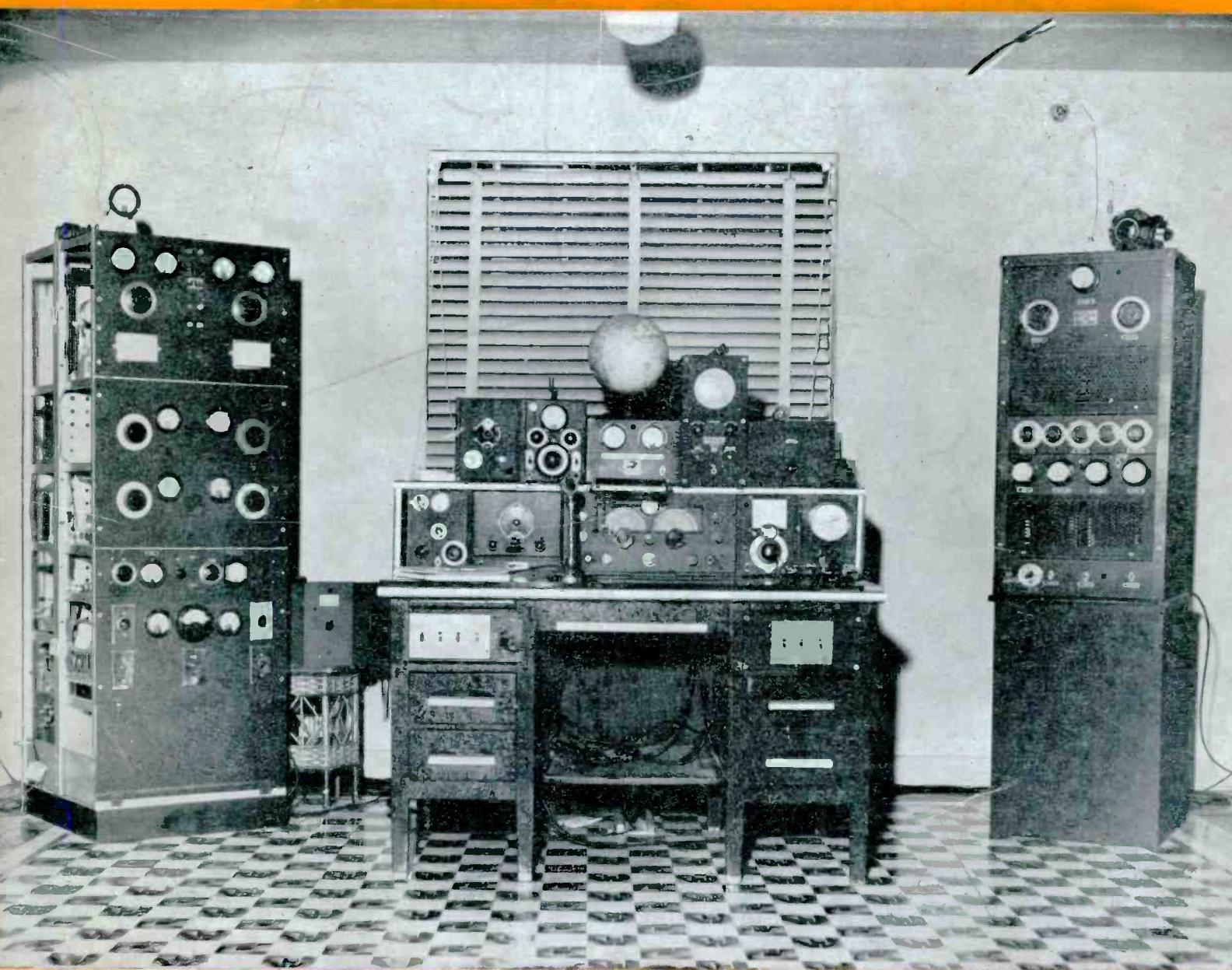


AMATEUR JOURNAL

MARCH - 1940



W2EOA

Amateur Edition



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To radio stations, NBC offers two outstanding services for building local commercial and sustaining programs:

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FOR AIR-CHECKS

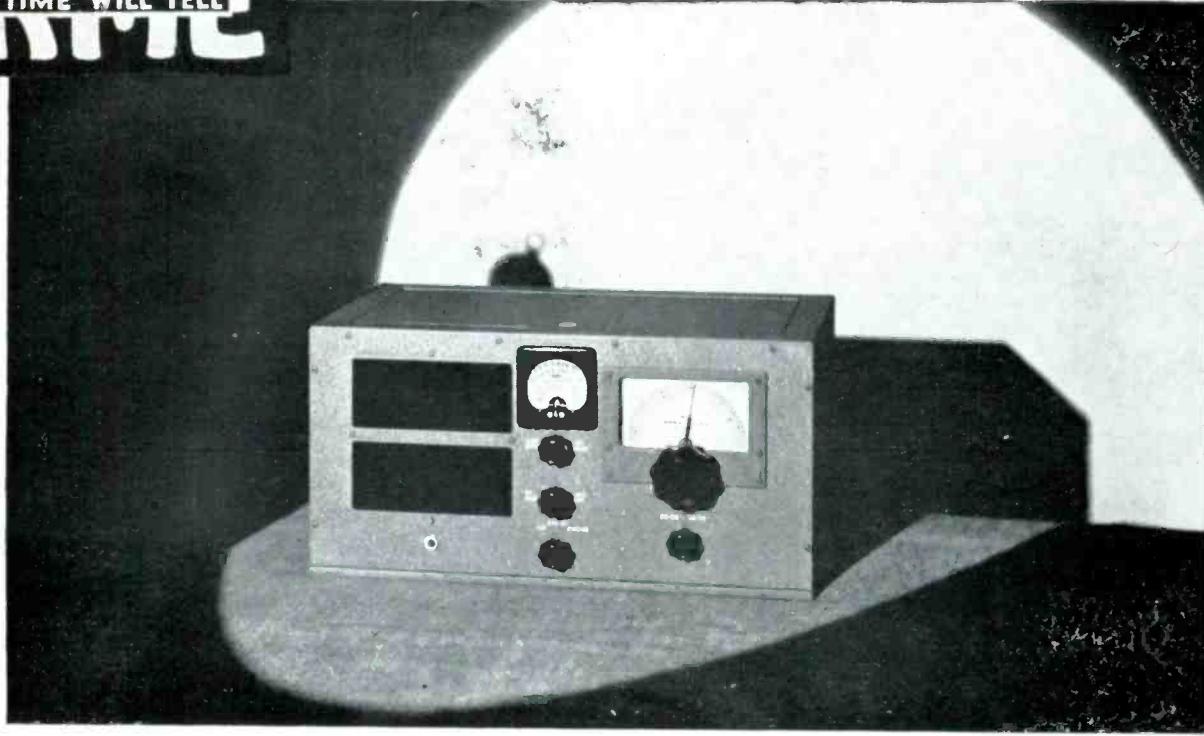
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Our new catalog, No. 303, describing our full line of amateur communication equipment will be mailed on request.

NATIONAL COMPANY, INC., MALDEN, MASS.



JOURNAL



VOLUME 7 ISSUE 3

MARCH 1940

ALL ABOUT AMATEUR RADIO

Or, How to Be a Ham in One Easy Lesson

By TOM GOOTEE, Chicago

Amateur radio is closely allied with the business of broadcasting, and the progresses of radio art. Yet it still remains an interesting hobby and avocation. Its members include not only many radio operators and engineers, but people from all walks of life who have a technical interest in radio. Some of your best friends may be radio amateurs.

But there is a vast number of persons who have only a vague conception of what Ham Radio is all about, and who may have a desire to become a radio amateur. It is for such persons that this article is directed, with a view toward giving them a glimpse behind the complex web of mystery that surrounds Ham Radio.

First of all, let us assume that you are interested in becoming a radio amateur. For many years you have been content to spin the dials on your home receiver, tuning in stations here and there—but purely for entertainment purposes. Occasionally you may have been successful in picking up a distant station on your set. Then you experienced a strange wistful feeling, known in technical circles as "DX Fever". Then one night a tube blew out in your receiver, and you cautiously opened the top and peered into the labyrinth of wires and radio parts. You were probably amazed at what you saw, besides the dust. After moving a few wires and pushing small condensers and resistors around, the set still refused to work. Then you started interchanging tubes, and you discovered that a power tube would not work in a rectifier socket, and vice versa. You were indeed puzzled by the complex circuit, and that was when you first became interested in the technical side of radio.

After you had called in a radio service man, had the set fixed, and paid eight dollars for tube replacements, you probably said to yourself: "I wish I knew all about radio." Then, after giving the subject careful consideration for several days, you decided to become a radio amateur.

That is where our story begins.

You stuck your foot into it, and from now on you have no one to blame but yourself.

There are two general types of amateurs. One group uses voice or speech in their transmissions, and are known as Radiotelephone or Fone² stations. The second group, known as the

"old Guard", uses only the morse code. It should be noted that there are several dialects of the conventional morse code, as well as varying speeds of transmission. All amateurs must know the code however, whether he operates a Fone or Code Station.

The main purpose in operating an amateur station is to "work"³ other amateur stations, especially in foreign countries. The general procedure is to tune up the transmitter to a frequency within the Ham Bands, and call: "CQ"⁴. After transmitting this call on the air, the amateur then tunes back and forth on his receiver listening for an answer from another Ham. Once the contact has been made, the two participants can then start an uninteresting conversation about (a) their own transmitters, (b) the weather, (c) their own transmitters, (d) quality of reception, (e) their own transmitters, or (f) impersonal messages.

The first step for you to take, as a prospective radio amateur, is a visit to a local Ham Club.

If you live in a large town or city there are undoubtedly many such clubs, and the Hams will be glad to have you visit them. At these meetings you will gain a deep insight into the inner workings of the average radio amateur. Someone is always panning someone else's equipment, and a general note of skepticism exists at all times. Salesmen and representatives of radio manufacturers, who may occasionally visit the Club with a view toward boosting sales of their product, are thoroughly lambasted—and defects in the product (many of which were never known before) are brought up for discussion by the hams present.

Local radio Clubs are also desirable stomping grounds for local politicians. No explanation has ever been given for this; but it is probably due to the general feeling (among politicians) that radio amateurs have a high IQ rating⁵. At most Club meetings it is proper etiquette for the room to be divided in half, republicans sitting on the right side facing the speaker, democrats on the left side. Socialists, laborites and others will have to stand in the back.

After you have attended a meeting of the local Club, the next step is to actually visit a real Amateur Station.

1. Not to be confused with DX Gasoline.
2. Probably derived from "foam", as in hydrophobia.
3. A misnomer; no work is involved.

4. From the Latin, meaning "Won't somebody PLEASE answer me?"
5. Not to be confused with a DX rating.

All Hams are usually anxious to show their equipment to beginners, and will sometimes explain the inner workings of their equipment (if they happen to know, themselves). Amateur rigs⁶ are assembled according to the builder's taste, and you will probably be surprised to see how versatile some amateurs have become in designing radio equipment.

To show your interest, when visiting a Ham station, it is always proper to ask intelligent questions so that the amateur will appreciate your sincerity. Such as, "Let's see you work Europe!" "I'd like to talk to my cousin in Seattle", or "Why do the meters jiggle when you talk in the microphone?"

Always point to any object being referred to on the transmitter, and, if necessary, touch the object. Remember to keep one hand in your pocket when this is done, in order to avoid slight shock.

When the amateur has a CW⁷ station he will generally wear earphones, or "cans"⁸ when working other stations. It is always polite to lift one of the cans and yell: "What's he saying?" Then let the can snap back on the operator's ear.

After you have visited several stations you will become more familiar with the equipment, and you will be able to draw sparks from the tank coil with an ordinary pencil. This is known as an arc⁹, and should be made while the amateur is transmitting. You will be surprised to see the wild manner in which the meters will jump around, as well as the Ham operator.

The next step in becoming a radio amateur is to buy a copy of the Radio Handbook. This is a voluminous and comprehensive book issued yearly for Hams. It not only contains all that a Ham should know, but more than he probably ever will know. The usual routine is for the amateur to take a new issue and study each of the chapters with great care. He usually attempts to build as many of the contrivances and gadgets that his pocket-book will permit. By the time he is half-way through the book a new edition is out—and then he has to start all over again. A monthly magazine, called "Q-S-T", supplements the annual Handbook, and serves to bolster any lagging interest in amateur radio. The magazine has many useful purposes, and many Hams keep complete files for reference purposes. In this respect it has been found that it takes about sixty-five copies to prop up a kitchen-sink, and a smaller number can be used equally as well for weather-stripping.

After you have visited several Ham stations and read through the Handbook, you will be ready to start into Amateur Radio by yourself.

First of all, select a small space in your home for your future Radio Den. It is considered good practice to utilize the most unlikely place in the house, but some Hams still prefer the basement or the attic. It is possible to build the entire transmitter and receiver into a huge, modernistic radio console which can be placed in the living-room. The transmitter can also be built into an icebox or electric refrigerator; this will eliminate the necessity of cooling the power tubes, which get quite hot sometimes.

Another good idea is to tear out a wall in your bathroom, and then build the transmitter in the space adjacent to the bathtub.

After selecting a good site, you are ready to acquire your first important piece of equipment: the Junkbox.¹⁰

6. Rig, as in the cordage system of rigging on a vessel.
7. CW, meaning Cockeyed Waveform.
8. Earphones were originally made from old tomato cans, and the name has been used ever since.
9. After Noah.
10. From the Chinese, meaning Miscellanea.

A good Junkbox is a very necessary piece of equipment. The box, or carton, should be very large and durable. You can start out with a small box, but in time you will find that a much larger Junkbox is needed, and you will eventually wind up with an over-sized piano box.

You now proceed to fill your Junkbox. A visit to your local radio parts store should be made as soon as possible. Take plenty of cash, and buy up all the available "bargains"¹¹ on sale by the store. These "bargains" will usually contain many obsolete and unusual parts of all sizes, when taken apart, which can be placed in your junkbox. It is also necessary to save all screws, nuts and bolts—placing these in the Junkbox also. "Bargains" can also be purchased from other Hams, who will be more than glad to sell you anything that they are unable to use. All of these miscellaneous parts and pieces are carefully preserved until such a time when you will be ready to proceed with full-time construction work on your transmitter or receiver.

Next, you will want to be adequately supplied with the proper tools. You will need a small screw-driver, a pair of pliers, a Stillson wrench, a blowtorch, ice tongs, an electric drill, a large hammer and a bicycle pump.

Now you are ready to begin actual construction. Start reading your handbook, and construct as much of the equipment shown as possible—beginning with simple audio oscillators, and gradually progressing toward bigger and better things. In purchasing or otherwise acquiring parts, to be used in construction work, it is a rule never to use exactly the part called for. Whenever possible, substitute parts. When a 200 ohm resistor is suggested, use a 300 ohm resistor. It will probably work just as well.

Gradually you will begin building larger pieces of apparatus, until finally you are ready to build your complete transmitter. This construction work should be taken very seriously, and should incorporate all the helpful hints and suggestions offered by other hams, as well as any original ideas you might care to use.

If you decide to build a Fone station, you will want to have High-Fidelity¹². High-Fidelity, in Ham parlance, means that the equipment will have perfect frequency response for all frequencies between 800 and 1500 cycles.

A Ham transmitter can be operated with any power not exceeding 1000 watts. To determine how powerful your transmitter is, measure the amount of input power (from the electric light mains) to the equipment, and divide by 100.¹³ For example, for 100 watts input you will probably get about 1 watt input, and etc.

Frequency-modulated transmitters are the very latest things for Hams to experiment with, and this is accomplished by amateurs in a very unique manner. With the transmitter functioning normally (with amplitude modulation), the entire equipment (relay rack, tubes, chassis, etc.) is set into oscillation so that it vibrates at a certain frequency. The combination of mechanical vibrations and the normal modulation will result in frequency-modulation, according to some amateurs.¹⁴

After completing your transmitter you will want to erect a suitable antenna. Amateurs favor unusual types of antennas in general, and they will vary somewhat from the normal types shown in the Handbook. Information about antennas can be picked up quite easily. Any local Ham club will supply thou-

continued on page 30

11. From the Greek, meaning worthless, or n. g.
12. A quantity similar to Infinity; approached, but never reached.
13. Power formula derived by Dr. Killfidget, 1908.
14. Mr. R. Bierman, and Others.

ATE AMATEUR CALLS

*Denotes Inactive

Call	Name	Frequencies	Phone or CW	Power	Call	Name	Frequencies	Phone or CW	Power
W1ZL	Carl Warren (Anncr.) Bridgeport, Conn.	10-20	Phone CW	50	*W2BIH	A. A. Walsh (Dev) 1403 Milford Terr. West Englewood, N. J.	56 MC	Phone	150
*W2ABD	Carlos Clark 114 Burtis Ave. Rockville Center, L. I.				W2BRR	T. J. Buzalski 113 South Union Avenue Cranford, N. J.	14294	Evenings 7-10 EST	
W2ADD	Paul Reveal Jersey City, N. J.	20	Phone	250	W2BNL	Edwin C. Wilbur (Telev.) 1020 Emerson Avenue W. Englewood, N. J.	1922	CW	150
W2ADL	R. W. Pickard (Telev) 44 Clifford Street East Orange, N. J.	7 MC 14 28	CW	300			3766	CW	150
W2ADQ	Jim Shannon Sunnyside, L. I., N. Y.	20	CW	750			3829	Phone	150
W2AEB	Irving C. Grabo (NYFE) Glen Ridge, N. J.	14384	CW	100			3939	Phone	150
W2AID	M. D. Holland (WEAF)	7096 7138 14192 14200 14276	CW CW Phone Phone CW	75			3993	CW	150
							7101	CW	150
							7119	CW	150
							7126	Phone	150
							14166	Phone	150
							14202	Phone	150
							14238	CW	150
							14252	Phone	150
							28332	Phone	175
							28404	Phone	50
							58000		300
W2AIS	H. P. Miller Mamaroneck, N. Y.	10-20-40	Phone CW	100	*W2BWT	R. F. Schuetz (Aud. Facil.) 94 Rocky Wood Rd. Manhasset, N. Y.			
*W2AK	R. F. Guy (R. F. Engr.) 370 Tyron Avenue Englewood, N. J.	3.5 MC 7 14		200	W2BXY	E. Gundrum (Maint) 307 Cherry Street Elizabeth, N. J.	14050	CW	500
W2AKQ	S. L. Peck (Telev) 80 Maryland Ave. Freeport, L. I.	3.5 MC 7 14					14244	Phone	500
W2ALB	G. M. Sellar (Contl) 89-86 221 Street Queens Village, L. I.	80-40-20 Any Freq.		300			14298	CW	500
W2ALD	Ray O'Neil	5-80	Phone CW				14198	Phone	500
W2AMG	P. J. Gallant (Opr Supr) 341 Harvard Avenue Rockville Center, N. Y.	14 MC					14088	CW	500
*W2AMQ	Fred Walworth (NYFE) 3025 154th St. Flushing, L. I.		CW & Phone	1 KW	*W2CEF	Walter E. Mullaney (Field) 94 Lincoln Avenue Woodridge, N. J.			
W2AMS	H. Treger (WJZ) 1100 E. Front St. Plainfield, N. J.	14 MC 28 MC		750	*W2CHG	J. A. Wies (Field) 3022 90th Street Jackson Heights, N. Y.			
W2ARB	John J. Kulik (Contl) 12 Heights Rd. Clifton, N. J.	14002 14336 14394	CW CW CW		*W2CRA	A. J. Waddell (Maint)			
*W2AUR	E. Stolzenberger (NYME)		CW	100	*W2CSX	Harold P. See (Television) 114-57 175th Place St. Albans, L. I., N. Y.			
W2AWU	J. H. Gullans (WJZ) 1357 Marlborough Ave. Plainfield, N. J.	14000 14024 14340 14398 14212 28000 28680 28796 56000	Phone CW Phone CW Phone Phone Phone		W2CTQ	R. H. Davis Dumont, N. J.	10-20	Phone CW	100
					W2CUZ	Don Whittemore (Field) 50 Briggs Avenue Yonkers, N. Y.	28004 28564 29216 29920 56008 112 MC	Phone, CW Phone, CW Phone, CW Phone, CW Phone, CW Phone	60 60 60 60 90 70
					*W2DCB	J. J. Lombardi (WEAF) 284 N. Grand Avenue Baldwin, N. Y.	7100 14200	CW CW	550 550
					*W2DEL	H. C. Mosher (WGY Studio) 144 South Country Club Dr. Schenectady, N. Y.			
					*W2DHA	W. J. Kelly (Studio) 25-30 154th Street Flushing, L. I.	14120	KC CW	50

Call	Name	Frequencies	Phone or CW	Power	Call	Name	Frequencies	Phone or CW	Power
*W2DIT	J. M. Flynn (WEAF) Brookside Avenue Wantagh, N. Y.	7100 14200	CW CW	75 75	W2IPG	W. T. Pooler 26-35 4th Street Astoria, N. Y.	7 MC 14 MC 56 MC	CW CW Phone	800 800 35
*W2DWS	H. Young (Studio) 132 Midland Avenue Yonkers, N. Y.				W2IUU	G. R. Butler (FE) 2116 Dorchester Road Brooklyn, N. Y.	3500 7000	Phone Phone	100 100
W2DZR	H. L. Grelck (Studio) 528 81st Street Brooklyn, N. Y.	14228 14374		600 600	*W2JDZ	F. R. Rojas (Control)			
W2EGD	C. A. Snell (Field) 4915 Broadway (Const.) New York City	57.9 MC 28 MC	Phone Constructing	40	W2JJ	J. B. Knight, Jr. (Telev) East Orange, N. J.	14016 14254 14310 14160 14244	CW CW CW Phone Phone	1 KW
W2EOA	Chas. Kibling	10-20-40	Phone	CW	*W2JRY	H. E. Wheeler (WGY Studio) 1369 Clifton Park Rd. Schenectady, N. Y.	1000 250		
W2HXQ	Rye, N. Y.	80-160	Phone		W2JTB	Don Hale Woodside, L. I., N. Y.	14350 kc	20 CW	100
W2EP	Arthur C. Holub (NY Contd) Duquesne Ter Union, N. J.	14 MC		100	W2KBA	V. S. Barker (Television) 4714 261st Street Great Neck, N. Y.	14008 14320	CW CW	600 600
W2FED	J. V. Coleman (Field) 339 Lincoln Place Brooklyn, N. Y.	56 MC 14 MC 28 MC	Portable CW-Phone Mobile	2	W2KDF	S. K. Heffernan 8267 Austin Street Kew Gardens, Long Island, N. Y.	80-40-20-10	Phone, CW	200
W2GSY	F. G. Connolly (Studio) 364 E. 197 Street Bronx, N. Y.	56 MC			W2KJI	R. J. Plaisted	7087 7135 7140 7145 7291	CW	400
*W2HAT	B. F. Fredendall (Aud. Facil) 7320 Austin Street Forest Hills, N. Y.				W2KGO	Jim O'Connor Kew Gardens, L. I., N. Y.	20	Phone CW	100
W2HEJ	M. A. Lewis (Maint) 502 Fairview Terrace Ridgefield, N. J.	3.5 MC 28 MC 56 MC	CW Phone	50 50	W2KP	N. Hagnmann (WJZ) 519 Randolph Road Plainfield, N. J.	14024 14360 28048 28720	CW CW CW CW	200
W2HIO	P. F. Falcone (Studio) 1933 Lurting Avenue New York		Phone	50	W2KPG	Howard Donniez Maplewood, N. J.	20	Phone	100
W2HJG	L. R. Tower Maplewood, N. J.	80	Phone	150	W2KPR	Cy Samuelson Jersey City	Inactive		
W2HJY	Jim Carter Hollis, L. I., N. Y.	20-40	CW	350	W2LEJ	Dick Dorrance (Press Dept.) New York City	20	Phone	100
W2HZO	Ralph J. Reid (Studio) Hotel Wellington New York		Phone-CW	200 200W	W2LPK	William H. Glasscock 117-14 Union Turnpike Kew Gardens, L. I.	20	CW & Phone	
W2ICX	R. A. Schlegel Manhasset, L. I., N. Y.	10-20 40 160	CW Phone	750 2 (!)	W2LV	R. M. Morris (Dev. Engr.) 22 Mt. View Rd. Millburn, N. J.	3800 3947 3961 3990 4100 14320	CW Phone Phone Phone CW CW	800 800 800 800 400 400
W2IHI	John N. Fricker (Field) 329 Wayne Terrace Union, N. J.	3570 3590 7140 7180 7198 14280 14360 14396	CW CW CW CW CW CW CW CW	1 KW 1 KW 1 KW 1 KW 1 KW 1 KW 1 KW 1 KW	W2LXR	Paul Anderson (WJZ) Scotch Plains, N. J.	14200 28675 29175 20-40	Phone Phone Phone CW	400 400 400 400
*W2INB	R. D. Chipp (Telev.)				W2IZD	Ed Scatterday Sunnyside, L. I., N. Y.	20-40	CW	400
W2IOX	Robert G. Johnston Michigan Avenue Massapequa, N. Y.	56 MC	Phone	10					
W2IP	C. Harold Campbell (NYFE) 16 Millington Street Mt. Vernon, N. Y.	14232 14284 28060 56.63	150 CW & Phone						

Call	Name	Frequencies	Phone or CW	Power	Call	Name	Frequencies	Phone or CW	Power
W2NX	E. Costello 76-09 34th Ave., Jackson Heights	29064	Phone	175	W3HN	S. E. Newman (Washn)	3570 3930 7140 14280 14236 14222 14320 14396	1 KW 1 KW 1 KW 1 KW 1 KW 1 KW 1 KW 1 KW	
*W2SH	Herman Berger Irvington, N. J.								
*W2SJ	R. K. Strong (Schenectady) 223 James Street Scotia, N. Y.				W3QUC	J. F. Hackett (CSE) Berea, Ohio	14042 14244	CW Phone	700
*W2VI	Arthur Giannatto (WEAF)	7150		75	W6ACX	James Ball (KGO)	3570 7140 14280 20 meter	Phone Phone	100
W2VY	George W. E. Shields (NYSE) 12 Annette Ave. Merrick, L. I.	14MC 14399 14380 14336 14300 14280 14256 14004	CW	800	W6ADI	J. W. Summers (SF)	1994.5 1907		600 100
W2WY	G. R. Windham (Studio)* 26-24 91st Street Jackson Hts., N. Y.				W6ARX	R. M. Moore, Telvn. K. V. Dilts (KFI TE)	14 MC ECO 7-14 MC 14380	Phone CW CW	25 45 900
W2XEJ	See W2CUZ				*W6CBK	G. W. Curran KFI-KECA Dev. Engr.	14-28 MC		
W2XER	See W2CUZ				W6CFQ	F. Fullaway (SF Studio) USNR	7030	CW	150
W2ZA	G. O. Milne (Div. Engr.) 487 Marlboro Rd. Woodridge, N. J.	3570 7140 14056 14280 14185 14385 28054 28770	CW	800	W6CRO	Henry Dunton (KGO)	7103	CW	1000
W3ANJ	W. L. Godwin (Washn)	14220 14280 14238 3570 7140	CW & Phone CW & Phone CW & Phone CW & Phone CW & Phone	125 125 125 125 125	*W6DO	G. B. McIlwain (SF field)	20-40 10	Phone CW	125 100
W3AOH	Henry J. Geist (NY Maint.) 3 Cove View Terrace Stamford, Conn.	3570 3700 3910 3980 14010 14154 14280 Mobile Unit 28654	CW CW Phone Phone CW Phone CW Phone	1 KW 1 KW 600 600 1 KW 600 1 KW 30	*W6DOE	L. M. Jones, KFI-KECA SE			
*W3BST	B. E. Stahl Lieut. JG Pounds brass	USNR NAA	CW		*W6DSC	C. R. Estep, KECA TE			
W3CEJ	Frank Fugazzi (Wash)	7109			*W6DZP	Earl Sorenson (Hlyd ME) 1238 El Centro Hollywood, Calif.	14,365	CW	500
*W3CKH	W. L. Simmons (Wash)		Phone		*W6FHO	J. L. Smith, KECA TE			
*W3ESL	R. W. Chapman (Wash)	5 & 75 meter	CW	200	W6GIS	J. A. O'Neil (SF)	7-14-28 MC	CW	
W3HAP	C. P. Sweeney (Telev) 16 Jackson Avenue Chatham, N. J.	2384 2484 3590 7080 7180 14200 14230 14360	CW CW CW CW CW Phone CW Phone	200 200 200 200 200 200 200 300	W6GP	C. W. Seamans KFI-KECA Supr.	14 MC	CW	3
W3HIH	John Larson (NY Field) 10 Madison Street Princeton, N. J.	20-40-80	CW	200	*W6GVE	Robert O. Brooke (Hlyd SE) ex 4649 Beverly Blvd. Los Angeles, Calif.			
					W9CH			CW	250
					W6HSC	M. O. Smith (Hlyd Ref. Rec.)	14,270	CW	
						4217 Teesdale Ave. No. Hollywood, Calif.			250
					W6IY	E. L. Parkhurst (SF Maint)	315-7 MC	CW	
					W6IX	F. W. Everett (KFI-KECA SE)	ECO 14-28 MC	CW	350
					W6JD	C. W. Mason (KFI-KECA CE) (Lt. USNR)	3530 3580 3644 7060 7160 7288	CW CW CW CW CW CW	800 20

Call	Name	Frequencies	Phone or CW	Power	Call	Name	Frequencies	Phone or CW	Power
W6JJ	A. E. Eldredge (KGO)	3570 7140 14280 3905 14220 14244	Phone Phone	700 1 KW	*W6PBU	L.E. Fritzinger, KFI-KECA SE	14224	CW	50
W6KIP	W. H. Alexander (KFI-KECA SE)	7-14-28 MC	CW CW	500 25	W6QED	Ted Hediger (Hlyd Dir)	28 MC 14 MC	Phone and CW	300
W6KL	H. M. McDonald KFI-KECA Supr.	7140	CW	10	W9FK	Westwood, Calif.			
W6KLM	F. L. Barron (SFSE)		CW	350	W6SQ	K. G. Morrison (SF)	14 MC 56 MC	600-100 Phone, CW	Moving 200
W6KLU	H. S. Christensen (KFI TE)	7020 14040 14385 28080 3959 14208 28840	CW CW CW CW Phone Phone Phone	350 420	W6VH	James Brown (Hlyd ME)	1122 Carmona Avenue Los Angeles, Calif.	ATE CW	200
W6KM	W. H. McAuley (KPO)	20 meter Occasional	CW CW	50	W8CMY	F. C. Everett, WTAM TE	Brecksville, Ohio, 80 phone, inactive.		
W6KO N6KO	E. C. Callahan (SF Field) USNR (Lt. jg.)	40-80			W8DBC	Grant Makinson (WTAM)	3570 & Mult. Bedford, Ohio	CW CW and Phone 3995 14,216 14,157	600 Phone
W6LXS	G. W. Tokar (KFI TE)	7200 1889 28800	Phone CW Phone	50	W8DHF	A. B. Stewart, WTAM TE	Independence, Ohio, 20, 40, 80, 160, 250 watts.		
*W6MY	E. E. Jefferson (SF)		Phone-CW		W8DUC	C. S. Bidlack, Cleveland SE	flea power but no information.		
*W6NAD	C. Peck (SF Engr. in Chg.)	40-80	Phone	200	W8FP	F. E. Whittam, Cleveland SE	6L6 oscillator, 807 doubler, 809 buffer 2-35Ts push pull, frequency 3502 and multiples, 3570 and multiples input 50 watts, output one prayer on all calls, 1/2 wave center fed zapp 7 mc., modulator for phone built but not installed.		
W6OE	S. F. Johnson KFI-KECA Opr. Supr.	28 MC	Phone	20	*W8GLX	A. H. Butter (WTAM)	Brecksville, Ohio		
W6OMN	R. Walling, KFI TE (Lt. USNR)	3510 7020 14380	CW CW CW	225	W8GTG	T. C. Cox (CSE)	1950 3923 14245	Phone	400
W6OSH ex W2CGO	Al Korb (Hlyd ME) 904 Fairmont Road Burbank, Calif.	EC 28 MC EC 14 MC	Phone and CW Phone and CW	200	W8LEX	H. B. Caskey, Cleveland, Cleveland SE	CW only, electron coupled oscillator 300 watts input all CW bands, only on occasionally, mostly 20.		
*W6PC	L. W. Packard, KFI TE				*W8LJM	S. E. Leonard (Eng. in chg.)	Cleveland Hts., Ohio		
W6PHS	R. T. Parks (KGO)	7140 14280 7000 14,000 7200 14400	CW	1 KW	W8LLG	J. D. Disbrow (Opr. Supr.)	3570 7140 7169 14280 14338	500	
W6PKA ex W2FE	Carl Lorenz (Hlyd SE) 938 No. Magnolia Ave. Burbank, Calif.	EC 28 MC EC 14 MC	CW CW	1 KW	W8QUC	J. F. Hackett, Brecksville, O., Cleveland SE, 807 osc., 807 dbl., 808 amp., 805s PP final, 700 watts input CW, will have 500 watt cathode fone in near future, 1/2 wave Q antenna, freq. 14244 phone, 14042 CW.			
					W8RU	J. A. Cheeks, Brecksville, O., WTAM TE	20, 40, 80, CW; 180 watts.		
					*W9AFA	Ralph Brooks (Chgo. ME)	Downers Grove, Ill.		

Call	Name	Frequencies	Phone or CW	Power	Call	Name	Frequencies	Phone or CW	Power
*W9AL	T. G. Bombaugh (Chgo. TE) Downers Grove, Ill.				W9GY	J. H. Platz (Jr. Supr.) Elmhurst, Ill.	80-40-20-10 E. C. O. and Xtal.	CW-Phone	350
*W9AT	E. A. MacCormack (SE) Wheaton, Ill.				W9IAH	A. L. Hockin (SE)	40-20	CW	200
*W9BG	Paul Clark (Jr. Sup.) Niles Center, Ill.				*W9IHY	W. F. McDonnell (TE) Downers Grove, Ill.			
W9BGI	Vern Mills (SE) Bellwood, Ill.	14,190	Phone	150	W9IWV	M. W. Rife (Field Supr.) Chicago, Ill.	80 56 MC	Phone-CW Phone-CW	150 2
W9BU	W. K. Cole (Relief Supr.) Niles Center, Ill.	14,208 14230	Phone and CW	600	W9IVD	Gale Swift (Music) Chicago, Ill.	20-40-80	CW and Phone	200
W9CIU	F. C. Shidell (SE) Elmhurst, Ill.	80-40-20-10	CW and Phone	400	W9JIR	G. E. Webster (SE) Park Ridge, Ill.	7,104 14,210	CW Phone	200 50
W9CP	J. R. Miller (Sr. Sup.) Hammond, Ind.	40-20-10	CW-Phone	550	W9KQS	M. J. Wilson (SE) Bellwood, Ill.	14,352	CW-Phone	550
W9CQI	R. C. Bierman (SE) Westchester, Ill.	14,200	Phone	40	W9LEP	H. T. White (ME) (Chgo.) Evanston, Ill.	40 10-10	CW Phone	350 150
W9CTN	C. V. Corliss (SE) Homewood, Ill.	80-20	Phone	200	W9MV	Paul Moore (Transmission)	40-20-10	CW	750
W9CZR	Frank Nelson (Denver)	14,300 14,200	CW Phone	150 150	*W9PI HX12B	Harold Austin (Dev.) Sect. Cont. Station for Sect. 8, 12th Naval District	28,500	Phone 70 watts to 809	
W9DBT	R. B. Whitnah (SE)	20-40	CW	75	W9QKW	Russ Thompson (Denver)	14,238	Ph. 70 watts to 807's	
*W9DEJ	Andy Forgach (TE) Downers Grove, Ill.				*W9RDE	H. R. Rawson (TE) Downers Grove, Ill.			
*W9DQ	Homer Courchene WENR-WLS				W9RUK	M. H. Eichorst (Relief Supr.)	20-10	Phone	400
*W9DQM	R. R. Jensen (SE) Chicago, Ill.				W9SBC	T. E. Schreyer (Opr. Supr.)	80-40-20	CW and Phone	150
W9DSD	Al McClellen (Denver)	14,000 28,000	Phone	400 200 wts to 242	W9SGM	Jules Herbaveaux (Prog. Mg.)	14,200	CW and Phone	600
W9EYN	Joe Rohrer (Denver)	14,246	Ph.	200 watts to 242A	W9TPJ	H. D. Royston (FE) Chicago, Ill.	56 MC		35
W9FKQ	Garland Dutton (Denver)	14,228 14,266	Ph.	200 watts to 203A CW	*W9UXZ	Bill Williams (Denver)	56 & 28 MC		25 watts to 809
W9FQ N9FQ	Wilbur Cummings (FE) Chicago, Ill.	3650 7070 14,360	CW	50 50 50	W9VNW	Rex Maupin (Music Dir.) Evanston, Ill.	7,012 7,096 7,118 7,177 7,284 14,024 14,192 14,236 14,354	CW Phone	325 135
W9GG	R. D. Wehrheim (ME) Winnetka, Ill.	7125 7284	CW	450 450	W9WC	W. O. Conrad (Relief Supr.)	ECO	CW and Phone	150
W9GN	R. S. Davis (Relief Supr.) Oak Park, Ill.	10-20-40	CW	150	*W9WRB	R. A. Limberg (FE) Highland Park, Ill.			
					W9WS	R. B. Sturgis (Relief Supr.)	40-20-10	CW and Phone	160
					N9FA	Glen Glasscock (Denver)	3,570 7,140	CW	500

STRIDES IN AMATEUR RADIO

HOGANSWORTH, MCGILLBANE, and SANDS

It is interesting to review the new developments that have been made in amateur radio in the last few years. Until a short time ago it was believed that amateur radio was definitely on the wane, at least in most countries due to the necessity of conserving frequencies for commercial work, government propaganda, and other well known reasons.

However, the now classic work of Hogansworth, McGillbane and Sands, who developed respectively the systems of modulation, frequency control and directive antennas; which was independently done has now been consolidated by the thousands of experiments made possible by radio amateurs.

Hogansworth and McGillbane demonstrated that modulation was possible in the L, L₁, L₂, etc., regions, making the simultaneous operation of any number of stations on one given frequency. This can best be realized by the methods used to demonstrate the fourth dimension. Mathematically it is very easy to demonstrate any number of dimensions although hard to illustrate more than three or possibly four in practice, presuming that time represents the fourth dimension. Such difficulties were originally found in radio theory, but since radio waves are not tangible there was not the resistance to the possibility of several "dimensions" in radio, and the development work so far done seems to indicate an almost limitless number of frequency bands available by merely going into another "dimension" electrically. Hogansworth's fine mathematical treatise needed only McGillbane's development of the synthetic "crystals" or circuit elements, now made possible cheaply through injection moulding of the synthetic plastics, to realize the fondest hopes of radio men. These synthetic crystals were so efficient that it was possible to control high power directly with them, making the former line up of low power tubes in an increasing series no longer necessary. Then the adaptation of the synthetic crystals to circuit elements soon followed since the injection moulding made possible exact duplication so that no tuning was necessary, either in frequency or to determine in which L region the suppressed carrier would radiate. It is now possible to buy at any radio store a complete transmitter, except for tubes and power supply, which measures only a few inches in any dimension. Several makes are available and all seem to operate well.

There was considerable dissatisfaction that the amateur representatives were only able to obtain the entire L₃ region, since it appears that there will be an almost unlimited number of L regions in which radio transmission and reception is possible, but it appears that there will be sufficient room in the L₃ region, embracing as it does the entire frequency band, to take care of expansion for a long time to come. Since there are so many

frequencies available, more than one L region available might have been an actual detriment to amateur radio, since it would have so scattered the stations that contact might have been difficult with the highly directional antennas in use.

Sands' new antennas were suitable for the old type of transmission as well as in the various L regions. This new type of radiator is very compact and very directional and is a fine complement to the compact transmitters. Several commercial types are on the market and like the transmitter elements are very nominal in cost and can easily be shifted in frequency.

Some of the thrill of amateur radio has undoubtedly suffered in the ease with which various continents and countries may be worked, since the correct frequency and direction of antenna may be used, but since the correct parameters must be chosen, there is still enough skill and patience involved to make good work a question of temperament and courtesy, as always.

Phone has received decided impetus with the increase of space available and the fine directivity of antennas, but there is still a lot of code, although it too is a form of modulation, since a steady tone is keyed in the manner of ICW to take advantage of the modulation into the L regions.

Tremendous decrease in cost, due to the developments of tubes suitable to the new synthetic circuit elements and antennas has resulted in almost a threefold increase in the number of amateurs with some bad effects. Notable among these was the placing of high power equipment in the hands of the inexperienced, which caused numerous cases of overmodulation and extraneous transmission in the wrong regions, but new regulations by the Commission are expected to stamp out the last stubborn cases of trouble.

True, there are a number of discrepancies to be explained in the L₃ region now in use by amateurs, but they appear to be due to disturbances in the solar system of a more or less intermittent nature and whenever one set of frequencies becomes "dead", it is usually possible to continue over another set. The compact synthetic crystals have made switching very easy and inexpensive so the difficulties are not as great as might have previously been feared.

A great amount of experimental and development work remains to be done, but the fundamentals seem to have been worked out without great changes to be expected. Such changes will not be on as great a scale as when it was necessary to change all transmitters and receivers especially when broadcasting was transferred to the L₃ region and television to the L₆.

Any similarity to existing persons and equipment is highly improbable and very insulting.

SCHENECTADY

By H. C. MOSHER

Although we have little snow in this vicinity we have more than paid for it with extremely cold weather. January of this year was the coldest month we have had in many years. It was so cold that even Pete Narkon, Howard Wheeler, and Ray Strong had no desire to do their usual ice fishing.

We did get a good break Feb. 2, 3, and 4 when Schenectady held its winter carnival at Central Park. Those three days were clear with the mercury hovering around 20 above zero which was ideal for the contestants in the North American speed skating contests. Although the skaters enjoyed it, some of our staff found it plenty cold to stand around to broadcast important events. Bernard Cruger, Ken Durkee, and Al Knapp did an excellent job with the pack transmitters picking up the comments of Al Zink, and Tommy Martin. When available time permitted, each important event was broadcast. When time was not available, the event was sent to the master control room where it was transcribed for future broadcasting. Everybody on the staff cooperated to the best of his ability—there was not a break or hitch in the three days' activities. Al had Ken worried a little at the start. It seems that each time Al moved he fell down, pack transmitter and all. It wasn't any injury to Al that worried Ken as much as it was the damage he might do to the transmitter! Al didn't seem to mind it and always managed to keep his transmitter off the ice. He eventually got used to the ice and did an excellent job of describing the events and interviewing the contestants.

Howard Wheeler is getting ready to make a trip to Lake Placid for a Lowell Thomas broadcast. He is taking along all his photographic equipment so we are looking forward to seeing some good pictures.

Many of the local fellows are going in for ice skating. Ray and Mrs. Strong, Mose and Mrs. Mosher, and Ken Durkee have been out a few times. Then the triplets picked up some bug at school which required all the Strong's attention. We are glad to report they are much better. Spring will surely be welcomed here as the epidemics of colds and gripe are getting us all down. How about swapping some ice for sunshine, Hollywood? No, we don't want rain!

There has been some stiff competition these last few weeks in the WGY bowling league. Week before last the Squeals and Faders tied for first place, the Whistles and Howls tied for second, with the Statics and Ripples close behind in third and fourth. Last week the Squeals were fortunate enough to step out in the lead. Far be it from me to predict the WGY Champions this year. Although the Whistles and Faders are strong teams and have been consistently near the top, the Squeals have taken 20 of their last 27 games.

Al Knapp (CS) and Mrs. Knapp have been shopping around for a building site. It is rumored that they have selected a choice location on the Vedder estate, Rosedale Road, just outside the city.

AT SOUTH SCHENECTADY

When R. K. Baker is not pursuing his hobby of raising pedigree bulldogs he is riding around in his new Dodge. Naturally that leaves no time for amateur radio activities . . . Jim Clossen has given up his ham ticket and now spends his spare time fishing through the ice, or raising English setters. (That makes

two dog fanciers among our TE's.) . . . George Hoffer is still very busy with his NCR work. His 1 KW rig, using the call W2AVG, can be heard almost any place in the country on 3530 Kc. George says he enjoyed his trip to the west coast last July. It was a real pleasure to get into a navy plane after flying around in various crates for the past ten years . . . K. M. Hollingsworth like the outdoors—especially skiing. Or you might find him in his dark room making pictures, unless he is doing his stuff at some rollerskating rink . . . Although Harold Jones has no ham transmitter he boasts a new RME 69 Receiver. The next thing you know he'll have a transmitter! . . . T. (Pete) Like has a hard time keeping the boys at south on the straight and narrow path. However the fellows say he is the best stockroom attendant in the business . . . H. Lingle (W2KWF) has beautiful ham layout consisting of a modified Browning electron-coupled exciter unit driving a pair GL 810's. He can put 1 KW phone or CW on any band. His receiver is a HQ 120-X. No wonder he was reluctant to leave it to make a trip to Florida. Perhaps his new DeSoto offered some inducement to leave. Soon he is going to submit to a serious abdominal operation. We all hope will soon be well again . . . MacDonald McIlwain (we sometimes call him Mac for short) finally completed the room for his workshop. His ham outfit is similar to Lingle's except that it employs pushbutton band-switching. If you hear W2KOZ on the air, be sure to give him a call. Mac is one of the two follows at the transmitter who drives two cars.

Bob Milham, "W too easy" (W2EZ) is rebuilding his outfit. When finished it will be similar to Lingle's and Mac's. Bob is the other guy who sports (or would you say supports?) two cars, one of them a Packard, no less! . . . W2E. G. N. stands for E. G. Nickle who started his rig along with the other fellows, but limited himself to 100 watts. This seems to be plenty of power for him as he has no trouble working nearly every one. His HQ 120-X no doubt helps considerably.

WGY boasts the record that no antenna ever erected at the transmitter ever came down accidentally. Much of the credit is due to Ole Olmand, rigger, who holds a skipper's ticket for both sail and steam . . . Ralph Sayre, chief operator, says he gets enough transmitter designing and building at South Schenectady without doing it at home . . . Ty Schumacher spends most of his spare time ice skating and skiing. However you might hear his pair 210's on 40 or 20 meters, now and then with the call W2AIX . . . W. Spencer (W2CEM) goes on the air with 100 watts when he is not occupied with his other hobby of making movies . . . Ray Stigberg (W2AWJ) the newest member of the transmitting staff, will soon be heard on 80, 40 and 20 meters.

W2BDE should sound familiar to most of you as it is the call of our old friend Harold Towson, technical engineer at south. Now he is working on some new wrinkles in high frequency transmission, but finds time once in a while to tune up his own 150-watt rig on either 80, 40, or 20 meters. We hear he is doing some nice work with a pair 809's . . . H. F. "High Frequency" Vert (W2JWA) is fiddling around with a pair 6L6's on 40 but would much rather go ice fishing. When the weather gets too bad he stays at home to make pictures . . . If you ever see a little fellow dragging an old fashioned suitcase around, please give him a lift — it might be R. Yeandle (W2ETY). Ralph has a beautiful portable job capable of putting out 100

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AMONG OTHER THINGS

By ED STOLZENBERGER

TELEVISION PROGRAMMING: Whereas, the great multitudes on the outside are not yet looking in, and Whereas, they therefore cannot be expected to be aware of the frequency, calibre, and nature of the Television programs which have been offered to the public in the "American Way," wherein a reasonable number of program-hours per week are made available to those within the New York City program service area who have availed themselves of Television receivers, it is therefore Resolved, that this column shall perform its good deed of the day by offering to the potential viewers of the morrow a resume of the entertainment offered from the inception of public service, April 30, 1939, to date.

Television program types are generally classified as Educational, Current Events, Sports, Film Shorts and Features, Variety, and Dramatics, and will be discussed here in that order. Consider well that in effect, the Television audience has a front row seat at all times, and is as close to the show as the Television Cameraman.

The Educational included demonstrations of brain waves by Dr. Clark, and applications and uses of liquid air; Vox Pop and Paul Wing's Spelling Bee; general discussion about movies taken on numerous trips from far-off Tibet and Africa's jungle life to undersea photography by members of the Explorer's Club; ski instructions and demonstrations; Aviation exhibits and demonstrations of model plane building, Voational School shop training, Sperry apparatus, Fairchild Aerial Cameras, Western Electric's Terrain Clearance Indiator, and personnel and equipment of the United, Eastern, American, TWA, and PAA Air Lines; cooking demos, muffins to turkey dinners; body-building and Judo demonstrations; Art commentaries with photos and paintings; composition in photography; fencing exhibitions; plastics in interior decorating; golf-swing demos; fashion shows by Bergdoff-Goodman and other; Elizabeth Watts' The Right and Wrong of It; fashion demos of corsets and bras, swim suits, silk stockings and shoes, sports wear, dresses and gowns, furs, hats and hair-dos from ancient to modern; ceramic sculpture; etc.

Current Events highlights were President Roosevelt opening the N Y Worlds Fair, King George VI recent visit, Christmas carols from Rockefeller Plaza. Sports feature regular wrestling and boxing from Ridgewood Grove and Madison Square Garden. Football games in season. The film shorts and features are too numerous to include an individual listing.

Variety featured the *magicians* Fraxon, Gali Gali, Prince Mendez, Dell O'Dell, Bob Rheinhardt; the *dancers* Ann Miller, Rene & Estella, Tamara & Fowler, The Butlers, Ned Wayburn's Students, Diosa Costello, Paul Draper, Hal Sherman, Byrne Sisters, Loper & Barrett, Remi & Martel, Tanner & Thomas, Harrison Sisters, Hanya Holm, Buck & Bubbles, The Top Hatters, Jack Cole, Harris & Shaw, Mordkin Ballet; the *singers* Nita Carol, Hildegarde, Silvia Froos, Breen & DeRose, The Koralites, The Reviewers, Vaughn DeLeath, Lucy Monroe, The Vass Family, Virginia Verrill, Jack & Loretta Clemens, Frank Hornaday, Dina Shore, The Ink Spots, Irene Bordoni, Helen Morgan, Mitzi Green, Cobina Wright Jr., American Legion Choral Group, Yost Varsity Eight, Julia Sanderson & Frank Crumit, Michael Loring, The Cabin Kids, Ray Heatherton, Everett Clark, Jane Frohman, Carol Dies, Lulu McConnel, Gerda Ta Fel, Mildred Fenton, Carmelina Otero & Frank LaForge, Fifi D'Orsay, Ella Logan, Kim Loo Girls, Randall Sisters, Judy, Anne & Zeke Canova,

Marcy Westcott, The Smoothies, The Songsmiths, The Merry Macs, The Kiddooldlers; *acrobats* Remos & Toy Boys, Jay & Lou Leilers, Wiere Brothers, Novello Brothers, The Maxellos, Jim Wong Troup.

Patter & Comedy Howard & Shelton, Clyde Hager, Allison Skipworth, Joey Fay, Pinky Lee; *puppets & marionettes* by Sue Hastings, Remo Buffano, John Gallus; *orchestras* Joe Sullivan, Frank Novak, Gregoire Franzell, Fred Waring; *pianists* John Scott, Hazel Scott, Rogers of the Rogers & Hart team; *misc.* John Sebastian harmonicas; Conrado Massaguer caracaturist; The Three Swifts skaters; Roy Post's Lie Detector; Bob Neller & Reggie ventriloquist; Pansy The Horse; Nelson's Boxing Cats; Dodson's Hollywood Monkey Stars; Allan Prescott; Mildred Dellings Harp Sextette; Madge Tucker & Kids; Irene Wicker; *interviews* Tex O'Rourke, Gypsie Rose Lee, Rube Goldberg, Gene Tunney, Jimmy Walker, Uncle Don, General Drum USA and American Legion National Commander Kelly, Harry Hirshfield, Al Trehan, Felix Adler, Fields & Hall, McClelland Barclay, Otto Saglow, Ham Fischer, Jolly Bill Steinke; *dramatics & musicals*: "The Smart Thing," "Any Family," "A Game of Chess," "The Unexpected," "Afterwards," "Choir Rehearsal," "The Valiant," "Room with a View," "The Red Hat," "Family Honor," "Honeymoon," "The Donovan Affair," "Services of an Expert," "The Confessional," "The Faker," "Moonshine & Melody," Gilbert & Sullivan's "Box & Cox," "HMS Pinafore," and "The Pirates of Penzance;" "Hay Fever," "Brother Rat," "From Vienna," "Magnolia Floating Theatre," "The Milky Way," "Roosty," "Up Fiorello," "Three Men on a Horse," "The Butter & Egg Man," "Missouri Legend," "Time for Love," "Dulcy," "As Others See Us," Thornton Wilder's "The Happy Journey," and "The Long Christmas Dinner;" "Streets of New York," "Jane Eyre," "Criminal at Large," "Little Women," "Dr. Abernathy," "Show Boat," "Art & Mrs. Bottle," "A Night in Old Vienna," "Treasure Island," "Another Language," "Cinderella," "Topsy & Eva," "City of Light," "The Night Cap," "The Post Road," "Nightingale Sang in Berkeley Square," "The Fortune Hunter," "Stage Door," "Farmer Takes a Wife," "The Dover Road," "Ethan Frome," "Meet the Wife," "The Gorilla," "NBC Page Boys' Minstrel," "The Impossible Mr. Clancy," "June Moon," "Charlotte Corday," "Ranson's Light Opera Co.," "Babes in Arms," "The Perfect Alibi." Wherever possible, members of the casts of the Broadway shows of the same name were obtained for the Television adaptation of the show; regrettably, space does not permit listing the many prominent radio, movie, and theatrical personalities that have appeared in these shows.

At box-office prices, this entertainment would have cost you the price of an RCA Television receiver. If you are without a Television receiver today, you are losing the Lion's share of radio entertainment. Hop on the bandwagon,—keep abreast of this pace-setting art and order your Television receiver now—today! You will then "SEE" what's going on in the industry. You cannot maintain your community's respect as a technical authority much longer unless you can answer their Television questions and can show them an actual Television program as received in your own home. Cooperate with your Community Dealer and push the finest in Television,—NBC-RCA.

Occasionally, a theatrical or movie critic will attempt to columnize on such technical subjects of hot lights and receiver

screen size. Since science has not yet given us cold light, it is natural to expect the studio to be warm in proportion to the number of lighting units in use at a given time; the air-conditioning system provides 4,000 cubic feet of pre-cooled air per minute to the studio, and accounts for the fact that there hasn't been a single case to my knowledge where an actor that knew his lines and part was really upset by the lights. Likewise, the howl about picture size is meaningless when emanating from non-technical "authorities." Picture size is relative to viewing-distance, and is a function of viewing-distance convenience; a 12 inch receiver will easily allow eight persons to be seated in the optimum viewing area. The optimum viewing-distance is generally 6 to 8 times the height of the picture; this consideration plus the bulk of the receiver itself makes the average living room ideally suited to a 12 inch receiver. To make the picture ten times larger in any dimension would require that you sit ten times farther away than you would sit for a 12 inch receiver—which would place you out in the garage or in neighbor Jones' dog house. The 12 inch receiver was designed for home use, serves well and faithfully in this capacity, and is a credit to NBC-RCA Engineering.

As we all know, there are many competitive groups which are active in Television today; this activity ranges from "boring from within" to providing a program service that anyone should be proud to be associated with. The second-best competitive program service in the New York area to date has been an occasional transmission of test-pattern, which, at this late date, is hardly in the public interest, convenience, and necessity. About the only requirement for assignment of an experimental television channel is a demonstration of financial responsibility. Because of this arrangement, we find that television channel assignments in the several metropolitan areas in the United States have been sewn-up by theatre-chains, newspapers whose owners recall the early opportunities in sound broadcasting that they ignored, movie producers, sound broadcasters, radio receiver manufacturers, and private patent-holders capable of mustering financial backing. It might be a good idea to allow each licensee a period of 12 months for construction and other preparatory work, and thereafter to require a minimum of seven hours per week public service programming in order to keep their channel assignment; after all, even amateurs are required to demonstrate that they are actively engaged in amateur communications before their licenses are renewed. This would seem fair in the spirit of public interest, convenience, and necessity, and would no doubt prevent hogging of television channels by the "get rich quick but do nothing" boys, as distinguished from those sincerely interested in promoting Television as a public service, and in fact are so doing.

The *Forum Magazine* of November 1934 editorialized about the progress made by consumer unions in England, Denmark, Finland, and other countries, and continued, ". . . A second reason why cooperatives are not generally popular in America is that many old fashioned people wrongly imagine them to be radical, socialistic, or 'labor.' Now, the cooperative principle is neither red nor white, but naked common sense . . . Unlike socialism, the cooperative principle in its true form everywhere spurns aid from the state. It is a pooling of private initiative and welcomes to its happy fraternity individuals as rugged as the gold diggers of '49. At Harvard University, for example, a generation of sons of American capitalists have enjoyed, along with poor boys paying their own way, the privilege of making their purchases through membership in the Harvard Cooperative Society. . . In Sweden the cooperatives by lowering retail prices have raised basic commodity prices; lessening sales resistance creates greater essential use and demand . . . In England

and other countries the consumer cooperatives are beginning to set up their own factories. In America, for the present, let the producer continue to produce. Let the consumer cooperatives be a regulatory factor by selecting those producers' goods that are sold at fair prices These thoughts suggested to me the potentiality of the consumer union as a regulatory factor in recommending only those goods for consumption that are produced at a wage and under working conditions that are a credit to the American Way and to the American Standard of Living. Economic progress is truly slow as measured by a human life time; wouldn't it be a better place to live if a consumers union existed instead of multitudes of stench-ridden labor unions, each knifing the other? Imagine the practicability of a consumers union advising the John Doe Factory to increase its workers' wages 10% immediately or suffer an air tight boycott; the results would be quiet, dignified, and certainly more effective than the efforts of the present system whereby the John Doe Factory Workers' Union attempts to bargain as an equal with the John Doe Factory management which in turn is associated with the National Association of Factories, at whose last convention it was decided that their workers were receiving the prevailing rate of wages for their degree of skill, and to hell with the mythical American Standard of Living.

Russia. The situation in Russia as observed by the Managing Editor of the *Forum Magazine* in a letter to his boss dated August 28, 1934, reveals: The official space allotment is nine square meters per person. . . . In Leningrad, a block away from the best hotel, a large group of workmen were sleeping in a cellar, and the stench that reached the sidewalk was revolting. . . . Toilet facilities, even in the best hotels, range from inadequate to unspeakable. . . . Tap water is not potable unless boiled. . . . When the chief guide was berated for the notably atrocious outhouses attached to the hotel in Passanauer, he said sadly "All you Americans think about is toilets." . . . The all-powerful Communist Party is, and always has been, a minority group. It must govern or go, and it governs with an iron hand. . . . Young Russians have a tendency to interpret everything in terms of the Marxian philosophy which is drilled into them from an early age. . . . Anyone in Russia who can clean a spark plug is an 'engineer,' ask him. . . . The Russian system seems better suited to training philosophers than technicians.

Shocking conditions? Yes, but have you ever taken a leisurely drive thru one of our Eastern coal mining towns? The average American seems to have money and enthusiasm for foreign earthquake victims, foreign revolutionists, oppressed foreign minorities, foreign Missionaries, and undernourished victims of Blitzkreig, but not a dime for relief at home! How much time and money do you contribute to the actual alleviation of sickness and hunger in your community? For 2,000 years disciples of Christ have been professionally preaching the Christian philosophy while gaining for themselves wealth and political prestige; Christianity is sadly in need of a revolution to drive out the foul blood interested in the profit to be derived from an obedient "Laity." The average preacher's car is better than yours, and if he is politically prominent, he has a chauffeur; his time is taken up paying social calls to the right people—there is no time for those who cannot aid in the financial support of the church. For all practical purposes, we are as Godless as Russia, as evidenced when it became necessary to put the Christian Preaching into practice thru political relief agencies. Christianity is overdue for a crop of disciples willing to do more work and less talking.

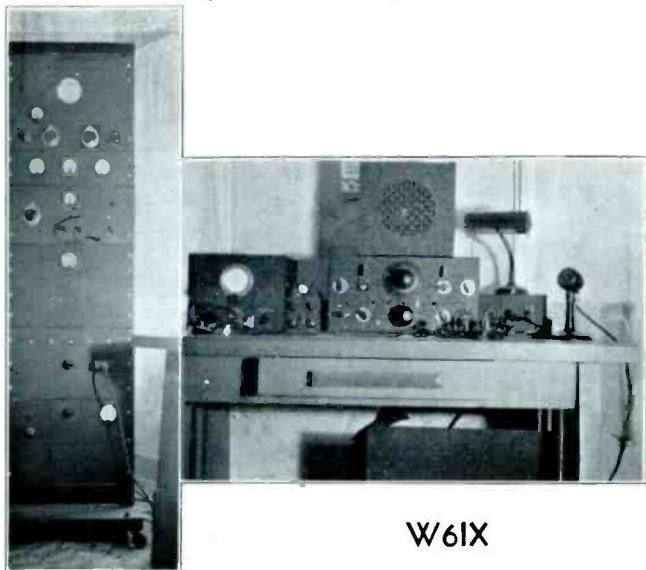
Taxes. Prior to 1914, alcoholic taxes provided about 30% of the Treasury's revenue. In order to make liquor bear that pro-

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KFI-KECA

By H. M. McDONALD

W61X: Seventeen men at KFI-KECA are licensed amateurs but only six of them are really active and from only one of those six could we wheedle a picture for this special "ham" issue. Right



W61X

at the dead line Floyd Everett brings us a couple of snapshots of his station W61X, which we offer herewith. The pictures may lack definition but we assure you his signals do not.

At the top of the rack is the final amplifier. Next below is a panel containing meters to indicate the grid current, plate current for the final and grid current for the HK54. Next the exciter; then the modulator, a pair of TZ40s, class B. Next section contains the low voltage power supplies and remote control circuits. Next the high voltage supply and a meter to indicate the 3000 volts and the button for resetting the overload relay. The rack is on casters and easily moved about.

On the table, at the left, is a Meissner Signal Shifter; a National oscilloscope; the receiver, an NC101X and speaker; the remote control cabinet; an American dynamic mike; a bug which he has used continuously since 1925, (for a long time at KOK); W. E. phones, and under the table, the speech amplifier.

The Signal Shifter works into an RK49 doubler, another RK49 doubler into an HK54 which operates as a buffer amplifier. The final is a pair of 100THs.

"Pop" is the handle. He's on 10 and 20, both CW and phone, almost every day, from 11 a. m. to 1 p. m., PST, and would like to work more ATE men.

MINUTE MEN: Seymour Johnson has been elected president of the Sheriff's Communication Reserve for this year. The organization was formed four years ago to supplement the Sheriff's radio division, when normal communication facilities are disrupted by disaster or are lacking at some remote spot.

The 15 man volunteer group operates portable-mobile ten meter phone stations from their private cars, on a special frequency adjacent to that regularly used by the Sheriff.

The transmitters, also their own, have been standardized and the whole rig or any part can readily be placed in another car should occasion demand.

Once a month they have a field day and a pre-arranged problem is worked out. If the site of the problem "disaster" is in

the rugged mountains, which make up half of Los Angeles County's 4100 square miles, some rising as high as 10,000 feet, or is in the bottom of a canyon, it takes a great deal of maneuvering to get the signals to "rescue" parties or headquarters and the men get much valuable experience.

TELEVISION: Bernard Linden, FCC Inspector-in-Charge here, was delegated by the FCC Television Committee to survey and report on the local station, W6XAO, to them. He did so last week and was much impressed and made voluminous notes for his report. The station has been on the air since 1931 and has televised more than 2500 programs, totalling 6000 hours, including eleven million feet of film.

They say their new RCA portable television unit is the lightest in weight ever built. It consists of two cameras, one with a wide angle lens and one with a telephoto lens, and a half dozen 65 pound suitcases, all of which are carried in a small station wagon. Despite poor light and overcast skies the results of the initial nemo job, the Rose Parade, were very gratifying.

This month's IRE meeting was held at the plant of a local manufacturer of radio and television receivers and was attended by more than 100. After demonstrating their receivers Chief Engineer C. F. Wolcott conducted us through the laboratory, which includes a television transmitter and testing apparatus so complete that every phase of either the sight or sound signal can be checked both from a sending and receiving standpoint.

THUMBNAIL SKETCH: Lloyd E. Fitzinger, KFI-KECA SE, a native of Belleville, Kansas, started in radio in 1922 and as



W9EKN he contributed substantially to the QRM in that district for many years.

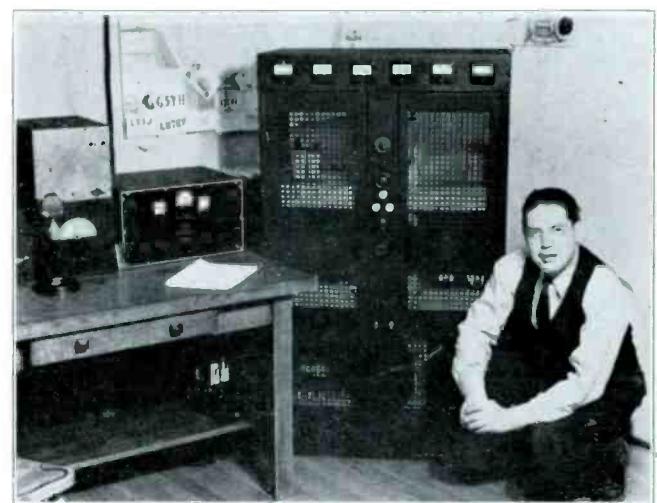
continued on page 31

CHICAGO

By F. C. SHIDEL

Marv. and Mrs. Royston lead off the vacation list this season by going south on a trip to Mexico City. Marv as usual had a complete complement of maps and tour information prepared ahead of time. Wonder what condition his car will be in when he gets it back to Chicago. Last year he burned a set of tires of his DeSoto driving to the coast and back . . . Understand Tom Gootee had some accurate dope as to conditions in Mexican Jails to pass along to Royston . . . Minor Wilson is the next early vacationist, taking off the early part of March, probably for the old home state of Texas . . . Curt Pierce should be willing to take a vacation without travel as he is getting plenty of miles commuting from Chicago to various parts of the country for the Mars, Inc. show . . . Boston is the spot now with a shift to Hollywood soon . . . Hunter Reynolds has joined the hitch-hiking club and makes regular trips to New York for the Alec Templeton show . . . Russel (no choice) Sturgis did not take long to make his vacation choice, poor boy . . . April is a little early for a trip to Barnstable, Mass. . . The boy at CQ that got Bill Cole out of bed a year ago February 2nd to wish him a happy ground hog day got paid back this year . . It happened on his day off and real early in the morning . Boy was he burning . . . Bob Brooke will gloat over this but I must admit that we got a shot of real subzero weather in Chicago for about a week . . A few of the engineers appeared with a set of ear muffs for insulation . . About the only use for earmuffs in California would be for the native sons during the numerous exposes on the weather conditions out there by Benny and Hope. Lindy Limberg, came to work with the most beautiful shiner, not the keyhole type but the kind one gets when falling on one's conk while showing little Junior how to do it on ice skates . . We have a small edition of an automat in the studio lobby now in the form of a "coke" machine . . The NBCAA gets a cut . . Judging from the play the machines are getting the AA will be in the dough by spring . . Of course all the more curious minded souls put the machines thru their paces right away . . The things won't mix drinks but will pay interest . . one of the boys got his slug back plus a penny . . Another spent two bits before he could get the thing back in phase so as to drop a cup and the "coke" at the same time . . The flying activities of announcer Louie Roen, artist service Douglass and music librarian Ed Cerny have started up the interest in aviation of Russell Sturgis, Harold Jackson and Tom Bashaw . . Ed Holm advises that Virginia Nan was born January 14th at Passavant Hospital . . Seven pounds five ounces . . Everyone doing fine . . Joe Alusic finally succumbed and put in a telephone . . Probably heard about the pot of gold show . . The cover of the January issue certainly backs up George Maher's vivid descriptions of switching operations at Sanfran . . Woody Lahman is having a little trouble getting acquainted with a new pair of cheaters . . A. R. Johnson is back on the job at WENR-WLS after a time out period due to illness . . Andy Schomaker and Ed Bernheim had appendectomies within twenty-four hours of each other . . Ed is getting along okay at Swedish covenant and Andy is doing okay at South Shore. . . WMAQ boys report no news so everything out there is normal. . .

The call 9CIU and W9CIU has followed the writer, Fred Shidel, around since 1921 and has been used in three different states, the present QTH being Elmhurst, Ill. The ham activity of yours truly started way back in the days of William B. Duck Co. and the E. I. Company crystal detectors and slide wire tuners, etc. The first antenna was a six wire flattop one hundred feet long made of No. 12 galvanized wire and offered a much greater physical load problem than the present 3 element Mims Rotary Beam which mounts on a 35 foot tower. The present receiving equipment consists of an HQ120X which is operated on the Beam. The other gear on the table is a DB20 Preselector (no longer in use) the speech amplifier and an unfinished E. C. O. being tested out at the present time. The transmitter uses 6LGG's for oscillator and doubler stages driving a 35 T buffer which drives a pair of 100TH's in push-pull. The rig has power capabilities of 500 watts phone and a kilowatt of CW. The 10 and



20 meters phone bands are used exclusively. When the E. C. O. is completed 40 and 80 meter operation will be available. The power supply and modulation equipment are confined to the bottom deck of the transmitter along with the relay controls and protective devices. The center deck contains the exciter and 35T stage and is a complete CW transmitter in itself and can be easily removed for emergency use at some remote location. The top deck contains the final amplifier and bias supplies.

W9GY is the station of J. H. Platz, Jr. Supervisor, is operating at present with a 200 watt band-switching transmitter, the receiver is an HRO with noise limiter in the audio system. The antenna is a 33-foot vertical fed at the center by a tuned line. On the 3.5 and 7 MC bands the antenna feeders are tied together and the entire system operated against ground. Separate doublets are used for reception.



The transmitter was designed to be used either as a complete transmitter or as an exciter for a higher powered final. Provisions for break-in and variable frequency control were fundamental requirements. In conjunction with a portable power supply it is a complete portable emergency transmitter which can efficiently feed any random length of wire that may be available for antenna purposes. At the home location output is fed to the antenna tank by means of a link circuit. The ECO is quite standard and drives an 807 which doubles to 3.5MC. The 814 final is driven directly by the 807 on 3.5 and through a series of 6L6 semi-tuned doublers for operation on the higher frequencies. Provision is included for gang tuning of the 814 grid and plate tanks from the main frequency control if desired. All metering is accomplished by a single meter which is switched to any one of nine positions, suitable shunt resistors being automatically selected in the same operation. For maximum output, power is supplied at 150, 400 and 1500 volts but most operation has been with 750 volts on the final. Phone is available by use of an external modulator but is seldom used.

In operation over the past three months since its completion—including intensive participation in the SS and ARRL parties—the unit has justified the time and trouble spent in its design and construction.

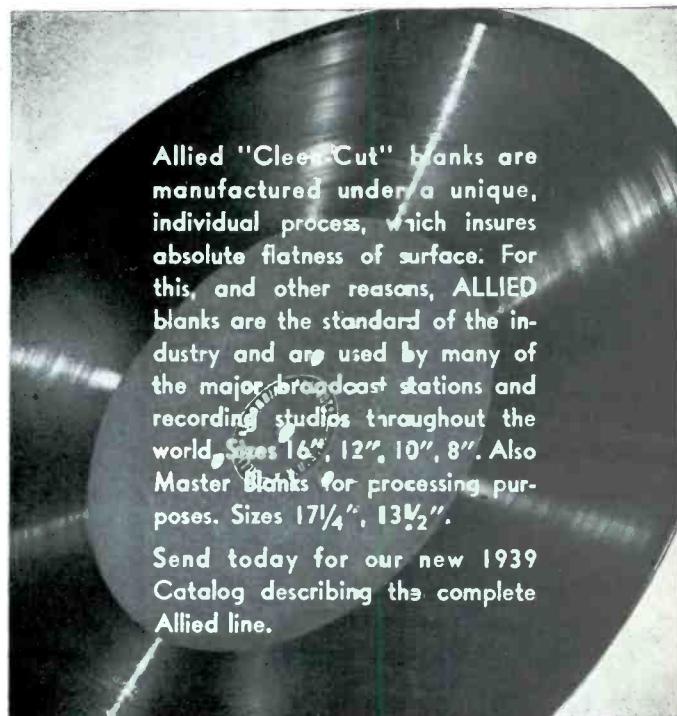


Historically W9WC, the station of W. O. Conrad, Elmhurst, Illinois, dates to 1931 under the present ownership, however the operating experience of the OM dates back to the early 1920's under the call 8CER and later as W5AAN. In the early days the station was maintained much in the manner of all amateur stations, all equipment mounted breadboard, with hay-wire plus. Rack and panel construction caught the fancy of W9WC several years

ago and we complied with the desire, obtaining the final result of a transmitter which could be changed with the changing ideas without disturbing the entire setup. The present station derives its frequency stability from an ECO, with provision for crystal control if necessary. Frequency limits and standards are derived from a 100-1000 kc crystal and 10 kc multivibrator with temperature control maintaining an accuracy of better than 15 cycles at 5000 kc. Following the ECO unit there is an isolation stage, untuned Class A RF amplifier, followed by 6L6 doublers to each frequency band used. The output links of each doubler stage are arranged for switching to the final amplifier, a T-55 running from 100 to 200 watts input. All frequency bands are used except the 1715 to 2000 kc band. Phone and CW are both employed.

The pullerinner, receiver to you, is a homebrewed super with all the necessary gadgets, conventional antennae are used, and at the present they consist of a long wire zep and a vertical.

W9WC operated in the heavy Ohio River floods in 1937 and cooperation is maintained for all emergency work. General operating is confined to rag chews and occasional DX, with experimental work and design of frequency measuring equipment taking the fore.



ALLIED RECORDING PRODUCTS CO.

21-09 43rd Ave.

Long Island City, N.Y.

CLEVELAND

By F. C. EVERETT

The recent cold snap didn't bother the automotive department at the transmitter, at least no complaints have been heard but several of the studio crew were forced to seek transportation on streetcars and taxicabs on that 11° below zero morning when their cars refused to start. B. C. Pruitt, SE, managed to get his started but had to abandon the car enroute to work when he froze it up.

A. B. Stewart, TE, seems to have given up the housebuilding angle due to the war jitters in the contractors prices. Instead he is branching out with a new 250 watt ham rig.

T. C. Cox, SE, has a new rotary beam under construction with what time he can spare from training his new dog. This said dog is a 12 months old Springer who is being trained to hunt deer and pheasant for use in Michigan next fall. This is the most weird combination of dog training ever heard, but mebbeso, mebbeso.

H. L. Clark, TE, has moved into Brecksville from its suburb, W. Richfield. (Explanation of joke—Brecksville has pop. of about 800) Still in the process of grinding is the mirror for the reflecting telescope. This millionth of an inch accuracy required is not something to be sneezed at and requires a lot of experiment to get the "hang" of it in building the first mirror. After

that it is easy. (Or is it?)

A. H. Butler, ASE, has been riding the goat, getting himself initiated into the Masons.

H. A. Walker, TE, has been sounding like a big bullfrog as a result of a sore throat. It couldn't happen in North Carolina.

J. A. Cheeks, TE, since getting his new test oscillator has been improving on all the receivers in the house by realigning and adjusting them.

Yours truly just took his renewal examination for the telegraph part of the license and for the information and comfort of those who have to take renewal examinations for one reason or another, let me state that it is nothing to be afraid of. Outside of the code the only part which had to be taken to renew the telegraph license was "element six Advanced Radiotelegraphy". This consisted of a series of questions followed by approximately five answers and from this list you selected the answer. Obviously anyone engaged in the business as we are will have no difficulty in picking out the correct answer. It was duck soup and while a broader scope of information is covered, the labor involved is very small. It took me something like fifteen or twenty minutes to complete the exam and go back over it for mistakes. To the skeptics—yes, I passed.

A Word From Kenneth B. Warner

Managing Secretary, A.R.R.L.

The traditional cliche about the postman's holiday is perhaps truer of radio than of any other vocation. We know that by far the great majority of men engaged in technical radio began as amateurs. We are happy in the knowledge that most of you still pursue it.

There are few activities in which one can be both a professional and an amateur. The fact that this is true of amateur radio has been of inestimable value to both branches of the art. Professional radio has benefited mightily from the amateur spirit in research and development—the intense, burning, personal interest in the thing that is being done. Amateur radio, on the other hand, has profited by the facilities for investigation and application not available except to the great commercial organizations with vast resources.

We who concentrate more or less exclusively on the amateur end of the game do not always realize the extent to which the "professional" amateurs in our ranks have aided amateur radio. We talk a good deal of what amateurs have done for the com-

mercial department of the art, but we don't fully realize that the debt is mutual.

The fact is that those of you who have radio as both vocation and avocation contribute greatly to the progress of amateur radio. First of all, you bring a thorough grounding in the engineering theory and practice of radio, a quality which all too many of the rest of us lack. Second, you have access to facilities for research and experiment that can be found only in the large commercial laboratories, and which are totally beyond the reach of the ordinary amateur. Third, you bring us the knowledge gained in your daily work with other phases of radio and convert it to amateur applications so that all may use and benefit by it.

It is a particular pleasure, therefore, for me to bring greetings to you through this, the special amateur number of your Journal, on behalf of the entire membership of the American Radio Relay League. We acknowledge our debt to you and express our pride in having you in our ranks.

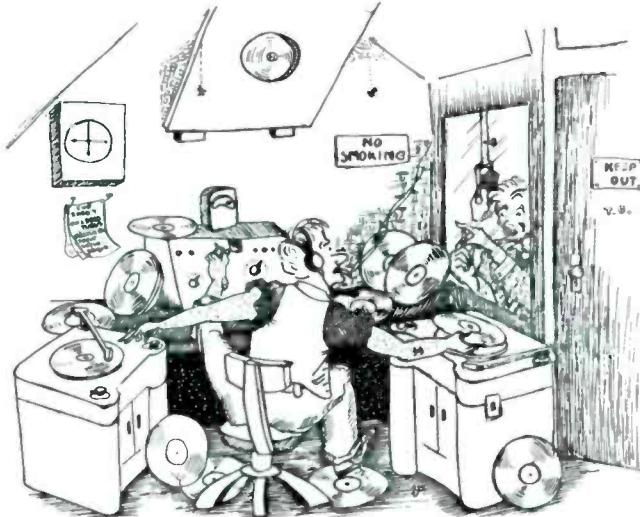
SAN FRANCISCO

By H. N. JACOBS

San Francisco had no sooner recovered from the holidays than it was knee-deep in a super-production drama and variety show, "The City of St. Francis", depicting the past of San Francisco, staged at the SF civic auditorium in conjunction with the SF Chronicle. The drama, dreamed up by A. E. Nelson, new KPO-KGO manager, has been a feature on both outlets for the past several months, and the pay-off was a three-hour show witnessed by 15,000 fans of the bay region. Applications for tickets more than tripled this number and repeat shows are planned for the near future.

This followed closely on the heels of an Xmas eve community sing in the same auditorium, this in conjunction with another local paper, the News. These two specials gave George Greaves FS and his field group more than enough to do.

Might add that reference recording also had its fill, with dubbings being ordered for "the portion of the show between



so-and-so and such-and-such".

At this writing it appears that spring has hit SF. Having fine golfing weather, but haven't heard any reports about the 70's, so don't know whether the boys have been out much as yet.

NOTES: George Greaves is home from the hospital after an appendectomy. Good luck, George.

Alan O'Neil and his new Presto tables have had their first taste of cutting orthacoustic masters to be processed. Several sides were cut of the local WPA symphony, and the masters sent to RCA in HLYD. Reference recording is growing steadily—now has its own group, Dunnigan, Morrison, and head man O'Neil.

Dan Williams FE is busy these days figuring how to cut his lighting bill for his shop by installing the new fluorescent "Day-light" lamps, those new low power factor lamps that fool the watt-meter and bother the power company. Dan is the machinist of NBCSF. He has a fine shop equipped to do most anything—only trouble is, it's in San Jose, 50 miles away, and Dan sees it only on his days off.

Vacation scheds are complete, and extend from April to October. Yours truly, who went in April last year, advises those in the first bracket to head SOUTH.

Gordon Morrison SE has been at work the last month build-

ing a little x-mitter for Frank Barron SE who has the yen to "get back on again". It's a really compact little job, occupies about a cubic foot, and uses 3 6L6G's. Gordon sez it works on all bands, so we'll be listening, Frank.

8mm movies still have the boys on the run. Morrison has a new Bell and Howell outfit, and Ed Parkhurst ME is dickering for a new B&H projector.

Warren Andresen, he of the four cameras, has just invested in a new Kodak precision enlarger. Costs lots of money, but Andy sez, "it's terrific" so it's worth it.

Frank Barron SE is today the proud pappa of a new baby boy. This is number two for the Barrons, both boys. Everyone is doing well.

Ed Poege, TE of KPO is sporting a new DE SOTO, as a result of a side-swipe on the Bayshore highway last week. This seems to be a favorite way of convincing one's self of the need for a new car; always was Ed Manning's (TE) method. Hi, Ed.

The accompanying photo shows how the SF engineers spend their social life. Reading from left to right we see "Red" Bennett, of the ice show at the Sir Francis Drake, "Andy" Andresen,



and the girl friend, whose name we DIDN'T get.

(Photo Credit, Jay Brewster, Drake photographer, always willing to cooperate in framing the boys).

The Engineering Dept has been playing host to the NBCSF radio school during the past several weeks. The school is being conducted to better acquaint all the employees with the operation of a radio network and radio stations in particular. Engineer-in-charge Curtis Peck, Joe Baker, and "Shorty" Evans, transmitter heads, have been the "schoolteachers" to date, and we understand that Maintenance, Control Room, and Reference Recording will do their part in the near future. Last week the group had the pleasure of visiting the SF toll office of the PT&T, where the last word in program equipment has recently been installed.

If anyone wished to learn the fine points of orchid culture, a stamped self-addressed envelope to Buddy Sugg CRS will bring results. Since moving down the peninsula Buddy has spent a

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WASHINGTON

By A. R. McGONEGAL

The greatest social event of the year, as far as NBC in Washington is concerned, has come and gone. Bigger and better than ever, the Fourth Annual ATE Dance was held on February 16th at the Indian Spring Club. NBC and RCA employees, their friends and even a lone CBS engineer cavorted and capered from eleven until three. Morgan Baer and the NBC orchestra supplied the music, and entertainment from a local night club helped to make the evening a pleasant one. Everyone had the time of his/her life—even the photographer who found that his flash-battery was dead, preventing the occasion from being immortalized in celluloid. An informal breakfast in a nearby hamburger dispensary broke up around five AM, and three weary engineers and two announcers changed their clothes and opened up WRC and WMAL for another day.

Carleton Smith, presidential announcer, and Dan Hunter, field engineer, left Washington late on the afternoon of February 14th to cover the President's fishing trip.

The president's destination was announced only as "somewhere in tropical waters" and the length of the trip as "indefinite". The party traveled by special train to Pensacola, Fla., where the President embarked on the cruiser "Tuscaloosa" for the mysterious fishing grounds.

Arthur Godfrey, who was a WRC announcer "way back when" and is now a CBS headliner, is back at the old stand every Saturday afternoon. "Reds" is making a series of transcriptions for P. Lorillard Tobacco company, and is making use of Washington's unexcelled transcription facilities for producing the master records.

Frank Fugazzi suggests that electric razors be made standard equipment for field engineers. While working a 16 hour tour of duty recently, he found that his 5AM shave had completely vanished by dinner time, with two more field jobs still to go.

Vacation selection time is upon us again. Seems hard to concentrate on a vacation choice while shoveling out from under a foot of snow. Florida always seems the best bet in February, but by the time April rolls around, one always wishes he had chosen a July vacation at the beach.

The open season for political speeches is now in full swing. Starting with the Jackson Day dinner, and continuing with Republican and Democratic committee meetings, it will reach full swing in the National conventions. From then until November 5th, Washington engineers and announcers will be adrift on a vast sea of oratory, hot air and political promises. How about a transfer to Hollywood?

Flash—The G. E. plaque is to be presented to WMAL engineers on February 28th, at a luncheon at the Willard. Congratulations to Wadsworth and his men for holding WMAL's antique transmitter together with will-power and friction tape.

from COAST TO COAST
a Sweeping Demand
for the
SUPER DEFIANT SX-25



Amateurs from coast to coast acclaim this new, de luxe model, amateur receiver as the finest ever developed for anywhere near this price. And orders have been pouring in far beyond our expectations.

The SUPER DEFIANT, at \$50 less, offers even better performance than that of the famed SX-17. Its general circuit is based on the proved efficiency of America's BEST selling receiver, the Skyrider DEFIANT, and, in addition, it has important improvements and refinements of its own that definitely step up all former standards of value.

You wanted more preselection. Now you can have it. You wanted more and better audio. The SUPER DEFIANT gives it to you. You wanted less noise, less distortion, easier tuning. All this, and more, you get in this new Hallicrafters triumph.

Your Distributor is now ready to supply you with the new SUPER DEFIANT on time payments if you wish. See him and learn for yourself why there is such a demand for this exceptional amateur receiver.

Note These Outstanding Features

Two Stages Pre-Selection.
540 kc to 42 mc in 4 bands.
Calibrated bandspread dial
for 10 to 80 meter amateur bands provides frequency meter tuning.
Compensation in Oscillator Circuit for Frequency Stability.
Better Signal-to-Noise Ratio.
Improved Crystal action.
Automatic Noise Limiter.

12 Tubes.
6-Step Variable Selectivity;
S Meter calibrated in "S" and "DB" Units.
Push-Pull output.
All functions controlled from front panel.
115 volt 50-60 cycle AC operation.
Battery or Vibrapack socket for DC operation.
Dimensions: 19½ x 11½" x 9½" high.

COMPLETE with Speaker

Crystal and Tubes

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CHICAGO, U.S.A.

WORLD'S LARGEST BUILDERS OF AMATEUR COMMUNICATIONS EQUIPMENT

WOR

By R. A. SCHLEGEL

Snow drifts piling up around the door but inside all is cozy and warm. That is, until the power fails and the oil burner stops. No wonder they installed wood-burning fireplaces in these modern houses. At this moment we are having one of the worst storms of the winter. The snow has been falling all day and piling up into drifts. I've just checked over my snow shoes and skis so that I'll be able to get through to the station in the morning. Los Angeles papers will probably headline New York's snow storm as "BLIZZARD ISOLATES NEW YORK-THOUSANDS MAROONED AND FEARED LOST."

Heard while listening in on my mythical circuit to NBC MC:
W2ARB: Boy oh boy, I worked AC4JS last night!
W2ZA: Yeah? And what was the first thing he said to you?
W2ARB: He asked me for the latest 'Confucius Saith'.

Everyone seems to be polling public opinion these days. Not to be outdone, I am suggesting that the 'Journal' conduct a poll among technicians to determine what programs the man behind the scenes finds entertaining. The shows could be classified as in other radio popularity polls such as variety, classical, news, etc. I wonder how the soap operas would fare? What do you think of the idea? Or don't you?

Note to Joe Rohrer, Denver: I wonder if you have the plans for that console desk that you built for your ham station. My wife saw a picture of it and told me that is what I should have in my radio room instead of a plank supported by a couple of Florida Orange crates. PS: Tell Russ Thompson that I'll answer his letter as soon as I can find a stamp.

I experienced a new thrill in amateur radio operating while visiting W2KEZ. I had an opportunity to punch the Kleinschmidt perforator instead of swinging a telegraph key. It's quite a novelty to be able to punch up a reply to a QSO while the other fellow is still plugging away at 25 or 30 wpm and when he signs over all one has to do is turn on the transmitter and keyer and then sit back and listen to your own sending with the fond wish that you could send like tape. I asked W2KEZ how the band had been. He replied that he hadn't heard any DX in weeks and invited me to give the set a whirl while he checked key clicks at a neighboring hams' house. While he was checking the clicks he was surprised to hear me calling OQ5AB and when I did hook up with the OQ5, Dave thought that I was just fooling around, but never the less, he ran back to see what I was up to and as he stepped into the door he was greeted by an R9 plus signal calling W2KEZ and signing OQ5AB. Wingate is now asking me to come over and operate his transmitter quite often. I should have signed my own call!

Bill Ulrich and Dick Borner are anxiously scanning the business charts and wondering if they should buy or sell. Dick is spending his lunch hour down in the broker's office, watching the traveling electric light sign spelling out numbers and letters. Dick Davis, W2CTQ has 100 watts going on ten meter fone, cathode modulated, and is using 28800 and 29175 kcs. Davis was neutralizing his final amplifier with an RF milliammeter and forgot to remove the meter when he finished the neutralizing

and is now looking thru the hamags classified ads for meter repair service.

Herman Berger, W2SH, says that he will be on the air as soon as he can get Paul Reveal to finish the transmitter that Pop is building for him. I can see now where Berger isn't going to be on the air for a long time.

Frances Barth of the supplies and what not department, vacationed in Miami and had the tough luck to be there during Florida's unusual weather. Frances took a fling at the ponies and placed her bet on a horse across the board, win place and show.

Quite a few of the mini movie fans have seen GWTW and instead of commenting on the story and acting they have been telling each other how they would have filmed the various scenes. Hadden, not content with mini movies, is going in strong for mini railroad systems. Hadden and Tower plan on running a mini subway system between their houses. Hadden has been conditioning himself by eating Hecker's 'H-O' oats.

I spent several months in an effort to get a beam power tube to work in the bluffer stage of my transmitter only to find that the tube was a lemon. The way the tube behaves, I firmly believe that it belonged to Paul Reveal at some time during its life. I got it from Pat Miller who bought it in good faith from Charlie Kibling. Now I suppose Reveal is having a good laugh.

Ham activity seems to have hit a new low around WOR. Only a few of the boys being active. Kibling, W2EOA-W2HXQ, seems to be the most active of the gang. W2EOA apparently is the section winner in the recent ARRL sweepstakes contest working all 67 ARRL sections on fone during the annual QRM contest. Kibling is now busy with 2½ meter frequency modulation. I'm still trying to find time to get my old transmitter back on the air. Perhaps Kib has discovered a formula for converting a day into 48 hours.

Noticed an item in the January issue of the JOURNAL which stated that Vince Barker's transmitter was gathering dust. That may be so but the transmitter is on the air from Jim Carter's QRA.

73's

COVER PHOTO

W2EOA-W2HXQ Charles and Kay Kibling

Transmitter at left 1000 watts, 10-20-40 meters, fone and CW
Transmitter at right 250 watts 80-160 fone and CW.

Desk in center holds measuring equipment, receiver and Pre-selector, Modulation and Signal monitors.

A five wire "V" beam antenna is used on 20 meters, directivity is controlled by proper selection of feeders.

IF YOU ASSUME THE OBLIGATION OF AN OFFICE -- FULFILL IT.

In order to render effective the qualities of cooperation and unity essential in the successful function of an organization, as outlined in our last News Letter, we must have surety of performance. By this we mean to imply that an organization can never boast of teamwork unless every man is looking after his own job. Each member of an organization works not as an individual merely, but as a cog in his great organization.

The charting of a person's responsibilities is not enough to insure the carrying out of these duties but can be regarded only as a preliminary to their discharge. In fact, the charting itself simply renders definite in the minds of both the person concerned and the rest of the membership certain expectations which like expectations in general, are of little value unless followed by actual performance.

Now, this prompt and accurate cooperation which an organization seeks from the members of its staff is not always forthcoming. For irresponsible ways, neglect of the necessary steps in carrying through the things we mean to do, are deeply rooted in us all. But we must try, for the good of the organization, to overcome this tendency, especially when we have assumed the obligations of an office. We must fulfill all duties, for in failing to attend to the expected tasks demanded by these offices, we are not only being unfair to our respective Chapters but we are being unfair to the organization as well. We refer to such tasks as the prompt answering of mail from the National Office, the calling of Council meetings regularly once a month and sending a copy of the minutes to the National Office, and, in general, the performing of all tasks which greatly aid in the smooth functioning of an organization such as ours.

If we have a definite goal in mind and are thoroughly cognizant of every phase and function of our organization and realize the importance our positions bear to the well-being of our organization, then, I am sure, we will all cooperate to our utmost ability in accomplishing the tasks which are expected of us, regardless of our position in the organization. We all know it requires motive, force, resolution, and decision of character to begin a task promptly and push it through to completion. But if we are to enjoy an organization which is a living, growing, creative organism that is more than the sum of its parts, we, as its parts, must do everything in our power to aid the ATE to function as a well-integrated organization.



Always Leads The Field

DEVELOPMENTS OF REAL CONSEQUENCE IN AMATEUR RADIO APPEAR FIRST IN QST . . . MANY NEW DEVELOPMENTS APPEAR IN QST EXCLUSIVELY.

QST was first to publish information on:

- super-regeneration—July, 1922
- crystal control for amateurs—July, 1924
- the single-control neutrodyne—August, 1924
- 5-meter experimental work—October, 1924
- the single-control superheterodyne—November, 1924
- the skip distance theory—April, 1925
- link coupling—May, 1925
- the Zepp antenna—June, 1925
- the single-wire-fed-antenna—July, 1925
- screen-grid tuned r. f. amplifiers—December, 1927
- high-C oscillator circuits—August, 1928
- satisfactory ham superhets—March, 1929
- 100 per-cent modulation—April, 1929
- the Class B r. f. amplifier—April, 1929
- dynatron frequency meters—October, 1930
- the matched-impedance doublet—December, 1930
- first stable 5-meter oscillators—July, 1931
- super-regenerative 5-meter receivers—July, 1931
- Class B modulation—November, 1931
- electron-coupled oscillators—January, 1932
- electron-coupled oscillators in superhets—April, 1932
- the Single-Signal superheterodyne—August, 1932
- high-efficiency Class-C amplifiers—September, 1932
- m. o. p. a. 5-meter transmitters—May, 1933
- the Tri-tet circuit—June, 1933
- Pi-section antenna couplers—February, 1934
- suppressor-grid modulation—March, 1934
- u. h. f. directive antenna arrays—October, 1934
- successful 224-mc. DX communication—November, 1934
- controlled-carrier modulation—January, 1935
- resonant-line u. h. f. oscillators—February, 1935
- "air-wave" u. h. f. propagation theory—June, 1935
- super-infra-generator receiver—November, 1935
- successful noise-silencing circuits—February, 1936
- single-control diversity receiver—May, 1936
- inductive neutralization—July, 1936
- the Heterotone—November, 1936
- the see-saw noise silencer—July, 1937
- the wide-range crystal filter—September, 1937
- radio control of model aircraft—October, 1937
- infinite i. f. rejection—November, 1937
- amateur television data—December, 1937
- infinite image rejection—March, 1938
- band-pass-coupled transmitters—May, 1938
- the extended-double-Zepp antenna—June, 1938
- the Dickert noise limiter—November, 1938
- the co-axial vertical radiator—January, 1939
- the Hetrofil—September, 1939
- the series noise limiter—October, 1939
- amateur-band frequency modulation—January, 1940

Always in QST—owned and controlled by A. R. R. L. members—you find what's both new and worthwhile in amateur radio.

**The American Radio Relay League, Inc.
West Hartford, Connecticut, U. S. A.**

SAN FRANCISCO

continued from page 18

good part of his time studying orchids, certainly a novel hobby.

There's not much new in the ham business here. Ed Parkhurst W6IY has rebuilt his final using a pair of 809's. The recent dope on frequency modulation has stirred up quite a bit of talk on the subject, the relative merits of am and fm, etcetera.

John Grover, SF announcer responsible for the cartoon of the "SF preset" appearing on the January issue, is working on more for future issues of the Journal, depicting the various phases of radio as it is in San Francisco.

That's all from here, so CUL.

LATE FLASH VIA WESTERN UNION:

"Son born Mr. and Mrs. Frank Barron, San Francisco Studio, Friday, ninth of February."



HOLLYWOOD

By BOB BROOKE

Warmest winter in years . . . Everybody Busy . . . Radio City Overflowing . . . Television Exhibit . . . Red Network Thru Hollywood . . . New Shows . . . Denny Re-elected . . . SUN . . . What a winter . . . Summer temperatures . . . Ocean swimmable . . . Oranges luscious . . . Golf courses perfect . . . Desert a Blooming fairyland . . . We, in our Palm Beach suits, survey the Eastern headlines and pictorial pages noting the ten foot drifts completely covering stalled cars, shake our heads sadly and go back to sipping our coca colas in the sun-lit patio of the restaurant across the street . . . Our engineers from the East remark, "Now this is what we thought California should be like" . . . Ferguson and MacKenzie have spent each weekend lately down in the desert and come back deeply tanned to report the tennis and swimming great or that John Scott Trotter is a fine host and a tremendous laugh in a swimming pool . . . particularly when he wears his swimming goggles and plays porpoise . . . Matter of fact it isn't only those who go to the desert that are tanned . . . Our new home owners have collected some nice tan working in their yards and on their ranches . . . Bill Nugent of Sound Effects, recently from NY, went swimming at Santa Monica yesterday and sez the water is warm . . . Al Korb getting his plunge sez he wanted the rains to fill it but no luck so will have to run seven dollars worth of water into the pool thru the meter . . . In years past we have had complaints about early morning songbirds disturbing slumbers but this year we are getting complaints about humming birds and butterflies . . . Another complaint this year from the Easterners is about having to mow their lawns once a week because of the well distributed sun and rain . . . Pickett has increased his egg production 30% by working his hens 18 hours a day . . . A Rube Goldberg made from an alarm clock, some fish line and sinkers, and some old radio parts, now turns on electric light to fool the biddies . . . MISC . . . We are happy to welcome Mr. Leon (Lee) Fry formerly of Chicago to our staff as studio engineer . . . Lee was with us less than a week when his family was graced with the arrival of a daughter, Joan . . . Glad to have you with us, Lee . . . Regardless of sun there has been quite a bit of flu around this year . . . Mr. Saxton out a week with it and understand rest of family had a bit too . . . Joe Kay with fancy new canvas covers for the black and white convertible . . . Picture of SF control board on cover of January issue laid 'em in the aisles . . . SF

boys homesick after that one . . . And it wasn't exaggerated at all . . . Must have been Rothery doing the Gymnastics . . . Vacation schedules being chosen . . . Boys all fighting for choice spots so they can hit the East while it's cool . . . Brooke's ham ticket expired and hasn't been renewed as yet . . . Adams renewed his commercial telegraph and telephone . . . Lorenz can't find trouble in his new pre-amp . . . Ham activity at a low ebb in Hollywood . . . Some say not enough foreign DX left and rest are rebuilding . . . Denny sold the extra Contax to Harrison Hollaway, (ex-engineer) manager of KFI-KECA . . . Harrison got married last week in Nevada to SF radio actress from his old SF station KFRC . . . Denechaud still with three cameras and ten lenses and averaging one picture (negative) a month . . . But Denny always has been more a collector of fine equipment (Radio-Photographic) than a user . . . Johnny Morris, ex Chicago, doing fine, likes the valley, is practising archery with Pickett . . . Sez he waits until Pickett has given up hope of selling the last of his eggs and then takes 'em off Pick's hands at reduced prices . . . This is usually about midnight when Pick and Johnny are on Master Control and maintenance watches respectively . . . Frank Figgins finally got his new Buick after wiring Buick president about slow delivery . . . Operatives report Franky really got some service and in a hurry and what's more is still getting it . . . The new buggy is deep green and a honey . . . Frank is still breaking it in and planning a Yosemite vacation . . . Don DeWolf to SF on flying visit to see about his Mill Valley house . . . Mrs. DeWolf stayed a week in SF for medical observation . . . Is back south again and feeling fine . . . With trouble in bunches De's daughter Lu was in hospital a few days with an arm infection . . . Les Culley collected six days off and drove to Berkley and back with the six months old Claire . . . She's doing fine sez Les . . . Ex staff orch leader and arranger, Merle Alderman, back to say hello to the old gang . . . Tanned and fat, Merle looks a million after his world tour following the shooting and hectic times of last summer . . . Guy Lombardo back after five years . . . Sez he's glad to be back and had expected to be out before this but they were false alarms . . . Guy did the old Eastern St. Josephs Aspirin show from the RKO studio five years ago as well as a stretch in the Cocoanut Grove . . . Guy is back in the Grove for a stay but his present commercial is on CBS . . . Rudy Vallee starts a new

Sealtest Show to the East only in March, occupying part of the hour formerly filled by Maxwell House on Thursday . . . Again it will be the Thursday big three, Crosby, Vallee, Maxwell House . . .

EXPANSION . . . Not in a big way but in several small ones

. . . A Television exhibit for Guest Tours is being built off the main floor artists corridor in a room formerly used for stage equipment storage . . . The equipment will be similar to that used in the RCA exhibit at last year's San Francisco Fair . . . It will consist of a standard camera, a semi portable video amplifier, and a series of viewing receivers . . . A full story on the installation when completed . . . This will be the first Television exhibit of this size open to the public in Los Angeles and should create a great deal of interest . . . To handle additional network relays and clear studio positions for increased local use, two new dummy studio positions with their amplifiers and control equipment have been added to Master Control . . . These new dummy studios will be lettered N and Q . . . Altho relays and general circuits for additional studios are included in the present master control setup, Frank Figgins and his maintenance department are to be congratulated on the installation of the amplifiers and cross connects in one night with no trouble of any kind . . . Careful preparation and planning were required as a rearrangement of other important master control positions was included . . . The new positions will permit the routing of the Red network down thru Nevada and into Hollywood for distribution to the Pacific Coast . . . This change has been planned for some time but telephone facilities thru the desert states had to be built . . . The change will take place shortly and it will necessarily increase Hollywood standbys and sustaining service to the Coast . . .

KAY PHELAN . . . Katie Phelan, our Hollywood secretary for almost four years, has left the department to work for Wendy Williams in Continuity Acceptance . . . Katie was the hardest working member of the department in the hectic days of no studios and many big shows . . . As De's secretary she handled the budgets, made the schedules, handled De's letters and reports as well as those of the supervisors, worried about purchase orders and overtime, and was a bookkeeper, steno, and practically Mother to ten or twelve tough engineers . . . The boys used to hang around her office when they had a minute between shows and she somehow always found time to give 'em some of her Irish blarney . . . Well, sir, they were really unhappy about her leaving except that it means a little more money for her and there wasn't enough for two to do in Engineering anyway . . . Sooo, at Frank Figgins' New Years party the boys gave Katie a gold topped Schaeffer Pen and Pencil set and a Parchment Scroll penned with the following lines by Earl 'Shakespeare' Sorenson and signed by all members of the department:

To Kathryn "Kitty" Phelan

From "Master Control" and "Office"

From "The Guys that Ride the Gain"

From "Platter Etchers" and "Tube Life Stretchers"

And "Those on the Gravy Train"

We're Truly Sad You're Leaving

We'll Miss Your Saucy Poise

Remember this "Bunch of Cherubs"

The Gang You Call "The Boys"

Right now we are sorry to report she is home recuperating from a rather serious appendectomy . . . Finally had it out after many years worrying about it . . . The fine hospitalization and health insurance we carry thru NBC in California helped her as it helped Denny and Jake O'Kelly take care of their operations . . . Katie will be back in a week or two at her desk in continuity

continued on next page

A COMMERCIAL RECEIVER

The HF-30X is an 11 tube superheterodyne receiver designed for the purpose of providing precision reception of signals located in the ultra-high range 27.8 to 41.5, and 40.8 to 60.3 MC, thus tuning the range in 2 full-coverage scales.

This receiver has been designed to anticipate the needs of all communication services operating in this field. Accordingly, it contains many features not ordinarily found even in comparable receivers of considerable higher cost.

The design and construction of this unit has been thorough. New circuits, new mechanical layout, and new conceptions of stability had to be devised before this unit could be released from our laboratory for practical use. For example, the stability of ordinary low frequency oscillating circuits was not nearly good enough for the range covered by this receiver, so a special triode circuit was designed using the 6J5 tube coupled with a rigid mechanical layout including the use of a cast aluminum frame, to insure complete stability.

A tuned radio frequency circuit had to be designed which would produce an appreciable amount of gain and selectivity operating at the frequencies covered by this receiver. In the past it has been the usual practice of providing such a stage, not with the expectation of gaining an increase in signal voltage at the detector grid, but simply with the idea of providing an isolation or buffer stage between the detector and antenna. However, in the HF-30X RME engineers have not been content with this "usual practice," and have subsequently worked out a design consisting of an 1852 type tube and precision wound inductances from which an actual gain in excess of 15 DB is realized.

The incorporation of an RF stage which really performs increases the over-all sensitivity of such a receiver as the HF-30X enormously. This receiver has that "live" feeling over the whole tuning range. The proof of this is in the extreme sensitiveness of the tuning meter in responding to weak signals. The use of the 6SJ7 as the high frequency detector also contributes materially to the over-all sensitivity of the receiver.

Image response, often so troublesome at these frequencies, is held at an absolute minimum through the use of a 1550 kilocycle intermediate frequency. Tubes used in the IF channel are two in number consisting of 6SK7's. The intermediate transformers are iron cored.

A 6H6 is used as a second detector. A beat oscillator has been provided for the purpose of locating weak signals, copying CW, and detecting any evidences of instability or frequency modulation in received signals. The tube is a 6J5.

Since automobile ignition noises appear to concentrate or peak in this frequency range a noise suppressor is an absolute necessity. A new and improved Dickert type suppressor using a 6Z7G tube is incorporated. This suppressor is adjusted to operate on signals up to 100% modulated.

The audio output is adequate for all normal operating services. Tubes used are a 6J7 driver and a 6F6 output. Audio output is approximately 2.5 watts. Speaker is built-in the same cabinet with the other components and is mounted on the front panel.

After allowing a twenty minute warm-up period the calibration of this unit is accurate to within one-tenth of 1 per cent.

Coupled with these features already mentioned, this unit also includes automatic volume control, manual gain control, built-in power supply for 105-115 volt 50-60 cycle current (or 6 volt DC operation on special order). Vernier tuning, dual antenna input for maximum transfer of signal energy at all frequencies covered, and unit construction of the coil assembly are standard design features.

SINCE 1922 . . .

AMATEUR RADIO HEADQUARTERS

for THOUSANDS of "HAMS"

From far and wide "Ham", Fans and "just plain" listeners flock to SUN - for here they KNOW they will find EVERYTHING to meet their requirements.

LATEST COMMUNICATIONS RECEIVERS Ultra High Frequency Equipment

Portable Transmitters

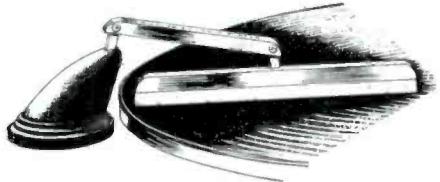
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SEE the New HALLICRAFTERS HT-8
SHIP - TO - SHORE TELEPHONE
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212 FULTON STREET NEW YORK CITY
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How to make a ONE-MAN Recording



THE AUDIODISC "CHIP CHASER"

With this clever recording accessory one operator can cut 'simultaneously on a number of turntables without thread worries. A trial will prove its worth.

AUTOMATIC - winds up thread on center post.

INFALLIBLE - works every time.

EASY TO INSTALL - just set it beside turntable - no screws.

SAFE - cannot scratch or in any way impair the recording.

Audio Devices, Inc.

1600 Broadway

New York City

acceptance . . . Good Luck, Katie . . .

TRANSCRIPTIONS . . . Bob Schuetz made a flying three day trip to NY for a conference on needed additions to the Hollywood recording setup . . . Our operatives report that a several thousand dollar project is practically assured . . . In the few months Reference Recording has operated in Hollywood, business has doubled monthly . . . Practically all the outside recording of NBC shows has been turned into NBC channels thru the actual excellence of our recording and the immediate playbacks and services rendered our clients thru being located in the building . . . And topping the reference recording business is the Network playbacks or repeat shows on the Blue . . . This has reached a point of several hours a day . . . And in addition the boys are making a series of commercials for Lord and Thomas that are cut on NBC Acetate and then processed and pressed by RCAV . . . And I haven't mentioned some thirty or forty numbers recorded for the Standard Radio Library by reason of the excellence of Radio City studio acoustics . . . Therefore you can readily see the need for bigger and better facilities, especially when you note that the equipment being used was designed for Reference work only . . . Much credit is to be given Mort Smith, Ken Hicks, and Bob Callen on a job well done . . . Matter of fact Ken Hicks was saying the other day that he hadn't seen his family in two weeks and one of his youngsters came in at daybreak and woke him up just to say hello to her daddy . . . Well, the rest of the boys kinda look with longing on the overtime figures for the three recorders . . . Bob Schuetz is getting a new 70C turntable and 64A speaker for his office . . . Four ND-46 amplifiers have replaced the bank of 94C's for cutting and boys report they are finest amplifiers they have seen . . . 50 watts output using four 807's in PP parallel . . . The boys have a new 10kc RCA cutter and a new 8A Presto feed-screw mechanism on test . . . So until they get enlarged quarters, new equipment, and maybe an announce booth, they'll just carry on . . .



MORE HEADLINES

GOSSIP . . . Sorry about no copy the last couple of issues . . . Ballup on deadlines threw me in February and I didn't expect a January issue at all because of the large Annual at Christmas . . . Therefore lots of copy for this issue and a longer column . . . Joe Kay and his new program S4-K1 is the idea for a full story in the Journal and Joe promises one soon but here's a brief for you right now . . . The show was dreamed up by Joe while trying some "Natural Perspective" effects on the "Those We Love" program . . . S4-K1 is written by Ted Sherdeman, ace writer who worked the "Those We Love" program as NBC producer . . . Idea is to experiment with natural perspective in drama before a microphone . . . If it's a door make it sound like

a door and perhaps let the actors do their own walking and sound effects . . . For instance first program used a real Austin car in studio for realism . . . Some fine effects were created in a bar room fight with actors actually fighting on prop board floor and surrounded by prop walls . . . Mike perspective was distant and a high overhead mike gave an excellent picture . . . Program title is not as mystically laboratory as it sounds as it comes from the initials of the heads of three departments involved in the experiments and the writer plus the engineer . . . S4 . . . Saxton, Swallow, Saz, Sherdeman . . . K1, Joe Kay . . . This child of Joe's fertile brain has created untold interest out here and John Royal during his recent visit gave it every encouragement after sitting in on a number of rehearsals . . . Joe is already receiving fan mail and suggestions . . . A likely idea was to see what could be done on a library of gun shots . . . Incidentally one reason for no February copy was the arrival of a new Ford convertible just at what I thought was deadline time . . . Announcer Ben Gage tipped over his sailboat in middle of Balboa Bay, spent an hour swimming it ashore, wonders why portable battery set won't work now that it's dry . . . Bing Crosby substituting the new exploding golf balls around the LA winter tournaments . . . Really scared the gallery until they caught an . . . Three for a dollar at any pro's . . . Paul Gale and his Traffic department to Green Valley for a skiing weekend . . . Pearson said he could ski until we saw Paul's 8mm color movies . . . Alice Tyler to SF over Christmas . . . Working plenty since Katie Phelan left . . . Judge Brown to Sacramento to attend couple sessions of legislature . . . Jim is taking up golf . . . Incidentally was re-elected chapter Secretary-Treasurer . . . Not every chapter that can rate an honest to gosh lawyer as an officer of ATE . . . Should have mentioned before that Denny Denchaud was also re-elected as chapter chairman . . . Charley Norman using his boat a lot . . . After completing the boat he built a rig for the Zephyr that carries the boat on top . . . Last week to the Santa Ynez where he caught several Steelhead salmon trout (Ocean going Rainbows) . . . Lorenz sez a contest is on between himself and Doc Hoople Dixson starting with the opening of the trout season . . . Of interest to the NY boys, Mort Smith has gone on a diet . . . Hear he couldn't quite reach records on the floor . . . Miv Adams sez that if Horace Heidt ever blew a fuse he wouldn't have an orchestra as his band is all electric . . . Floyd Wetteland into master control as official relief supervisor . . . Somebody suggests he'll have to shave the top of his head to match the other three baldies . . . Another gag sez rich diet due his promotion was cause of slight illness last month . . . Take it easy Floyd old boy, you're doing all right and congratulations from the whole gang . . . One of the Maintenance Department lads read the report of the National Treasury and wonders who drank the sixty bucks worth of liquor . . . Hi . . . Jake O'Kelly to start raising chickens . . . Got a decanter with a music box bottom for Christmas from Henry Meyer . . . Al Korb studying Spanish so he can talk to the South Americans in their own tongue . . . Wife taking it so she can talk to Al in a language the kids can't understand . . . Ted Sisson out with Guy Lombardo . . .

Well, Lads, that's about all for this day and date . . . As this is our first 1940 column may I take the floor to wish you all a really Happy and Prosperous 1940 from HOLLYWOOD.

continued on page 31

NEW CATALOG
available showing complete
line of Presto Recording
equipment, discs and
accessories.

Send for your copy today.

PRESTO RECORDING CORPORATION

242 West 55th Street

New York, N. Y.

NBC ENGINEERS

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1940 Models - ALL MAKES
PHONOGRAPH - COMBINATIONS
CONSOLES
TABLE MODELS
RECORD PLAYERS

at our **68 West 45th St., store**

As usual, everything in radio
for your engineering require-
ments, at both stores.

TERMINAL RADIO CORP.

68 WEST 45TH STREET (near Radio City)
80 CORTLANDT STREET, NEW YORK CITY
Call VAnderbilt 6-5050 for prompt deliveries

AMONG OTHER THINGS

continued from page 13

portion of the tax burden today, every adult in the country would have to stay drunk most of the time! This despite the fact that liquor taxes are about double that of pre-repeal. Beer consumption is only 40% of 1916, attributed to the absence of the nickel beer. After national repeal, Kentucky was still stuck with its own dry laws. The General Assembly then made provision to license retail stores, hotels, restaurants and clubs to sell medicinal liquor by the bottle, drink, or glass. They then defined liquor as any liquor containing any percent of alcohol which is used as a curative, alleviative or palliative for bodily disorder or bodily pain, or as a tonic or stimulant for nervous or mental fatigue or other necessities of the human body. Physicians certification of ills was not required. Any adult Kentuckian was authorized to buy liquor if he deems it necessary for his health. However, the bootleggers are still doing business in Kentucky, to the detriment of tax collections.

While on the subject of taxes, the January 1939 issue of America's Future gives some interesting figures on governmental costs for the year 1936, the latest year for which complete figures are available: The cost of all government, Federal, State, and Local, exceeded 17 Billion dollars; segregated, the Federal cost was 8.5 Billions; the State cost was 2.4 Billions; the Local cost was 6 Billions. The National debt is about \$345. per capita. The most staggering fact is that the per capita cost of Federal, State, and Local government in 1936 was \$131.

Supplying water suitable for drinking is one of the costly services supplied by local governments. In 1938, New York City's 7.7 million persons consumed 980 million gallons per day, or 127 gallons per capita per day! The Municipal Water

Supply System up to January 1, 1938, represents an investment of 533 million dollars; the 1938 cost of operations was 7.9 millions; interest and sinking fund charges amount to 20 millions; 1938 revenue from the sale of water was 37.7 million dollars. The typhoid death rate for 1938 was 3 per million, and these were not traced to impure water. Sanitary experts patrol the watersheds, and all water is chlorinated at any of 120 chlorinating plants. All Catskill water is aerated to free it from gases which produce unpleasant odor and taste. At three laboratories, daily bacteriological examinations are made of samples of water taken at different points; 26,000 samples are checked throughout the year. The 18 mile Shandaken Tunnel thru the Catskill Mountains is eleven feet in diameter, and cost 12 million dollars; the Hudson River was the largest valley to be crossed by the Catskill Aqueduct, where a 14 foot tunnel was driven in granite rock at a depth of 1,114 feet below sea-level, extending from Storm King Mountain to Breakneck Mountain. The total length of the Catskill Aqueduct is 110 miles; the two Croton Aqueducts are 30 and 38 miles each in length. There are 293 miles of pipe and conduit, ranging in diameter from 3 to 16½ feet, in the supply and distribution system of New York City's present water supply. The peril of water shortage which the City is now experiencing will continue until 1945, when the Dep't. of Water Supply expects the Roundout and Neversink watersheds, in conjunction with the Delaware Aqueduct now under construction, to provide an additional 540 million gallons daily. However, this is an example of tax money well spent.

FOR SALE by a member of the New York Staff: NC 44 receiver, \$25., Skybuddy receiver, \$20., DC/AC converter 300 watts, \$25. excellent condition; prices cash, fob New York. Write this column with shipping instructions.

NEW TRANSMISSION MEASURING SET



The Type 6C Measuring Set provides an accurate and rapid method for measuring the transmission characteristics of networks at audio frequencies.

This new set has the following outstanding features which contribute to its usefulness in the radio broadcasting field.

- * REFERENCE LEVEL: New standard of 1 mw. in 600 ohms.
- * METERS: New Type 30 standards.
- * ATTENUATION RANGE: Zero to 110 db. in steps of 1 db.
- * POWER RANGE: Calibrated from -16 to +45 db.
- * FREQUENCY RANGE: 20 to 17,000 cycles.
- * IMPEDANCES: Dial selection of useful network input and load impedances.
- * MISMATCH ADDITIONS: No additions necessary for change of impedance.

TYPE 6C TRANSMISSION MEASURING SET... \$325.00

Write for additional technical information.

THE DAVEN COMPANY
158 SUMMIT STREET
NEWARK, NEW JERSEY

The New TYPE 915

VOLUME LEVEL INDICATOR

BRIDGING - TERMINATING

THE DAVEN TYPE 915 VOLUME LEVEL INDICATOR is designed to indicate signal levels in broadcasting, sound recording and allied fields. This instrument uses the new standard of 1 mw into 600 ohms as the reference level. It may be used as either a bridging type V. I. for bridging terminated program lines, or as a loading type for correctly terminating the line.

The indicator is the new Type 30 Volume Level Meter which has been adopted as the standard for monitoring purposes. Two types of scales are available: Type A for special applications, and Type B for broadcasting work.

The meter range control is a DAVEN heavy duty "T" network which extends the range of the meter in accurate steps of 2db. In addition to this range control, an auxiliary screw driver type zero adjustment is provided. This adjustment is a miniature decade unit supplying positive adjustment in steps of 0.1db for accurate meter calibration.

A heavy duty self-cleaning type switch is provided for selecting the positions of "V. I.", "off" and "600 ohms Terminated."

THE DAVEN COMPANY

158 Summit Street Newark, N. J.

NEW YORK

Ed Gundrum after years of anti-home owning propaganda eating his words and building a house.

Jerry Sellars, Master Control was elected New York Chapter Chairman. Ted Clements is the new Master Control Councilman.

The New York Chapter has apparently backed out of the proposed inter-chapter supper dance that was to have made history.

Victor Tervola W2EYQ and Miss Mary Lou Kerner should be Mr. and Mrs. by the time you read this.

Ed Whitaker the Buddha of the Lounge, reports that "things are bad all over," after a five weeks stay in Florida with the GE show.

A. V. Giomatteo WEAF left on sick leave which we hope will be short. George Shields has been transferred there to take his place.

Under the gag department this month we find that a couple of the boys in the Television prop department were sent out to bring back an Echo Chamber!!!

Ed Costello and Hank Geist are the coffee making experts in the Maintenance Shop according to Ed Costello and Hank Geist.

The recent snow storm brought to view the greatest collection of rubbers, goulashes and boots our tired eyes have ever seen.

TELEMOBILE PICKUPS

Jackson, Peck and Resides limbering up on badminton court and planning vacation safari to Newfoundland for sea-bass fishing . . . WARNING to Hettich and Pickard—It's Leap Year . . . PICTURE—telemobiler drilling quarter-inch hole in steel panel with electric drill—"That reminds me, I've an appointment with the dentist" drawls the inimitable Burrell . . . NOTE to States who reports parasitics in new ham transmitter—read page fourteen of February tenth "New Yorker" for approved FUNG SUI for warding off devils . . . FAMILIAR SAYINGS: "Sure it's portable, it has handles", "Borrow it from Jacobson." . . . Orthicon cameraman working on termited roof at recent soccer game alternately panned camera and fell thru holes but managed to follow the play nevertheless . . . DIDJANO that Mrs. Bill States is an enthusiastic amateur fone operator and can talk circuits and tube data with the boys and make 'em like it? . . . Orchids to Albert Preisman of RCA Institutes for swell series of articles on television engineering now appearing in "Communications" . . . Eyes popped recently when Pickard smoking big cigar boarded telecruiser. Long-time non-smoker Pickard neatly parried queries about health but some wondered if disappearance for time somewhat later added up to something or other . . . Burrell at video control on recent RC Plaza ice skating show was heard bemoaning lack of contrast of a sheet of ice. For you, Jack, we have invented vari-colored ice by mixing easter-egg dye with pond-water . . .

ARACHIS HYPOGAEA—Peanuts to you, delicate flavor prized by elephants, baseball fans and all telemobilers (except Hettich) . . . IKEMAN Rodney Chipp busy evenings with radio theory class at Naval Reserve HQ . . . TAINT SO—accusation by scribes Compton and Stolzenberger that we have eaten honorable dictionary . . . SPIES report hearing admiring comments of bystanders viewing Blue and chrome NBC Telemobiles. Near-sighted ladies sometimes mistake them for passenger busses . . . S T R E T C H — amiable Bill Carson, tallest man in video field came to rescue once again at Starlight Park when he was only one who could reach matching-stub of UHF antenna when quick adjustment was necessary . . .

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Latest Communications Receiver Development

Taken collectively the ham is unquestionably the world's most critical and demanding shopper when it comes to purchasing new receiving equipment. In many commercial services receiver sensitivity of 10 micro-volts or less is considered satisfactory, yet the ham wants ten times this sensitivity. He likewise demands extraordinary selectivity (both signal and image), noise limiting, an "S" meter, a dial directly calibrated in frequency, and wide bandspreading.

In addition to all this he may not exactly demand, but certainly favors, such features as freedom from drift, direct frequency calibration of the band-spread as well as the main tuning dials, crystal filter, facilities for remote stand-by switching, decibel calibration for the "S" meter, switches and controls to provide the utmost in flexibility of operation, etc., etc.

All ham communications receivers do not satisfy all the hams' desires, of course, because to do so automatically takes such a receiver out of the "five and dime" class. But a hundred dollar bill, even when it's split up in the form of a flock of weekly or monthly installments, will today buy equipment which even a year ago could not be purchased for any amount of money, and which will satisfy both demands and desires of any ham, and the requirements of many commercial sources as well.

A tangible illustration of this is the Hallicrafters' "Super Defiant" Model SX25 communications receiver just introduced. Basically it is a 12-tube superhet with two tuned r. f. and two i. f. stages and an audio end including push-pull output and phase inversion. It covers the tuning range of 540 kc. to 42 mc. continuously and in doing so goes right down to anybody's noise level because of its handy combination of sensitivity and highly favorable signal-to-noise ratio. In fact with its automatic noise limiter it actually reduces the effective noise level in many locations.

Signal selectivity, when set for the sharpest one of its four selectivity ranges is such that a c. w. signal comes up with a whoop in a dial movement in terms of cycles rather than kilocycles. In this position speech is absolutely stymied. But in the next position (which also employs the crystal filter) speech becomes intelligible and the selectivity is still such that heterodyne interference even a couple of hundred cycles off loses its fear. The extreme selectivity alone would not permit this but is aided by the crystal circuit employed and the "phasing" control which by slight adjustment drops the interfering signal "in the slot" and out of the picture. For normal use there is the position known as "sharp i. f." meaning that maximum selectivity of the tuned circuits is utilized without resorting to the crystal, and beyond this is the "broad i. f." setting which is for use in high-



fidelity reception of good broadcast programs.

Image selectivity profits from the inclusion of the two pre-selector stages already mentioned.

A 6-position switch, with one movement selects the type of reception and the degree of selectivity desired. Its first three positions are for phone and provide as many degrees of selectivity including "phone-crystal", all with a. v. c. on. In the other three (c. w.) positions the a. v. c. is automatically cut off and the choice of "sharp i. f.", or either of the two crystal positions is provided.

Automatic temperature compensation not only offsets the "cold-start" drift due to the tubes heating up, but also the later drift resulting from the slower heating of coils, condensers, etc. Tuned to a given signal and left that way overnight the signal will be right there the next day when the receiver is turned on cold.

Preciseness of tuning is further aided by direct frequency calibration of the band-spread dial for all ham bands from 10 to 80 meters and a linear calibration for other ranges and services, and by the fact that each band-spread range is spread over almost the entire dial.

In addition to these features there are a number of others, not the least of which are a specially designed and soft-acting "S" meter calibrated in "S" numbers and decibels, connections for external stand-by switching, provision for instant change-over from a.c. to operation from battery supply and external vibrator when desired, etc.

Parts economy, attained through standardization and quantity production, and production efficiency made possible by large scale operations, have once more brought a new conception of value in the amateur field—a conception which involves the establishment of top-flight equipment prices at what only a matter of weeks ago was considered the medium price level.

New RCA Television Radio Relay System

Development of the radio relay method of transmitting television signals between cities has been advanced by RCA Laboratories to the point where it is technically ready for the first step of application in a public service, the Radio Corporation of America announced recently.

This new development, different from any other system so far devised, makes possible the establishment of inter-city television networks similar in effect to the wire networks of sound broadcasting. It is feasible, according to RCA engineers, to set up a radio relay system for television linking New York City, for example, with the nation's capital, Washington, D. C., and with Boston, Mass., and other intermediate cities. Similar radio relay networks could be established in other sections of the country.

Even such a limited network could make television programs immediately available to approximately 20,000,000 persons, or, roughly, one-sixth of the nation's population. Programs could originate as well as be received at any city which is part of the radio relay system.

In announcing the readiness of the radio relay system for television transmissions, RCA executives reiterated their belief that "television is here." They base this belief on evidence obtained in nine months of operating a regular television program service in the New York metropolitan area. The evidence shows definite public acceptance of the all-electronic system of television as operated on standards formulated by the Television Committee of the Radio Manufacturers Association, composed of the most capable television engineers in the radio industry.

At a hearing before the FCC in Washington recently, RCA engineers testified that the present RMA standards are entirely satisfactory for the development of a public television service, since they provide latitude for possible improvement in the effectiveness of television pictures of more than 100 per cent. The improvement would have to do with contrast, definition, and brightness of image. This means that television receivers now in the hands of the public, and those now offered for sale, would benefit from improvements indicated.

One of the results of last week's hearing in Washington was the decision of the FCC to make a television inspection tour in the New York and Philadelphia areas. The tentative schedule of their trip calls for visits to Albany, Schenectady, and Poughkeepsie, N. Y., on February 1, New York City and vicinity February 2 and 3, and Philadelphia and vicinity February 5. They expect to see television laboratory work, manufacturing, programming, and reception.

The new RCA television relay system is regarded by engineers as one of the most remarkable advances in the development of radio transmission in many years, because of the success achieved in dealing with frequency channels of extreme width. It differs from other methods of radio relay in that it makes use of specially designed relay stations operating on frequencies

many times higher than those used by regular television broadcasting stations.

RCA has had an experimental radio relay system in test operation for nearly a year between the National Broadcasting Company's Empire State Building transmitter and Riverhead, Long Island. The relay points are located at Hauppauge, 45 miles from the Empire State Building, and at Rocky Point, 15 miles from Hauppauge. The Rocky Point station boosts the signal another 15 miles to Riverhead.

Each relay station contains both receiving and transmitting devices, and is mounted on a 100-foot steel tower. The antennas are of the parabolic type necessary for the highly directional, or beam-like, transmission, which the system uses. The power required for operation is 10 watts or less. The distance between each relay point, in practical operation, would vary according to the terrain. The average distance would probably work out at approximately 30 miles.

The station operates unattended. The receiver is on at all times, and when a control signal is transmitted from a terminal point the relay receiver picks it up and delivers it to the companion transmitter. This action is repeated at each relay point until the circuit is in full operation. The frequency used is approximately 500,000 kilocycles. In the case of NBC's Empire State Building transmissions, the signal starts out on a frequency of 45,250 kilocycles and is changed to 500,000 kc. at Hauppauge, the first relay point, remaining at approximately the latter frequency throughout the relay system. When another terminal station receives the signal it is reconverted to a lower broadcasting frequency.

The new system is the product of years of research in the RCA Communications, Inc., division of RCA Laboratories. Work in the 500,000 kc. section of the radio wave spectrum began more than ten years ago. An experimental television relay system using a much lower frequency, was set up between New York and Camden, N. J., about seven years ago, and pictures of low-definition were successfully transmitted over it. The relay station was located at Mt. Arney, N. J., 64 miles from New York. It boosted the signal another 23 miles to Camden.

Four years ago, a radio relay for the transmission of telegraph, teletype, and experimental facsimile was installed by the RCA between New York and Philadelphia. Operating on frequencies ranging from 85,000 to 105,000 kilocycles, this system was incapable of carrying high-definition television images; however, much was learned from its operation. It became apparent that if high-definition television were to be relayed, new-type reception and transmission tubes must be developed. Starting more than three years ago, the work of developing the new tubes progressed rapidly and, by early 1939, it became possible to use them in the building of the experimental New York-Riverhead system. Operation of the system for nearly a year in all sorts of weather and atmospheric conditions has proved its effectiveness.

ALL ABOUT AMATEUR RADIO

continued from page 4

ands of useless ideas, consult recent radio magazines, or ask the doorman at your nearest hotel.

The mecca of most antenna-conscious Hams is the Rotary 3-Element Directive Array. This is called "3-Element" because it is liable to radiate in any of three directions: up, down, or sideways. When completed this antenna usually resembles a Rube Goldberg¹⁵ dream, and will vary inversely as the square of the brain of the amateur. The principle idea in back of this antenna is that it is supposed to turn in any direction in a horizontal plane. It is also useful as a weather-vane to determine wind-direction. When erected in a vertical plane it can be used as a ferris-wheel, or as a windmill to supply power for charging storage batteries.

The most popular type of antenna, however, is known as the "Haywire" Antenna. This consists of a loose wire, of varying length, tossed out of a window and left to dangle in the breeze.

After completing the transmitter and antenna, you will want to select the proper kind of receiver. There are many types of amateur and communications receivers on the market, and no attempt will be made to review each type here. It should be noted that crystal sets are no longer considered efficient for amateur use. These sets are rapidly being replaced by modern superheterodynes, where 16 tubes do the work of 3.

An interesting phenomenon of Ham radio is known as: Images.¹⁶ Often you may call "CQ" for hours on your Fone transmitter, without getting an answer. This is a rather boring procedure, and you will soon feel like doing something more exciting. By taking advantage of the proper Image it is possible for you to get on all the important radio programs of stations

on the Broadcast Band. Imagine the consternation of your neighbors when you come in (over their receiving sets) and give the answers on the "Information Please" program—before the experts! If you have always wanted to be a guest on the Fred Allen Show you can now do so, by utilizing Images. How amazed your neighbors will be when they hear your sotto voice booming out: "O. K., Joe! Dump 'er in!", and other amateur remarks.

If you operate a CW Code transmitter, then you can employ "key clicks"¹⁷ in order to make your signal splash over into the various harmonic¹⁸ frequencies you may want to interfere with.

You should beware of neighbors who are thoughtless enough to install "wave-traps"¹⁹ on their receiving sets in order to eliminate your Image interference. When this happens you can make a call at your neighbor's house; tell him you are the city building inspector, or the plumber, and then secretly remove the "wave-trap" when he isn't looking.

One notable characteristic of most Ham transmitters is their ability to cause interference in somebody's radio set, somewhere. The beginner in amateur radio should therefore accept complaints from irate neighbors with an indifferent shrug. The best solution of this interference problem is for the complainants to turn off their radio sets while you are transmitting.

Neighbors with neutrodyne receivers are hopeless targets for all types of interference²⁰, and nothing can be done about it. But they probably don't ever listen to their radios anyway, so it doesn't really matter.

In conclusion, it is important to note that all radio amateurs are experimenting with new radio gadgets. They are ever on the look-out for new discoveries in radio, and have been responsible for many of the great advances in radio communication and broadcasting.

But sometimes they take their work a little too much to heart. They are inclined to try 100 unusual experiments, such as the effect on a current after passing through a piece of green cheese, or the total hysteresis loss of a hairpin, or how to terminate a transmission line with an unbaited mouse-trap.

And if at first you don't succeed, try something else.
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SCHENECTADY

continued from page 11

watts on any band from 160 to 5 meters. That is not all he has in the suitcase. There is also a superhet receiver, and a power supply for stationary work where 110 volts AC are available. What, no bottle?

Gene Darlington, manager of G. E. shortwave broadcasting, owns station W2ALP. Gene is a friend of all hams and is very popular with every one here at WGY. He often keeps schedules with Al Korb in Hollywood and invites us fellows over for a good old rag-chew with Al. You may frequently hear Gene on WGEO or WGEA. He has appeared on the network Hobby Lobby program two times.

KFI - KECA

continued from page 14

He was schooled at Kansas State College, at the same time a number of other future NBC men were there, among them being Glenn Webster, SE, and Vern Mills, Recording, now in Chicago; R. D. Compton, Television, (and Editor of the Journal) New York, and Craig Pickett, MC, Hollywood. He received his B. S. in E. E. degree in 1931 and was a member of Phi-Kappa-Phi, honorary all-scholastic, and Sigma Tau, honorary engineering.

His first commercial position was obtained in 1932 as part-time engineer at KSAC. Later he was employed in the testing laboratories of the Kansas Highway Commission for five years. Then he came West to the Southern California Edison Co., from whence he came to KFI-KECA.

He swims, plays good baseball, and lately he's doing right well at the stick of a Fleet plane. Here's a picture of him in a control booth, jotting down a note on the log sheet.

ENVIRONMENT: Why do Transmitter Engineers grow taller than Studio Engineers? We guess it's because of their proximity to the towers. Anyhow it's a fact, all the tall Engineers of KFI-KECA are at the transmitters. At KFI's twin 400 footers there's Pete Dilt's 6' 3", the tallest of our thirty men; then George Tokar, 6'2", and Carl Sturdy, 6'1 $\frac{1}{2}$ ", and out at KECA's 485 foot vertical there's Rex Bettis, 6'1"; mighty men all.

VISITORS: Among those who have dropped in lately were: Jack La Frandre, ex NBC and N. W. Ayer & Son, New York, and CBS Hollywood; Dick Weed, ex NBC and agencies, New York; and Dave Kennedy, ex NBC San Francisco.

TRIVIA: Alexander traded his super Baldina camera in on a Weltini 35 mm and is making better pictures every day . . . Vacation problems already being discussed, when, where and wherewithal . . . Al Lincoln getting round-shouldered over his new HQ120X receiver . . . Blatterman sticking to his resolution to play at least one game of chess every day, and his game improving . . . Mason and Johnson took a few days much needed rest, at Grand Canyon and Carlsbad Caverns. Frolicked in the snow at the Canyon, and returned chipper . . . McDonald sporting a maroon Packard club coupe, making fifteen Packards among KFI-KECA Engineers . . . Dick Stoddart, of Hughes-round-the-world-flight fame, is doing research work with Hughes Aircraft in North Hollywood . . . Christensen stopped hamming long enough to build up a neat ten meter phone rig for W6QXL, a lady semi invalid out his way, and it's getting out OK. Give her a check when you hear her.

HOLLYWOOD - from page 25

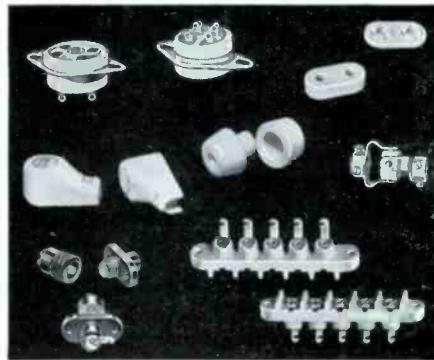
VWOA . . . Dick Stoddart tells of plans to form a Hollywood Chapter of Veteran Wireless Operators . . . Sez a committee headed by himself, Dr. Lee DeForest, and other prominent Old Timers, has worked out the groundwork for a rip snorting, red hot LA Chapter that will show the well known NY Chapter a thing or two in Brass Pounding Sociability. Dick reports over a hundred interested already. . . Asks us to advise NBC gang . . . Requirements include possession of a commercial license for ten years or more . . . Dues will be very low and activity will be principally non-technical get togethers for purpose of keeping or renewing old acquaintances; to publicize and promote the reputation of Radio Men generally; and to record and preserve historical and heroic scenes in the history of our profession . . . Incidentally Dick remarks that the NY gang seem to have forgotten how to write letters . . . (He can be reached care Hughes Aircraft, Burbank, Calif.) Also that he may be taking another trip soon and the NY Field boys crazy postal cards . . .

Lamme Award to Norman W. Storer

The 1939 Lamme Medal of the American Institute of Electrical Engineers has been awarded to Norman W. Storer, retired Consulting Railway Engineer, Westinghouse Electric and Manufacturing Company, East Pittsburgh, Pa., "for pioneering development and application of equipment for electrical traction." The medal and certificate will be presented to him at the annual Summer Convention of the Institute, which is to be held in Swampscott, Mass., June 24-28, 1940.

The Lamme Medal was founded as a result of a bequest of the late Benjamin G. Lamme, Chief Engineer of the Westinghouse Electric and Manufacturing Company, who died on July 8, 1924, to provide for the award by the Institute of a gold medal (together with a bronze replica thereof) annually to a member of the American Institute of Electrical Engineers, "who has shown meritorious achievement in the development of electrical apparatus or machinery" and for the award of two such medals in some years if the accumulation from the funds warrants. A committee composed of nine members of the Institute awards the medal.

Mr. Lamme made similar bequests to the Society for the Promotion of Engineering Education and the Ohio State University, providing in the former for the annual award of a medal "for accomplishment in technical teaching or actual advancement of the art of technical training," and in the latter for the annual award of a medal to a graduate of the Ohio State University in any branch of engineering for meritorious achievement in engineering or the technical arts. The three organizations adopted a common obverse for their medals, and each prepared a suitable reverse.



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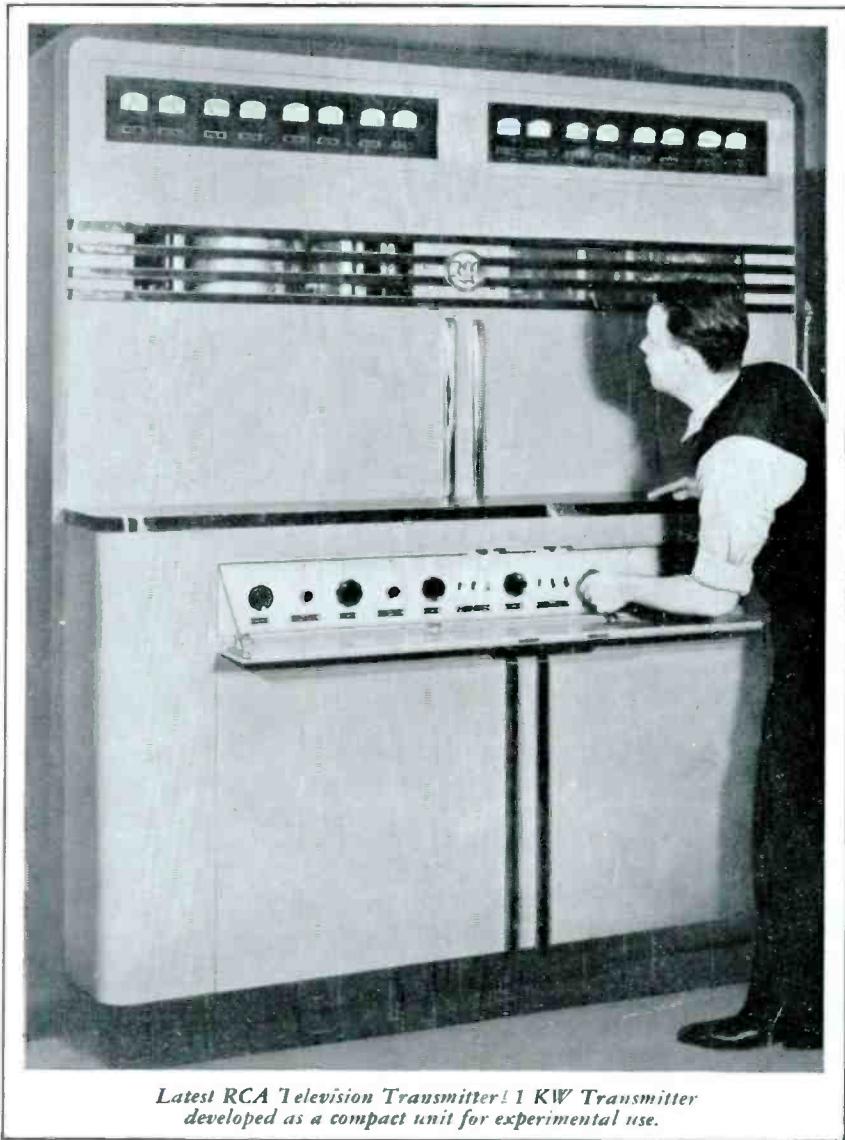
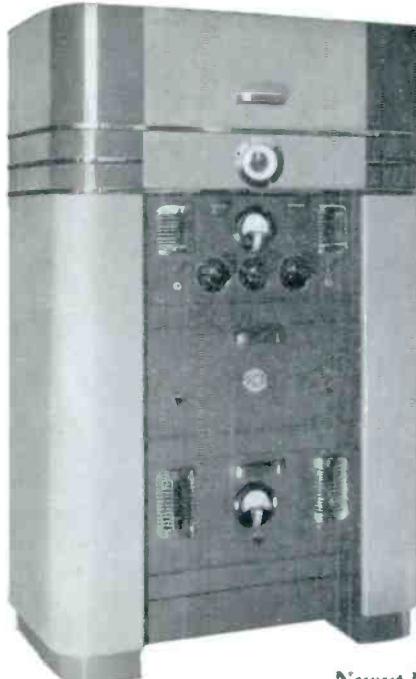
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W1ZL	W3HIH	N9FQ
W2ADD	W3HN	W9GG
W2LVX	W3QUC	W9GN
W2ADL	W6ACX	W9GY
W2ADQ	W6ADI	W9IAH
W2AEB	W6ARX	W9IWV
W2AID	W6BH	W9IVD
W2AIS	W6CFQ	W9JIR
W2AKQ	W6CRO	W9KQS
W2ALB	W6GIS	W9LEP
W2ALD	W6GP	W9MV
W2AMG	W9CH	W9QKW
W2AMS	W6HSC	W9RUK
W2ARB	W6IY	W9SBC
W2AWU	W6IX	W9SGM
W2BRR	W6JD	W9TPJ
W2BNL	W6JJ	W9VNW
W2BXY	W6KIP	W9WC
W2CTQ	W6KL	W9WS
W2CUZ	W6KLM	N9FA
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W2EGD	W6KM	
W2EOA	W6KO	
W2HXQ	N6KO	
W2EP	W6LXS	
W2FED	W6OE	
W2GSY	W6OMN	
W2HEJ	W6OSH	
W2HIO	W2CGO	
W2HJG	W6PHS	
W2HJY	W6PKA	
W2HZO	W2FE	
W2ICX	W6QED	
W2IHI	W9FK	
W2IP	W6SQ	
W2IOX	W6VH	
W2IPG	W8CMY	
W2IUU	W8DBC	
W2JJ	W8DBC	
W2JTB	W8DHF	
W2KBA	W8DUC	
W2KDF	W8FPI	
W2KGO	W8FP	
W2KJI	W8GTG	
W2KP	W8LEX	
W2KPG	W8LLG	
W2KPR	W8QUC	
W2LEJ	W3QVC	
W2LPK	W8RU	
W2LV	W9BGI	
W2LXR	W9BU	
W2LZD	W9CIU	
W2NX	W9CP	
W2VY	W9CQI	
W2WY	W9CTN	
W2XEJ	W9CZR	
W2XER	W9DBT	
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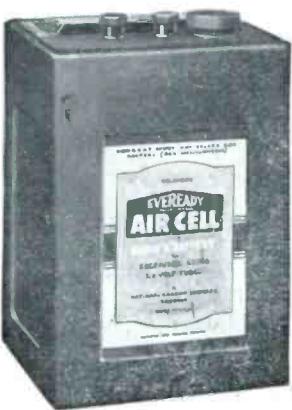
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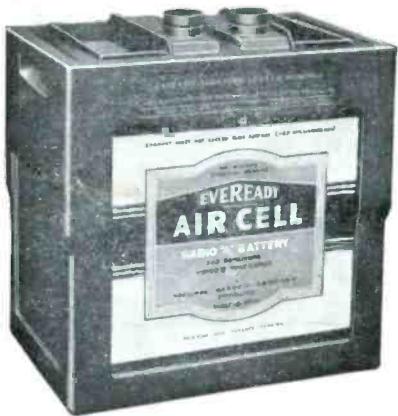
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RADIO "A" BATTERY

is the engineer's choice!

1. *It gives level power throughout its guaranteed life—can't burn out tubes when new, and won't cause fading up to its last service hour!*

2. *No recharging! The "Air Cell" battery is a patented, exclusive "Eveready" product. Comes dry, hermetically sealed, no shelf depreciation. Its "life" begins when water is added!*

3. *Less costly! These batteries have a guaranteed capacity of 300 and 600 ampere hours at two voltages—one for 1.4-volt tubes, one for 2-volt tubes.*

4. *It is the ideal battery for a wide variety of engineering, research and experimental applications!*

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