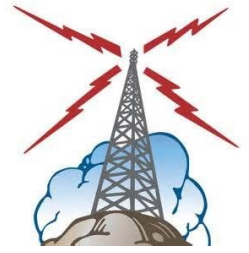




SLATS

St. Louis Amateur Television Society



APRIL 2024 | Volume 3-Nbr 16

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Weekly Nets
7pm Fall/Winter
8pm Spring/Summer
W0ATN/R 440in 426out
144.34 FM Talk-Back

-ON THE NEWS FRONT-

SLATS offers to loan gear for prospective STL area ATV hams

ATV equipment is available for loaning out to prospective hams expressing an interest in getting on ATV. If this is you, then click on <https://slatsatn.net/want-to-try-atv/>



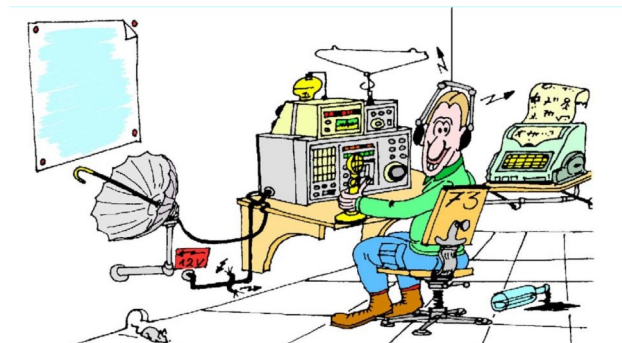
Typical Digital ATV Station. Just add a TV, camera and antenna.

**W0ATN Net Control Station
For
APRIL**

*When nobody is on
ATV, take a listen
here...*



Old Time Radio programs. Website developed by a ham in Illinois. 16,000 radio shows restored. Use it's "Web Player" to play the current selection. <https://radio.macinmind.com/>



**Earle
W0ØFCH**



Mel, KOPFX

FROM THE PRESIDENT'S DESK

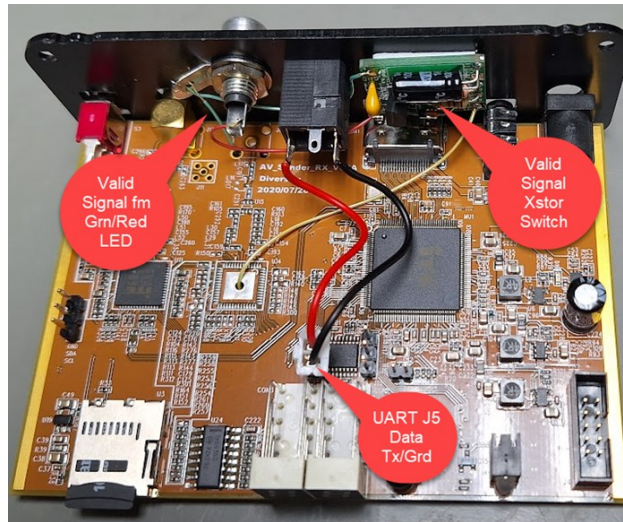
Finishing up the Valid Signal Monitor Alarm

In last month's newsletter (March '24) I described an alarm project that provides a tone and light when a valid (green LED) ATV signal is being received. I finished up the project this month and here is a picture of the completed alarm in a low-cost BUD box. As I mentioned earlier, the alarm's audio level may be reduced by covering over the hole in the alarm itself (similar to a Mallory *Sonalert*) with a piece of adhesive tape. The alarm may be physically located anywhere that will give you good access to the "Armed" on/off switch. It is powered with a 12v wall wart in series with the "Armed" switch. The "Valid Signal" is compatible with any of the HIDs Receivers HV- 110, 120 or 122.

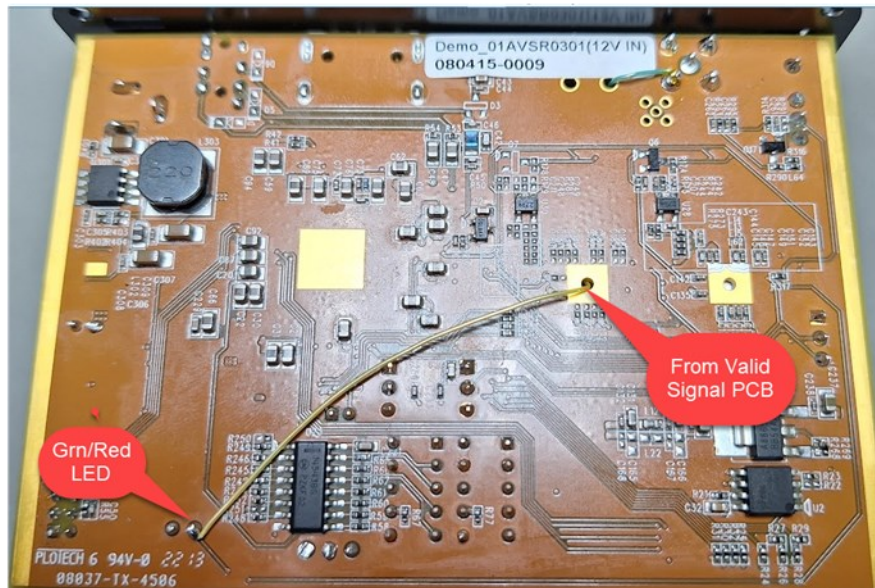


Completed Valid Signal Alarm

As described in the original article (<https://slatsatn.net/valid-signal-alarm-project/>), the valid signal alarm is just an open collector transistor that pulls to ground when the signal LED changes from Red to Green. This is accomplished with small PCB mounted in the receiver and connected to the Red/Green Valid Signal LED. Here are a couple more pictures showing where the PCB is mounted and the connections to the PCB. The other jack on the receiver's rear panel is a 1/8th inch mono connected to J5, the UART debug port. See the receiver's Quick Start Guide (QSG) for more info (UART Debug Messages). A TTL to USB cable assembly is needed for connecting the TX signal to a PC running PuTTY or equivalent dumb terminal software. You may find it interesting to see the debug messages during boot up and while the receiver is running.



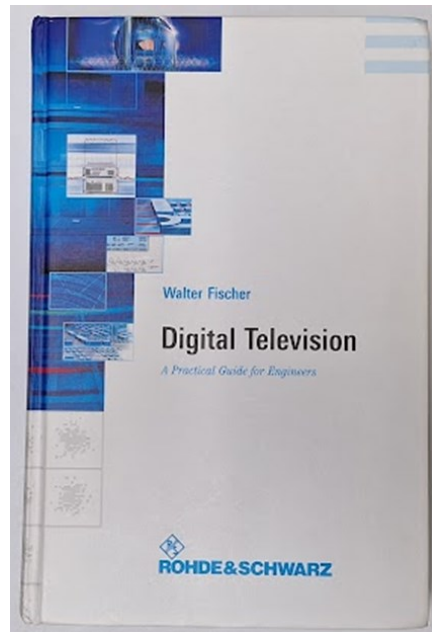
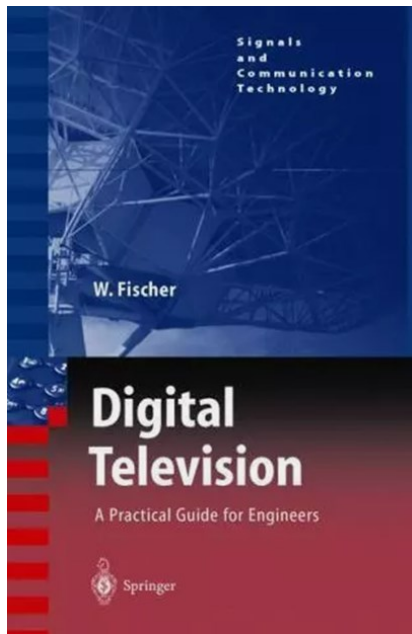
PCB mounted on rear panel of receiver using double-sided sticky foam tape. Completed PCBs and the RCA jack available free for SLATS members.



Lead shown dressed down on the PCB connecting to LED



Rear panel Valid Signal* is connected to a standard RCA jack. The other jack is a 1/8th inch mono connected to J5, the UART debug port. *Credit to KH6ATV for circuit used for Rptr PTT line.



The Digital Television Educator

Like to learn more about the DVB-T Digital Television we use? Of the several text books I have read, this is the best one. As you read it and begin to understand more about DVB-T and MPEG , I believe you will experience many of the “Oh, that’s how it works” moments. Jim Andrews, KH6HTV mentions it in his newsletters as the Digital Television reference bible for DVB-T. I agree with Jim. You will find the book listed twice on eBay. Both books are the same, just a different cover. Text books can be very expensive new. Both of these are used but described as good condition and very reasonably priced.

[Digital Television: A Practical Guide for Engineers by Fischer; Fischer, Walter 9783540011552 | eBay](#)

[Digital Television: A Practical Guide for Engineers by Fischer; Fischer, Walter | eBay](#)

Hi-Des HV-110 RX now in a new and larger enclosure

Pg 5



Receiver size change:

Hi-Des recently increased the height of the HV-110 Receiver enclosure from 1.40” (35mm) to 2.17” (55mm). This larger enclosure also provides another slot for a second PCB. This could be useful for modifications. The aluminum top (or bottom) may be removed without removing the receiver’s PCB. The front panel uses a “smoked” plastic which filters the channel display and Valid Signal LED brightness more than I think is needed.

Rear Panel Plastic:

Early receivers used plastic rear panels and later models had metal aluminum panels. This latest receiver has returned to the plastic panel. Not to my liking because adding jacks for Valid Signal Output or UART data requires drilling holes. Care is required to “drill holes” in this plastic panel or it will crack and could break.

Rear AV jack:

The AV jack on the rear panel is mislabeled “Line In.” It should be read “AV-Out.” Note the audio available here may be used with powered PC speakers which can improve the poor fidelity of PC monitor speakers and most TVs. Audio stream will still be available in HDMI. A constant video baseband signal (CVBS/ NTSC) is available for an analog monitor by pushing the “SUB” button on the remote. Video on both monitors will be displayed but the resolution for both monitors will change to 480I60. Configuring 1920x1080P resolution back to the HDMI main screen will turn off the CVBS signal.

UART data:

If you have an interest in seeing what the receiver’s firmware/script is running then just connect a dumb terminal program like PuTTY with a TTL to USB converter to the TX and Grd pins on J5 header. This is “debug” info that HIDEs uses in troubleshooting problems with the receiver. If you are having a problem, HiDes may ask you to capture and send the data to them. See the QSG for more info.

12vdc power:

All newer manufactured HV-110s appear to be powered with nominal 12v (vs 5v max on early models). Actually, the later receivers will operate down to 5.0 volts but I would not recommend it. The receiver’s runs a little warm (regulator and ICs can reach 55c) so it should not be sitting on another piece of “warm” gear.

Feet and nomenclature:

Still no “rubber feet” (3M Bumpon SJ5012) provided on the enclosure bottom. I recommend adding them to keep the receiver from sliding around. With no description on the receiver’s front panel, I use a label maker for identifying the receiver with its manufacture name and model number.

Firmware:

Latest firmware is version 0.0.1.72.174. I don’t believe there is any need to update the firmware if your receiver is working as expected. HiDes has fairly frequent firmware changes which may not be needed for ham radio use. Visit HiDes web site for finding the URL to download the firmware and Quick Start Guide (QSG).

Future:

HiDes did not mention if other receivers or transmitters will be in this larger enclosure. However, look for some new products in 2024 which may use this same enclosure.

ITEMS FOR SALE

(from slatsatn.net)

Email

mel@melwhitten.com

Brief Description of item

Digital Voice adapter for SSB Radios

Details, price, condition, etc.

Runs open source FreeDV and CODEC2 in hardware removing the need for a PC.

Full docs found here:

https://github.com/drowe67/codec2/blob/main/stm32/doc/sm1000_manual.md

New condition/latest model

\$150 pick up at my QTH or add \$12 for shipping



ITEMS FOR SALE

mel@melwhitten.com

Brief Description of item

HDMI Switch – 8 port

Details, price, condition, etc.

8 ports with remote HDMI Switch. Works fine with HiDes DATV 1920 x 1080p

5 volt PS included.

Good Condition

\$10 pick up at my QTH or added \$10 for shipping



SMD EXTRACTOR (de-soldering) TOOL

mel@melwhitten.com

Brief Description of item

SMD Extractor (de-solder) Tool

Details, price, condition, etc.

NuConcept System Pak-X-Trac PXT-44A with extractor tips for removing SMD resistors, caps, diodes, etc. Makes the job real easy and avoids damage to the PCB. Just tin the tips and then squeeze the tool on each side of the SMD component and lift off. I have no other tips for it but if found on 'net, tool maybe used for removing leaded IC components also.

Good Condition.

\$25 or add \$12 additional for shipping



((see more items at slatsatn.net)

SOLAR UPDATE



[The K7RA Solar Update \(arri.org\)](http://arri.org)

SLATS ATV REPEATER WØATN

Repeater Technical Summary

Coordinates: 38.72126N-90.46454W, Grid Sq EM48sr
Elevation: 671 ft AMSL, 90 foot Rohn Tower
Transmitter: HiDes HV-200Pro 426.000 MHz Vertical polarization, DVB-T 16QAM@ 4MHz Bandwidth, Video PID 641, Audio PID 642, DCI ATV BP RX/TX Filters
Output Power: 426.000, 25w Average
Receiver: HV-110, 440.000 MHz, 4 MHz bandwidth, 16 QAM DVB-T
Antennas: (2)New-Tronics Hustler Spirits, 9 dB 426TX and 440RX Talk-back radio: 2 Mtr FM Diamond Antenna Diamond at 45 Ft
Coordination: Missouri Repeater Council (MRC) 2016
Sponsor: SLATS – St Louis Amateur Television Society (SLATS)

Popular off the shelf equipment for ATV High Definition receiving and transmitting is available at the HiDes Company and on eBay.

Ham Radio Quick Links

Amateur Television Network

<https://www.atn-tv.com/>

ATN Repeater video streaming

<https://www.atn-tv.com/events/streaming>

ATN on YouTube

<https://www.youtube.com/>

[AmateurTelevisionNetwork](https://www.youtube.com/AmateurTelevisionNetwork)

ATN on Whereby.com

<https://whereby.com/atn1>

TAPR - Tomorrow's Ham Radio

<https://tapr.org>

DIGITAL ATV

Digital Amateur Television D-ATV

[https://www.dxzone.com/catalog/Operating Modes/Digital ATV/](https://www.dxzone.com/catalog/Operating%20Modes/Digital%20ATV/)

YouTube Videos

Dave Casler KEØOG - YouTube

<https://www.youtube.com/channel/UCaBtYooQdmNzq63eID8RaLQ>

Solar Index & Propagation Made Easy

The SmokinApe

<https://www.youtube.com/user/TheSmokinApe>