



NORTHWEST
VINTAGE RADIO
SOCIETY

CALL LETTER

VOLUME 18

FEBRUARY 1992

NUMBER 2

GATES

ST-101
SPOT TAPE
RECORDER



CALL LETTER

The Northwest Vintage Radio Society

The Northwest Vintage Radio Society is a non-profit historical society incorporated in the State of Oregon. Since 1974 NWVRS has been dedicated to the preservation and restoration of Antique Radio & Wireless apparatus.

The CALL LETTER was founded in 1974 by Harley Perkins (our first President). Editors have served as follows: 1975/77 Bob Bilbie, 1977/78 Bob Hay, 1978/79 Tom James, 1980 Bill DeVey, 1981/83 Jim Mason, 1983/87 Richard Karman & 1987/92 Edwin Buhite.

The Northwest Vintage Radio Society meets at the Northwest Vintage Radio Museum 7675 SW Capitol Highway (at 32nd St.) Portland, Oregon (Museum Phone (503) 246/3400.)

Business Meetings are held at 10:00 AM (Noon in December) on the second Saturday of each month except for summer vacation in August. The meetings are an opportunity to exchange information and advice. The July Swap is at Speed's in Keizer, Oregon. All Swap Meets begin at 8:00 AM.

Annual Dues: \$15-- Renewals are due January 1st

1992 OFFICERS & STAFF

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LASER TYPESET. Dave Dintenfass & Dick Karman		
Data entry by Jamie Buhite.		

The *CALL LETTER* and The *HORN OF PLENTY* are published monthly as the official publication of the Northwest Vintage Radio Society and the Puget Sound Antique Radio Association. The Call Letter and the Horn Of Plenty are available only as part of the NWVRS/PSARA memberships. NWVRS/PSARA are not responsible for any buying / selling transactions incurred, or for any other use of the contents of this publication. All transactions are on an "as is" basis with the new owner assuming all responsibility.

* Coming Soon: KFC, KXL, KQW and K&C *



PSARA MEETING MINUTES

Seattle, Washington Sunday Jan. 19, 1992

David Dintenfass called the meeting to order at 1:00 PM. There were 34 members and 4 guests, Roland Ferguson, Cory Turner, Dianna Bechan & Justin Duque, (their first meeting).

OLD BUSINESS: The Treasurer's Report by Al Atworth, said only about 65 renewals have been paid. If you haven't renewed your membership, Please do so as soon as possible. We will carry you as a member until March, then if not paid will be dropped. Please send renewals to Al Atworth. The Museum rent is paid through June '92. We are still in the black and doing OK.

The Museum Report by Ken Korhonen included a very nice thank you letter from the Shorecrest High School Drama Director, the PlayBill Program and a photo of the radio on the stage for the play. The museum has some new "old radio shows" in the tape player that is hooked to the Philco Console. We need a glass dial face plate (or the equivalent that would work) for the Philco 40-180 in the museum . Also if anybody owns any of the ham or military radios in the museum we are thinking about eliminating that category for sake of space for other conventional antique radios or old broadcast equipment of the 30s or 40s of local interest. Contact Ken about any of them.

NEW BUSINESS: We are forming another list of PSARA name tags for engraving. The order needs 10-12 names before it goes in, see Al Atworth to get on the list.

Dave Dintenfass brought a copy of "Electric Radio" published out of Colorado and deals with vintage ham radio equipment. Some of you Hams may be interested in this well done publication that has good articles on restoration of old ham gear.

We are looking for some short articles for the news letter. If anyone has or wants to write some that relate to antique



radio, please let us know or send them to Ed Buhite. Ed also suggested a series of articles on some of the older broadcast stations in the northwest that were on the air in the 20s, 30s & 40s. If you know anyone that has worked at these stations early on and would like to discuss the "Early Days", please let us know.

Upcoming presentations include: February, Walt Kiefner will do a slide show from his trip to the to the Antique Wireless Association Swap Meet; April the possibility of having another auction. Please clean out your basement or attic and bring your pile of stuff to the Auction. We will start it at 12:00 Noon.

Max Kaplan received some new samples of grill cloth from the same people in New York. The two samples we have are for "Philco ribbed" and some "Atwater Kent". I have the samples, so if anyone is interested let me know.

THINK ABOUT: The possibility of some trouble shooting clinics to help some of the people trying to restore the chassis to working order. Everyone gets stumped sometime and we could have a question and answer clinic to help some of us. Art Corbus brought up, that this is what the club was originally formed for in the first place. There are many things that could be covered in these short talks.

Bill Hebert is still recovering, doing fairly well, we miss you Bill.

After the meeting we showed the video "Philco - The Early Years". The half hour tape belongs to the PSARA library.

David Braun, PSARA Secretary

NOTICE:

The PSARA Mailing Address Has A New Zip Code:

Puget Sound Antique Radio Association

P.O. Box 125

Snohomish, Washington 98291-0125



PSARA NOTICE

Long time former member Joe Rank suffered a heart attack on January 30th. He is doing better this week. Many of you will remember the truck loads of radios he and his brother Egan brought to the swap meets.

Send Get Well cards to:

Joe Rank
Rockford Hospital Room C-316
2400 N. Rockton
Rockford IL 61103

From the President's Desk

David Dintenfass, PSARA president

Hope you all enjoyed January's meeting, where we had a chance to view some of that amazing newsreel-style footage shot on-site at the Philco factory in 1929. For those of you who couldn't make the meeting, consider checking out the tape from our library.

Radio Clinic

A few members have asked me if we can't include more information at each meeting on repairing our vintage radios. For example, if you're having trouble troubleshooting or fixing a stubborn radio, please bring the radio (if possible) to the meeting and be able to describe the symptoms and what you've done so far. Be it a common problem or an obscure trouble-spot, we'll try to help. Either way, there's bound to be a club member in the audience who can pass along some good advice. So don't be shy—bring out those radios! For now, let's schedule the "radio clinic" before our featured technical presentation.

Auction

Our annual auction is often held at our March meeting. However, since the weather is not always cooperative during March—and quite a few members travel long distances—last month we kicked around the idea of having the auction in April. After our meeting, however, a member called me to point out that the April meeting is scheduled for Easter Sunday. In light of this, we may want to schedule the auction for May to avoid a low turnout during April.



Alternatively, we might consider moving the April meeting to another Sunday in April, such as the second Sunday or fourth Sunday—pending availability of our usual meeting room at the Shoreline Historical Society. Please think about this. We'll decide what to do at our next meeting.

Copy Machine

At our January meeting, Dick Boller offered to donate a plain-paper photocopier to the PSARA radio room for use by members needing to copy schematics and service information from our technical library. The copier is a Sharp model SF-810. It needs minor repair, which Dick has offered to do for us. However, he needs to find service information for this machine. *Anyone who knows where to find this information please call Dick or myself.* Another possibility is to have a copier repair shop donate the labor that it would require to fix the machine.

A copier in the radio room would greatly reduce the amount of valuable reference material checked out at any one time and potentially prevent loss of these materials. I propose that we launch an exploratory committee to investigate whether such a copier is practical.

Things to consider are electrical power for the copier, service costs, and how to pay for the copies we make. If you are interested in participating on this committee, please see me the next meeting!

Electric Radio Magazine

I recently discovered *Electric Radio*, an unusually well written and informative publication devoted to vintage amateur radio equipment. Although much of the newsletter deals with vintage AM Ham equipment, there are fantastic restoration hints that are applicable to anyone restoring vintage electrical and mechanical equipment. I learned a wealth of information just by looking through a short stack of back issues.

Electric Radio has been published for just a few years now. It is a quality newsletter, printed on good paper with excellent photographs. The editor is Barry Wiseman, N6CSW/0. Yearly subscription rates are \$20 (second class postage), \$30 (first-class mail), with higher rates for Canada and overseas. Their address is *Electric Radio*, PO Box 57, Hesperus, Colorado 81326. You can also subscribe by phone at (303) 247-4935.



Upcoming Presentations

This list is tentative and therefore subject to change.

- **February:** 3-D slide show, presented by Walt Keifner, of his visit to the 1991 AWA swap meet (3-D glasses will be provided).
- **March:** Special tutorial on radio electronics by Westinghouse, from a vintage filmstrip/disc program circa 1940; presented by David Dintenfass.
- **April:** *An Afternoon with John Mullin*, a videotape produced by the Audio Engineering Society.

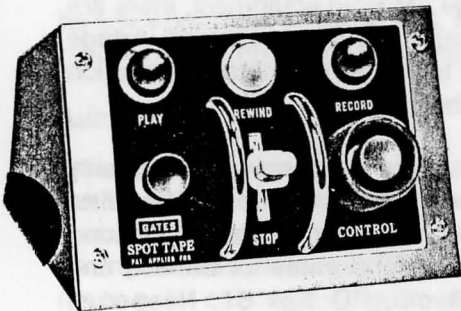
Please note that the April meeting may be moved to a different Sunday in April if we decide to avoid a conflict with the Easter holiday.

- **May:** Annual auction.
- **June:** Restoration of a Presto 64A vintage broadcast turntable, presented by David Dintenfass. Includes information on spray lacquering and possibly a demonstration of 78 rpm record cutting with an overhead lathe fitted to this unit.

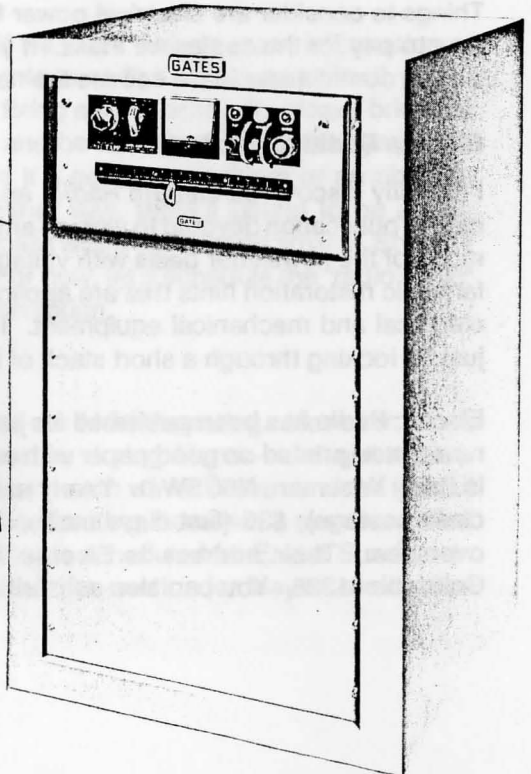
As always, if you have any ideas for future presentations (or just need to discuss something), please call. You can reach me at (206) 784-4803 most evenings after 7 pm.

Regards,

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Remote Control



The Gates ST-101 "Spot Tape"

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Introduction

In many ways, the 1950s was a time of great change in the radio industry. At the beginning of the decade, before television diminished radio's vast audience, radio programming continued as it had for many years—discrete blocks of long programs, often with one or two sponsors. But by the end of the 1950s, things were changing. Many stations moved to a rapid-fire mix of music, disc-jockey chatter, and commercial spots. The influence of rock-and-roll popularized a "top 40" format targeted toward a youth market with money to spend.¹

Magnetic tape was in wide use at radio stations by the mid-1950s. Although the open-reel format offered excellent audio fidelity, it was cumbersome to use for repeated short announcements and commercial spots. Rewinding and cueing an open reel tape was time-consuming and error-prone in the fast-paced world that radio was becoming. Even for stations with more traditional formats—where open reel was in use for pre-recorded programs—commercial spots were still aired from the individual disc that the station received from the advertising agency.

After repeated use, these discs soon became worn and scratchy with the relatively heavy tonearm/cartridge setups then in use. In particular, discs became badly worn near the start of the cut. This happened because the engineer or disc-jockey had to move the disc back and forth with the tonearm down—while cueing the disc before playing it on the air—to find the start of the cut. This resulted in the infamous "cue burn."

1 One might argue that this period also coincided with the emergence of another characteristic of a youth-obsessed culture—the short attention span. But that's a topic for another discussion.



Introducing the Gates ST-101 Spot Tape

In the late 1950s, broadcast equipment manufacturers were developing alternatives to disc and open-reel tape formats. In 1959, Gates Radio Company of Quincy, Illinois introduced the model ST-101 Spot Tape Recorder. This used a 13-inch wide magnetic belt to record and play up to 101 tracks, each up to 90 seconds long. At the end of each cut, the belt rewound automatically. Alternatively, you could begin the rewind earlier by moving a lever switch on the front panel.

The magnetic belt was fairly thick and quite durable. Unlike most magnetic tapes of the 1950s that used an acetate base, the ST-101 belt had a tough Mylar® base.² An incandescent lamp and photocell were used to detect a clear area near the edge of the belt. This triggered both the automatic rewind and the end-of-rewind cue. When working properly, the unit back-cued to allow the belt to come up to speed before recording or playback.

With the Spot Tape, you could dub a cut from a disc onto the magnetic belt and the cut would sound as good after many plays as it did after the first one. To select a cut, you moved a lever to the appropriate notch over an indicator scale on the front panel. Cuts were indexed in groups of ten, with letters to indicate individual cuts. For example, you would identify a cut as "2F" or "7J." Rewind took 22 seconds if you let the machine rewind automatically. If you rewound manually after a 60-second cut, it took 15 seconds to rewind—and only 8 seconds after a 15-second cut.

Listening to the Spot Tape

Club member John Schneider has a Gates ST-101, so I spent a few hours dubbing some cuts that had been recorded in 1965. Fortunately, the belt was never erased when the machine was removed from service. John has painstakingly restored his machine, which in a way, is nothing less than a modest time capsule!

2 A type of polyester film made by DuPont. Mylar® is a registered trademark of E. I. DuPont De Nemours and Company



When new, the machine performed quite well and had specs that were no worse than typical broadcast equipment in use during the late 1950s. Using a tape speed of 5.25 inches/second, frequency response was flat (± 2 dB) from 50 to 8,000 Hz. Distortion was 2 percent or less at 0 VU, and the wow and flutter spec was 0.35 percent or less. The signal-to-noise ratio was 45 dB. The bias frequency was 60 kHz—low by today's standards but quite common for many tape recorders of that time. Although the Spot Tape was not in the same league as a good studio-quality reel-to-reel, it was quite adequate for AM broadcast use.

However, like any tape machine that used a fairly complex mechanical drive, many Spot Tape machines did not stay within their specification. In particular, wow and flutter became quite noticeable, as did crosstalk from adjacent channels when the head assembly wandered from its designated course. I suspect the belt in John's machine was recorded near the end of the machine's in-service life, as wow and flutter were quite evident on most of the cuts. Nonetheless, a few cuts sounded quite nice and hinted at how well the machine probably worked when new.

The Demise of the Spot Tape

The Gates ST-101 Spot Tape was sold only for a short time. Later that year, Collins Radio introduced the first commercialized version of the now-standard endless-loop broadcast cartridge at the 1959 NAB convention. This device quickly established itself as the preferred medium for short announcements, and devices like the Gates Spot Tape faded into oblivion. We'll review the history of the NAB cart in a forthcoming article.

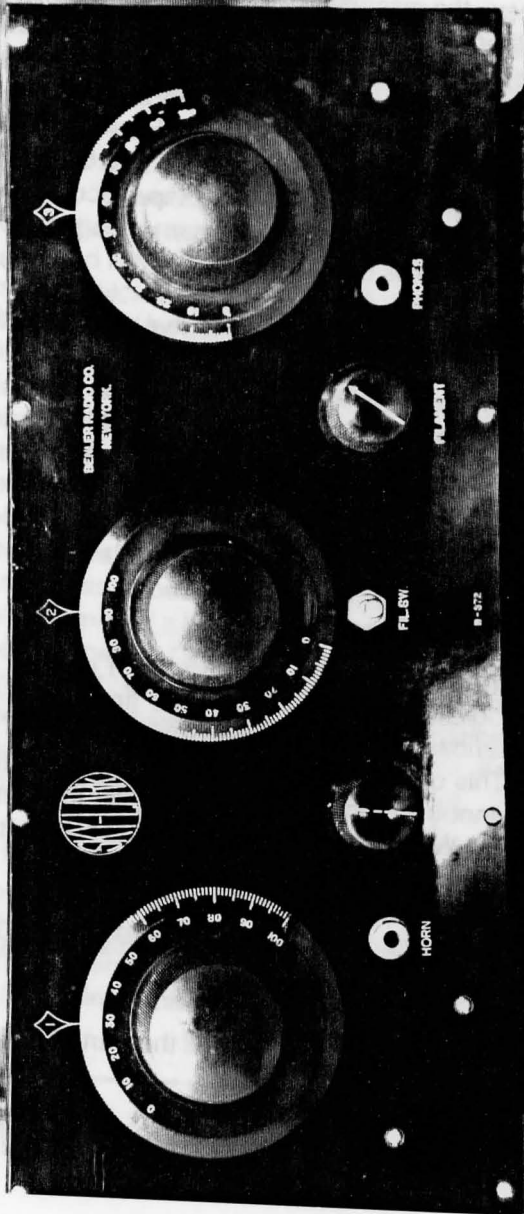
Sources

ST-101 Spot Tape Recorder, advertising brochure published by Gate Radio Company, Quincy, Illinois.

Gene Randolph, "The History of the Cart Machine." *Broadcast Engineering* magazine, August 1984.

Also, thanks to club member John Schneider for providing the use of his Gates ST-101 and related literature.





Down Melody Lane With The Sky Lark

by F.W. Sloat W7AHK

It was Saturday evening and I had just finished cleaning up the Sky Lark, a neatly built three dialer by Benler of New York. It is a five tuber and battery operated, about 1925 vintage. Two weak 201A's were replaced and it was ready to play. The switch was turned on and out of the old speaker came some big band music from KDWN in Las Vegas. It was very nice and it is my favorite music. I leaned back and relaxed. There was some fading and the signals disappeared. With the rheostat turned up a bit and the dials re-adjusted some different band music came in. Then, plainly, came the announcement, "KPO, Hale Brothers and The Chronicle, San Francisco, The City By The Golden Gate." This could't be, KPO has been gone for many years. Was I hearing right? Was someone playing a trick on me?

Underneath the lid of the Sky Lark is fastened a printed log giving the dial settings for various stations, and I noticed Calgary with dial setting's of 53-53-53. With shaking hands I turned the dials to this position and in came CFCN with the Bronco Busters. Good old CFCN, what in the world is going on? Near the top of the dials was a strong signal and the unmistakable announcement, "KGW, The Oregonian, Portland, Oregon bringing you the music of Dick Jurgens and His Band, Playing In The Golden Canopied Ball room at Jantzen Beach on the shores of the Columbia River in Portland.

Going to the other end of the dials was the strong signal and the recognizable voice of Aimee Semple Mcpherson giving her sermon from the Angelus Temple in Los Angeles. (You may remember, Aimee disappeared in the ocean and come up in the desert. She landed in jail.)



At 26-27-26 was a great one, "KNX, The Los Angeles Evening Express Station, And The Music of Abe Lyman and His Orchestra from the Coconut Grove in the Ambassador Hotel." It was great. I had often listened to Abe Lyman and I could imagine the movie stars and other notables out on the dance floor. I listened to many of the old tunes. There was some fading and the Sky Lark went dead. Looking inside gave the sign that the battery was dead. A glance at the clock- 1:00 A.M. Boy, I have to get up in the morning, and to bed I went.

All of the next day I thought about what I had heard- or did I hear it? Sunday evening, with the battery charged up, the Sky Lark was again turned on. Alas! The band was a bedlam of talk shows, profane language and everything from financial advice to sex. No sign of the the old stations and programs could be found. Sadly, I returned the Sky Lark to the shelf. I had decided to keep this tale to myself, knowing no one would believe it, but I remembered years ago, a prognosticator had advised us that all these signals which had been transmitted into space would return.

Reprinted from Radio, with Questions and Answers, published in 1922. (submitted by Pete Petersen)

RADIO—GOD'S WONDERFUL GIFT TO HUMANITY

What it Means to America

"Life's lesson is here with its fascination,
In this wireless thing that since creation
Has been laid away in nature's store,
Awaiting for some one to open the door.

"And when we hear our big spark thunder
Sending our signals away off yonder,
With the speed of the wings of light,
Through rain or shine or darkest night,



“Or when we hear our ear 'phones rapping
And answering signal comes clear and
snapping,
We can't comprehend the wonder—the why,
Of this thing harnessed'twixt earth and sky.

“And whys breed answers and whys again
Till we lose ourselves in the endless chain,
And where it leads or where the end,
Is beyond our powers to comprehend.

“The wizards—the men in the lab., you know,
First added plus X to y or O,
And nature revealed to him who sought,
And wireless telegraph to man was brought.

“And though this was added to that, until
Man conquered and harnessed it to his will,
There still remains the same old cry—
What is the thing, where from, and why?

“This selfsame question fills the pages
Of all the books of all the ages.
Question breeds question and question again,
Creating more riddles for man's weak brain.

“And that's what keeps alive the flame
And makes us play life's little game.
Uncertainties are the zest of life,
Knowledge of the finish stops the strife.

“And we who delve in our little part
Of nature's laws in this new-found art,
Must realize there's a power and plan,
And a God—a ruler of nature and man.

“This 'Everything' didn't just happen to be;
It must have been planned, created, and He
Who planned and created must rule by right
King of all nature—all man and all might.”



N W V R S MEETING MINUTES

Portland, Oregon Saturday, Jan. 11, 1992

The meeting was called to order at 10:06 AM. by outgoing President Dick Karman. New President Speed Feldschau was ill, so Dick chaired the meeting. Last month's meeting minutes were approved as published. No items of good and welfare were given and no treasurer's report. Guests and new members were welcomed and introduced.

OLD BUSINESS: Society members were reminded that 1992 membership fees are due. Renewals are due January first of each new year. Phone volunteers were solicited to contact late memberships. A budget committee was formed to discuss purchase of equipment, look into expenses of helping with the museum, and determine how much can be spent on promoting the Society. The committee members are: John Otterstedt, Richard Dielschneider and Edwin Buhite (see note below).

The Society is seeking members to form a promotion committee. Discussion was heard on forming a publications committee to assist the Call Letter editor and to solicit or contribute items to the Call Letter. They would also research to see if the society constitution is current. A request was made of the current secretary to review previous meeting minutes for any changes in the constitution. A vote was taken on four Constitutional Amendments and all four were approved. They are:

1. Redefine an Associate member
2. Pro-rate dues - Clarification of last years change.
3. Approve mailin/out ballot for annual election
4. Require semi-annual board meetings

New Officers for 1992 were introduced

NEW BUSINESS: Members were reminded of a documentary on early radio pioneers, "Empire of the Air" to



be broadcast in January on PBS. The Society will be participating in the "Sounds of Nostalgia" Salem collectors market February 9th. contributions are welcomed for the display.

The Society Librarian, Norris Jackson, announced that the library materials will remain in boxes until a permanent location is formed inside the museum. They may be placed on temporary shelves if some are provided.

The society is seeking a member to fill the vacant contest chairman position. Frank Rasada is seeking a plumber from the society to assist with the museum renovation. Rudy Zvarich volunteered to head the refreshments committee. A video presentation (subject to be announced) is tentatively scheduled for the Feb. meeting. A contest will be held for March.

LEADS AND NEEDS were given.

Meeting Adjourned 11:18 AM.

Submitted by Norris Jackson for
Art Redman, NWVRS Secretary

Note: Treasurer Ed Charman has been asked to be a budget committee member and Edwin Buhite resigned from that committee prior to it's first meeting.

DUES ARE DUE

NWVRS membership dues for 1992 are due at the first meeting of the year. If you have not paid your dues (\$15) please do so as soon as possible. It helps all of us keep records current, and the roster will be published sooner as a result.



Ole! (acquisitions)

Art Corbus

McMurdo Silver V
McMurdo Silver VI

Ed Curry

Antique teletype mach, all brass, exc cond.
Philco 70 cathedral
AK 33 with round seaker

R. A. Dielschneider

1941 Airline 04BR-729A Table radio
1941 Philco 41-280 console
1936 RCA 118 tombstone
1941 Zenith 8A02 console
1938 Zenith 9-S-262 console
1937 Zenith 12-U-158 console

Speed Feldschau

Aviola Bakelite table set
Mantola Bakelite table set
Gilbert Bakelite table set
Philco 95 lowboy
Midwest 18 tube console

Walt Kiefner

1931 Ecophone S-4 cathedral
GE K-43 cathedral
1939 Zenith 5R312 bakelite

Steven D Martin

Motorola 66T1 Transistor set
Motorola 7X23E Transistor set
G.E. 678 Transistor set
Motorola Pixie tube set, Skymaster

Pete Peterson

Hallicrafters S41G Jr Skyrider

Steve Von Talge

McIntosh MR55A tuner



SWAP SHOP

WANTED

- Riders 4,5,8,18,20 thru 23. Dial Glass (or loan of) for Philco 40-180 console For PSARA Museum (206) 932/9363
- Crosley 59 Chassis (used in repwoods), Sky Chief radios, Blue O1As, pre 1950 TVs, Catalin radios & misc catalin items. Ken Korhonen (206) 932/9363
- Parts Chassis needed for Philco 91 & Sparton 1068 R.A. Dielschneider 7040 S.W. 2nd Portland OR 97219 (503) 246/1062
- Power supply for McMurdo Silver Six or part chassis. Dial glass for Sparton 1867 18 tube. Art Corbus (206) 783/6151, Day 784/2482.
- McIntosh 50-W2 Amplifier (2 silver cubes) Steve Von Talge (206) 527/2829, 783/2543
- Cathedral Radio & Crank type phonographs: Buy, sell, repair. Ed Curry (206) 353/2661
- Rider Vol 1 & 2 for Television. Also any catalin radios that are cracked or damaged. Brian Sturch (604) 534/9803
- Philco 18 or 118 chassis for my cabinet. Jerry Cappoen (206) 874/5490
- Radiolas IV, VII, I. William Boyd 74 Atison Court Medford NJ 08055
- Federal 61 parts Dick Howard 9999 SE 118th Ave. Portland OR 97266 (503) 775/6697
- Transistor radios and small tube portables. Steven D. Martin 815 N. Hayden Rd. Apt B-204 Scottsdale AZ 85257 (602) 994/3162

FOR SALE

- 1925 RCA UV199 (no tip) filament O.K., with socket. \$15.-- Prepaid. Bud Larson 1325 Ridgeway Medford, OR 97504.
- Electronic Test equipment, Radio & TV Tubes for \$1.-- each. (a few special HiFi types are a little higher). Bob Lee at R5-D3 Electronic Surplus. 6111 SE 82nd St Portland OR 97266 (503) 774/6560

LEADS

- (This information is provided by members with information of radios available from non-members. The member providing the lead is now noted after each lead.)
- 1925 Grebe Synchronphase MU-1, excellent condition with tubes and also a brand "X" horn speaker - both for \$ 200-- (503) 645-2929. (Jerry Talbott)
- Marconi 14 valve, Solid Oak, Seperate Oak speaker. Eastside Auction on Silverton Road in Salem OR. (Speed Feldschau)