

# SSTV TODAY

\$1.50

Volume II Number 7

July, 1984

## SSTV TODAY AWARD WINNERS!!!



SSTV TODAY Managing Editor Ron Flynn, KB8LU (left), presenting Programming Award to Bill Wells, W4CVS.



Brooks Kendall, W1JKF (left), receives SSTV TODAY Service Award from Gerald Klatzko, ZS6BTD.



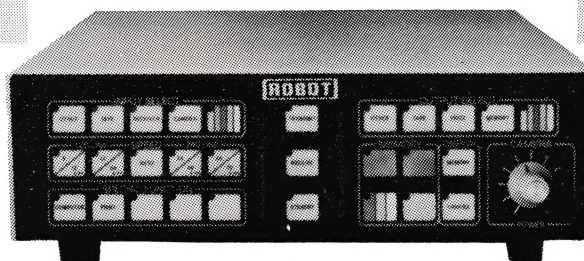
Gerald Klatzko, ZS6BTD (left), presenting SSTV TODAY Technical Achievement Award to Ben Blish, N4EJI.



SECOND IN A SERIES

# Why does Robot's Color SSTV look so real?

## PRECISION COLOR!



You may think that TV is phony. And maybe it is, if you're talking about the content of a TV program. But that's not what we're concerned about here. What we're talking about is the *quality* of the picture: the wavelength and intensity of the light reaching your eye.

TV has come a long way. Today's cameras and monitors are meticulously designed to deliver accurate pictures. When you look at your TV screen, you should see exactly what you *would* see if you were where the camera is, looking at the real scene.

And SSTV should do no less. It should deliver the video from a TV camera at your station to the monitor at another station, without compromise. No phony "emphasis" or false colors. Just the same video, exactly, from the camera here to the monitor there.

Robot's SSTV units are designed and tested to do precisely that. For example:

- Robot's color decoder is calibrated against precision pattern generators and vectorscopes so that the three red, green and blue (RGB) color vectors are in *exactly* the right places.
- The video black level is automatically clamped to eliminate possible inaccuracies in setting (or mis-setting!) a "brightness" pot.
- The only control you have to set is for black and white contrast or color saturation. And you see the results of *that* instantly on your TV monitor. That's the same video that will be delivered to the TV monitor at the receiving end.

- Once past the decoder, everything is handled digitally. Starting with the digitally stored RGB pictures, the transmitted SSTV luminance and chrominance signals are calculated digitally, in a crystal controlled microprocessor, with  $\pm 0.1\%$  accuracy.
- At the receiver, an Automatic Fine Tuning (AFT) control corrects for slight mis-tuning up to  $\pm 150$  Hz. (The receiver *knows* where the signal is and makes it come out so you get the right color.) Again, you don't have the uncertainty of setting (or mis-setting!) receive brightness or contrast controls. It's all automatic!
- Finally, after the received and demodulated RGB pictures are all safely in digital memory, the TV video is regenerated through a special color encoder that again places those color vectors in *exactly* the right places.

So if you want SSTV pictures to look *real*, don't settle for anything less than....PRECISION COLOR!

See Robot's new Precision color SSTV converters at your dealers today: the 450C, 1200C, and the 400C, a retrofit kit that converts your Robot 400 to color operation. Or write for complete literature to:

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# ROBOT

**World Leaders in Slow Scan TV, Phone Line TV and Image Processing Systems.**



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Why Dayton? Why so much coverage for one Hamfest? I've been asked this several times recently. My answer is always that Dayton comes once a year in the spring and is very special. The questions always come from those who have never been to Dayton. When over 25,000 hams come from all over the World for one Hamfest, that's the Dayton Hamvention. While in Dayton, I heard estimates on the local radio and TV that 25,000-35,000 attended this year. The weather was great. It was crowded and busy everywhere. The few Dayton first-timers I talked to were simply overwhelmed by it all.

Anyway, I had a SUPER time. I took a week off. Gerald, ZS6BTD, spent 3 1/2 days with us on my farm before we drove to Dayton. We left for Dayton Thursday morning and arrived in the middle of the afternoon. a quick dip in the pool, a nice dinner out, and we spent the remainder of Thursday night visiting with people as they arrived.

On Friday, we went out to Hara Arena about 9:30 in the morning. Picked up our press passes and got in before the crowds to take some pictures and interview some people. I spent the rest of Friday afternoon viewing the exhibits and attending meetings and then back to the Holiday Inn North for the Get-together and more visiting after that.

Saturday at Dayton was a real busy day. I had three meetings plus attended five forums. Still had to cover the exhibits in more detail and take a peek at the flea market, whew! After all that, I got back to the hotel a little late. My wife Pat, Gerald ZS6BTD, and I went out for a nice relaxing dinner at a fancy downtown Dayton restaurant Saturday night (my treat).

I had one Sunday morning breakfast meeting at the hotel, then said goodbye to everyone and left Dayton around 10:00 Sunday morning. I didn't even go out to the Arena on Sunday.

As I said before, I had a SUPER time at Dayton. I enjoyed meeting and visiting with each and every one of you who were there. I saw many old friends, and made many new friends. That is primarily why I enjoy Dayton so much each year.

Ron Flynn, KB8LU



## DAYTON — COMMENTS & PICTURES

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Robot Research has done it again! Last year the 400C kit and new 450C color scan converter. Now the 1200C, the best of them all!

I was most impressed with the high resolution color display of the Robot 1200C. Full color HI-RES SSTV pictures in only 36 seconds! That's the key. The Interface Systems HI-RES color conversion to the Microcraft Videoscan 1000 had an equally good color display, but that system was locked into a R-G-B format that takes 102 seconds to send a color picture.

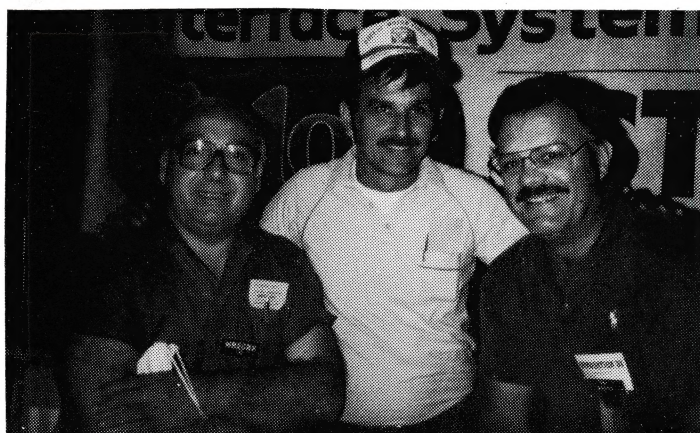
The German scan converter also has full color HI-RES R-G-B capabilities, but its line sequential mode is not compatible with anything in use in the U.S. It is imported from Germany and I would wonder about obtaining parts and service in this Country.

One computer system has adopted the Robot format. I think others will in the future. Though R-G-B color SSTV will be around for years, I think the Robot color will become the standard in the U.S.

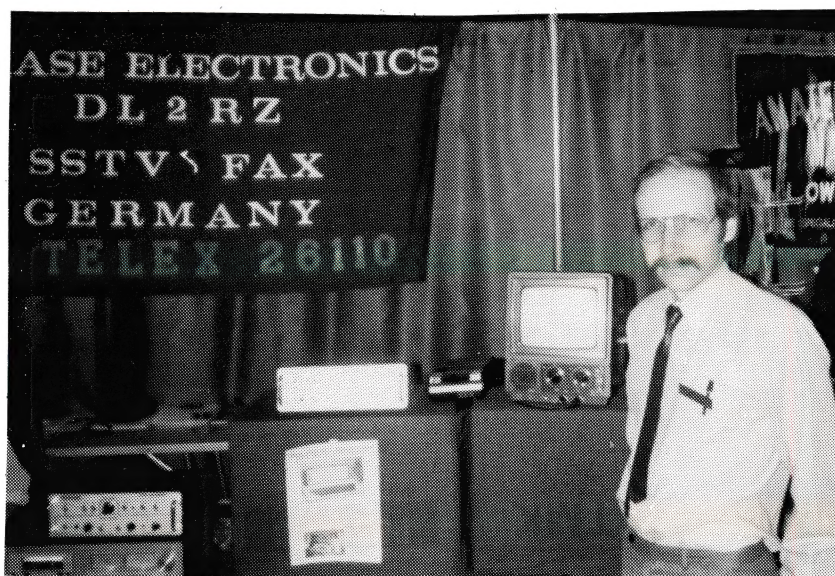
Roger Schultz  
Associate Editor



SSTV TODAY Contributing Technical Editors (L) Sam Mormino, WA7WOD, and (R) Fred Sharp, WBASF, at Hara Arena.



(L-R) Joe, WB2CBX; Gene, KC4FM; and Dan, W6PEO at the Interface Systems booth.



Volker Wraase, DL2RZ, at his booth at Hara Arena showing the SC-1 scan converter.



## DAYTON - COMMENTS & PICTURES

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The 1984 Hamvention was my first ever. I was impressed with the size and organization. Rumors are that 35,000 people attended. The Flea Market was a junk collectors dream. Inside, all the major manufacturers were represented with the latest in technology. Since my interests lie in SSTV, a couple of observations on that. COMMSOFT, makers of Photocaster for the Apple computer, has a new display, better color and resolution. It is comparable to the three memory Robot 400.

Ben Blish, N4EJI, represented Magnum Distributors with a real nice display on the Color Computer. This system is gaining popularity because of its multimode capability of SSTV, RTTY, CW, and FAX. The Volker Wraase Scan Converter was also shown. Nothing much out of the ordinary that I could see.

The Videoscan 1000 by Microcraft was the best B&W video that I saw. I'm still waiting for color modes for this. Interface Systems of Texas and Robot Research of California had the color edge, both systems in high resolution were incredible. You simply have to see it to believe it. These two systems are high technology for SSTV in the 80's.

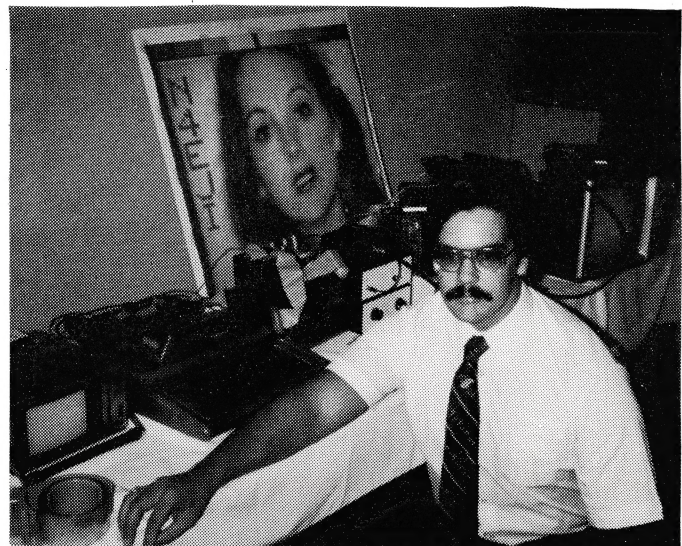
Robot's Model 1200C stood out to me as the stand alone machine capable of sending color pictures so real to life and automatically. It is sure to become a new standard of excellence. Many SSTVers are planning on adding this new machine to their SSTV stations.

The Friday night SSTV Get-together was a huge success, meeting all the familiar voices and faces in one room was a real nice experience, and one I plan on for next year. One last thing, special thanks to Ron Flynn, KB8LU, who did a lot of footwork and organization for us all.

Mike Larson, KC0CF  
Contributing Editor



Dr. Clyde Miller, WB4AOH, demonstrates COMMSOFT's new Photoviewer board after the Friday night Get-together.



Ben Blish, N4EJI, demonstrates the Magnum system at the Friday night Get-together.



## DAYTON - COMMENTS & PICTURES

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I did not have the chance to examine the Dayton Hamfest in any detail, other than the Robot exhibit, as I spent most of my time when I was present at Hara Arena, either at the SSTV Experimenter's Booth or in Room 2 where I gave a general presentation on the TRS-80C's utility to the ham operator.

I was present at the Friday night Get-together, and found that to be a congenial, well organized operation. I spoke that evening, and so did a number of others. All of us were well received by the group, but I can tell you truthfully that I would have liked more time, and so would some of the others who were cut short by the moderator. Unfortunately, there were many speakers, and only a few hours to be divided up among them.

Of the various items presented at the meeting, I found some very hot, some lukewarm, and some cold, but I was happy to see there is quite a bit of activity going on, and I think we should all be pleased. SSTV needs the attention from those who can generate technical advances, and this year we got it in spades.

The most impressive thing that I saw was the Robot 1200C scan converter. This IS the unit by which all others will be measured. There is no doubt in my mind. Now, "someone" will have to bring that kind of quality to computer driven SSTV.

I would like to thank SSTV TODAY and all the amateurs who have helped me over the past year for the "Technical Achievement Award" that was presented to me on Friday evening. I will do my best to keep it up.

Ben Blish, N4EJI  
Contributing Technical Editor



Al Woodman, W9RUV, at the Microcraft booth in Hara Arena.



(L-R) Joe Hawkins, President of Robot Research; John Stahler, WB6DCN, Chief Engineer; Ron Flynn, KB8LU, SSTV TODAY Managing Editor; Bob Rubesh, WA6ENU, Robot Sales Manager; and Rick Sammis, KE6DO.



## DAYTON - COMMENTS & PICTURES

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Dayton was a lot of fun for me. I was only there Saturday and Sunday. Had to leave after lunch Sunday to catch a plane and continue my business trip.

Spent half my time in the flea market loading up on small stuff. Dumped that on a friend who drove up from Florida to take back for me. I enjoyed meeting some of the Slow Scan guys. Not enough time!

I didn't really see anything new except the Robot 1200C. Everything else available for SSTV had already been out for some time and has been used on the air by many people.

The Microcraft HIRES B&W unit looked very good and is reasonably priced for a kit. The formats on the Wraase SC-1 turned me off. Plus the \$1295 price plus maybe another 10% import duty and what about servicing that unit?

WA7WOD showed a prototype board, but it wasn't for sale and he wouldn't quote a price. His HIRES color takes 102 seconds per picture. The Robot 450C was as I expected to see, many are on the air. The new 1200C looked very good. Its HIRES color pictures take only 36 seconds. Very versatile and high quality unit.

I was impressed with the picture quality of the low cost vicCOMM package for VICs and C-64s for B&W SSTV. For a multi-mode operation, the Magnum package for the CoCo looked good. When you attach all that hardware to your computer, you can come pretty close to matching the quality of display of a HIRES B&W SSTV system like the Microcraft, but the Microcraft still has 64 gray level shades and costs a lot less than computer, hardware, and software combined. When it comes to color SSTV, computers are no match, display wise, for the likes of the Robot equipment. Computers now can only display standard resolution color SSTV pictures, but with only 256 colors shown. There is no medium or HIRES color on computers yet. The new Robot 1200C can display over 250000 colors. That's a long way off for computers.

Jim Woodley  
Contributing Editor

Look who we found hanging around the Robot booth. (L-R) Charlie KA6CDK, Tommy KB4MD, Fred WBASF, and Beb WB0UNB.

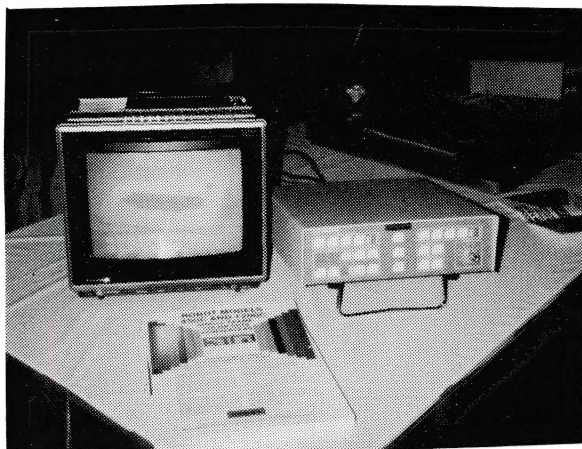




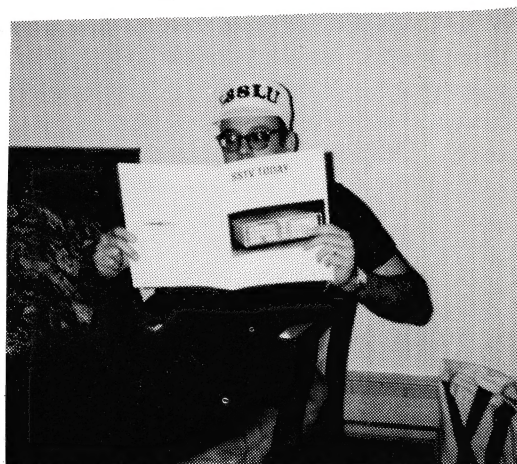
## DAYTON PICTURES



Look at this group we found at Hara Arena! (L-R) Gary K8BKB, Mel N8CCE, Tuffy K8BKE, Beb WB0UNB, and Charlie KA6CDK.



The new Robot 1200C on display at Hara Arena.

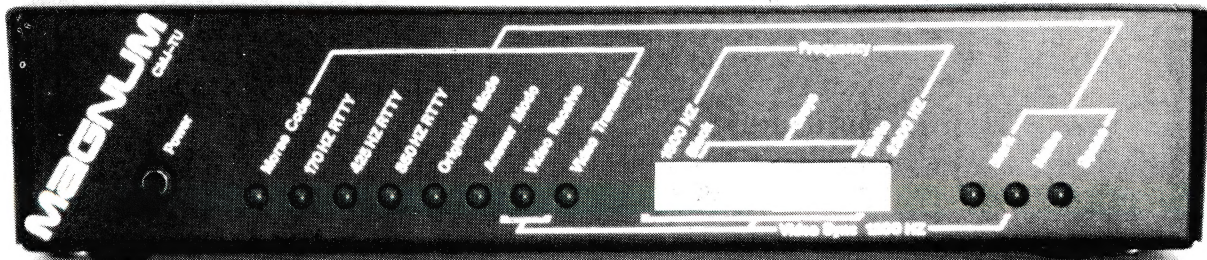


Managing Editor KB8LU takes a break after three nonstop days of Hamventioning!

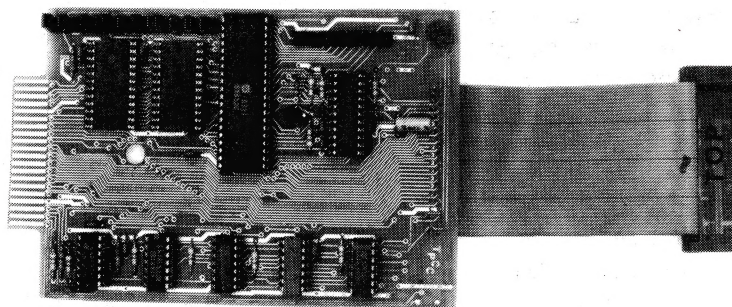
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## New Magnm Products!

At the 1984 Dayton Hamvention, Ben Blish, N4EJI, announced the development of several new SSTV products. These products will be sold through Magnum Distributor's (see ad in this issue).

A medium resolution display board has been developed for the TRS-80 Color Computer for SSTV picture display. This is a small PC board designed to plug directly inside the CoCo. One chip is removed, the board plugged into that socket, and the removed chip plugged into the board. One other connection is all that is required plus tapping for composite video output. The composite video display out of the CoCo is 128 X 192 with 16 gray levels. This new board mounts easily inside older Color Computers. Because of the position of the RF modulator in the new Color Computer II, the board will not plug directly into the CoCo II and must be externally wired with connecting ribbon cable.

A new software program called "Image 450", has been written by N4EJI to interface the Robot 450C color scan converter with the CoCo, using the Magnum IF. The EPROM based program has nearly all the features and functions available in the Magnum SSTV program, "PICVIEW". With "Image 450" you can completely operate the 450C and all its controls with your computer. You can do image processing, graphics overlay, zoom, and many many other things, all from the CoCo keyboard. A prototype of the first camera interface for the CoCo was also shown by N4EJI at Dayton. As more details and availability are made known, they will appear on this page.

## New Robot 1200C!

As reported in last month's Dayton Report in SSTV TODAY, Robot Research unveiled its new high resolution color scan converter, the 1200C. Production models are expected to be delivered beginning in July.

The 1200C features 1.15 MILLION bits of image memory RAM with six selectable 6 bit memories. That means 64 gray level shades. The 1200C can receive and store two medium resolution or one high resolution full color SSTV pictures with a possible 262,144 different color shades. All of the features and formats of the 450C are included in the 1200C, plus true high resolution color in either 36 or 72 seconds! We will have a full report and review of the 1200C shortly after the unit is out.

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I do not normally write this column. Polly Hamilton, our Copy Editor, writes the material in this column from information received from our readers and editors, plus propagation forecasts and other material. I confess to being a DXer. When I'm not chasing DX, however, I sit and watch SSTV a lot, listen a lot, and send a little, very little.

I hear a lot on the SSTV frequencies. A lot of talk and less and less video. Some of what I hear deals with what should and should not be done on 14.230, THE slow scan frequency. Ron, KB8LU, myself, and a couple others, received a ton of input on this subject at Dayton. I'd like to comment on this and we'd be happy to have you send us your thoughts.

So what about 14.230? What should be done? I will not embarrass anyone by mentioning their name. Some advocate 14.230 as a calling frequency only. Others say video only, no talk. Still others want to limit 14.230 to certain types of video, and other types go elsewhere. We probably have as many ideas for 14.230 as we have active SSTVers. The Sunday afternoon SSTV Computer Net was recently cancelled because a few people complained loudly that there was not enough video being sent on 14.230 during that net.

Three problems with regulating 14.230. First, we still have maybe half a dozen different B&W and color SSTV formats commonly being sent at various times. How can one be favored over another for 14.230? Second, 14.230 is really only busy maybe a few hours a day plus weekends. What about the relatively few guys who

operate during the day or late at night? If they don't use 14.230 for whatever, the DXers will take it over. Should their use of 14.230 be regulated at those times?

Finally, I have yet to read anywhere that the FCC has given any individual or group exclusive rights to any frequency or any say as to what should or should not be transmitted on any given frequency. We have in amateur radio a gentleman's agreement that 14.230 is the SSTV frequency. SSTVers are also using other frequencies, especially when 14.230 is busy with whatever. I hold absolutely no hope for any consensus gentleman's agreement among all SSTVers for specific uses of 14.230.

I think SSTVers should use 14.230 as much as possible. Personally, I would like to see more pictures. I think all the SSTV watchers and listeners, including myself, should do more picture sending. I realize you can't tell people what to do and send. I personally agree with what Ron Flynn, KB8LU, has printed many times in his WORLD RADIO SSTV column, and that is that no one owns a frequency and those using one can do what they please within FCC rules.

As far as this magazine is concerned, SSTV TODAY endorses NO specific uses for 14.230. We encourage as much SSTV as possible on 14.230, its adjacent frequencies, and commonly used SSTV frequencies. The more SSTV the better, B&W or color. SEND SOME SSTV TODAY!

We welcome your thoughts and comments on this issue, but please include specific details of how you will implement any plan you propose.



## SSTV RECORD!!!

### G3WW Works 2000th SSTV Station!!

On May 7, 1984 at 1007Z, Richard Thurlow, G3WW, worked his 2000th SSTV station. G3WW first got into SSTV in November of 1972. Since that time, he has logged all the different 2 way SSTV stations that he has worked. Now he is over the 2000 mark.

The SSTV station Richard worked for that 2000th station was Luftur, TF3LJ, from Iceland. Signals were 5/9 both ways. Iceland on SSTV was a new Country for Richard, also. His current total of Countries for 2 way SSTV stands at 112, with all but 4 confirmed.

G3WW believes his 2000 SSTV stations worked is a WORLD RECORD! He asks if there are any challengers to that?

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## FINAL CHANCE

### SSTV TODAY Original Back Issues

After several months of discussions, we have made a decision about back issue copies of SSTV TODAY. We have changed our policy and our minds. We have decided NOT to make available official reprints of back issues of SSTV TODAY. Instead, we will publish and make available a listing of feature articles that have appeared in past issues. Reprints of articles or series will be sold at or near cost. All material in SSTV TODAY is copyrighted and any duplication or reproduction, without written permission, is not permitted.

There are just a few remaining ORIGINAL back issues of SSTV TODAY. If you want any of these original back issues, this is the final chance to obtain them. Following is a list of the numbers of each issue still available as of June 1, 1984. Costs are \$1.00 each PPD in U.S., Canada, and Mexico. \$2.00 each PPD via AIRMAIL to all other Countries.

#1 August, 1983-----5  
#2 September, 1983----6  
#3 October, 1983--SOLD OUT  
#4 November, 1983-SOLD OUT  
#5 December, 1983----3

January, 1984--SOLD OUT  
February, 1984----6  
March, 1984-----2  
April, 1984-----2  
May, 1984-----SOLD OUT  
June, 1984-----10



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WB4HCV

Jim Thomas

Although Jim Thomas, WB4HCV, is not an old timer by amateur radio standards, his name and callsign will certainly be recognized by all but the most recent newcomer to SSTV.

Jim was born in 1944 and first licensed as an amateur in 1957 at the age of 13. In 1964, he graduated from Georgia Tech with a Bachelor's degree in Electrical Engineering. In 1972, he received his PhD in Electrical Engineering. Jim has also earned a Master's in Business Administration, and Law and Industrial Engineering degrees.

Jim Thomas is President of his own company, Thomas Industries Inc. which does consulting, research & development, management services, and manufacturing of video and computer industrial security systems. Jim has been in business for 23 years.

WB4HCV has many other hobbies besides amateur radio. He enjoys baseball and football, hunting and fishing, and flying. Jim has piloted a 727 and presently flies a Lear 25/35 and Cessna 182R. He is a pretty good hunter and holds the NRA pro-marksman award for several types of rifles and handguns.

Jim first got into SSTV in 1964. He started manufacturing a line of SSTV equipment under the Thomas name in 1972 (TEEC). He designed and developed SSTV equipment sold under the Sumner name (SEEC) in 1974. Most SSTV old timers are familiar with Jim's popular Model



HCV-1B SSTV Camera, the Models HCV-2A/B SSTV Monitor, the HCV-3KB SSTV keyboard, and the Model HCV-25C SSTV Scan Converter. These products were developed and sold from 1972-1979.

Jim is presently using a microprocessor controlled scan converter of his own design for B&W and color SSTV work along with RCA color camera and monitor. He uses his own design keyboard, plus has FAX and hard copy machines. Besides SSTV, Jim is active on RTTY, FSTV, VHF/FM, and satellite communications. He is a member of Army MARS, AREC, RACES, AMSAT and ARRL.

Jim Thomas served as an Administrative Assistant to President Jimmy Carter from 1976-79. In 1982 he ran for the Democratic nomination for Governor of Tennessee, but finished in a virtual tie for second place. Jim Thomas has many accomplishments to his credit for a man who will turn just 40 sometime this year. He certainly keeps quite busy and active, but says he might run again for a political office in the future.



## Using the P-7 for SSTV in 1984

William Wells Jr. W4CVS

Today's newcomers to SSTV have several choices. Used P-7 type equipment and many brands of scan converters are available. Computers have become inexpensive and are being used for SSTV in increasing numbers. The P-7 phosphor tube was where SSTV began. At hamfests, you can still find used Venus, TEEC, SEEC, and Robot P-7 equipment offered for sale.

Venus, TEEC, and SEEC are now out of business. If a used piece of that equipment is not found in perfect working order with manuals, it will be very difficult to find parts, manuals, and help in restoring those items to good working order. Robot Research is, of course, still in business. They are introducing their fourth generation of SSTV scan converters, if you include the 300. Quite a number of their Model 70 monitors are still in use today and many people are knowledgeable in their setup and operation. Parts and manuals can still be difficult to locate, and many are no longer available.

In my opinion, I would not advise an inexperienced person to buy an old obsolete Robot 70 monitor and 80 camera for SSTV. The reason being that he would most likely be sadly disappointed. The picture on the screen would be extremely washed out unless he knew to use a hood to keep out ambient light. Then even worse, any adjustments such as focus or position would not be seen until 8.5 seconds later. In the old days when nothing else was available, we could get very good pictures by using a special fast scan monitor from Robot. The 70-B monitor from Robot had a fast scan function with the Model 80 camera plus an oscilloscope presentation of the video.

A box like hood, at least 8" deep, should be mounted on the 70 monitor. If a metal one cannot be found or made, black construction paper can be used. Even using a hood, though, in a lighted room, one could still get a reflection of himself from the shiny yellow filter. To overcome this, some type of non-reflective glass had to be installed in front of the yellow filter.

Today, I would advise anyone wishing to get into SSTV to shop around for a used Robot 400 for \$200-300. If he gets a good cassette tape recorder, he can save video off the air or get a friend to make him a tape or two to use for SSTV transmissions. If he decides he wishes to advance in the wonderful world of SSTV, he can get a camera later on to create his own original video. As the SSTVer becomes more advanced and sophisticated, a used Robot 70 type monitor can become a useful secondary piece of SSTV equipment.

A Model 70 type monitor is easily interfaced with a Robot 400. A good way to do this is to use a "T" type connector on the "To Tape" jack on the back of the 400. One side goes to the 70 monitor, and the other side to the input of your tape recorder. With this setup, you can monitor any SSTV signal going into or coming out of your 400. This can be a handy aid in monitoring your outgoing SSTV signal.

With the new Robot color scan converters now on the market, there should be quite a few used Robot 400s available soon for the newcomers to SSTV to buy at reasonable prices.



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and all our regular features.

In Future Issues -

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Computer Interface for 450C

Magnum Review

Robot 1200C Review

Getting Started in SSTV

and More!



### A Short SSTV Quiz

1. Which SSTV system provides full color prints?
2. Which SSTV system allows the use of a light pen, graphics tablet, or joy stick--and dozens of graphics programs to manipulate images?
3. Which SSTV system can store up to 20 photos on-line for instant recall?
4. Which SSTV system was used by the winner of the 1983 A5 WAS contest?

**ANSWER: PhotoCaster for the Apple II -- only \$499.95!**

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