes: the *dedicated* controller and the *add-on*. Dedicated types were made to be used with a TV manufacturer's specific model. If the remote option was purchased (and nearly all TV remotes were extra cost options until the 1980s), installation was fairly easy, though typically only performed by a serviceman.

Add-on remotes attempted to work with almost any TV, though all had design limitations that somewhat restricted the choice of set. Their installation was more involved, often involving soldering the remote cable to the appropriate points in the target chassis, and adding or removing components. Most of this type of remote included tuners but several also allowed adjustment of volume and contrast.

The number of functions controlled varied widely among both types of wired remotes. The very simple ones like the Garod Telezoom and the Zenith Lazy Bones barely register at all as remote controls to our modern eyes. Simplicity was very appealing, though, if the function was something people wanted. In 1953, a man named Howard Manischewitz, annoyed by loud commercials, created a product that anyone could install which turned a TV's speaker on or off. It was just a length of lamp cord with a pair of alligator clips at one end and a SPST switch at the other, accompanied by simple installation instructions. He called it the "Blab-Off" and sold thousands at \$3 each. The simple idea spawned many do-it-yourself articles as well.



At the other end of the complexity scale was the delightfully Rube Goldbergian remote control system of the 1951 Philco 51T2176. Externally it was a relatively nondescript hand-size control at the end of a 30 foot long 8-conductor cable. Four small self-centering lever switches allowed the user to adjust the channel, volume, contrast and fine tuning up or down. Inside the console cabinet, the control cable was wound on a self-winding reel (like the power cord in a contemporary vacuum cleaner, or a Zenith TransOceanic) so the hand control could be neatly parked in a "holster" on the back of the set. The reel, with its eight slip rings and spring operated rewind mechanism evidently wasn't challenging enough for the Philco engineers. Inside the set, an elaborate motor and gearbox assembly accomplished all of the remote's adjustment functions by physically turning the appropriate controls. Pressing a switch on the remote handpiece activated the motor and engaged one of four solenoid-operated clutches for the selected control. Overrunning clutches protected the volume, brightness and fine tuning controls from being pushed past their rotation stops, and a detented switch on the tuner assured that channel selection would be completed even if the switch was released prematurely. The sound was also muted when channels were being changed, a nice touch.

One of the larger and more elegant add-on remote controls was the Regency RT-700, which debuted in the fall of 1953. It was usable with nearly any TV at that time. Two large knobs on the big mahogany-finish cabinet (blonde wood was also available) permitted the owner to control the TV's channel, fine tuning, volume and contrast from up to 100 feet away. The great distance was possible because the interconnecting cable was a simple piece of RG-59 type coax. The RT-700 contained a complete tuner (an off-the-shelf Standard Coil Products unit) and power supply, and essentially replaced the TV set's tuner. That meant that the owner's TV antenna had to be connected to the RT-700 instead of the set itself, and the original tuner disabled. Clever use of inductors and capacitors enabled the volume and contrast adjustments over the same cable that carried the IF signal back to the TV. It came in 21 and 45 MHz versions, the common IFs of the day. Installation was fairly simple, but did require knowledge of the particular TV's circuits.



Contemporaneous with the Regency remote was the model 3050 TV remote control from Gonset, a maker of Ham radio gear. It too used a Standard Coil tuner and was available in both the common IF output frequencies. Its styling was more industrial, though its metal cabinet was also available in Blonde or Mahogany paint. Advertising boasted that it didn't require "major set alterations" since the IF output cable terminated in a pair of pins that could be plugged into the appropriate mixer tube socket in the target TV.

Connections for the remote volume control did require access to the TV's speaker wires. Contrast was adjusted by varying the IF output level.



Radio-Electronics November 1953

Tech-Master came up with its model 154 the next year, which had all the same functions, but was also decidedly less stylish, though 40% less expensive, than the Regency. Employing an old-fashioned continuous tuner and a 25 foot cord (optionally 50), it was advertised as attaching quickly "to all Tech-Master and [RCA] 630-type TV chassis."

Coastwise, a California company known for test equipment, produced its rather plain but interesting "Master" remote tuner in late 1950, after trying it out first in local TV markets. A seven-position channel selector switch sufficed for all 12 channels, very similar to the early Motorola 7 inch TVs, with a fine tuning control (labeled "Sound"!) filling in the gaps. The "Picture" control actually tuned the 6AK5 RF amplifier, so its effect on contrast would've been questionable. The Coastwise Master used 85 MHz as its output frequency, designed to work into the target TV's tuner set to channel 6.



Remote channel-changing became increasingly desirable as more and more Americans enjoyed multiple television stations after 1954. Prior to that, there were only about 100 TV stations in the entire country, and only a handful of areas had more than one broadcaster. The middle 1950s was the heyday of the wired remote control.

From 1955 through 1957, there was a minor explosion in the number of remote controls, mostly of the dedicated type, offered by the television industry – as many as in the previous six years. RCA, Sentinel, Hoffman, Philco, Dumont, Sylvania, Emerson and others introduced wired remote control options for certain model sets. All offered motorized channel changing and on/off/volume control as a minimum, and many included contrast, brightness and/or fine tuning. Interestingly, the fine tuning control was almost always achieved simply by varying the plate supply voltage to the tuner's local oscillator tube.

Sophistication increased with these later wired remotes. Almost all provided positive channel selection – you could choose a particular channel rather than just moving the selector up or down. This raised the number of conductors in the cable between the set and remote unit to accommodate all the channels and other functions, but it was evidently considered a worthwhile tradeoff. Usually there was an octal-style multipin plug on the cable to mate with the TV chassis so that the remote could be easily installed if the option was purchased. The channel change motor had to be added also, of course.

The remote units themselves varied widely. Most manufacturers opted for a hand-held control unit, not very different in size from some of today's larger TV remotes, though thicker. Typically the handsets were at the end of a 20 to 30 foot long cable. The 1955 Emerson 1158 hand control sported three knobs for brightness, volume, and fine tuning, and a doorbell-like push button to operate the channel change motor.



RCA resurrected the 1930s moniker "Magic Brain" for its 1955 remote control for the KCS-96 and -97 chassis. The RCA handset was almost identical to the Emerson, except the channel change button was replaced with a

small rotary channel selector switch.



Sentinel went with a larger and more complex design for the remote available for models 21101, 21121, and 21145, but which could also be used with older sets. In addition to the channel switch, this small table-top unit featured fine tuning, brightness and on/off/volume controls, plus it included its own speaker. Emerson followed suit in 1956, with the models 1190, 1191, and 1194. In size, shape and functions it echoed the



Sentinel model fairly closely.

Accessory-supplier Walsco announced their entry into TV set manufacture in 1955 with a modularized printed circuit chassis, the PC-9, which had a hand held remote with a channel select switch and on/off/volume control as standard equipment. However, it does not appear that this chassis was ever produced, and TV remote controls continued as options for decades.

In 1957, struggling DuMont created their model RA-369 remote control for its RA-370 through -373 series receivers. It was notable for having a telephone-type dial for channel selection, plus knobs for brightness and volume, and an on/off switch. Though it was not large overall, the size of the telephone dial precluded it from

being easily hand held. RCA went the other direction that year, with what they called their "Power Tuning" remote control for models 21RT8202 and 21RT 8245 (KCS-113 chassis) – it had only a channel change button and on/off/volume control in a slim handset. Active channels were preset in the set's tuner, so quick changes were easily made in areas with few available channels (still most of the US). The connecting cable had only 5 conductors, making the remote easier to handle.



But these were (almost) the end of the line. In 1955 Zenith had debuted the "FlashMatic" and so ushered in the modern age of wireless remote control for television. Within a couple years new wired remotes were a rarity, though not unheard-of. In 1969 Heathkit offered a remote control, the GRA-27, with a 20 foot cord for its color TV kits. It could turn the set off and on and change channels via a motor on the VHF tuner.



And in 1977 Jerrold Electronics introduced the TRC-82, an 82-channel tuner box with a Rolodex-like remote control at the end of a muticonductor cable. It boasted a dozen pushbuttons for UHF and VHF channels, a

fine-tuning control and a TV-set on/off function. Styling appears to be based on the company's cable-TV boxes.



Watch for future <u>Journal</u> TV columns exploring early *wireless* remote controls!

Questions, comments, complaints or suggestions about the Television column are not only welcomed but cherished! Please write or email me at television@tv-boxes.com