

FALL EDITION 1925

 **8th Revised Edition**
Including Map of the
United States



WHITE'S AIR LINE 

MILEAGE BOOK

and

Triple-List

of

RADIO

Broadcasting Stations

1925

Revised Often — Always Up-to-Date

PRICE 10 CENTS

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KEPT UP TO DATE

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C. DE WITT WHITE CO., PUBLISHERS
1311 SMITH STREET, PROVIDENCE, R. I.

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**COMPLETE LIST OF
UNITED STATES BROADCASTING STATIONS
ARRANGED ALPHABETICALLY
BY CALL LETTERS**

Abbreviations: W. L., wave length in meters; K. C., frequencies in kilocycles; W. P., watt power of station

	W.L.	K.C.	W.P.
KDKA Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa....	309-970-	variable	
KDLR The Radio Electric Co. & Wilson Ins. Co., Devils Lake, N. D...	231-1300-	5	
KDPM Westinghouse Electric & Mfg. Co., Cleveland, O.....	250-1200-	50	
KDYL Newhouse Hotel, Salt Lake City, Utah.....	246-1220-	50	
KDZB Frank E. Siefert, Bakersfield, Calif.....	210-1430-	100	
KFAB Nebraska Buick Auto Co., Lincoln, Neb.....	340- 880-	500	
KFAD McArthur Bros. Mercantile Co., Phoenix, Ariz.....	273-1100-	100	
KFAE State College of Washington, Pullman, Wash.....	349- 859-	500	
KFAF Western Radio Corporation, Denver, Colo.....	278-1080-	500	
KFAJ University of Colorado, Boulder, Colo.....	261-1150-	100	
KFAN University of Idaho, Moscow, Idaho.....	230-1300-	50	
KFAU School District of Boise City, Boise High School, Boise, Idaho.....	278-1080-	500	
KFAW The Radio Den, Santa Ana, Calif.....	214-1400-	10	
KFBB F. A. Buttrey & Co., Havre, Mont.....	275-1090-	50	
KFBC W. K. Azvill, San Diego, Calif.....	224-1340-	10	
KFBG First Presbyterian Church, Tacoma, Wash.....	250-1200-	50	
KFBK Kimball-Upson Co., Sacramento, Calif.....	248-1210-	100	
KFBL Leese Bros., Everett, Wash.....	224-1340-	50	
KFBS School District No. One, Trinidad, Col.....	238-1260-	15	
KFCB Neilson Radio Supply Co., Phoenix, Ariz.....	238-1260-	50	
KFCC Flint Congregational Church, Helena, Mont.....	248-1210-	10	
KFCF Frank A. Moore, Walla Walla, Wash.....	256-1170-	100	
KFCY Western Union College, Le Mars, Iowa.....	252-1190-	50	
KFCZ Omaha Central High School, Omaha, Neb.....	258-1160-	50	
KFDD St. Michael's Cathedral, Boise, Idaho.....	278-1080-	50	
KFDDH University of Arizona, Tucson, Ariz.....	258-1160-	50	
KFDJ Oregon Agricultural College, Corvallis, Ore.....	254-1180-	50	
KFDM Magnolia Petroleum Co., Beaumont, Tex.....	316- 950-	500	
KFDX First Baptist Church, Shreveport, La.....	250-1200-	100	
KFDY So. Dak. State Col. of Agr. and Mech. Arts, Brookings, S. Dak.....	273-1100-	100	
KFDZ Harry O. Iverson, Minneapolis, Minn.....	231-1300-	10	
KFEC Meier & Frank Co., Portland, Ore.....	248-1210-	50	
KFEL W. L. Winner Radio Corp., Denver, Colo.....	254-1180-	50	
KFEQ J. L. Scroggin, Oak, Neb.....	268-1120-	500	
KFEY Bunker Hill & Sullivan M. & Concentrat. Co., Kellogg, Idaho.....	233-1290-	10	
KFFP First Baptist Church, Moberly, Mo.....	242-1250-	50	
KFFV Graceland College, Lamoni, Iowa.....	250-1200-	100	
KFFY Louisiana College, Alexandria, La.....	275-1090-	50	
KFGC Louisiana State University, Baton Rouge, La.....	268-1120-	100	
KFGD Oklahoma College for Women, Chickasha, Okla.....	252-1190-	200	
KFGH Leland Stanford Junior University, Stanford Univ., Calif.....	270-1110-	500	
KFGQ Cray Hardware Co., Boone, Iowa.....	226-1330-	10	
KFGX First Presbyterian Church, Orange, Texas.....	250-1200-	500	
KFHA Western State College, Gunnison, Colo.....	252-1190-	50	
KFHL Penn College, Oskaloosa, Iowa.....	240-1250-	10	
KFI Earl C. Anthony, Inc., Los Angeles, Calif.....	468- 642-	3000	
KFIF Benson Polytechnic Institute, Portland, Ore.....	248-1210-	100	
KFIO North Central High School, Spokane, Wash.....	266-1130-	100	
KFII First Methodist Church, Yakima, Wash.....	256-1170-	100	
KFIU Alaska Electric Light & Power Co., Juneau, Alaska.....	226-1330-	10	

KFIZ	Daily C'm'onw'lth & Wis'nsin Radio Sales, Inc., Fondulac, Wis.	273-1100-	10
KFJB	Marshall Electrical Co., Marshalltown, Iowa	248-1210-	10
KFJC	Episcopal Church (R. B. Fegan), Junction City, Kans.	219-1370-	10
KFJF	National Radio Manufacturing Co., Oklahoma City, Okla.	261-1150-	225
KFJI	Liberty Theatre, Astoria, Ore.	246-1220-	10
KFJM	University of North Dakota, Grand Forks, N. Dak.	278-1080-	100
KFJR	Ashley C. Dixon & Son, Portland, Ore.	263-1140-	5
KFJX	Iowa State Teachers' College, Cedar Falls, Iowa	258-1160-	50
KFJY	Tunwall Radio Co., Fort Dodge, Iowa	246-1220-	50
KFJZ	W. E. Branch, Fort Worth, Texas	254-1180-	50
KFKA	Colorado State Teachers College, Greeley, Col.	273-1100-	50
KFKQ	Conway Radio Laboratories, Conway, Ark.	250-1200-	100
KFKU	University of Kansas, Lawrence, Kansas	275-1090-	500
KFKX	Westinghouse Electric & Manufacturing Co., Hastings, Neb.	288-1041-	2000
KFKZ	F. M. Henry, Kirksville, Mo.	226-1330-	5
KFLP	Everett M. Foster, Cedar Rapids, Iowa	256-1170-	20
KFLR	University of New Mexico, Albuquerque, New Mexico	254-1180-	200
KFLU	San Benito Radio Club, San Benito, Texas	236-1270-	10
KFLV	Swedish Evangelical Mission Church, Rockford, Ill.	229-1310-	100
KFLX	George R. Clough, Galveston, Tex.	240-1250-	10
KFLZ	Atlantic Automobile Co., Atlantic, Iowa	273-1100-	100
KFMQ	University of Arkansas, Fayetteville, Ark.	300-1000-	500
KFMR	Morningside College, Sioux City, Iowa	261-1150-	100
KFMW	M. G. Sateren, Houghton, Mich.	263-1140-	50
KFMX	Carleton College, Northfield, Minn.	337- 890-	750
KFNF	Henry Field Seed Co., Shenandoah, Iowa	266-1130-	500
KFNG	Wooten's Radio & Electric Co., Coldwater, Miss.	254-1180-	10
KFNV	L. A. Drake Battery & Radio Supply Shop, Santa Rosa, Calif.	229-1310-	50
KFOA	Rhodes Department Store, Seattle, Wash.	454- 660-	500
KFOB	Leslie M. Schafbuch, Marengo, Iowa	234-1280-	10
KFON	Echophone Radio Shop, Long Beach, Calif.	233-1290-	100
KFOO	Latter Day Saints University, Salt Lake City, Utah	236-1270-	250
KFOR	David City Tire & Electric Co., David City, Nebr.	226-1330-	100
KFOT	College Hill Radio Club, Wichita, Kans.	231-1300-	50
KFOX	Technical High School, Omaha, Nebr.	248-1210-	100
KFOY	Beacon Radio Service, St. Paul, Minn.	252-1190-	50
KFPG	Oliver S. Garretson, Los Angeles, Calif.	238-1260-	100
KFPL	C. C. Baxter, Dublin, Texas	252-1190-	15
KFPM	New Furniture Co., Greenville, Tex.	242-1240-	10
KFPR	Los Angeles County Forestry Dept., Los Angeles, Cal.	231-1300-	500
KFPW	St. John's M. E. Church, South Cartersville, Mo.	258-1160-	20
KFPY	Symons Investment Co., Spokane, Wash.	266-1130-	100
KFOA	The Principa, St. Louis, Mo.	261-1150-	100
KFOB	Searchlight Publishing Co., Fort Worth, Texas	263-1140-	150
KFOC	Kidd Bros. Radio Shop, Taft, Calif.	231-1300-	100
KFOH	Radio Service Co., Burlingame, Calif.	220-1360-	50
KFOP	George S. Carson, Jr., Iowa City, Iowa	224-1340-	10
KFOT	Texas National Guard, Denison, Texas	252-1190-	10
KFOU	W. E. Riker, Holy City, Calif.	222-1350-	100
KFOW	C. F. Knierin, North Bend, Wash.	216-1390-	50
KFOZ	Taft Products Co., Hollywood, Calif.	226-1330-	250
KFRB	Hall Bros., Beeville, Tex.	248-1210-	250
KFRC	City of Paris Dry Goods Co., San Francisco, Calif.	268-1120-	50
KFRL	Men's Club, 1st Presbyterian Church, Grand Forks, N. D.	240-1250-	10
KFRU	Etherical Radio Co., Bristow, Okla.	394- 760-	500
KFRW	United Churches of Olympia, Wash.	219-1370-	50
KFRX	J. Gordon Klemgard, Pullman, Wash.	217-1380-	10
KFRY	New Mexico Col. of Agri. & Mech. Arts, State College, N. M.	266-1130-	50
KFRZ	The Electric Shop, Hartington, Nebr.	222-1350-	15

KFSG	Echo Park Evangelistic Association, Los Angeles, Calif.....	275-1090-	500
KFSY	Van Blaricom Co., Helena, Mont.....	248-1210-	10
KFUJ	Hopper Plumbing & Heating Co., Breckenridge, Minn.....	242-1240-	50
KFUL	Thomas Goggan & Bros. Music Co., Galveston, Texas.....	258-1160-	10
KFUM	W. D. Pyle, Colo. Springs, Colo.....	242-1240-	100
KFUO	Concordia Seminary, St. Louis, Mo.....	545- 550-	500
KFUP	Fitzsimons General Hospital, Denver, Colo.....	234-1280-	50
KFUR	Perry Building Co., Ogden, Utah.....	224-1340-	50
KFUS	Louis L. Sherman, Oakland, Calif.....	234-1280-	50
KFUT	University of Utah, Salt Lake City, Utah.....	261-1150-	100
KFUU	Colburn Radio Laboratories, San Lenadro, Calif.....	224-1340-	50
KFUV	G. Pearson Ward, Springfield, Mo.....	252-1190-	10
KFUZ	Y. M. C. A., Virginia, Minn.....	248-1210-	10
KFVD	McWhinnee Electric Co., San Pedro, Calif.....	205-1460-	50
KFVE	Film Corp. of America, St. Louis, Mo.....	240-1250-	500
KFVF	Clarence B. Juneau, Hollywood, Calif.....	208-1440-	250
KFVG	First Methodist Episcopal Church, Independence, Kans.....	236-1270-	10
KFVH	Whan Radio Shop, Manhattan, Kans.....	219-1370-	10
KFVI	56th Cavalry Brigade, Headquarters Troop, Houston, Tex.....	248-1210-	10
KFVN	Carl E. Bagley, Welcome, Minn.....	227-1320-	10
KFVR	Eugene Rossi, Denver, Colo.....	246-1220-	50
KFVS	Cape Girardeau Btty. Sta. (O. C. Hirsch), Cape Girardeau, Mo.....	224-1340-	50
KFVU	Radio Shop (Pete Radelich), Eureka, Calif.....	210-1430-	5
KFVV	Rairfan Radio Corp., San Diego, Calif.....	246-1220-	500
KFVY	Radio Supply Co., Albuquerque, N. Mexico.....	250-1200-	10
KFWA	Browning Bros. Co., Ogden, Utah.....	261-1150-	500
KFWB	Warner Bros. Pictures, Inc., Hollywood, Calif.....	252-1190-	500
KFWC	L. E. Wall, Upland, Calif.....	211-1420-	50
KFWD	Arkansas Light & Power Co., Arkadelphia, Ark.....	266-1130-	500
KFWF	St. Louis Truth Center, St. Louis, Mo.....	214-1400-	250
KFWH	F. Wellington Morse, Jr., Chico, Calif.....	254-1180-	100
KFWI	Radio Entertainments (Inc.), South San Francisco, Calif.....	220-1360-	500
KFWM	Oakland Education Society, Oakland, Calif.....	207-1430-	500
KFWO	Lawrence Mott, Avalon, Calif.....	211-1420-	250
KFWP	Rio Grande Radio Supply House, Brownsville, Texas.....	214-1400-	10
KFWU	Louisiana College, Pineville, La.....	238-1260-	100
KFWV	Wilbur Jerman, Portland, Oregon.....	213-1410-	5
KFXB	Bertram O. Heller, Big Bear Lake, Calif.....	207-1480-	10
KFXC	Santa Maria Valley Railroad Co., Santa Maria, Calif.....	210-1430-	100
KFXD	L. H. Strong, Logan, Utah.....	205-1460-	10
KFXE	Electrical Research & Mfg. Co., Waterloo, Iowa.....	236-1270-	10
KFXF	Pikes Peak Broadcastng Co., Colorado Springs, Col.....	250-1200-	500
KGB	Tacoma Daily Ledger, Tacoma, Wash.....	250-1200-	50
KGO	General Electric Co., Oakland, Calif.....	361- 830-	3000
KGTT	Glad Tidings Tabernacle, San Francisco, Calif.....	234-1280-	50
KGU	Marion A. Mulreny, Honolulu, Hawaii.....	270-1110-	500
KGW	Portland Morning Oregonian, Portland, Ore.....	491- 610-	500
KGY	St. Martin's College, Lacey, Wash.....	246-1220-	5
KHJ	Times-Mirror Co., Los Angeles, Calif.....	405- 742-	500
KHQ	Louis Wasmer, Seattle, Wash.....	273-1100-	100
KJBS	Julius Brunton & Sons Co., San Francisco, Calif.....	236-1268-	10
KJR	Northwest Radio Service Co., Seattle, Wash.....	384- 780-	1000
KLDS	Reor. Ch. of Jesus Christ of L. D. Sts., Independence, Mo.....	441- 680-	1000
KLS	Warner Brothers, Oakland, Calif.....	242-1240-	250
KLX	Tribune Publishing Co., Oakland, Calif.....	508- 590-	500
KLZ	Reynolds Radio Co., Denver, Colo.....	266-1130-	250
KMA	May Seed & Nursery Co., Shenandoah, Iowa.....	252-1190-	500
KMJ	Fresno Bee, Fresno, Calif.....	234-1280-	50
KMO	Love Electric Co., Tacoma, Wash.....	250-1200-	100
KNX	Los Angeles Evening Express, Los Angeles, Calif.....	337- 890-	500

KOA	General Electric Co., Denver, Colo.	322- 930-2000
KOB	N. Mex. Col. of Agri. & Mechanic Arts, State College, N. Mex.	349- 859- 750
KOIL	Monarch Manuf. Co., Council Bluffs, Iowa	278-1080- 500
KOP	Detroit Police Dept., Detroit, Mich.	278-1080- 500
KPO	Hale Bros., San Francisco, Calif.	428- 700- 500
KPPC	Pasadena Presbyterian Church, Pasadena, Calif.	229-1310- 50
KPRC	Post Dispatch, Houston, Texas.	297-1010- 500
KPSN	Pasadena Star-News, Pasadena, Calif.	316- 950-1000
KQP	Apple City Radio Club, Hood River, Oregon.	270-1110- 100
KQV	Doubleday-Hill Electric Co., Pittsburgh, Pa.	275-1090- 500
KQW	1st Baptist Church (Chas. D. Herrold), San Jose, Calif.	226-1330- 500
KRE	Berkeley Daily Gazette, Berkeley, Calif.	258-1160- 50
KSAC	Kansas State Agri. College, Manhattan, Kansas.	341- 880- 500
KSD	Post Dispatch, St. Louis, Mo.	545- 550- 750
KSL	Radio Service Corp. of Utah, Salt Lake City, Utah	300-1000-1000
KTAB	Tenth Ave. Baptist Church, Oakland, Calif.	216-1390- 500
KTBI	Bible Institute of Los Angeles, Los Angeles, Calif.	294-1020- 750
KTCL	American Radio Telephone Co., Seattle, Wash.	306- 980-1000
KTHS	New Arlington Hotel Co., Hot Springs, Ark.	375- 800- 500
KTW	First Presbyterian Church, Seattle, Wash.	454- 660-1000
KUO	Examiner Printing Co., San Francisco, Calif.	246-1220- 150
KUOM	State University of Montana, Missoula, Mont.	245-1230- 250
KUPR	Union Pacific Railroad Co., Omaha, Nebr.	270-1110- 50
KWG	Portable Wireless Telephone Co., Stockton, Calif.	248-1210- 50
KWKC	Wilson Duncan Studios, Kansas City, Mo.	236-1270- 100
KWKH	W. G. Patterson, Shreveport, La.	273-1100- 250
KWWG	City of Brownsville, Board Development, Brownsville, Texas.	278-1080- 500
KYW	Westinghouse Electric & Mfg. Co., Chicago, Ill.	535- 561-1500
KZKZ	Electrical Supply Co., Manila, P. I.	270-1110- 100
KZM	Preston D. Allen, Oakland, Calif.	242-1240- 100
KZRQ	Far Eastern Radio (Inc.), Manila, P. I.	222-1360- 500
WAAB	Valdemar Jensen, New Orleans, La.	268-1120- 100
WAAC	Tulane University, New Orleans, La.	275-1090- 100
WAAD	Ohio Mechanics Institute, Cincinnati, Ohio.	258-1160- 25
WAAF	Chicago Daily, Drivers Journal, Chicago, Ill.	278-1080- 200
WAAM	I. R. Nelson Co., Newark, N. J.	263-1140- 500
WAAW	Omaha Grain Exchange, Omaha, Nebr.	278-1080- 500
WABA	Lake Forest University, Lake Forest, Ill.	227-1320- 200
WABB	Harrisburg Sporting Goods Co., Harrisburg, Pa.	266-1130- 16
WABC	Ashville Battery Co., Ashville, N. C.	254-1180- 16
WABI	Bangor Hydro Electric Co., Bangor, Maine.	240-1250- 100
WABO	Lake Avenue Baptist Church, Rochester, N. Y.	278-1080- 100
WABQ	Haverford College Radio Club, Haverford, Pa.	261-1150- 50
WABR	Scott High School, Toledo, Ohio.	263-1140- 50
WABW	College of Wooster, Wooster, Ohio.	207-1450- 50
WABX	Henry B. Joy, Mount Clemens, near Mich.	246-1220- 150
WABY	John Magaldi, Jr., Philadelphia, Pa.	242-1240- 50
WABZ	Coliseum Place Baptist Church, New Orleans, La.	275-1090- 50
WADC	Allen Theater, Akron, Ohio.	258-1160- 100
WAFD	Albert B. Parfet Co., Port Huron, Mich.	256-1170- 500
WAHG	A. H. Grebe & Co., Richmond Hill, N. Y.	316- 950- 500
WAIT	A. H. Waite & Co., Taunton, Mass.	229-1310- 10
WAMC	Hotel McAlpia (Greeley Square Hotel Co.), New York, N. Y.	341- 880- 500
WAMD	Hubbard & Co., Minneapolis, Minn.	244-1230- 500
WAPI	Alabama Polytechnic Institute, Auburn, Ala.	248-1210- 500
WARC	American Radio & Research Corp., Medford Hillside, Mass.	261-1150- 100
WBAA	Purdue University, West Lafayette, Ind.	273-1100- 250
WBAK	Pennsylvania State Police, Harrisburg, Pa.	275-1090- 500
WBAO	James Millikin University, Decatur, Ill.	270-1110- 100
WBAP	Wortham-Carter Publishing Co., Fort Worth, Texas.	476- 630-1000

WBAV	Erner & Hopkins Co., Columbus, Ohio	294-1020-500
WBAX	John H. Stenger, Jr., Wilkes-Barre, Pa.	256-1170-100
WBBA	Plymouth Congregational Church, Newark, Ohio	226-1330-20
WBBG	Irving Vermilya, Mattapoisett, Mass.	247-1210-100
WBBL	Grace Covenant Church, Richmond, Va.	229-1310-100
WBBM	Atlas Investment Co., Chicago, Ill.	226-1330-1500
WBBP	Petoskey High School, Petoskey, Mich.	238-1260-200
WBBR	People's Pulpit Association, Rossville, N. Y.	273-1100-500
WBBS	First Baptist Church, New Orleans, La.	252-1190-50
WBBU	Jenks Motor Sales Co., Monmouth, Ill.	224-1340-10
WBBW	Ruffner Junior High School, Norfolk, Va.	222-1350-50
WBBY	Washington Light Infantry, Charleston, S. C.	268-1120-10
WBCN	Foster & McDonnell, Chicago, Ill.	266-1130-500
WBDC	Baxter Laundry Co., Grand Rapids, Mich.	256-1170-50
WBES	Bliss Electrical School, Takoma Park, Md.	222-1350-100
WBOQ	A. H. Grebe & Co., Richmond Hill, N. Y.	236-1270-100
WBRC	Bell Radio Corp., Birmingham, Ala.	248-1210-10
WBRE	Baltimore Radio Exchange, Wilkes-Barre, Pa.	231-1300-10
WBT	Southern Radio Corp., Charlotte, N. C.	275-1090-250
WBZ	Westinghouse Elec. & Mfg. Co., Springfield, Mass.	333-900-2000
WBZA	Westinghouse Electric & Mfg. Co., Boston, Mass.	242-1240-250
WCAC	Connecticut Agricultural College, Mansfield, Conn.	275-1090-500
WCAD	St. Lawrence University, Canton, N. Y.	263-1140-250
WCAE	Kaufman & Baer Co., Pittsburgh, Pa.	461-650-500
WCAH	Entrekin Electric Co., Columbus, Ohio	266-1130-500
WCAJ	Nebraska Wesleyan University, University Place, Nebr.	254-1180-500
WCAL	St. Olaf College, Northfield, Minn.	337-890-500
WCAO	Albert A. & A. Stanley Brager, Baltimore, Md.	275-1090-100
WCAP	Chesapeake & Potomac Telephone Co., Washington, D. C.	469-640-500
WCAR	Southern Radio Corp. of Texas, San Antonio, Texas	263-1140-100
WCAT	South Dakota State School of Mines, Rapid City, S. D.	240-1250-50
WCAU	Durham & Co., Philadelphia, Pa.	278-1080-500
WCAX	University of Vermont, Burlington, Vt.	250-1200-100
WCAZ	Carthage College, Carthage, Ill.	246-1220-50
WCBA	Queen City Radio Station, Allentown, Pa.	254-1180-15
WCBC	University of Michigan, Ann Arbor, Mich.	229-1310-200
WCBD	Wilbur G. Voliva, Zion, Ill.	345-870-5000
WCBE	Uhalt Brothers Radio Co., New Orleans, La.	263-1140-5
WCBG	Howard S. Williams, Pascagoula, Miss. (portable)	268-1120-10
WCBH	University of Mississippi, Oxford, Miss.	241-1240-10
WCBM	Hotel Chateau, Baltimore, Md.	229-1310-50
WCBO	First Baptist Church, Nashville, Tenn.	236-1270-100
WCBR	Chas. H. Messter, Providence, R. I. (portable)	205-1460-30
WCBU	Arnold Wireless Supply Co., Arnold, Pa.	220-1360-50
WCCO	Washburn-Crosby Co., Minneapolis, Minn.	417-720-5000
WCEE	Charles E. Erbstein, near Elgin, Ill.	275-1090-1000
WCLO	C. E. Whitmore, Camp Lake, Wisc.	231-1300-50
WCLS	H. M. Couch, Joliet, Ill.	214-1400-100
WCM	Texas Market & Warehouse Dept., Austin, Texas	268-1120-250
WCNH	Henry P. Rines, Congress Square Hotel, Portland, Maine	256-1170-500
WCTS	C. T. Sherer Co., Worcester, Mass.	268-1120-500
WCUW	Clark University, Worcester, Mass.	238-1260-250
WCX and WJR	(operating jointly), Jewett Radio and Phonograph Co. and The Detroit Free Press, Pontiac, Mich.	517-580-1500
WDAE	Tampa Daily Times, Tampa, Fla.	273-1100-250
WDAF	Kansas City Star, Kansas City, Mo.	366-819-500
WDAG	I. Laurance Martin, Amarillo, Texas	263-1140-100
WDAY	Radio Equipment Corp., Fargo, N. Dakota	261-1150-50
WBDC	Kirk, Johnson & Co., Lancaster, Pa.	258-1160-50

WDBE	Gilham-Schoen Electric Co., Atlanta, Ga.	278-1080-	100
WDBJ	Richardson-Wayland Electrical Corp., Roanoke, Va.	229-1310-	50
WDBK	M. F. Broz Furniture, Hdware & Radio Store, Cleveland, O.	227-1320-	100
WDBO	Rollins College, Winter Park, Fla.	240-1250-	100
WDBQ	Morton Radio Supply Co., Salem, N. J.	234-1280-	10
WDBR	Tremont Temple Baptist Church, Boston, Mass.	261-1150-	100
WDBX	Otto Baur, New York, N. Y.	233-1290-	50
WDBY	North Shore Cong. Church, Chicago, Ill.	258-1160-	500
WDBZ	Boy Scouts of America, Kingston, N. Y.	233-1290-	10
WDOD	Chattanooga Radio Co., Chattanooga, Tenn.	256-1170-	50
WDRG	Doolittle Radio Corp., New Haven, Conn.	268-1120-	100
WDWF	Dutee W. Flint, Cranston, R. I.	441-680-	500
WDZ	James L. Bush, Tuscola, Ill.	278-1080-	100
WEAF	American Telephone & Telegraph Co., New York, N. Y.	492-610-	5000
WEAH	Hotel Lassen (Rigby-Gray Hotel Co.), Wichita, Kans.	269-1120-	100
WEAI	Cornell University, Ithaca, N. Y.	254-1180-	500
WEAJ	University of South Dakota, Vermillion, S. Dakota.	278-1080-	100
WEAM	Borough of North Plainfield, North Plainfield, N. J.	261-1150-	256
WEAN	Shepard Co., Providence, R. I.	270-1110-	250
WEAO	Ohio State University, Columbus, Ohio	294-1020-	500
WEAR	Goodyear Tire & Rubber Co., Cleveland, Ohio.	389-770-	1000
WEAU	Davidson Bros. Co., Sioux City, Iowa.	275-1090-	100
WEAY	Iris Theatre, Houston, Texas.	270-1110-	500
WEBA	The Electric Shop, Highland Park, N. J.	233-1290-	15
WEBC	Walter C. Bridges, Superior, Wis.	242-1240-	100
WEBD	Electrical Equipment & Service Co., Anderson, Ill.	246-1220-	10
WEBE	Roy W. Waller, Cambridge, Ohio	234-1280-	10
WEBH	Edgewater Beach Hotel Co., Chicago, Ill.	370-810-	1000
WEBJ	Third Avenue Ry. Co., New York, N. Y.	273-1100-	500
WEBK	Grand Rapids Radio Co., Grand Rapids, Mich.	242-1240-	20
WEBL	R. C. A., New York, N. Y. (portable)	226-1330-	106
WEBM	Radio Corp. of America, New York, N. Y. (portable)	226-1330-	100
WEBQ	Joseph R. Tate, Harrisburg, Ill.	226-1330-	10
WEBR	H. H. Howell, Buffalo, N. Y.	244-1230-	50
WEBS	The Dayton Coop Industrial High School, Dayton, O.	256-1170-	5
WEBW	Beloit College, Beloit, Wis.	268-1120-	500
WEBZ	Savannah Radio Corp., Savannah, Ga.	263-1140-	50
WEEL	Edison Electric Illuminating Co., of Boston, Boston, Mass.	349-860-	500
WEHS	Evanston Township High School, Evanston, Ill.	203-1480-	20
WEMC	Emanuel Missionary College, Berrien Springs, Mich.	285-1050-	500
WENR	All American Radio Corp., Chicago, Ill.	266-1130-	1000
WEW	St. Louis University, St. Louis, Mo.	248-1210-	100
WFAA	Dallas News & Dallas Journal, Dallas, Tex.	476-630-	500
WFAM	Times Publishing Co., St. Cloud, Minn.	273-1100-	10
WFAV	University of Nebraska, Dept. of Elec. Eng., Lincoln, Nebr.	275-1090-	500
WFBC	First Baptist Church, Knoxville, Tenn.	250-1200-	50
WFBD	Getesmane Baptist Church, Philadelphia, Pa.	234-1280-	5
WFBE	Van De Walle Music & Radio Co., Seymour, Ind.	226-1330-	10
WFBG	William F. Gable Co., Altoona, Pa.	278-1080-	100
WFBH	Concourse Radio Corp., New York, N. Y.	273-1100-	500
WFBI	Galvin Radio Supply Co., Camden, N. J.	236-1270-	250
WFBJ	St. John's University, Collegeville, Minn.	236-1270-	50
WFBL	Onondaga Hotel Co., Syracuse, N. Y.	252-1190-	100
WFBM	Merchants Heat & Light Co., Indianapolis, Ind.	268-1120-	250
WFBQ	Wynne Radio Co., Raleigh, N. C.	252-1190-	50
WFBR	Fifth Inf Md. Nat'l Guard, Baltimore, Md.	254-1180-	100
WFBZ	Knox College, Galesburg, Ill.	254-1180-	20
WFDL	Frank D. Fallane, Flint, Mich.	234-1280-	100
WFI	Strawbridge & Clothier, Philadelphia, Pa.	395-760-	500

WFKB	Francis K. Bridgman, Chicago, Ill.	217-1380-	200
WGAL	Lancaster Electric Supply & Construction Co., Lancaster, Pa.	248-1210-	10
WGAZ	South Bend Tribune, South Bend, Ind.	275-1090-	250
WGBA	Jones Elec. & Radio Mfg. Co., Baltimore, Md.	254-1180-	100
WGBB	Harry H. Carman, Freeport, N. Y.	244-1240-	100
WGBC	First Baptist Church, Memphis, Tenn.	266-1130-	10
WGBF	The Finke Furniture Co., Evansville, Ind.	236-1270-	100
WGBG	Brietenbach's Radio Shop, Thriffton, Va.	226-1330-	10
WGBI	Frank S. Megargee, Scranton, Pa.	240-1250-	10
WGBK	Lawrence W. Campbell, Johnstown, Pa.	248-1210-	5
WGBL	Elyria Radio Association, Elyria, Ohio	227-1320-	10
WGBM	Theodore N. Saaty, Providence, R. I.	234-1280-	5
WGBP	M. L. Price Music Co., Tampa, Fla.	250-1200-	50
WGBQ	Stout Institute, Menomonie, Wis.	234-1280-	100
WGBR	Marshfield Broadcasting Association, Marshfield, Wis.	229-1310-	10
WGBS	Gimbel Brothers, Inc., New York, N. Y.	316-950-	500
WGBT	Furman University, Greenville, S. C.	236-1270-	15
WGBU	Florida Cities Finance Co., Fulford-by-the-Sea, Florida	278-1080-	500
WGBW	Hub Radio Shop & Valley Theatre, Spring Valley, Ill.	256-1170-	10
WGBX	University of Maine, Orono, Maine	252-1190-	100
WGCP	D. W. May, Inc., Newark, N. J.	252-1190-	500
WGCS	Coyne Electrical School, Oak Park, Ill.	250-1200-	500
WGHP	George H. Phelps, Detroit, Mich.	270-1110-	500
WGMU	A. H. Grebe & Co., Richmond Hill, N. Y. (portable)	236-1270-	100
WGN	Tribune Drake Hotel, Chicago, Ill.	370-810-	1000
WGR	Federal Telephone Mfg. Co., Buffalo, N. Y.	319-940-	750
WGST	Georgia School of Technology, Atlanta, Ga.	270-1110-	500
WGY	General Electric Co., Schenectady, N. Y.	380-790-	2000
WHA	University of Wisconsin, Madison, Wis.	535-560-	750
WHAD	Marquette University & Milwaukee Journal, Milwaukee, Wis.	275-1090-	500
WHAG	University of Cincinnati, Cincinnati, Ohio	233-1290-	100
WHAM	University of Rochester, Rochester, N. Y.	278-1080-	100
WHAP	Wm. H. Taylor Finance Corp., Brooklyn, N. Y.	240-1250-	100
WHAR	Seaside Hotel, Atlantic City, N. J.	275-1090-	500
WHAS	Courier-Journal & Louisville Times, Louisville, Ky.	400-750-	500
WHAT	George W. Young, Minneapolis, Minn.	263-1140-	500
WHAV	Wilmington Electric Specialty Co., Wilmington, Del.	266-1130-	100
WHAZ	Rensselaer Polytechnic Institute, Troy, N. Y.	380-790-	500
WHB	Sweeney School Co., Kansas City, Mo.	366-819-	500
WHBA	Shaffer Music House, Oil City, Pa.	250-1200-	10
WHBB	Copps Co., Stevens Pt., Wis.	240-1250-	50
WHBC	Rev. E. P. Graham, Canton, Ohio	254-1810-	10
WHBD	Chas. W. Howard, Bellefontaine, Ohio	222-1350-	20
WHBF	Beardsley Specialty Company, Rock Island, Ill.	222-1350-	100
WHBG	John S. Skane, Harrisburg, Pa.	231-1300-	20
WHBH	Culver Military Academy, Culver, Ind.	222-1350-	100
WHBJ	Lauer Auto Co., Fort Wayne, Ind.	234-1280-	10
WHBK	Franklin St. Garage, Inc., Ellsworth, Maine	231-1300-	10
WHBL	James H. Slussar, Logansport, Ind.	220-1360-	50
WHBM	C. L. Carrell, Chicago, Ill. (portable)	232-1290-	20
WHBN	First Ave. Methodist Church, St. Petersburg, Fla.	238-1260-	10
WHBP	Johnstown Automobile Co., Johnstown, Pa.	256-1190-	100
WHBQ	Men's F'll'ship Clan of S. John's M. E. Ch., S. Memphis, Tenn.	233-1290-	50
WHBR	Scientific Electric & Mfg. Co., Cincinnati, Ohio	216-1390-	20
WHBU	Riviera Theatre and Bing's Clothing Shop, Anderson, Ind.	219-1370-	10
WHBW	D. R. Kienzie, Philadelphia, Pa.	216-1390-	100
WHBY	St. Norbert's College, West De Pere, Wis.	250-1200-	50
WHDI	Wm. Hood Dunwoody Industrial Institute, Minneapolis, Minn.	278-1080-	500
WHEC	Hickson Electric Co., Inc., Rochester, N. Y.	258-1160-	100
WHK	Radiovox Co., Cleveland, Ohio	273-1100-	250

WHN	George Schubel, New York, N. Y.	361- 830- 500
WHO	Bankers Life Co., Des Moines, Iowa	526- 570- 500
WHT	Radiophone Broadcasting Corp., Deerfield, Ill.	238-1260-1500
WIAD	Harold R. Miller, Philadelphia, Pa.	250-1200- 100
WIAS	Home Electric Co., Burlington, Ia.	254-1180- 100
WIBA	Capital Times Studio, Madison, Wis.	236-1270- 100
WIBC	L. M. Tate Post No. 39, V. Foreign Wars, St. Petersburg, Fla.	222-1350-100
WIBD	X-L Radio Service, Joliet, Ill.	200-1500- 50
WIBG	St. Paul's Prot. Episcopal Church, Elkins Park, Pa.	222-1350- 50
WIBH	Elite Radio Stores (James T. Moriarty), New Bedford, Mass.	210-1430- 5
WIBI	Frederick B. Zittell, Jr., Flushing, N. Y.	219-1370- 5
WIBJ	C. L. Carrell, Chicago, Ill.	216-1390- 50
WIBK	University of the City of Toledo, Toledo, Ohio.	205-1460- 100
WIBM	Billy Maine, Chicago, Ill.	216-1390- 100
WIBO	Nelson Bros. (Russo & Fiorito Orchestral Ex.), Chicago, Ill.	226-1330-1000
WIBP	First Presbyterian Church, Meridian, Miss.	210-1430- 5
WIBQ	F. M. Schmidt, Farina, Ill.	205-1460- 5
WIBR	Thurman A. Owings, Weirton, W. Va.	246-1220- 50
WIBS	N. J. Nat. Guard, 57th Inf. Brigade, Elizabeth, N. J. (portable).	203-1480- 20
WIBT	Orlando E. Miller, New York, N. Y. (portable).	211-1420- 100
WIBU	The Electric Farm, Poyette, Wis.	222-1350- 20
WIBV	Jewel Radio Co., Henderson, N. C.	263-1140- 25
WIBW	L. L. Dill, Logansport, Ind.	220-1360- 100
WIBX	Grid Leak (Inc.), Utica, N. Y.	205-1460- 5
WIBZ	Powell Electric Co., Montgomery, Ala.	231-1300- 10
WIL	St. Louis Star & Benson Radio Co., St. Louis, Mo.	273-1110- 250
WIP	Gimbel Brothers, Philadelphia, Pa.	508- 590- 500
WJAD	Jackson's Radio Engineering Laboratories, Waco, Texas.	353- 850- 500
WJAG	Norfolk Daily News, Norfolk, Nebr.	270-1110- 250
WJAK	Rev. Clifford L. White, Greentown, Ind.	254-1180- 100
WJAM	D. M. Perham, Cedar Rapids, Iowa	268-1120- 100
WJAR	The Outlet Co., Providence, R. I.	306- 980- 500
WJAS	Pittsburgh Radio Supply House, Pittsburgh, Pa.	275-1090- 500
WJAZ	Zenith Radio Corp., Chicago, Ill. (portable).	268-1120- 100
WJBA	D. H. Lentz, Jr., Joliet, Ill.	207-1450- 50
WJBB	L. W. McClung, St. Petersburg, Florida.	207-1450- 16
WJBC	Hummer Furniture Co., La Salle, Ill.	233-1290- 100
WJBD	Ashland Broadcasting Committee, Ashland, Wis.	233-1290- 100
WJBI	Robert S. Johnson, Red Bank, N. J.	219-1370- 250
WJD	Denison University, Granville, Ohio.	217-1380- 10
WJJD	Supreme Lodge, Loyal Order of Moose, Mooseheart, Ill.	303- 990- 500
WJR	and WCX (operating jointly) Jewett Radio & Phonograph Co. & The Detroit Free Press, Pontiac, Mich.	517- 580-1500
WJY	R. C. A., New York, N. Y.	405- 740-1000
WJZ	R. C. A., New York, N. Y.	454- 660-1000
WCAA	H. F. Paar, Cedar Rapids, Iowa	278-1080- 500
WKAD	Charles Loeff, East Providence, R. I.	240-1250- 20
WKAF	W. K. A. F. Broadcasting Co., Milwaukee, Wis.	261-1150- 250
WKAP	Dutee W. Flint, Cranston, R. I.	234-1280- 50
WKAQ	Radio Corp. of Porto Rico, San Juan, P. R.	341- 879- 500
WKAR	Michigan Agriculture College, East Lansing, Mich.	285-1050-1000
WKAV	Laconia Radio Club, Laconia, N. H. (portable).	210-1430- 50
WKBE	K. & B. Electric Co., Webster, Mass.	231-1300- 100
WKBG	C. L. Carrell, Chicago, Ill.	216-1390- 100
WKBX	Shirley Katz, New York, N. Y.	210-1430- 500
WKRC	Kodel Radio Corp., Cincinnati, Ohio.	326- 920-1000
WKY	E. C. Hull & H. S. Richards, Oklahoma, Okla.	275-1090- 100
WLAL	First Christian Church, Tulsa, Okla.	250-1200- 150
WLAP	W. V. Jordan, Louisville, Ky.	275-1090- 20
WLAX	Greencastle Community Broadcasting Sta., Greencastle, Ind.	231-1300- 10

WLB University of Minnesota, Minneapolis, Minn.....	278-1080-	500
WLBL Wisconsin Dept. of Markets, Stevens Point, Wis.....	278-1080-	500
WLIT Lit Bros., Philadelphia, Pa.....	395- 760-	500
WLS Sears Roebuck & Co., Chicago, Ill.....	345- 870-	500
WLTS Lane Technical High School, Chicago, Ill.....	258-1160-	100
WLW Crosley Radio Corp., Harrison, Ohio.....	422-710-500 to	5000
WLWL Missionary Society of St. Paul the Apostle, New York, N. Y.....	288-1040-	1000
WMAC Clive B. Meredith, Cazenovia, N. Y.....	275-1090-	100
WMAF Round Hills Radio Corp., Dartmouth, Mass.....	441- 680-	1000
WMAK Norton Laboratories, Lockport, N. Y.....	266-1130-	500
WMAN First Baptist Church, Columbus, Ohio.....	278-1080-	50
WMAO Chicago Daily News, Chicago, Ill.....	448- 670-	500
WMAY Kingshighway Presbyterian Church, St. Louis, Mo.....	248-1210-	100
WMAZ Mercer University, Macon, Ga.....	261-1150-	500
WMBB American Bond & Mortgage Co., Chicago, Ill.....	250-1200-	500
WMBF Fleetwood Hotel, Miami Beach, Florida.....	384- 780-	500
WMC "Commercial Appeal," Memphis, Tenn.....	500- 600-	500
WMCA Hotel McAlpin, New York City.....	429- 698-	500
WMU Doubleday-Hill Electric Co., Washington, D. C.....	261-1150-	50
WNAB Shepard Stores, Boston, Mass.....	250-1200-	100
WNAC Shepard Stores, Boston, Mass.....	280-1070-	500
WNAD University of Oklahoma, Norman, Okla.....	254-1180-	250
WNAL Omaha Central High School, Omaha, Nebr.....	258-1160-	50
WNAP Wittenberg College, Springfield, Ohio.....	275-1090-	100
WNAR First Christian Church, Butler, Mo.....	231-1300-	20
WNAT Lennig Bros. Co., Philadelphia, Pa.....	250-1200-	100
WNAV People's Telephone & Telegraph Co., Knoxville, Tenn.....	233-1290-	500
WNAX Dakota Radio Apparatus Co., Yankton, S. Dak.....	244-1230-	100
WNJ Radio Shop of Newark, Newark, N. J.....	233-1290-	100
WNOX Peoples Tel. & Tel. Co., Knoxville, Tenn.....	268-1120-	500
WNYC City of New York, New York, N. Y.....	526- 570-	1000
WOAC Page Organ Co., Lima, Ohio.....	261-1150-	50
WOAI Southern Equipment Co., San Antonio, Texas.....	395- 759-	1500
WOAN Vaughn Conservatory of Music, Lawrenceburg, Tenn.....	283-1060-	500
WOAW Woodmen of the World, Omaha, Nebr.....	526- 570-	1000
WOAX Franklyn J. Wolff, Trenton, N. J.....	240-1250-	50
WOC Palmer School of Chiropractic, Davenport, Iowa.....	484- 620-	5000
WOCG Triple Alliance Radio Station, Sycamore, Ill.....	205-1460-	10
WOCL Hotel Jamestown, Inc., Jamestown, N. Y.....	275-1090-	15
WODA James K. O'Dea Radio and Victrola Shop, Paterson, N. J.....	224-1340-	25
WOI Iowa State College, Ames, Iowa.....	270-1110-	750
WOK Neutrowound Radio Mfg. Co., Homewood, Ill.....	217-1380-	1500
WOO John Wanamaker, Philadelphia, Pa.....	508- 590-	500
WOQ Unity School of Christianity, Kansas City, Mo.....	278-1080-	500
WOR L. Bamberger & Co., Newark, N. J.....	405- 740-	500
WORD People's Puplit Association, Batavia, Ill.....	275-1090-	2000
WOS Missouri State Marketing Bureau, Jefferson City, Mo.....	441- 680-	500
WOWL Owl Battery Co., New Orleans, La.....	270-1110-	100
WOWO Main Auto Supply Co., Fort Wayne, Ind.....	227-1320-	500
WPAK North Dakota Agricultural College, Agric. College, N. D.....	275-1090-	50
WPG Municipality of Atlantic City, Atlantic City, N. J.....	300-1000-	500
WPSC Pennsylvania State College, State College, Pa.....	261-1150-	500
WOAA Horace A. Beale, Jr., Parkesburg, Pa.....	220-1360-	500
WOAC Gish Radio Service, Amarillo, Texas.....	234-1280-	100
WOAE Moore Radio News Station, Springfield, Vt.....	246-1220-	50
WOAM Electrical Equipment Co., Miami, Fla.....	268-1120-	100
WOAN Scranton Times, Scranton, Pa.....	250-1200-	100
WQAO Calvary Baptist Church, New York, N. Y.....	360- 833-	100
WOJ Calumet Rainbow Broadcasting Sta., Chicago, Ill.....	449- 670-	500
WRAF The Radio Club, Inc., Laport, Ind.....	224-1340-	100

WRAK Economy Light Co., Escanaba, Mich.....	256-1170-	100
WRAM Lombard College, Galesburg, Ill.....	244-1230-	100
WRAV Antioch College, Yellow Springs, Ohio.....	263-1140-	100
WRAW Avenue Radio Electric Shop, Reading, Pa.....	238-1260-	10
WRAX Flexon's Garage, Gloucester City, N. J.....	268-1120-	250
WRBC Immanuel Lutheran Church, Valparaiso, Ind.....	278-1080-	500
WRC Radio Corporation of America, Washington, D. C.....	469- 640-	1000
WREO Reo Motor Car Co., Lansing, Mich.....	286-1050-	500
WRHF Washington Radio Hospital Fund, Washington, D. C.....	256-1170-	50
WRHM Rosedale Hospital, Inc., Minneapolis, Minn.....	252-1190-	50
WRK Doren Bros. Electric Co., Hamilton, Ohio.....	270-1110-	200
WRM University of Illinois, Urbana, Ill.....	273-1100-	500
WRMU A. H. Grebe & Co., Richmond Hill, N. Y., Mu-1 (yacht).....	236-1270-	100
WRNY Experimenter Publishing Co., New York, N. Y.....	258-1160-	500
WRR City of Dallas, Dallas, Texas.....	261-1150-	350
WRW Tarrytown Radio Research Laboratory, Tarrytown, N. Y.....	273-1100-	500
WSAC Clemson Agricultural College, Clemson College, S. C.....	337- 890-	750
WSAI United States Playing Card Co., Mason, Ohio.....	326- 920-	500 to 5000
WSAJ Grove City College, Grove City, Pa.....	229-1310-	250
WSAN Allentown Call Publishing Co., Allentown, Pa.....	229-1310-	100
WSAR Doughty & Welch Electrical Co., Fall River, Mass.....	254-1180-	100
WSAU Camp Marienfeld, Chesham, N. H.....	229-1310-	10
WSAV Clifford W. Vick Radio Construction Co., Houston, Texas.....	248-1210-	100
WSAZ Chase Electric Shop, Pomeroy, Ohio.....	244-1230-	50
WSB Atlanta Journal, Atlanta, Ga.....	428- 700-	500
WSBC World Battery Co., Chicago, Ill.....	210-1430-	200
WSBF Stix, Baer & Fuller, St. Louis, Mo.....	273-1100-	250
WSDA City Temple, New York, N. Y.....	263-1140-	250
WSKC World's Star Knitting Co., Bay City, Mich.....	261-1150-	100
WSMB Saenger Amusement & Maison Blanche Co., New Orleans, La.....	319- 940-	500
WSMH Shattuck Music House, Owosso, Mich.....	240-1250-	10
WSMK S. M. K. Radio Corp., Dayton, Ohio.....	275-1090-	500
WSOE School of Engineering of Milwaukee, Milwaukee, Wis.....	246-1220-	500
WSRF Harden Sales & Service, Broadlands, Ill.....	233-1290-	10
WSRO Radio Co. (Harry W. Fahrlander), Hamilton, Ohio.....	252-1190-	100
WSUI State University of Iowa, Iowa City, Iowa.....	484- 620-	500
WSY Alabama Polytechnic Institute, Auburn, Ala.....	250-1200-	500
WTAB Fall River Daily Herald Publishing Co., Fall River, Mass.....	266-1130-	100
WTAC Penn Traffic Co., Johnstown, Pa.....	210-1430-	100
WTAD Robert E. Compton, Carthage, Ill.....	236-1270-	50
WTAL Toledo Radio & Electric Co., Toledo, Ohio.....	252-1190-	10
WTAM The Willard Storage Battery Co., Cleveland, Ohio.....	390- 770-	2500
WTAP Cambridge Radio & Electric Co., Cambridge, Ill.....	242-1240-	50
WTAQ S. H. Van Gorden & Son, Osseo, Wis.....	254-1180-	100
WTAR Reliance Electric Co., Norfolk, Va.....	261-1150-	100
WTAS Chas. E. Erbstein, Elgin (near), Ill.....	303- 990-	1500
WTAT Edison Electric Illuminating Co. (portable), Boston, Mass.....	244-1230-	100
WTAW Agri. & Mech. College of Texas, College Station, Texas.....	270-1110-	250
WTAX Williams Hardware Co., Streator, Ill.....	231-1300-	50
WTAZ Thomas J. McGuire, Lambertville, N. J.....	261-1150-	15
WTG Kansas State Agricultural College, Manhattan, Kans.....	273-1100-	50
WTHS Flint Senior High, Flint, Mich.....	219-1370-	250
WTIC Travelers Insurance Co., Hartford, Conn.....	349- 860-	500
WWAD Wright & Wright, Inc., Philadelphia, Pa.....	250-1200-	100
WWAE Electric Park (Lawrence J. Crowley), Plainfield, Ill.....	242-1240-	500
WWAO Michigan College of Mines, Houghton, Mich.....	263-1140-	250
WWGL Radio Engineering Corp., Richmond Hill, N. Y.....	213-1410-	500
WWI Ford Motor Co., Dearborn, Mich.....	266-1130-	500
WWJ Detroit News, Detroit, Mich.....	353- 850-	1000
WWL Loyola University, New Orleans, La.....	275-1090-	100

CANADIAN STATIONS

ARRANGED ALPHABETICALLY BY CALL SIGNAL

W.L. K.C. W.P.

CFAC	The Calgary Herald, Calgary, Alberta	434.5-	690-	500
CFCA	Star Publishing & Printing Co., Toronto, Ontario.....	356.9-	840-	500
CFCF	Canadian Marconi Co., Montreal, Quebec	410.7-	730-	1650
CFCH	Abitibi Power & Paper Co., Ltd., Iroquois Falls, Ontario....	499.7-	600-	250
CFCK	Radio Supply Co., Ltd., Edmonton, Alberta	516.9-	580-	100
CFCN	W. W. Grant Radio, Ltd., Calgary, Alberta	434.5-	690-	750
CFCQ	Radio Specialties, Ltd., Vancouver, B. C. (Not active).....	410.7-	730-	5
CFCU	Jack V. Elliot, Ltd., Hamilton, Ontario.....	340.7-	880-	500
CFCT	Geo. W. Deaville, Victoria, British Columbia.....	329.5-	910-	500
CFCY	Island Radio Co., Charlottetown, Prince Edward Island.....	312.3-	960-	50
CFKC	D. J. Fendell, Thorold, Ontario.....	247.8-	1210-	75
CFQC	The Electric Shop, Ltd., Saskatoon, Saskatchewan.....	329.5-	910-	500
CFRC	Queen's Univ. (Dept of Electrical Engineering), Kingston, Ont.	267.7-	1120-	500
CFXC	Westminster Trust Co., New Westminster, British Columbia.	291.1-	1030-	20
CFYC	Radio Corp. of Vancouver, Municipality of Burnaby, B. C....	410.7-	730-	500
CHCS	The Hamilton Spectator, Hamilton, Ont., (Not active).....	340.7-	880-	10
CHIC	Northern Electric Co., Ltd., Toronto, Ontario.....	356.9-	840-	500
	(Uses Station CHNC, Toronto Radio Research Society, Toronto, Ontario.)			
CHNC	Toronto Radio Research Society, Toronto, Ontario.....	356.9-	840-	500
CHUC	International Bible Students Association, Saskatoon, Sask....	329.5-	910-	50
CHXC	J. R. Booth, Jr., Ottawa, Ontario.....	434.5-	690-	250
CHYC	Northern Electric Co., Ltd., Montreal, Quebec.....	410.7-	730-	850
CJCA	The Edmonton Journal, Ltd., Edmonton, Alberta.....	516.9-	580-	500
CJCD	The T. Eaton Co., Ltd., Toronto, Ontario.....	356.9-	840-	50
CJGC	London Free Press Printing Co., London, Ontario.....	329.5-	910-	50
CJKC	Pyramid Temple Society, Municipality of Burnaby, B. C.....	410.7-	730-	500
	(Uses Station CFYC, Radio Corporation of Vancouver, Burnaby, B. C.)			
CJSC	The Evening Telegram, Toronto, Ontario.....	356.9-	840-	500
	(Uses Station CKCL, The Dominion Battery Co., Toronto, Ontario)			
CJWC	Wheaton Electric Co., Ltd., Saskatoon, Saskatchewan.....	329.5-	910-	250
CKAC	La Presse Publishing Co., Ltd., Montreal, Quebec.....	410.7-	730-	1200
CKCD	Vancouver Daily Province, Vancouver, British Columbia....	410.7-	730-	1000
CKCK	Leader Publishing Co., Ltd., Regina, Saskatchewan.....	312.3-	960-	500
CKCL	The Dominion Battery Co., Ltd., Toronto, Ontario.....	356.9-	840-	500
CKCO	Dr. G. M. Geldert, Ottawa, Ontario.....	434.5-	690-	100
KCKW	Can. Broadcasting Corp. Burketon J., Durham Co., Ontario.	329.5-	910-	5000
	(Not active)			
CKFC	First Congregational Church, Vancouver, British Columbia.	410.7-	730-	50
CKOC	Wentworth Radio Supply Co., Ltd., Hamilton, Ontario....	340.7-	880-	50
CKY	Manitoba Telephone System, Winnipeg, Manitoba.....	384.4-	780-	500
CNRA	Canadian National Railways, Moncton, New Brunswick.....	312.3-	960-	500
CNRC	Canadian National Railways, Calgary, Alberta.....	434.5-	690-	500-750
	(Uses Station CFAC, Calgary Herald, Calgary, or Station CFCN, W. W. Grant, Ltd., Calgary.)			
CNRE	Canadian National Railways, Edmonton, Alberta.....	516.9-	580-	500
	(Uses Station CJCA, Edmonton Journal, Ltd., Edmonton, Alberta.)			

CNRM Canadian National Railways, Montreal, Quebec.....	410.7- 730-1000-1650
(Uses Stations CHYC, Northern Electric Co., Ltd., Montreal; CKAC, La Presse Publishing Co., Ltd., Montreal; CFCF, Canadian Marconi Co., Montreal, Quebec.)	
CNRO Canadian National Railways, Ottawa, Ontario.....	434.5- 690- 500
CNRR Canadian National Railways, Regina, Saskatchewan.....	312.3- 960- 500
(Uses Station CKCK, Leader Publishing Co., Ltd., Regina, Saskatchewan.)	
CNRS Canadian National Railways, Saskatoon, Saskatchewan.....	329.5- 910- 500
(Uses Station CFQC, Electric Shop, Ltd., Saskatoon, Saskatchewan.)	
CNRT Canadian National Railways, Toronto, Ontario.....	356.9- 840- 500
(Uses Station CFCA, Star Printing and Publishing Co., Toronto, Ontario.)	
CNRV Canadian National Railways, Vancouver, British Columbia....	291.1-1030- 500
CNRW Canadian National Railways, Winnipeg, Manitoba.....	384.4- 780- 500
(Uses Station CKY, Manitoba Telephone System, Winnipeg, Manitoba.)	

CANADIAN BROADCASTING STATIONS

Arranged Alphabetically by Provinces

ALBERTA

Calgary, CFAC, CFCN, CNRC.
Edmonton, CFCK, CJCA, CNRE.

BRITISH COLUMBIA

Burnaby, CFYC, CJKC.
New Westminster, CFXC.
Vancouver, CFCQ, CKCD, CKFC,
CNRV.
Victoria, CFCT.

MANITOBA

Winnipeg, CKY, CNRW.

NEW BRUNSWICK

Moncton, CNRA.

ONTARIO

Burketon Junction, CKCW.

Hamilton, CFCU, CHCS, CKOC.
Iroquois Falls, CFCH.

Kingston, CFRC.

London, CJGC.

Ottawa, CHXC, CKCO, CNRO.

Thorold, CFKC.

Toronto, CFCA, CHIC, CHNC, CJCD,
CJSC, CKCL, CNRT.

PRINCE EDWARD ISLAND

Charlottetown, CFCY.

QUEBEC

Montreal, CFCF, CHYC, CKAC,
CNRM.

SASKATCHEWAN

Regina, CKCK, CNRR.

Saskatoon, CFQC, CHUC, CJWC,
CNRS.

U. S. AND CANADIAN BROADCASTING STATIONS OF 100 WATT INPUT AND OVER ARRANGED BY WAVE LENGTHS

205—WIBK	236—KWKC	250—WLAL	266—KFIO	275—KFSG	302—WJJD
207—KFWM	236—WBOQ	250—WMBB	266—KFNF	275—KQV	303—WTAS
208—KFV	236—WCBQ	250—WNBAB	266—KFPY	275—WAAC	306—KTCL
210—KDZB	236—WFBI	250—WNAI	266—KFWD	275—WBAK	306—WJAR
210—KFXC	236—WGBF	250—WQAN	266—KLZ	275—WBT	309—KDKA
210—WKBX	236—WGMU	250—WSY	266—WBCN	275—WCAC	312—CKCK
210—WSBC	236—WIBA	250—WWAD	266—WCAH	275—WCAO	312—CNRA
211—KFWO	236—WRMU	251—WFBL	266—WENR	275—WCEE	312—CNRR
211—WIBT	238—KFBS	252—KFGD	266—WHAU	275—WEAU	316—KFDM
213—WWGL	238—KFPG	252—KFWB	266—WMAK	275—WFAV	316—KPSN
214—KFV	238—KFWU	252—KMA	266—WTAB	275—WGAZ	316—WAHG
214—WCLS	238—WBBP	252—WGBX	266—WWI	275—WHAD	316—WGBS
216—KTAB	238—WCUW	252—WGCP	268—CFRC	275—WHAR	319—WGR
216—WHBW	238—WHT	252—WSRO	268—KFEQ	275—WJAS	319—WSMB
216—WKBG	240—KFVE	254—KFLR	268—KFGC	275—WKY	322—KOA
217—WFKB	240—WABI	254—KFWH	268—WAAB	275—WMAC	326—WKRC
217—WOK	240—WDBO	254—WCAJ	268—WCM	275—WNAI	326—WSAI
219—WJBI	240—WHAP	254—WEAI	268—WCTS	275—WORD	329—CFCT
219—WTHS	240—WOAX	254—WFBR	268—WEBW	275—WRM	329—CFQC
220—KFWI	242—KFPX	254—WGBA	268—WEAH	275—WSMK	329—CJWC
220—WIBW	242—KFUM	254—WIAS	268—WFBM	275—WWL	329—CKCW
220—WQAA	242—KLS	254—WJAK	268—WJAM	278—KFAU	329—CNRS
222—KFQU	242—KZM	254—WNAD	268—WJAZ	278—KFJM	333—WBZ
222—KZRQ	242—WBZA	254—WSAR	268—WNOX	278—KOIL	337—KFMX
222—WBES	242—WBCB	254—WTAQ	268—WPAJ	278—KOP	337—KNX
222—WHBF	242—WRAV	256—KFCF	268—WQAM	278—KWVG	337—WCAL
222—WHBH	242—WWAE	256—KFIQ	268—WRAX	278—WAAF	337—WSAC
222—WIBC	244—WAMD	256—WAFD	270—KFGH	278—WAAW	340—KFAB
224—WRAF	244—WBAN	256—WBAX	270—KGU	278—WABO	341—CFCU
226—KFOR	244—WGBB	256—WCSH	270—KQP	278—WCAU	341—KSAC
226—KFQZ	244—WNAX	256—WHBP	270—KZKZ	278—WDBE	341—WAMC
226—KQW	244—WRAM	258—WADC	270—WBAO	278—WDZ	341—WKAQ
226—WBBM	244—WTAT	258—WDBY	270—WEAN	278—WEAJ	345—WCB
226—WEBM	245—KUOM	258—WHEC	270—WEAY	278—WFBG	345—WLS
226—WIBO	246—KFVW	258—WLTS	270—WGHP	278—WGBU	349—KFAE
227—WABA	246—KUO	258—WRNY	270—WGST	278—WHAM	349—KOB
227—WDBK	246—WABX	261—KFJF	270—WJAG	278—WHDI	349—WTIC
227—WOWO	246—WSOE	261—KFMR	270—WOI	278—WKA	353—WJAD
229—KFLV	247—WBBG	261—KFQA	270—WOWL	278—WLB	353—WWJ
229—WBBL	248—KFBK	261—KFUT	270—WRK	278—WLBL	357—CFCA
229—WCBC	248—KFIF	261—KFWA	270—WTAW	278—WOQ	357—CHIC
229—WSAJ	248—KFOX	261—WARC	273—KFAD	278—WRBC	357—CHNC
229—WSAN	248—KFRB	261—WEAM	273—KFDY	280—WNAC	357—CJSC
231—KFPR	248—KFSY	261—WDBR	273—KFIZ	283—WOAN	357—CKCL
231—KFQC	248—WAPI	261—WKAF	273—KFLZ	285—WEMC	357—CNRT
231—WCLO	248—WEW	261—WMAZ	273—KHQ	285—WKR	360—KFAJ
231—WKBE	248—WMAY	261—WPSC	273—KWKH	286—WREO	360—WQAO
233—KFON	248—WSAV	261—WRR	273—WBAA	288—KFKX	361—KGO
233—KNT	250—KDPM	261—WSKC	273—WBBR	288—WLWL	361—WHN
233—WHAG	250—KFDX	261—WTAR	273—WDAE	291—CNRV	366—WDAF
233—WJBC	250—KFFV	263—KFQB	273—WEBJ	294—KTBI	366—WHB
233—WJBD	250—KFGX	263—WAAM	273—WFBH	294—WBAV	370—WEBH
233—WNAV	250—KFKQ	263—WCAD	273—WHK	294—WEAO	370—WGN
233—WNJ	250—KFXF	263—WCAR	273—WIL	295—WLIT	374—WMBF
234—WQAC	250—KMO	263—WDAG	273—WPAZ	297—KPRC	375—KTHS
234—WDFD	250—WCAX	263—WHAT	273—WRW	300—KFMQ	380—WGY
234—WGBQ	250—WGES	263—WSDA	273—WSBF	300—KSL	380—WHAZ
236—KFOO	250—WIAD	263—WWAO	275—KFKU	300—WPG	384—CKY

384—CNRW	411—CFCF	434—CFAC	454—KFOA	491—KGW	526—WHO
384—KJR	411—CFYC	434—CFCN	454—KTW	492—WEAF	526—WNYC
389—WEAR	411—CHYC	434—CHXC	454—WJZ	500—CFCH	526—WOAW
390—WTAM	411—CJKC	434—CKCO	461—WCAE	500—WMC	535—KYW
394—KFRU	411—CKAC	434—CNRC	468—KFI	508—KLX	535—WHA
395—WFI	411—CKCD	434—CNRO	469—WCAP	517—CFCK	545—KFUO
395—WOAI	411—CNRM	441—KLDS	469—WRC	517—CJCA	545—KSD
400—WHAS	417—WCCO	441—WDWF	476—WBAP	517—CNRE	
400—PWX	422—WLW	441—WMAF	476—WEEI	509—WIP	
405—KHJ	428—KPO	441—WOS	479—WFAA	509—WOO	
405—WJY	428—WSB	448—WMAQ	484—WOC	517—WCX	
405—WOR	429—WMCA	448—WQJ	484—WSUI	517—WJR	

NOTATIONS

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FROM →
TO
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	Baltimore	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Detroit	Milwaukee	New York	Philadelphia	Pittsburgh	Washington
Altoona, Pa.....	128	396	171	479	333	180	272	514	234	175	80	136
Ames, Iowa.....	910	1140	745	305	505	610	538	300	1010	963	715	895
Atlanta, Ga.....	573	925	695	588	375	550	595	670	740	660	520	535
Atlantic City, N. J.....	114	268	334	696	528	406	487	734	97	56	295	139
Auburn, Ala.....	680	1053	800	655	460	650	688	740	850	770	625	648
Baltimore, Md.....	—	350	178	600	420	310	400	640	167	88	194	36
Batavia, Ill.....	630	875	477	31	264	338	267	80	743	691	440	625
Beaumont, Texas.....	1165	1510	1205	875	820	1035	1033	950	1330	1250	1060	1135
Beloit, Wis.....	677	903	505	86	330	378	298	66	775	730	482	668
Berrien Springs, Mich.....	540	775	382	65	215	240	170	115	638	598	350	527
Boise, Idaho.....	2035	2240	1845	1435	1635	1730	1650	1400	2125	2090	1845	2025
Boston, Mass.....	350	—	397	838	752	540	605	845	188	265	473	387
Bristow, Okla.....	1096	1404	1034	615	679	868	828	666	1236	1175	930	1063
Buffalo, N. Y.....	280	397	—	447	390	175	215	450	295	285	178	295
Calgary, Canada.....	1950	2075	1715	1375	1625	1645	1555	1325	2010	1190	1755	1948
Canton, N. Y.....	377	258	220	650	600	395	425	650	277	325	375	410
Charlotte, N. C.....	363	713	543	585	335	430	500	655	528	448	364	327
Chicago, Ill.....	600	838	447	—	250	303	236	80	707	655	412	587
Cincinnati, Ohio.....	420	725	390	250	—	220	225	325	561	495	257	400
Clemson Col., S. C.....	475	828	607	550	315	475	520	630	645	565	429	440
Cleveland, Ohio.....	310	540	175	303	220	—	90	335	400	355	117	300
Columbus, Ohio.....	345	628	295	275	99	125	162	330	472	410	162	325
Dallas, Texas.....	1200	1525	1180	795	805	1010	985	850	1350	1278	1055	1165
Dartmouth, Mass.....	327	53	404	845	721	549	618	858	168	243	466	363
Davenport, Iowa.....	750	995	600	153	360	455	388	173	857	810	557	733
Denver, Colorado.....	1488	1745	1350	900	1077	1210	1138	900	1605	1552	1305	1475
Des Moines, Iowa.....	900	1145	750	303	495	610	537	300	1010	962	710	887
Detroit, Mich.....	400	605	215	236	225	90	—	250	477	440	208	392
East Pittsburgh, Pa.....	193	473	180	406	257	118	209	450	312	232	—	190
Elgin, Ill.....	635	868	475	33	277	335	263	70	737	688	443	620
Fayetteville, Ark.....	973	1277	924	519	548	750	721	573	1116	1050	813	942
Fort Worth, Texas.....	1225	1553	1205	810	830	1030	1005	865	1377	1307	1085	1190
Galveston, Texas.....	1228	1575	1270	943	888	1100	1100	1010	1390	1313	1125	1200
Hamilton, Ontario.....	325	450	60	400	365	153	172	400	350	338	195	340
Hartford, Conn.....	263	92	323	753	630	458	527	773	150	178	377	298
Hastings, Neb.....	1145	1400	1005	558	737	863	795	557	1264	1210	961	1125
Havana, Cuba.....	1173	1492	1387	1321	1100	1250	1320	1400	1292	1268	1213	1125
Hot Springs, Ark.....	950	1278	942	575	551	766	747	642	1106	1032	815	922
Houston, Texas.....	1230	1575	1265	925	877	1090	1085	988	1400	1313	1123	1200
Indianapolis, Ind.....	505	795	425	162	98	255	233	240	630	575	325	485
Iowa City, Iowa.....	800	1045	648	200	410	510	437	210	910	857	607	782
Iroquois Falls, Ont.....	432	312	242	642	620	410	427	627	338	387	410	460
Ithaca, N. Y.....	216	273	123	563	471	275	330	573	177	188	224	242
Jefferson City, Mo.....	835	1125	750	325	420	585	540	380	973	910	663	810
Joliet, Ill.....	623	868	475	33	253	330	260	100	727	680	430	610
Kansas City, Mo.....	950	1235	850	405	538	638	638	438	1077	1025	775	930
La Crosse, Wis.....	812	1003	614	224	556	503	423	173	888	852	618	800
Lansing, Mich.....	475	680	280	167	237	170	82	172	550	517	280	470
Lawrence, Kan.....	987	1263	878	443	558	725	671	475	1120	1065	815	966
Lawrenceburg, Tenn.....	650	994	695	455	314	526	543	536	818	742	538	625
Lincoln, Neb.....	1058	1310	920	470	650	775	705	470	1174	1120	872	1140
Lockport, N. Y.....	290	388	17	455	400	190	225	455	298	290	200	310
London, Ontario.....	350	425	120	325	300	100	95	330	400	377	185	355
Los Angeles, Calif.....	2282	2560	2165	1720	1880	2020	1955	1725	2420	2357	2113	2260
Louisville, Ky.....	490	813	475	270	88	305	310	350	645	570	344	465
Madison, Wis.....	712	923	525	121	370	405	325	75	800	760	520	700
Manhattan, Kas.....	1057	1331	947	498	645	788	730	515	1185	1125	880	1035
Mattapoisett, Mass... 329	48	409	851	726	555	621	863	171	247	471	367	

FROM →
TO

	Baltimore	Boston	Buffalo	Chicago	Cincinnati	Cleveland	Detroit	Milwaukee	New York	Philadelphia	Pittsburgh	Washington
Memphis, Tenn.....	787	1123	800	480	410	625	615	555	947	870	655	755
Mexico City, Mex.....	1926	2314	2000	1678	1600	1800	1800	1650	2124	2034	1857	1850
Miami, Fla.....	960	1275	1187	1180	950	1085	1150	1263	1100	1025	1010	930
Milford, Kan.....	1073	1348	960	510	660	805	745	530	1200	1140	895	1050
Milwaukee, Wis.....	640	845	450	80	325	335	250	—	725	688	450	630
Minneapolis, Minn....	935	1112	725	360	600	625	538	300	1012	978	740	925
Moncton, N. B.....	745	388	715	1145	1085	890	920	1130	572	675	825	790
Mont Joli, Quebec.....	750	450	625	1025	1020	800	815	990	600	675	785	785
Montreal, Canada.....	463	262	323	738	700	492	515	725	338	400	477	490
Moosheart, Ill.....	630	875	477	31	264	338	267	80	743	691	440	625
Newark, N. J.....	161	195	287	698	550	390	468	715	9	75	300	195
New Orleans, La.....	998	1340	1075	825	700	910	925	900	1155	1073	910	950
New York, N. Y.....	168	188	295	707	561	400	477	725	—	83	312	203
Northfield, Minn.....	918	1105	720	325	575	613	525	275	1000	962	725	908
No. Plainfield, N. J....	139	210	280	688	535	375	456	705	26	62	285	175
Oakland, Cal.....	2420	2655	2260	1825	2010	2130	2055	1810	2530	2480	2232	2400
Omaha, Neb.....	1023	1265	875	425	620	735	660	425	1135	1085	835	1005
Orange, Texas.....	1143	1490	1192	870	810	1015	1015	955	1313	1230	1040	1112
Ottawa, Canada.....	432	315	240	640	620	410	425	625	338	387	410	460
Parkesburg, Pa.....	98	202	254	620	456	318	402	650	115	—	216	100
Philadelphia, Pa.....	88	265	285	655	495	355	440	688	83	—	253	122
Pittsburgh, Pa.....	194	473	178	412	257	117	208	450	313	253	—	190
Pontiac, Mich.....	416	618	221	227	242	113	25	233	492	458	225	405
Portland, Oregon.....	2337	2510	2127	1730	1960	2035	1940	1700	2422	2380	2148	2320
Providence, R. I.....	320	42	388	825	707	525	585	837	152	235	450	353
Pullman, Wash.....	2075	2245	1862	1475	1700	1765	1677	1435	2155	2120	1877	2065
Regina, Canada.....	1560	1678	1323	1000	1250	1255	1165	950	1615	1595	1375	1555
Rochester, N. Y.....	275	338	64	510	445	237	277	510	252	558	223	298
St. Louis, Mo.....	730	1025	655	260	315	486	450	325	868	800	560	705
St. Petersburg, Fla....	868	1195	1063	1005	790	942	1000	1085	1020	942	885	835
Salt Lake City, Utah....	1840	2073	1675	1245	1438	1550	1475	1225	1950	1900	1650	1825
San Antonio, Texas....	1400	1740	1410	1037	1025	1235	1220	1095	1565	1480	1275	1365
San Francisco, Calif....	2430	2663	2268	1832	2018	2138	2063	1818	2538	2490	2240	2412
San Juan, P. R.....	1604	1708	1860	2054	1800	1800	1870	2110	1610	1629	1740	1550
Schenectady, N. Y.....	280	145	250	700	600	405	460	700	148	212	350	317
Seattle, Wash.....	2315	2462	2093	1710	1950	2000	1915	1665	2387	2360	2115	2300
Shenendoah, Iowa.....	988	1243	850	400	587	700	635	410	1110	1050	800	975
Shreveport, La.....	1055	1395	1065	712	675	895	885	785	1215	1140	925	1025
South Bend, Ind.....	530	775	380	73	198	235	167	125	645	585	335	520
Springfield, Mass.....	285	78	320	760	645	462	525	770	119	200	395	321
State College, N. M....	1727	2035	1670	1225	1320	1495	1450	1250	1886	1805	1570	1700
State College, Pa.....	120	365	160	500	360	200	285	525	210	151	108	138
Staten Island, N. Y....	168	188	295	707	561	400	477	725	—	83	312	203
Stevens Pt., Wis.....	750	930	538	302	440	445	358	130	823	795	560	750
Tampa, Florida.....	850	1178	1050	998	775	925	985	1075	1003	925	870	815
Tarrytown, N. Y.....	190	162	287	705	570	400	475	725	27	105	320	225
Toronto, Canada.....	339	431	57	425	400	187	202	420	347	340	224	350
Troy, N. Y.....	277	134	263	710	607	415	475	715	139	205	358	320
University Pl., Neb....	1053	1305	916	468	647	772	703	469	1170	1116	868	1135
Urbana, Ill.....	615	890	515	123	210	350	305	205	740	685	430	595
Valpariso, Ind.....	565	813	450	48	200	270	210	118	670	625	375	550
Vancouver, Canada....	2338	2482	2113	1750	1988	2035	1945	1700	2405	2380	2150	2330
Waco, Texas.....	1250	1587	1250	868	860	1075	1050	925	1408	1335	1123	1223
Washington, D. C....	36	387	295	587	400	300	392	630	203	122	188	—
West Lafayette, Ind....	545	815	430	105	150	270	225	185	668	610	358	525
Winnipeg, Canada.....	1240	1345	990	710	963	940	850	650	1283	1265	1050	1240
Worcester, Mass.....	320	38	360	805	695	505	570	813	155	235	435	350
Zion, Ill.....	623	844	450	42	285	320	240	41	720	675	426	612

**United States and Canadian Broadcasting Stations
of 100 Watt Power and Over**

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Call Letters	Wave Length	Kilocycles	Watt Power	DIAL ADJUSTMENT
Albuquerque, New Mex.	KFLR	254-1180-	200	
Allentown, Pa.....	WSAN	229-1310-	100	
Altoona, Pa.....	WFBG	278-1080-	100	
Amarillo, Tex.....	WDAG	263-1140-	100	
	WQAC	234-1280-	100	
Ames, Iowa.....	WOI	270-1110-	750	
Ann Arbor, Mich..	WCBC	229-1310-	200	
Arkadelphia, Ark...	KFWD	266-1130-	500	
Ashland, Wis.....	WJBD	233-1290-	100	
Atlanta, Ga.....	WDBE	278-1080-	100	
	WGST	270-1110-	500	
	WSB	428- 700-	500	
Atlantic, Iowa.....	KFLZ	273-1100-	100	
Atlantic City, N. J.	WHAR	275-1090-	500	
	WPG	300-1000-	500	
Auburn, Ala.....	WAPI	248-1210-	500	
	WSY	250-1200-	500	
Austin, Tex.....	WCM	268-1120-	250	
Avalon, Calif.....	KFWO	211-1420-	250	
Bakersfield, Calif...	KDZB	210-1430-	100	
Baltimore, Md.....	WCAO	275-1090-	100	
	WFBR	254-1180-	100	
	WGBA	254-1180-	100	
Bangor, Me.....	WABI	240-1250-	100	
Baton Rouge, La...	KFGC	268-1120-	100	
Batavia, Illinois....	WORD	275-1090-	2000	
Bay City, Mich.....	WSKC	261-1150-	100	
Beaumont, Tex.....	KFDM	316- 950-	500	
Beeville, Tex.....	KFRB	248-1210-	250	
Beloit, Wis.....	WEBW	268-1120-	500	

Berrien Spgs., Mich.	WEMC	285-1050- 500
Bluff, Ark.....	KFPX	242-1240- 100
Boise, Idaho.....	KFAU	278-1080- 500
Boston, Mass.....	WBZA	242-1240- 250
	WDBR	261-1150- 100
	WEEI	476- 630- 500
	WNAB	250-1200- 100
	WNAC	280-1070- 500
	WTAT	244-1230- 100
Boulder, Colo.....	KFAJ	360- 833- 100
Bristow, Okla.....	KFRU	394- 760- 500
Brookings, S. Dak.	KFDY	273-1100- 100
Brooklyn, N. Y....	WHAP	240-1250- 100
Brownsville, Tex...	KWWG	278-1080- 500
Buffalo, N. Y.....	WGR	319- 940- 750
Burketon Jct., Ont.	CKCK	329- 910-5000
Burlington, Iowa...	WIAS	254-1180- 100
Burlington, Vt.....	WCAX	250-1200- 100
Burnaby, B. C.....	CFYC	411- 730- 500
	CJKC	411- 730- 500
Calgary, Can.....	CFAC	434- 690- 500
	CFCN	434- 690- 750
	CNRC	434- 690- 500 to 750
Camden, N. J.....	WFBI	236-1270- 250
Canton, N. Y.....	WCAD	263-1140- 250
Cazenovia, N. Y...	WMAC	275-1090- 100
Cedar Rapids, Iowa	WJAM	268-1120- 100
	WKAA	278-1080- 500
Charleston, W. Va.	WPAZ	273-1100- 100
Charlotte, N. C....	WBT	275-1090- 250
Chicago, Ill.....	KYW	535- 561-1500
	WAAF	278-1080- 200
	WBBM	226-1330-1500
	WBCN	266-1130- 500
	WDBY	258-1160- 500
	WEBH	370- 810-1000
	WENR	266-1130-1000
	WFKB	217-1380- 200
	WGN	370- 810-1000
	WIBO	266-1330-1000

Chicago, Ill.....	WJAZ	268-1120- 100
(Continued).	WKBG	216-1390- 100
	WLS	345- 870- 500
	WLTS	258-1160- 100
	WMAQ	448- 670- 500
	WMBB	250-1200- 500
	WQJ	448- 670- 500
	WSBC	210-1430- 200
Chickasha, Okla....	KFGD	252-1190- 200
Chico, Calif.....	KFWH	254-1180- 100
Cincinnati, Ohio ..	WHAG	233-1290- 100
	WKRC	326- 920-1000
	WLW	423- 710-5000
	WSAI	326- 920- 500
Clemson Col., S.C..	WSAC	337- 890- 750
Cleveland, Ohio....	KDPM	250-1200- 500
	WDBK	227-1320- 100
	WEAR	389- 770-1000
	WHK	273-1100- 250
	WTAM	390- 770-2500
College Stat'n, Tex.	WTAW	270-1110- 250
Colo. Springs, Col.	KFUM	242-1240- 100
	KFXF	250-1200- 500
Columbus, Ohio ...	WBAV	294-1020- 500
	WCAH	266-1130- 500
	WEAO	294-1020- 500
Conway, Ark.....	KFKQ	250-1200- 100
Council Bluffs, Ia...	KOIL	278-1080- 500
Culver, Ind.....	WHBH	222-1350- 100
Dallas, Texas	WFAA	479- 630- 500
	WRR	261-1150- 350
Dartmouth, Mass...	WMAF	441- 680-1000
Davenport, Iowa...	WOC	484- 620-5000
David City, Nebr...	KFOR	226-1330- 100
Dayton, Ohio.....	WSMK	275-1090- 500
Dearborn, Mich....	WWI	266-1130- 500
Decatur, IH.....	WBAO	270-1110- 100
Deerfield, Ill.....	WHT	238-1260-1500

Denver, Col.....	KLZ	266-1130- 250
	KOA	322- 930-2000
Des Moines, Iowa..	WHO	526- 570- 500
Detroit, Mich.....	KOP	278-1080- 500
	WCX	517- 580- 500
	WGHP	270-1110- 500
	WWJ	353- 850-1000
East Lansing, Mich.	WKAR	285-1050-1000
E. Pittsburgh, Pa..	KDKA	309- 970-1000
Edmonton, Can....	CFCK	517- 580- 100
	CJCA	517- 580- 500
	CNRE	517- 580- 500
Elgin (near) Ill....	WCEE	275-1090-1000
	WTAS	303- 990-1500
Evansville, Ind....	WGFB	236-1270- 100
Fall River, Mass...	WSAR	254-1180- 100
	WTAB	266-1130- 100
Fayetteville, Ark...	KFMQ	300-1000- 500
Flint, Mich.....	WFDF	234-1280- 100
	WTHS	219-1370- 250
Fond du Lac, Wis..	KFIZ	273-1100- 100
Fort Wayne, Ind...	WOWO	227-1320- 500
Fort Worth, Tex...	KFQB	263-1140- 150
	WBAP	476- 630-1000
Freeport, N. Y.....	WGBB	244-1230- 100
Fulford, Fla.	WGBU	278-1080- 500
Galesburg, Ill.....	WRAM	244-1230- 100
Gloucester City, N.J.	WRAX	268-1120- 250
Grand Forks, N.Dak.	KFJM	278-1080- 100
Greentown, Ind....	WJAK	254-1180- 100
Grove City, Pa.....	WSAJ	229-1310- 250
Hamilton, Can.....	CFCU	341- 880- 500
Hamilton, Ohio....	WRK	270-1110- 200
	WSRO	252-1190- 100
Harrisburg, Pa.....	WBAK	275-1090- 500
Harrison, Ohio.....	WLW	422- 710- 500 to 5000
Hartford, Conn....	WTIC	349- 860- 500
Hastings, Neb.....	KFKX	288-1041-2000
Havana, Cuba	PWX	400- 750- 500

Helena, Mont.....	KFSY	248-1210- 250
Hollywood, Calif...	KFQZ	226-1330- 250
	KFVF	208-1440- 250
	KFWB	252-1190- 500
Holy City, Calif....	KFQU	222-1350- 100
Homewood, Ill.....	WOK	217-1380-1500
Honolulu, Hawaii..	KGU	270-1110- 500
Hood River, Ore...	KQP	270-1110- 100
Hot Springs, Ark...	KTHS	375- 800- 500
Houghton, Mich...	WWAO	263-1140- 250
Houston, Texas ...	KPRC	297-1010- 500
	WEAY	270-1110- 500
	WSAV	248-1210- 100
Independence, Mo..	KLDS	441- 680-1000
Indianapolis, Ind...	WFBM	268-1120- 250
Iowa City, Iowa...	WSUI	484- 620- 500
Iroquois Falls, Can.	CFCH	500- 600- 250
Ithaca, N. Y.....	WEAI	254-1180- 500
Jefferson City, Mo.	WOS	441- 680- 500
Johnstown, Pa.....	WHBP	256-1190- 100
Joliet, Ill.....	WCLS	214-1400- 100
	WWAE	242-1240- 500
	WWAE	242-1240- 500
Kansas City, Mo...	KWKC	236-1270- 100
	WDAF	366- 819- 500
	WHB	366- 819- 500
	WOQ	278-1080- 500
Kingston, Can.....	CFRC	268-1120- 500
Knoxville, Tenn....	WNAV	233-1290- 500
	WNOX	268-1120- 500
Kukak Bay, Alaska.	KNT	233-1140- 100
Lake Forest, Ill....	WABA	227-1320- 200
Lamoni, Iowa	KFFV	250-1200- 100
Lansing, Mich.....	WREO	286-1052- 500
Laport, Ind.....	WRAF	224-1340- 100
La Salle, Ill.....	WJBC	233-1290- 100
Lawrence, Kansas..	KFKU	275-1090- 500
Lawrencub'rg, Tenn.	WOAN	283-1060- 500
Lincoln, Neb.....	KFAB	340- 880- 500
	WFAV	275-1090- 500

Lockport, N. Y....	WMAK	266-1130- 500
Logansport, Ind....	WIBW	220-1360- 100
Long Beach, Calif..	KFON	233-1290- 100
Los Angeles, Calif.	KFI	468- 642-3000
	KFPG	238-1260- 100
	KFPR	231-1300- 500
	KFSG	275-1090- 500
	KHJ	405- 742- 500
	KNX	337- 890- 500
	KTBI	294-1020- 750
Louisville, Ky.....	WHAS	400- 750- 500
Macon, Ga.....	WMAZ	261-1150- 500
Madison, Wis.....	WHA	535- 560- 750
	WIBA	236-1272- 100
Manhattan, Kansas	KSAC	341- 880- 500
Manila, P. I.....	KZKZ	270-1110- 100
	KZRQ	222-1360- 500
Mansfield, Conn....	WCAC	275-1090- 500
Mason, Ohio.....	WSAI	326- 920- 500 to 5000
Mattapoissett, Mass.	WBBG	247-1210- 100
Medford Hillside, Mass.	WARC	261-1150- 100
Memphis, Tenn....	WMC	500- 600- 500
Menomonie, Wis...	WGBQ	234-1280- 100
Miami, Fla.....	WMBF	374- 781- 500
	WQAM	268-1120- 500
Milwaukee, Wis....	WHAD	275-1090- 500
	WKAF	261-1150- 250
	WSOE	246-1220- 500
Minneapolis, Minn..	WAMD	244-1230- 500
	WCCO	417- 720-5000
	WHAT	263-1140- 500
	WHDI	278-1080- 500
	WLB	278-1080- 500
Missoula, Mont....	KUOM	245-1230- 250
Moncton, Can.....	CNRA	312- 960- 500
Montreal, Can.....	CFCF	411- 730-1650
	CHYC	411- 730- 850
	CKAC	411- 730-1200
	CNRM	411- 730-1000 to 1650

Mooseheart, Ill.....	WJJD	302- 990- 500
Mt. Clemens, Mich.	WABX	246-1220- 150
Nashville, Tenn....	WCBQ	236-1270- 100
Newark, N. J.....	WAAM	263-1140- 500
	WGCP	252-1190- 500
	WNJ	233-1290- 100
	WOR	405- 740- 500
New Haven, Conn.	WDRC	268-1120- 100
New Orleans, La...	WAAB	268-1120- 100
	WAAC	275-1090- 100
	WOWL	270-1110- 100
	WSMB	319- 940- 500
	WWL	275-1090- 100
New York, N. Y...	WAMC	341- 880- 500
	WEAF	492- 610-5000
	WEBJ	273-1100- 500
	WEBM	226-1330- 100
	WFBH	273-1100- 500
	WGBS	316- 950- 500
	WHN	361- 830- 500
	WIBT	211-1420- 100
	WJY	405- 740-1000
	WJZ	454- 660-1000
	WKBX	210-1430- 500
	WLWL	288-1040-1000
	WMCA	429- 698- 500
	WNYC	526- 570-1000
	WQAO	360- 833- 100
	WRNY	258-1160- 500
	WSDA	263-1140- 250
Norfolk, Neb.....	WJAG	270-1110- 250
Norfolk, Va.....	WTAR	261-1150- 100
Norman, Okla.....	WNAD	254-1180- 250
No. Plainfield, N. J.	WEAM	261-1150- 250
Northfield, Minn...	KFMX	337- 890- 750
	WCAL	337- 890- 500
Oak, Neb.....	KFEQ	268-1120- 500
Oak Park, Ill.....	WGES	250-1200- 500
Oakland, Calif.....	KFWM	207-1430- 500
	KGO	361- 830-3000

Oakland, Calif.....	KLS	242-1240- 250
(Continued).	KLX	508- 590- 500
	KTAB	216-1390- 500
	KZM	242-1240- 100
Ogden, Utah.....	KFWA	261-1150- 500
Oklahoma City,	KFJF	261-1150- 225
Okla.	WKY	275-1090- 100
Omaha, Neb.....	KFOX	248-1210- 100
	WAAW	278-1080- 500
	WOAW	526- 570-1000
Orange, Texas	KFGX	250-1200- 500
Orono, Maine.....	WGBX	252-1190- 100
Osseo, Wis.....	WTAQ	254-1180- 100
Ottawa, Can.....	CHXC	435- 690- 250
	CKCO	435- 690- 100
	CNRO	435- 690- 500
Parkesburg, Pa....	WQAA	220-1360- 500
Pasadena, Calif....	KPSN	316- 950-1000
Paterson, N. J.....	WBAN	244-1230- 100
Petoskey, Mich....	WBBP	238-1260- 200
Philadelphia, Pa..	WCAU	278-1080- 500
	WFI	395- 760- 500
	WHBW	216-1390- 100
	WIAD	250-1200- 100
	WIP	509- 590- 500
	WLIT	295- 760- 500
	WNAT	250-1200- 100
	WOO	509- 590- 500
	WWAD	250-1200- 100
Phoenix, Ariz.....	KFAD	273-1100- 100
Pineville, La.....	KFWU	238-1260- 100
Pittsburgh, Pa.....	KDKA	309- 970- var.
	KQV	275-1090- 500
	WCAE	461- 650- 500
	WJAS	275-1090- 500
Pontiac, Mich.....	WCX	517- 580-1500
	WJR	517- 580-1500
Port Huron, Mich..	WAFD	256-1170- 500

Portland, Maine....	WCSH	256-1170- 500
Portland, Ore.....	KFIF	248-1210- 100
	KGW	491- 610- 500
Providence, R. I....	WDWF	441- 680- 500
	WEAN	270-1110- 250
	WJAR	306- 980- 500
Pullman, Wash....	KFAE	349- 859- 500
Red Bank, N. J.....	WJBI	219-1370- 250
Regina, Can.....	CKCK	312- 960- 500
	CNRR	312- 960- 500
Richmond Hill,N.Y.	WΔHG	316- 950- 500
	WBOQ	236-1270- 100
	WRMU	236-1270- 100
	WWGL	213-1410- 500
Richmond, Va.....	WBBL	229-1310- 100
Rochester, N. Y....	WABO	278-1080- 100
	WHAM	278-1080- 100
	WHEC	258-1160- 100
Rock Island, Ill....	WHBF	222-1350- 100
Rockford, Ill.....	KFLV	229-1310- 100
Rossville, N. Y....	WBBR	273-1100- 500
Sacramento, Calif..	KFBK	248-1210- 100
St. Louis, Mo.....	KFQA	261-1150- 100
	KFUO	545- 550- 500
	KFVE	240-1250- 500
	KFWF	214-1400- 250
	KSD	545- 550- 750
	WEW	248-1210- 100
	WIL	273-1110- 250
	WMAY	248-1210- 100
	WSBF	273-1100- 250
St. Petersburg, Fla.	WIBC	222-1350- 100
Salt L'ke City, Utah	KFOO	236-1270- 250
	KFUT	261-1150- 100
	KSL	300-1000-1000
San Antonio, Tex..	WCAR	263-1140- 100
	WOAI	395- 759-1500
San Diego, Calif...	KFVW	246-1220- 500
San Francisco, Cal.	KPO	428- 700- 500
	KUO	246-1220- 150

San Jose, Calif.....	KQW	226-1330- 500
San Juan, P. R....	WKAQ	341- 879- 500
Santa Maria	KFXC	210-1430- 100
Saskatoon, Can....	CFQC	329- 910- 500
	CJWC	329- 910- 250
	CNRS	329- 910- 500
Schenectady, N. Y.	WGY	380- 790-2000
Scranton, Pa.....	WQAN	250-1200- 100
Seattle, Wash.	KFOA	454- 660- 500
	KHQ	273-1100- 100
	KJR	384- 780-1000
	KTCL	306- 980-1000
	KTW	454- 660-1000
Shenandoah, Iowa..	KFNF	266-1130- 500
	KMA	252-1190- 500
Shreveport, La....	KFDX	250-1200- 100
	KWKH	273-1100- 250
Sioux City, Iowa...	KFMR	261-1150- 100
	WEAU	275-1090- 100
South Bend, Ind...	WGAZ	275-1090- 250
S. S. Francisco, Cal.	KFWI	220-1360- 500
Springfield, Mass...	WBZ	333- 900-2000
Springfield, Ohio...	WNAP	275-1090- 100
Spokane, Wash....	KFIO	266-1130- 100
	KFPY	266-1130- 100
Stanford Univ., Cal.	KFGH	270-1110- 500
State College, New Mex.	KOB	349- 859- 750
State College, Pa..	WPSC	261-1150- 500
Stevens Point, Wis.	WLBL	278-1080- 500
Superior, Wis.....	WEBC	242-1240- 100
Syracuse, N. Y....	WFBL	251-1190- 100
Tacoma, Wash.....	KMO	250-1200- 100
Taft, Cal.....	KFQC	231-1300- 100
Takoma Park, Md.	WBES	222-1350- 100
Tampa, Fla.....	WDAE	273-1100- 250
Tarrytown, N. Y..	WRW	273-1100- 500
Toledo, Ohio.....	WIBK	205-1460- 100
Toronto, Can.....	CFCA	357- 840- 500
	CHIC	357- 840- 500

Toronto, Ont.....	CHNC	357- 840- 500
(Continued).	CJSC	357- 840- 500
	CKCL	357- 840- 500
	CNRT	357- 840- 500
Trenton, N. J.....	WOAX	240-1250- 500
Troy, N. Y.....	WHAZ	380- 790- 500
Tujunucu, Cuba.....	6KW	340- 882- 107
Tulsa, Okla.....	WLAL	250-1200- 150
Tuscola, Ill.....	WDZ	278-1080- 100
University Pl. Neb.	WCAJ	254-1180- 500
Urbana, Ill.....	WRM	275-1100- 500
Valparaiso, Ind....	WRBC	278-1080- 500
Vancouver, Can....	CKCD	411- 730-1000
	CNRV	291-1030- 500
Vermillion, S. D...	WEAJ	278-1080- 100
Victoria, Can.....	CFCT	329- 910- 500
Waco, Tex.....	WJAD	353- 850- 500
Walla Walla, Wash	KFCF	256-1170- 100
Washington, D. C.	WCAP	469- 640- 500
	WRC	469- 640-1000
Webster, Mass.....	WKBE	231-1300- 100
West Lafayette, Ind.	WBAA	273-1100- 250
Wichita, Kans.....	WEAH	268-1120- 100
Wilkes-Barre, Pa...	WBAX	256-1170- 100
Wilmington, Del...	WHAV	266-1130- 100
Winnipeg, Can.....	CKY	384- 781- 500
	CNRW	384- 781- 500
Winter Park, Fla...	WDBO	240-1250- 100
Worcester, Mass...	WCTS	268-1120- 500
	WCUW	238-1260- 250
Yakima, Wash.....	KFIQ	256-1170- 100
Yankton, S. Dak...	WNAX	244-1230- 100
Yellow Springs, O.	WRAV	242-1240- 100
Zion, Ill.....	WCBD	345- 870-5000

United States Broadcasting Stations Arranged by States

ALABAMA

Auburn, WAPI, WSY.
Birmingham, WBRC.
Montgomery, WIBZ.

ALASKA

Juneau, KFIU.

ARIZONA

Phoenix, KFAD, KFPCB.
Tucson, KFDJ.

ARKANSAS

Arkadelphia, KFWD.
Conway, KFKQ.
Fayetteville, KFMQ.
Hot Springs, KTHS.

CALIFORNIA

Avalon, KFWO.
Bakersfield, KDZB.
Berkeley, KRF.
Big Bear Lake, KFXB.
Burlingame, KFQH, KFQR.
Chico, KFWH.
Eureka, KFFV.
Fresno, KMJ.
Holy City, KFQU.
Hollywood, KFQZ, KFV, KFVB.
Long Beach, KFON.

Los Angeles, KFI, KFPG, KFPR, KFSG, KHJ, KTBI, KUX.

Oakland, KFWM, KGO, KLS, KLX, KTAB, KZM.

Pasadena, KPPF, KPSN.
Sacramento, KFBK.

San Diego, KFBC, KFVW.
San Francisco, KFRC, KGTT, KJBS, KPO, KUO.

San Jose, KQW.
San Leandro, KFUU.

San Pedro, KFVD.

Santa Ana, KFAW.

Santa Maria, KFXC.

Santa Rosa, KFNV.

South San Francisco, KFWI
Stanford University, KFGH
Stockton, KWG.

Taft, KFQC.

Upland, KFWC.

COLORADO

Boulder, KFAJ.

COLORADO, (Con.)

Colorado Springs, KFUM,
KFXP.

Denver, KFAF, KFEL,
KFUP, KFVR, KLZ,
KOA.

Greeley, KFKA.
Gunnison, KFHA.
Trinidad, KFBS.

CONNECTICUT

Hartford, WTIC.
Mansfield, WCAC.
New Haven, WPAJ.

DELAWARE

Wilmington, W H A V,
WOAT.

DIST. OF COLUMBIA

Washington, WCAP, WMU,
WRC, WRHF.

FLORIDA

Fulford, WGBU.
Miami, WMBF, WQAM.
St. Petersburg, W H B N,
WIBC, WJBB.
Tampa, WDAE, WGBP.
Winter Park, WDBO.

GEORGIA

Atlanta, WDBE, WGST,
WSB.
Macon, WMAZ.
Savannah, WEBZ.

HAWAII

Honolulu, KGU.

IDAHO

Boise, KFAU, KFDD.
Kellogg, KFEY.
Moscow, KFAN.

ILLINOIS

Anderson, WEBD.
Batavia, WORD.
Brandlands, WSRF.
Cambridge, WTAP.

Carthage, WCAZ, WTAD.
Chicago, KYW, WAAF,
WBBM, WBCN, WDBY,
WEBH, WENR, WFKG,
WGN, WHBM, WIBI,
WIBM, WIBO, WIAZ.
WKBQ, WLS, WLTS,
WMAQ, WMBB, WQJ,
WSBC.

ILLINOIS (Con.)

Decatur, WBAO.
Deerfield, WHT.
Elgin (near), W C E E,
WTAS.

Evanston, WEHS.
Farina, WIBQ.
Galesburg, WFBZ, WRAM.
Harrisburg, WEBQ.
Homewood, WOK.
Joliet, WCLS, WIBD, WJBA
Lake Forest, WABA.
La Salle, WJBC.
Monmouth, WBBU.
Mooseheart, WJJD.
Oak Park, WGES.
Plainfield, WWAE.
Rock Island, WHBF.
Rockford, KFLU.
Spring Valley, WGBW.
Streator, WTAX.
Sycamore, WOCG.
Trescola, WDW.
Urbana, WRM.
Zion, WCB D.

INDIANA

Anderson, WHBU.
Culver, WHBH.
Evansville, WGBF.
Fort Wayne, W H B J,
WOWO.

Greencastle, WLAX.

Greentown, WJAK.

Harrison, WCBN.

Indianapolis, WFBM.

Laport, WRAF.

Logansport, W H B L,
WIBW.

Seymour, WFBE.

South Bend, WGAZ.

Valparaiso, WRBC.

West Lafayette, WBAA.

IOWA

Ames, WOI.

Atlantic, KFLZ.

Boone, KFGO.

Burlington, WIAS.

Cedar Falls, KFJX, KFLP,
WJAM, WKAA.

Council Bluffs, KOIL.

Davenport, WOC.

Des Moines, WHO.

Fort Dodge, KFER, KFJY.

Iowa City, KFQP, WSUI.

Lamonia, KFFV.

IOWA (Con.)

LeMara, KFCY.
 Marongo, KFOL.
 Marshalltown, KFJB.
 Oskaloosa, KFHL.
 Shenadoah, KFNF, KMA.
 Sioux City, KFMR, WEAU
 Waterloo, KFXE.

KANSAS

Independence, KFVG.
 Junction City, KFJC.
 Lawrence, KFKU.
 Manhattan, KFVH, KSAC,
 WTTG.
 Wichita, KFOT, WEAH.

KENTUCKY

Louisville, WHAS, WLAP.

LOUISIANA

Alexandria, KFFY.
 Baton Rouge, KFGG.
 New Orleans, WAAB,
 WAAC, WABZ, WBBS,
 WCBE, WOWL, WSMB,
 WWL.
 Pineville, KFWU.
 Shreveport, KFDX, KWKH

MAINE

Bangor, WABI.
 Ellsworth, WHBK.
 Orono, WGBX.
 Portland, WCSH.

MARYLAND

Baltimore, WCAO, WCBM,
 WFBR, WGBA.
 Takoma Park, WBES.

MASSACHUSETTS

Boston, WBZA, WDBY.
 WEEL, WNAB, WNAC,
 WTAT.
 Dartmouth, WMAF.
 Fall River, WSAR, WTAB.
 Mattapoisett, WBBG.
 Medford Hillside, WGI.
 New Bedford, WIBH.
 Springfield, WBZ.
 Taunton, WAIT.
 Webster, WKBE.
 Worcester, WCBT, WCTS.

MICHIGAN

Ann Arbor, WCBC.
 Bay City, WSKC.
 Berrien Springs, WEMC.
 Dearborn, WWI.
 Detroit, KOP, WCX,
 WGHP, WWJ.

MICHIGAN (Con.)

East Lansing, WKAR.
 Escanaba, WRAK.
 Flint, WFDF, WTHS.
 Grand Rapids, WBDC,
 WEBK.
 Houghton, KFMW, WWAQ
 Lansing, WREO.
 Mount Clemens, WBAX.
 Owosso, WSMH.
 Petoskey, WBBP.
 Pontiac, WCX, WJR.
 Port Huron, WAFD.

MINNESOTA

Buckenridge, KFJL.
 Collegeville, WFBJ.
 Minneapolis, K F D Z,
 WAMD, WCCO, WHAT,
 WHDI, WLP, WRHM.
 Northfield, KFMX, WCAL.
 St. Cloud, WFAM.
 St. Paul, KFOY.
 Virginia, KFUZ.
 Welcome, KFVN.

MISSISSIPPI

Coldwater, KFNG.
 Meridian, WIBP.
 Oxford, WCRH.
 Pascagoula, WCBG.

MISSOURI

Butler, WNAR.
 Cane Girardeau, KFVS.
 Columbia, WAAN.
 Independence, KLDS.
 Jefferson City, WOS.
 Kansas City, K W K C,
 WDAF, WHR, WOQ.
 Kirksville, KFKZ.
 Moberly, KFFP, KFOI.
 St. Louis, KFQA, KFUO,
 KFVE, KFWF, KSD,
 WEF, WIL, WMAY,
 WSBF.
 Warrensburg, KFNJ.

MONTANA

Havre, KFBB.
 Helena, KFCC, KFSY.
 Missoula, KUOM.
 Stevensville, KFJR.

NEBRASKA

David City, KFOR.
 Hartington, KFRZ.
 Hastings, KFKX.
 Lincoln, KFAB, WFAV.
 Norfolk, WJAG.
 Oak, KFEQ.

NEBRASKA (Con.)

Omaha, KFCZ, KFOX,
 KUPR, WAAW, WNAL,
 WOAW.

NEVADA

University Place, WCAJ.

NEW HAMPSHIRE

Chesham, WSAU.
 Laconia, WKAR.

NEW JERSEY

Atlantic City, WHAR,
 WPG.
 Camden, WFBI.
 Elizabeth, WIBS.
 Gloucester City, WRAX.
 Lambertville, WTAZ.
 Newark, WAAM, WGCP,
 WNJ, WOR.
 North Plainfield, WCAM.
 Paterson, WODA.
 Red Bank, WIBI.
 Salem, WDBQ.
 Trenton, WOAX.

NEW MEXICO

Albuquerque, KFLR, KFYV
 State College, KFRY, KOB.

NEW YORK

Brooklyn, WHAP.
 Buffalo, WEBR, WGR.
 Canton, WCAD.
 Cazenovia, WMAC.
 Flushing, WIBI.
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 WJZ, WKBX, WLWL,
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 Richmond Hill, WAHG,
 WBOQ, WRMU, WWGI.
 Rochester, WABO, WHAM,
 WHEC.
 Rossville, (Staten Island),
 WBBR.
 Schnecktady, WGY, WRL.
 Syracuse, WFBL.
 Tarrytown, WRW.
 Troy, WHAZ.
 Utica, WIBX.

NORTH CAROLINA

Ashville, WABC.
 Charlotte, WBT.
 Henderson, WIBV.
 Raleigh, WFBQ.

NORTH DAKOTA

Agric. College, WPAK.
 Devils Lake, KDLR.
 Fargo, WDAY.
 Grand Forks, KFJM, KFRL

OHIO

Akron, WADC.
 Bellefontaine, WHBD.
 Cambridge, WEBE.
 Canton, WHBC.
 Cincinnati, WAAD, WHAG,
 WHBR, WHV, WKRC.
 Cleveland, WDBK, KDPM,
 WEAR, WHK, WTAM.
 Columbus, WBAV, WCAH,
 WCAO, WMAN.

Dayton, WEBT, WSMK.
 Elyria, WGBL.
 Granville, WJD.
 Hamilton, WRK, WSRO.
 Harrison, WLW.
 Lima, WOAC.
 Mason, WSAI.
 Newark, WBBA.
 Pomeroy, WSAZ.
 Springfield, WNAP.
 Toledo, WABR, WIBK.
 Wooster, WABW.
 Yellow Springs, WRAV.

OKLAHOMA

Bristow, KFRU.
 Chickasha, KFGD.
 Norman, WNAD.
 Oklahoma City, KFJF,
 WKY.
 Tulsa, WLAL.

OREGON

Astoria, KFJI.
 Corvallis, KFDJ.
 Hood River, KQP.
 Portland, KFEC, KFJR,
 KFIF, KFWV, KGW.

PENNSYLVANIA

Allentown, WCB, WSAN.
 Altoona, WFBG.
 Arnold, WCBU.
 E. Pittsburg, KDKA.
 Elkins Park, WIBG.
 Grove City, WSAJ.
 Harrisburg, W A B B,
 WBAK, WHBG.

PENNSYLVANIA (Con.)

Haverford, WABQ.
 Johnstown, WGBK, WHBP,
 WTAC.
 Lancaster, WGAL.
 Oil City, WHBA.
 Parkesburg, WQAA.
 Philadelphia, W A B Y,
 WCAU, WFBZ, WFI,
 WHBW, WIAD, WIP,
 WLIT, WNAT, WOO,
 WWAD.
 Pittsburgh, KDKA, KQV,
 WCAE, WJAS.
 Reading, WKAW.
 Richmond, WBBL.
 Scranton, WGBI, WQAN.
 State College, WPSC.
 Wilkes-Barre, W B A X,
 WBRE.

PHILIPPINE ISLANDS

Manila, KZKZ, KZRQ.
 San Juan, WKAQ.

PORTO RICO

San Juan, WKAQ.

RHODE ISLAND

Cranston, WDWI, WKAP.
 East Providence, WKAD.
 Providence, WCBR, WEAN,
 WGBM, WJAR.

SOUTH CAROLINA

Charleston, WBBY.
 Clemson College, WSAC.
 Greenville, WGBT.

SOUTH DAKOTA

Brookings, KFDY.
 Rapid City, WCAT.
 Vermillion, WEAJ.
 Yankton, WNAX.

TENNESSEE

Chattanooga, WDOD
 Knoxville, WFBC, WNAV,
 WNOX.
 Lawrenceburg, WOAN.
 Memphis, WGBC, WHBQ,
 WMC.
 Nashville, WCBQ.

TEXAS

Amarillo, W DAG, WQAC.
 Austin, WCM.
 Beaumont, KFDM.
 Beeville, KFRB.
 Brownsville, K F W P,
 KWWG.
 College Station, WTAW.
 Dallas, WFAA, WRR.
 Denison, KFQT.

TEXAS (Con.)

Dublin, KFPL.
 Fort Worth, KFJZ, KFQB,
 WBAP.
 Galveston, KFLX, KFUL.
 Greenville, KEPM.
 Houston, KFVI, KPRC,
 WSAV.
 Orange, KFGX.
 San Antonio, W C A R,
 WOAI.
 Waco, WJAD.

UTAH

Logan, KFXD.
 Ogden, KFUR, KFWA.
 Salt Lake City, KDYL,
 KFOO, KFUT, KSL.

VIRGINIA

Norfolk, WBBW, WTAR.
 Roanoke, WDBJ.
 Thrifton, WGBG.

VERMONT

Burlington, WCAX.
 Springfield, WQAE.

WASHINGTON

Everett, KFBL.
 Lacey, KGY.
 No. Bend, KFQW.
 Olympia, KFRW.
 Pullman, KFAE, KFRX.
 Seattle, KFOA, KHQ,
 KJR, KTCL, KTW.
 Spokane, KFIO, KFPY.
 Tacoma, KFBG, KGB,
 KMO.
 Walla Walla, KFCF.

WEST VIRGINIA

Weirton, WIBR.

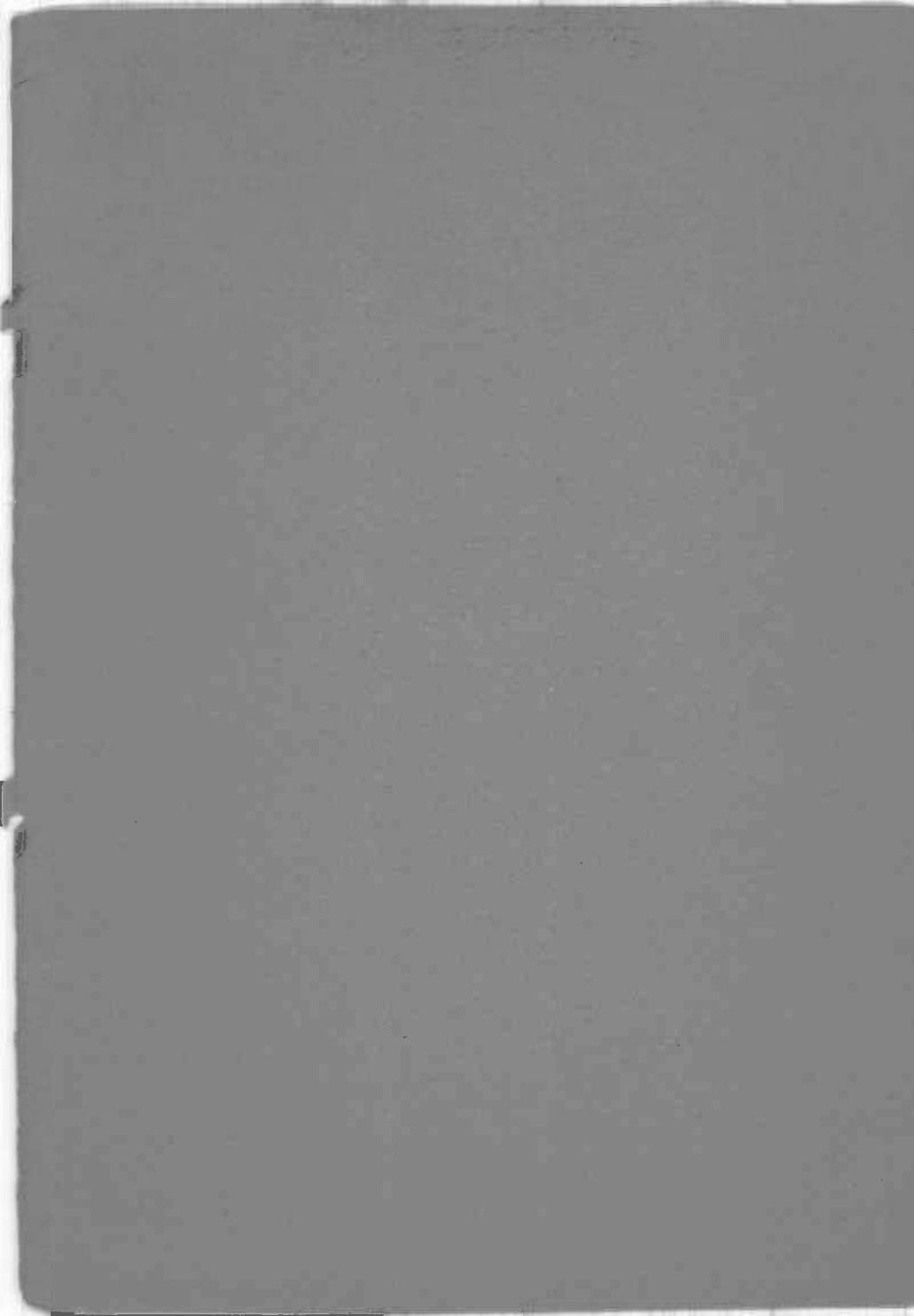
WISCONSIN

Ashland, WJBD.
 Beloit, WEBW.
 Camp Lake, WCLO.
 Fond du lac, KFIZ.
 Madison, WHA, WIBA.
 Marshfield, WGBR.
 Menomonee, WGBQ.
 Milwaukee, W H A D,
 WKAJ, WSOE.
 Osseo, WTAQ.
 Poyette, WIBU.
 Stevens Point, WLBL,
 WHBB.
 Superior, WEBC.
 West De Pere, WHBY.



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C. De Witt White, Architect
 Providence, R.I. - Del.





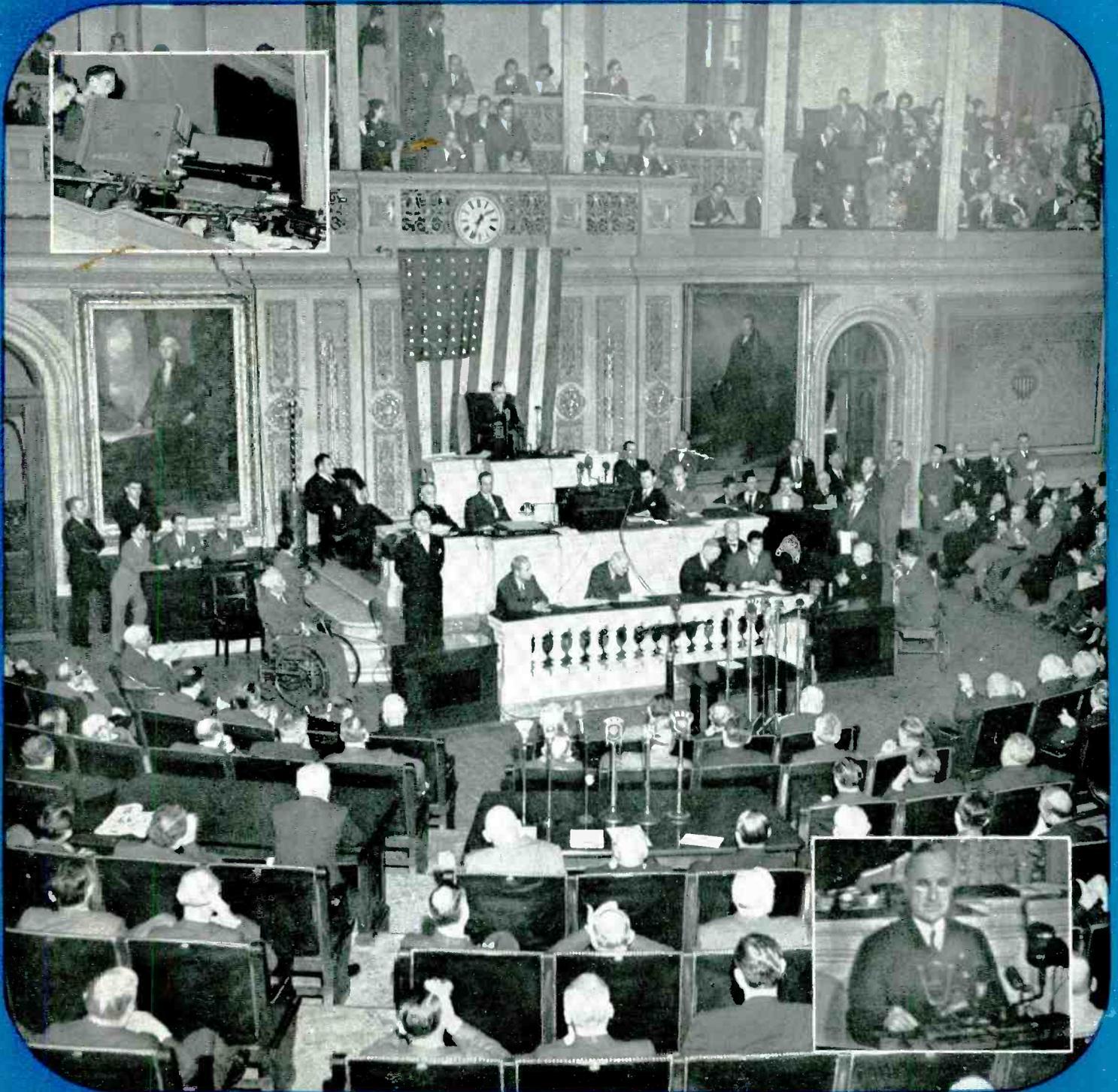
JANUARY-FEBRUARY • 1947

FIFTY CENTS

\$3 PER YEAR, \$5 FOR 2 YRS.

Televiser

JOURNAL OF TELEVISION



OPENING OF CONGRESS TELEVISED: PRES. TRUMAN (INSET RIGHT) OFF MONITOR SCREEN

PROGRAM PRODUCTION ISSUE

SPECIAL ARTICLES ON: SHOWMANSHIP, PRODUCTION, WRITING,
FILMS, SET DESIGN, REMOTES, ACTING, ETC.

And
now
it's...

*Congratulations,
Cleveland*



... on your new TELEVISION Station

SCRIPPS-HOWARD — a name long celebrated in newspaper and radio worlds— moves into a new medium by staking a first claim in the promising field of Television. Cleveland will be given television broadcasting service early in the summer of 1947.

It is significant that these wisely operated newspaper and radio interests have chosen Du Mont television equipment. The contract for the complete installation has been awarded by Scripps-Howard Radio, Inc., to Allen B. Du Mont Laboratories, Inc., pioneering pace-maker of the television industry and builder of more television broadcasting stations than

any other equipment manufacturer.

Du Mont will provide and install a 5 kw video transmitter, 2.5 kw audio transmitter, a three-camera studio chain, dual film pickup chain, a three-camera Image Orthicon field pickup chain, master control board, antenna, and complete audio, lighting and testing equipment.

Du Mont's fifteen years of precision electronic "know how" assure tested, dependable designs. May we show you Du Mont equipment in use in the world's largest and most completely equipped television studios — at Station WABD, New York?

IF YOU HAVE NOT READ "THE ECONOMICS OF DU MONT TELEVISION," MAY WE SEND YOU A COPY? ASK FOR IT TODAY.

DU MONT *First with the Finest in Television*

ALLEN B. DU MONT LABORATORIES, INC. • GENERAL TELEVISION SALES OFFICES & STATION WABD, 515 MADISON AVENUE, NEW YORK 22, N. Y.
DU MONT'S JOHN WANAMAKER TELEVISION STUDIOS, WANAMAKER PLACE, NEW YORK 3, N. Y. • HOME OFFICES & PLANTS, PASSAIC, N. J.

Serving through Science

"U.S." ENGINEERED RUBBER SERVES TELEVISION

**Two U. S. Rubber Co.
Shows Now Regularly
On Television**

"Campus Hoopla"

8:00 to 8:30 pm
each Friday
WNBT, New York

**"Serving Thru'
Science"**

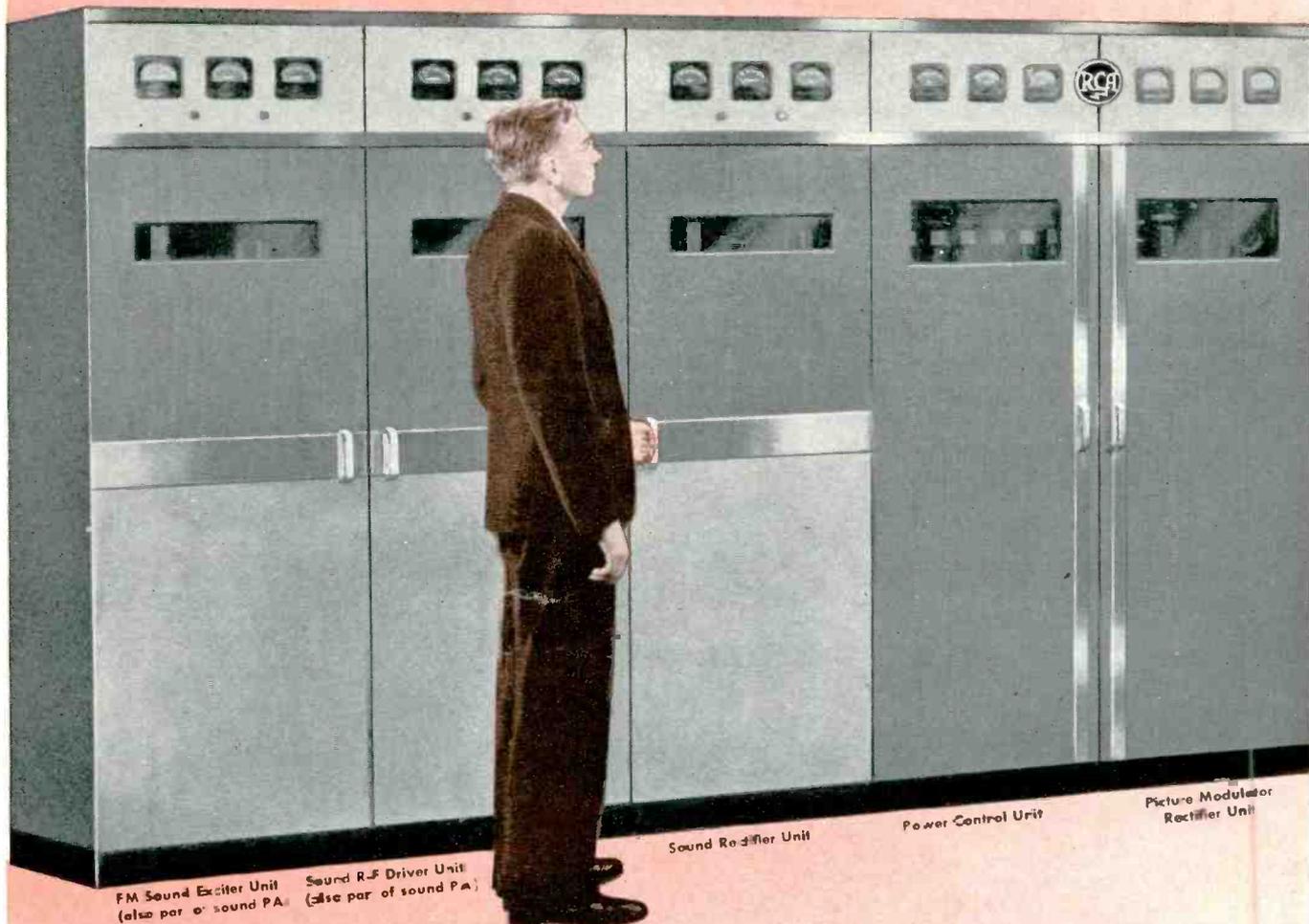
9:00 to 9:30 pm
each Tuesday
WABD, New York

Plus Special Events
and News Casts

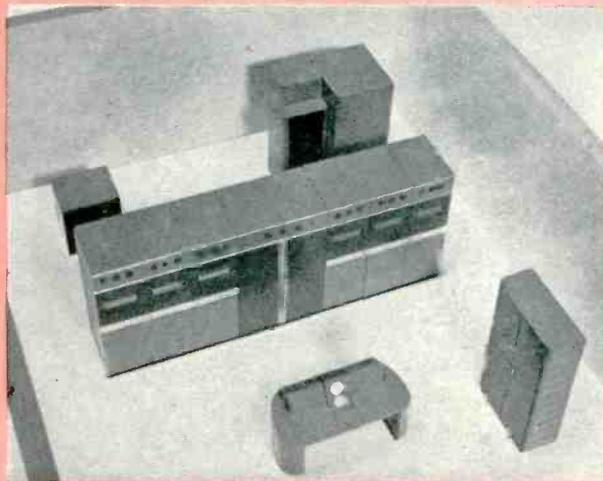
● Manufacturers of equipment—builders of stations—and owners of telecasting facilities—already use many U.S. Rubber Company products. When planning expansion and new designs we invite you to call on the experience and special "know how" of U.S. Rubber Scientists and Engineers for all problems and applications requiring rubber.



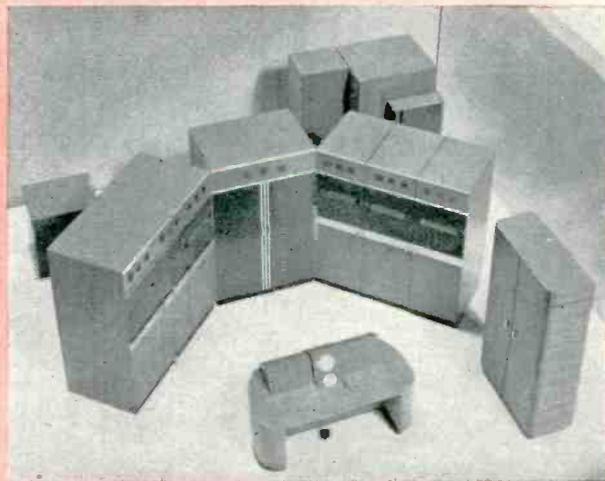
UNITED STATES RUBBER COMPANY
ROCKEFELLER CENTER ● NEW YORK 20, N. Y.



STRAIGHT-LINE Arrangement (overall width 208 inches). Unit-construction permits flexible station layout; advantageous use of available floor space.



U-SHAPED Arrangement — several versions possible down to a minimum width of 150 inches. Transmitting equipment also includes console; sideband filter; diplexer, and dummy load (three units at *right, rear*); watercooling equipment (*left, rear*); and racks for test and other equipment (*right, foreground*).



Deliveries to begin soon on...

THE FIRST POSTWAR **ALL-CHANNEL** TELEVISION TRANSMITTER

RCA's new 5-kw, 54 to 216 mc, Type TT-5A



Picture Rectifier Picture R-F Driver—
also part picture PA Picture Modulator—
also part picture PA

**One transmitter . . .
one standard of quality . . .
for all 12 metropolitan channels**

This revolutionary, new RCA television transmitter, we believe, offers the last word in convenience, operating economy, and performance. Here, in one attractively styled group of cabinets, are all the necessary components of both the visual and aural transmitters.

Take a look at some of its features:

- Simplicity of operation . . . complete unification of control . . . no trick circuits . . . no neutralization of modulated power-amplifier stage required on any channel . . . only *one* easily adjusted modulated stage.
- Roomy, "walk-in" type construction . . . easy access to all parts through full-length front and rear doors . . . ease of handling and installation (each section only 25 by 36 by 80 inches).
- A revolutionary new tube used in both sound and picture power amplifiers—the RCA-8D21, a dual tetrode. Sets new records for stability, gain per stage, low grid

current, linearity, and band-width by employing advanced principles of screening, cooling, and electron optics.

- The separate, sideband filter used in RCA's high-level system (i.e. only last stage modulated) means more straightforward circuits; eliminates complicated adjustments; assures better picture quality.
- "Reflectometers" incorporated in both the aural and visual output circuits. Basically these are uni-directional vacuum-tube voltmeters which provide an instantaneous check of the standing-wave ratio on the transmission line and peak power output; also used as safety devices to protect transmission line from power arcs.
- Manual or automatic sequence starting. In automatic position, a three-slot recycling sequence returns transmitter to the air three times in case of momentary overload.
- A special "hold-in" circuit. Provides *instantaneous* return to air after momentary power-line failure.
- Console provides four-position, push-button monitoring of visual signal—transmitter input, modulator output, sideband-filter output, and "off the air." (Third or fourth position measures percentage modulation of visual carrier.)

Outstanding features like these—of benefit to the station engineer, manager, owner, and audience—have been built into all the new items in RCA's complete television line. Deliveries on existing orders from 20 top broadcasters have already begun on such items as portable field equipment, synchronizing generators, and monoscope cameras. *Initial* shipments of transmitters and other equipment will be made this fall.

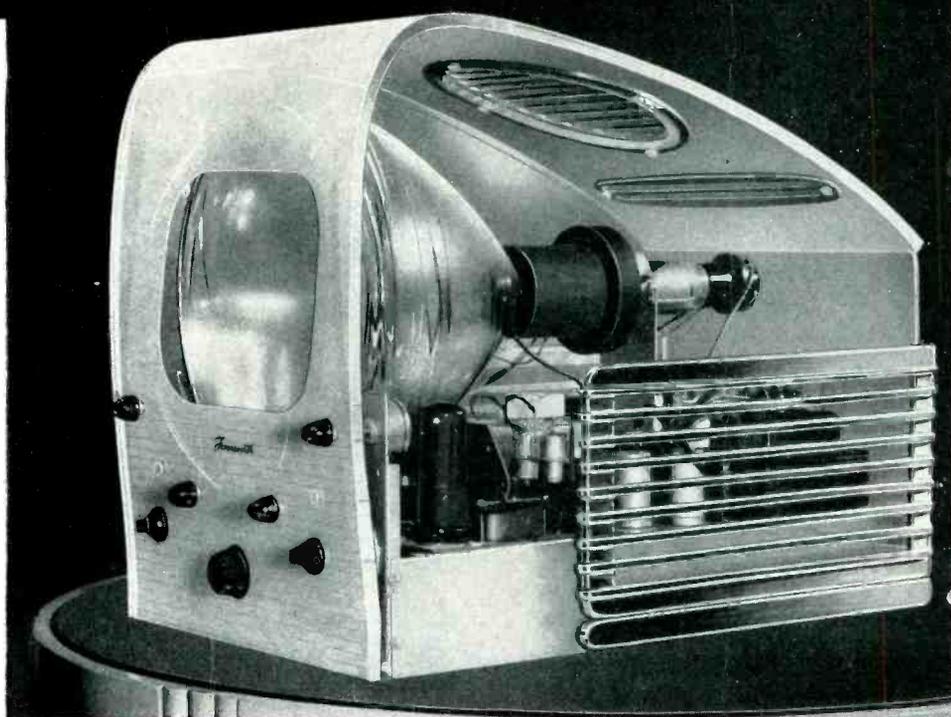
New RCA-8D21
Dual Tetrode specially
developed
for television
broadcasting



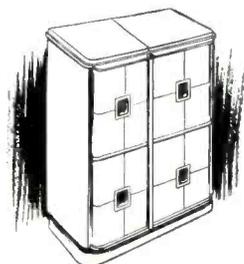
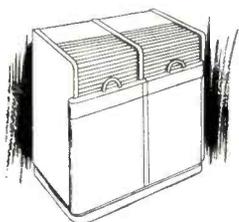
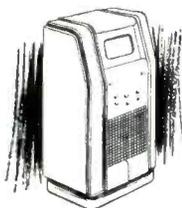
**TELEVISION BROADCAST EQUIPMENT
RADIO CORPORATION of AMERICA
ENGINEERING PRODUCTS DEPARTMENT, CAMDEN, N. J.**

In Canada: RCA VICTOR Company Limited, Montreal

Seeing is Believing..



Inside and out, Farnsworth quality is evident. When you see today's television on a Farnsworth—you see it at its best.



Television is no longer in rehearsal. It is here, now! And when you see the clear, bright, highly defined pictures of modern day television as received on one of Farnsworth's table or console models, you know that today's television is *outstanding*.

For two decades Farnsworth has pioneered in advancing television from a promise to a fact. The technical accomplishments of Farnsworth engineers—from the original development of the electronic television system to practical television as we know it today—have made history.

Superb modern designs characterize Farnsworth's current line of television receivers that, in addition to television sight and sound reception, include standard radio and/or frequency modulation. Some models also combine the deluxe Farnsworth record changer for complete television, radio and phonograph service in one instrument.

These instruments offer the same superior performance that has become synonymous with the Farnsworth name in every branch of its electronics activity. Farnsworth Television & Radio Corporation, Fort Wayne 1, Indiana.

Farnsworth

TELEVISION
RADIO
PHONOGRAPH-RADIO

COVER PICTURE: Television history was made on January 3, 1947 as four image orthicon cameras were present at the House of Representatives to tele-report the opening of the 80th Congress. On January 6 the cameras were present to pick up President Truman (inset) as he delivered his annual "State of the Union" address before the assembled Congressmen. Participating in these historic "pool" telecasts were NBC, CBS, and DuMont. (Photos courtesy National Broadcasting Co.)

IRWIN A. SHANE

Publisher

JUDY DUPUY

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Televiiser



JOURNAL OF VIDEO PRODUCTION, ADVERTISING & OPERATION

Published at 11 W. 42nd St., New York City. Telephone: LOngacre 5-1683

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LETTERS TO THE TELEVISER

You're Welcome . . .

SIRS:

Under separate cover we are returning the photos from TELEVISER's files which you were good enough to lend us for our recent television exhibit at the St. Paul Builders Show. We appreciated your cooperation in getting the pictures to us. They contributed to the success of our showing and they helped to get across to the Twin City people the story of television as it is today.

We were highly complimented on our booth and lots of people around here are still talking about it.

JOSEPH H. BECK, *Television Director*
Minnesota Broadcasting Corp.
Minneapolis 4, Minn.

Subscriber Correction . . .

SIRS:

Just a note of correction in your list of department store subscribers to TELEVISER—in the Nov.-Dec. '46 issue. You have Allied Stores Corporation listed under New York resident buying offices.

Allied Stores Corporation owns outright some 72 department stores. Allied Purchasing Corporation is the operating subsidiary. We are not a loose federation of stores organized for buying purposes and we are not a chain in the sense that Sears, Penney's or Ward's are.

This probably adds more weight to your list.

WALTER L. DENNIS,
Manager Radio & Television
Allied Purchasing Corporation
New York 18, N. Y.

Subscriber Request . . .

SIRS:

Our television station WWDT is desirous of obtaining back issues of TELEVISER, if they are available to us. The dates are as follows: March-April, May-June, September-October, November-December 1945; January-February, March-April 1946.

HAROLD W. PRIESTLEY,
Business Manager
The Detroit News WWJ
Detroit 31, Michigan

Foreign Subs . . .

SIRS:

Kindly enter the following subscription to TELEVISER:

Gosinoizdat
Novo-Alekseevskaja, 52
Moscow 164, USSR

And three copies of each issue to:

Sektor Seti Spetz
Bibliotek Akademii Nauk SSSR
Pyzhevskij per. 7
Moscow 17, USSR.

FRANKLIN SQUARE AGENCY
New York 16, N. Y.

Re Cartoon . . .



"Now that we're televising Little Eva, J. C., wouldn't you suggest a bit of recasting?"

SIRS:

Since you have unconsciously plagiarized our call letters on page 4 of your November-December issue, we were wondering if you could send us the original of this cartoon for our files?

FRANK TAYLOR, JR.,
Assistant Manager
Radio Station WPDQ
Jacksonville 1, Fla.

(EDITOR: Sorry, the "PDQ" evidence has been impounded in our files. How about a photostat?)

P.P.S.—All Televiser cartoons will be exhibited at the 2nd Annual "Television Institute," Hotel Commodore, N.Y.C., Apr. 14-15.

SENORS:

Muchas gracias por la lettre de Ud. Yo me gusto para escribir un articulo por TELEVISER quando you tengo la tiempo. Mexico para Television ahora!

RALPH B. AUSTRIAN
RKO Television
Estudios Churubusco
Mexico, D. F.

Re: Televiser's Teleshov* . . .

SIRS:

Just a suggestion for TELEVISER's television program. How about a place to call in Albany? and other neighboring cities?

On one song, I had the answer very quickly, but by the time the operator put the call through to WRGB, the correct answer had been given. Another thing—\$.15 for the call to Schenectady.

MISS MARY REHFUSS
1040 Washington Ave.
Albany, N. Y.

SIRS:

On your program with Lee Wallace (Dec. 10 for TELEVISER), we want you to know how much we enjoyed it, and in spite of knowing two of the "songs" right it took the operator from Troy so long to reach WRGB the line remained continually busy, so why not give your out of town guests some consideration?

MRS. J. STANTON
Brunswick Rd. Rt. 27
Troy, N. Y.

* TELEVISER's monthly sponsored program, "Guess-A-Song," is presented over WRGB, Schenectady, N. Y.

TELEVISION "QUOTABLES"

The Television Commercial

Much of the fault found with television as a commercial medium may be traced to one or two conditions:

At the present moment, from an advertiser's point of view, television is a gamble in futures. There can be no hope of an immediate great return when the audience is so limited. It becomes impossible, therefore, to justify large expenditure. Consequently, many commercials, both live and film, have suffered because the budget of the advertiser was too limited.

Again, television is the orphan stepchild with most advertisers. It represents such a small and comparatively unimportant part of their activities that it doesn't get the ef-

fort or the brain power it needs. This holds true, too, with advertising agencies whose commissions are non-existent or so small that they simply cannot afford to put their top talent against it.

The main purpose of the commercial in television, it seems to me, is to show or demonstrate what you have to sell and to do it entertainingly in good taste for reception in the living room of the American home.

This is the most challenging opportunity advertising men have had. Such an approach is not possible in any other medium.

C. J. DURBAN,
Advertising Manager
U. S. Rubber Co.

(See *Tele Comm'c'ls*, Page 32)

In Production!



G. E.'s NEW 5-KW TELEVISION TRANSMITTER

COMPLETELY self-contained, General Electric's new 5-kw television transmitter combines every modern improvement for producing the finest pictures and sound that money can buy. Built-in sweep oscillators and crystal monitors make circuit adjustments easy for any operator. Plate modulation assures maximum modulation linearity. Elimination of vestigial side-band filter increases power-amplifier efficiency. New type power-amplifier triodes in push-pull, grounded

grid circuit do away with neutralization and grid "swamping" resistors, speed up tube replacement, and cut tube costs. Important advancements like these are your assurance of unmatched program reliability, ease of control and maintenance, and lower operating cost.

See your G-E broadcast sales engineers for complete technical specifications or write today to the *Electronics Department, General Electric Company, Syracuse 1, New York.*

Higher-contrast pictures

Low-level plate modulation for greater modulation linearity over the full visual range. Video pre-emphasis unnecessary.

New advancements in circuit simplicity

Flat band-pass over full range • No vestigial sideband filter • FM sound transmitter designed with the famous Phasitron modulator • D-C insertion at low level.

Higher circuit efficiency

Pre-output shaping of vestigial side-band reduces power amplifier bandwidth 40 per cent—improves power amplifier efficiency • No power-wasting "swamping" resistors. • No high-power video stages.

Easy circuit alignments

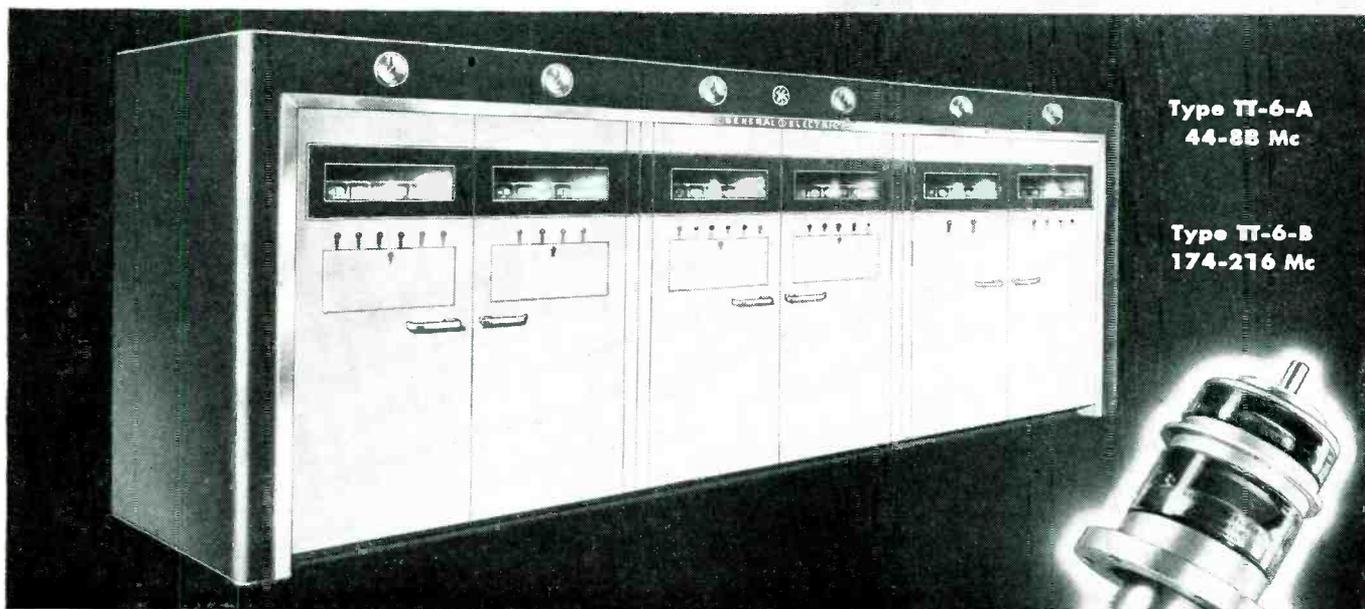
Built-in sweep generator, and crystal detectors in each RF stage provide simple alignment of transmitter.

"Block-built" for higher power

Transmitter design is coordinated with G-E high-power linear amplifiers • Power may be increased later without need for transmitter modification.

Complete accessibility

Full-length doors front and rear • Compact space-saving vertical chassis.



Type TT-6-A
44-88 Mc

Type TT-6-B
174-216 Mc

Write for these G-E Television Books

G-E Television Equipment Data Book—An illustrated description of G-E studio units, transmitters, and antennas. Will be sent free when requested on your company letterhead.

Television Show Business—246 richly illustrated pages of television "know-how" by Judy Dupuy. An indispensable guide to better television program operation. \$2.50 per copy.



Outstanding v-h-f

Power Amplifier Triode GL-9C24

Two sturdy GL-9C24 triodes—running lightly—deliver 5-kw of peak power in the push-pull power amplifier of the TT-6-A and TT-6-B transmitters. GL-9C24 features: compact design for close side-by-side mounting, ring-seal construction for low lead inductance, maximum terminal contact area, only two pairs of water connections per tube, minimum cooling requirements with low-pressure water supply, and ease of replacement.

GENERAL  ELECTRIC

156-E5-6912

FOOTNOTES to the NEWS . . .

BOOK REVIEW

A TALE OF TWO GLIMPS*

by LUDWIG BEMELMANS

with forward by CBS:

"This book is dedicated to the young in heart, for it is their vision that has given us the miracle of television."

It inspires us to add after "finis":

This marriage of two glimps—
she a lovely orange,
he shades of black and white—
their wedded bliss holds
no truth with sequential might.

* Four-color cartoon booklet distributed by CBS at the FCC ultra high frequency color television hearings to the Commission, radio stations, advertising agencies, sponsors and press (about 2,000).

New ABC Tele Policy

ABC by the middle of March will have ceased producing any teleshows, live or film. All production was to have been dropped right after Jan. 1, but commitments are being fulfilled. Then entire efforts will be devoted to getting one of their tele stations on the air—executive preference is that station be located in New York City.

The Detroit station which has been promised variously for Spring or early Summer will not be ready before the end of 1947 at the earliest. There is no time schedule for other spots where net has CPs (Chicago, Los Angeles).

Tele Budget Cuts

1947 has started out with 1st quarter blues. The budget cuts, usually in the fourth quarter in network operations, are taking place now, and television is included although in varying degrees.

Least effected will be NBC, except in its promotion and advertising departments where sizable tele schedule slashes have taken place.

At CBS, all matters are in a state of flux, depending upon the final color standards decision by the FCC, and widespread cuts may take place if decision is unfavorable.

At ABC, the cuts are substantial as indicated in item, *Tele Policy*, this page.

* * *

WNBT, with about 90 per cent of its commercial time sold, hopes to open up more time. Does that mean more hours on the air, with more studio-built shows?

DuMont Film Pool

DuMont is setting up an agency for the distribution of motion pictures: i.e., WABD is talking with several stations to tie up with their service. In this way, a station will rent films at a more reasonable figure since a distributor will know he has several guaranteed sales. Otherwise, distributors aren't interested in the small fees television stations are willing to pay at this time.

WPTZ has expressed willingness to tie-in with the arrangement. Several other video stations are also interested. (Film pool was suggested as an economical solution by TELEVISER, Nov.-Dec., 1946.)

* * *

• Bob Bright, former art director at WABD-DuMont, is now art director at Television Productions, Inc., Hollywood.

\$\$ Charges

Are you going to radio relay that video remote or pick it up by telephone cable? Think twice, because here are line charges for New York City, based on minimum monthly rates filed with the FCC:

Rental (includes installation): \$20 per quarter mile of line (matched pairs or coaxial cable) from pickup point to telephone terminal to tele station. (For a one shot, or a month's rental, cost is the same.)

For coaxial cable network pickup: \$50 AT&T terminal installation charge, plus local telephone line charge.

(See special feature story, page 11 and television network story, page 27.)

Attend TELEVISER'S 2nd Annual Television Institute, Apr. 14-15, Hotel Commodore, N.Y.C.

* * *

Doherty, Clifford & Shenfield has put its Bristol-Myers' film commercials for Ipana and Vitalis in moth balls and is experimenting with "live" commercials on its current WCBS-TV series, King's Party Line.

* * *

Dodger's Sponsor?

Who will pay the terrific television tab for the Brooklyn Dodgers, reported to cost CBS \$50,000 for the rights and \$500 for each home game? Ford and Shell Oil are said to be bidding for it. Under its CBS contract, Ford has the right to select, practically up to the last minute, the Madison Square Garden events the company chooses to sponsor.

Did You Know That

• DuMont received a special permit from the Cuban Government to have a transmitter at the recent 13-day Havana television showing under the auspices of Compania Importadora de Lubricantes, S. A., which is installing a television station (expected to be in operation within six months). RCA and DuMont tele receivers were displayed.

• WRGB, Schenectady, is appealing to set owners to criticize programs—whether "for" or "against." It has sent special letters to viewers with weekly program schedule.

• Reports from Chicago indicate that Fran Harris of Ruthrauff & Ryan is doing a top job scripting the Henry C. Lytton commercials on the Hockey Games (WBKB).

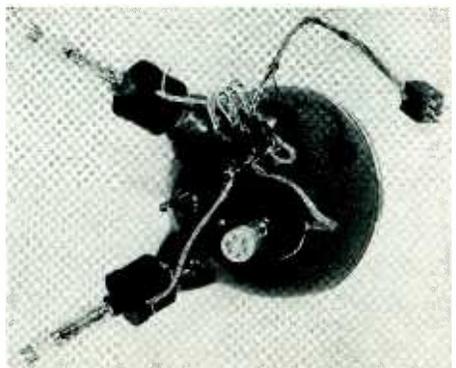
• The William Morris Agency represents Jamaica Arena (Samuel Weiss, owner, and Bill Johnston, promoter). DuMont has this sports center tied up with William Morris, telecasting wrestling and fights at least twice weekly.

• NBC's tele department will send cameramen and crew with the National Geographic Society-U. S. Army Air Forces Expedition to Brazil in May, 1947, to cover the total eclipse of the sun.

• NAB and National Retail Dry Good Assn. have started a campaign to promote use of tele-film commercials for retailer sponsorship on local stations, according to Frank E. Pellegrin, NAB director of broadcast advertising.

• Will Morrison, formerly of J. Walter Thompson tele dept. (Ford account), is new tele head at BBD&O.

Trichroscope . . .



DuMont's three-in-one cathode-ray direct viewing tube now under laboratory development. (See "Status of UHF Color," page 25.)

THE TELEVISER

Tele's Tyrone

Youthful scientist, Dr. Peter C. Goldmark, carrying the color ball for CBS, stole the spotlight at the FCC ultra high frequency color hearings in Washington, D. C., and also made quite a hit with the press.

The INS girl, covering proceedings the second day, stage-whispered during a pause in Peter's long testimony, which was heard throughout the auditorium: "I'd no idea he had such a cute accent!"

80th Congress "Quotable"

Rep. Charles J. Wolverton of N. J., chairman of the Interstate Commerce Committee, said at tele coverage of 80th Congress opening:

"This new and unique system for conveying news to the people of this nation, I consider one of the most outstanding events that has ever happened in the field of communications."

Pool pickup was telecast by all stations in Washington, D. C., Philadelphia, New York City and Schenectady. DuMont, NBC and CBS cameras covered event.

DuMont Show Packaging

Station WABD is going after sponsor business.

Bob Emery, newly appointed to manage DuMont's program department, will package shows making them available for sponsorship. All talent will be hired on a freelance basis, from writers to producers, as well as performers. Packages will be price-tailored to meet sponsor's budget—anywhere from a few hundred dollars to \$1,500 or more.

Teleshaw Packaging

Theatrical producer John Wildberg (*Anna Lucasta, Porgy and Bess*) is eager to get into television, having organized a package production outfit, readying four shows for sponsorship. He's asking \$4,000 to \$5,000 for shows built around Broadway stars.

Wildberg recently was named program consultant to WABD-DuMont on a loose contract basis, percentage of business.

TBA New Members

Television Broadcasters Association has elected to membership: the Pulitzer Publishing Co. (St. Louis *Post-Dispatch*, Radio Station KSD), St. Louis licensee for television station KSD-TV, now under construction.

Educational members: Television Workshop (TELEVISER subsidiary) and New York Technical Institute of Newark.

(Cont'd on Page 10)

JANUARY-FEBRUARY, 1947



MOTION PICTURES Can Give You TELEVISION Market CONTROL!

New television stations are springing up all over the map. But *only film* can develop new television markets for you... instantly... effectively... economically.

Only Film makes possible selective marketing, *without* costly individual programs—expensive rehearsals—telephone line charges—time zone differentials.

Only Film can guarantee repeat performances of uniform quality—identical selling messages.

Only Film will assure you perfect lighting—absolute focus—flawless dialogue.

In TELEVISION...

...**FILM** removes the question mark.

Now available for sponsorship... exclusive **Telereel*** Series. In 13, 26 or 52 week installments.

Write for details and arrange for private screening.

Send for booklet:

"Film — The Backbone of Television Programming."

RKO TELEVISION CORPORATION



Dept. TR-4, 1270 Avenue of The Americas, N. Y. 20, N. Y.

A Radio-Keith-Orpheum Corporation Subsidiary

*Copyright U. S. Pat. Off.

TRAINING EQUIPMENT

Why wait until you receive your "on order" equipment, or until your C. P. comes through, when you can start training your future television staff NOW by utilizing Telehuhn low-cost training equipment?

Your radio actors, writers, directors, and producers may be trained for television without delay with our easy-to-use, realistic studio cameras, director's consoles and boom-mikes—all specially designed for training purposes.

It's the same equipment used by the Television Workshop of New York to train more than 200 "apprentices" this year and to reduce costly rehearsal time for its commercial and sustaining television shows in New York, Philadelphia, and Schenectady. Equipment includes:

Dummy CAMERAS

Dummy CONTROL CONSOLE

Dummy BOOM MIKES

Simulated to look like real studio equipment down to the last detail, Telehuhn Training Cameras dolly, pan, tilt like actual cameras. A ground-glass lens frames the picture. To indicate which camera is "on-the-air," a signal light may be flashed by the director back at the control console. For a pictorial record of your dress rehearsals, a 16 mm. camera may be inserted in the camera housing. Ideal for training use!

Director's consoles come equipped with as many as four channel "monitors" (for 4 cameras), and an "on-the-air" monitor. To indicate which camera is supposedly on the air, the director simply presses a button and lights flash on the control panel and on the desired camera!

For Full Details, Write to

TELE-HUHN

95-21 - 109 Street
Richmond Hill, N. Y.

(All Equipment Offered Through Special Arrangement with The Television Workshop, Training Division, New York City)

Television Receivers

• As of Dec. 1, RCA Victor produced 2,950 home television receivers, George L. Beers, assistant director of engineering, told the FCC. It is expected, he added that total 1946 production would be 8,000 sets; total 1947 production 160,000 tele receivers.

• Viewtone has brought out a new table model, an improved piece of furniture, priced in the \$225 range. It manufactured close to 3,000 sets in 1946.

• United States Television is concentrating on "big-picture" sets (22" x 16") for bars and penthouses. Tommy Dorsey and Guy Lombardo have had the special \$2400 jobs installed. Company expects to produce 300 a month in Feb.

• Philco is experiencing FM circuit problems, it is understood. No announcement of tele sets has been made recently.

• DuMont is bringing out a small console in the low-priced range. Model is in production.

• Admiral exhibited two new models at American Furniture Mart, Chicago.

People

• Adrian Samish is now ABC vice president in charge of programs and television. Paul Mowrey continues as ABC's national television director. ABC holds three video station CP's—Detroit, Chicago, Los Angeles; has applications pending for San Francisco and New York.

• Larry Lesueur is the newscaster on the weekly *Gulf Television News* (WCBS-TV).

• Ralph B. Austrian, recently returned from a three-month stay in Mexico had his picture splashed over a three-page interview on television in *Ioiga!*, *Semanario de Cine, Radio, Deportes e Informacion*, 23 de Noviembre de 1946 issue—seven camera studies.

• Paul Knight, former program director of WPTZ, is now television director with Benjamin Eshleman Co., Philadelphia ad agency. He's handling their Sears Roebuck tele shows, *Visi-Quiz* and *Matinee for Youth* (WPTZ).

• Mrs. J. Kennedy, former secretary of Sam Cuff at DuMont, is now in charge of spot telecasts: time signals and weather reports (WABD).

• Art Rivera, director of radio and television, Donovan & Thomas, Inc., N. Y., has been retained as television consultant by Jean Fields Agency (employment).

Los Angeles CP's

ABC—Channel 7 (174-180 mc); Earle C. Anthony, Inc. (radio station KFI)—Channel 9 (186-192 mc); NBC—Channel 4 (66-72 mc); Dorothy S. Thackrey (KLAC, New York Post)—Channel 13 (210-216 mc); Times-Mirror Co.—Channel 11 (198-204 mc); Television Productions, Inc. (W6XYZ)—Channel 5 (76-82). No decision on Don Lee.

Other Tele Applications

GRANTED: Fort Industry Co., commercial tele CP for Toledo, Ohio; Channel 13 (210-215 mc).

WITHDRAWN: Dorothy S. Thackrey (*New York Post*) dropped New York City and San Francisco applications.

HEARING SET: Allen B. Du Mont Labs. Inc., application for a commercial tele station, Pittsburgh, Pa., set for Apr. 11.

DISMISSED: Connecticut Television Co., Booth Hill, Conn., and Institutum Divi Thomae Foundation, Cincinnati, Ohio, tele applications because of "lack of prosecution."

RE-APPLYING: The Milwaukee Journal, owner of WTMJ and WTMJ-FM, which withdrew its application for a commercial tele license.

UOPWA at CBS-Tele

White collar staff at CBS tele station WCBS-TV in New York received in December a 22½% wage increase, less a cost-of-living boost, retroactive to Sept. 1, 1946, under a Radio Guild, United Office and Professional Workers of America (CIO) contract. A 2½% kiddie is being held for job classification adjustments, currently under survey.

Among television job classifications affected are: Floor manager, press information representative, visualizer, picture editor, studio assistant, film production assistant, make-up artist-wardrobe mistress as well as secretary, receptionist, accountant, etc.

Eight holidays are specified in the Radio Guild contract, with double pay provided for all working.

CBS tele staff expects to benefit especially from the "promotion clause" which specifies that first preference for a job go to qualified persons within the department; second priority to other company personnel.

Radio Guild is now pressing organization of NBC and ABC in New York.

I: PROGRAMMING AND PRODUCTION



Television enters a church for the first time, covering Grace Church (N. Y.) Candlelight Services. Note two cameras, unobtrusively placed, one high behind grill (left).

SPECIAL FEATURE REMOTES GET TOP TELE ATTENTION

RAINBOW promises are turning into television realities. Remember, when television was touted as the eighth magic wonder to bring Congressional sessions, the President of the United States, parades, eye-witness views of disasters, as well as sports events into the home? You know—expanding the horizons of man's environment. Well, these things are all true—and are rapidly becoming accepted services by present set owners and even the public.

Within the past two months, cameras of all three major television stations NBC, CBS and DuMont have "pool" covered the opening of the 80th Congress (Jan. 3, 1947); cameras have gone into churches both in New York (see picture above) and in Hollywood to televise the first Christmas Mass (W6XYZ); video has followed Macy's annual Thanksgiving Parade (WNBT); and Philadelphia's famed New Year's Day Mummers' Parade (WPTZ)—and both sponsored, too!

Remotes, excluding sports, have varied in character from news events to election

coverage. They have included:

☐ United Nations General Assembly from Lake Success (WNBT & WCBS-TV);

☐ New Year's Eve at New York's Times Square (WNBT);

☐ National Horse Show Opening at Madison Square Garden (WCBS-TV);

☐ Santa Claus in Gimbel's Dept. Store "Toyland" (WNBT);

☐ New Year's Day Mummers Parade, sponsored by Sears Roebuck & Co. (WPTZ);

☐ Macy's Thanksgiving Day Parade, sponsored by R. H. Macy & Co. (WNBT);

☐ Candlelight Services, Grace Church, N. Y., sponsored by the U. S. Rubber Co., on WABD (see review, page 36);

☐ Foreign Press Assoc. Dinner, Hotel Waldorf-Astoria, N. Y. (WNBT);

☐ Christmas mailing rush, General Post Office, N.Y.C. (WNBT);

☐ Tele interviews, lobby of Roxy Theater, "The Razor's Edge" opening (WNBT);

☐ The Rodeo at Madison Square Garden; sponsored by Ford Motor Co., (WCBS-TV);

☐ NAB Meeting, Palmer House, Chicago (WBKB);

☐ TBA Meeting, Hotel Waldorf-Astoria, N. Y. C. (WNBT);

☐ First helicopter mail landing on the Merchandise Mart (WBKB), Chicago;

☐ Man-on-the-Street interviews (WCBS-TV, WBKB, WNBT);

☐ Election telecasts from Republican and Democratic headquarters (WBKB), Chicago.

Building a Crew

The hopeful entry which many video station applicants filled in, "Programming: One-third to 50 per cent remote," has acquired precedent. DuMont's WABD started doing remotes in August 1946, and in the past four months has piled up a record of more than sixty pickups from fights and wrestling, football and automobile racing, to pickups from Grace Church and night clubs (Stork Club, New Year's Eve).

The crew, headed by engineer and program director with no previous remote experience, are now veterans, taking assignments in stride, just another job to be done. Engineering surveys (prior to installation), installation, and on-the-air coverage fall into place with well coordinated teamwork. Management no longer is concerned about results—the boys put on a show.

Oldest hand at the remote video game is NBC's good-natured Burke Crotty, program head of WNBT's remote coverage, who was turned out green on remotes back in April 1939, 11th to be exact, at the World's Fair. Working with orthicons—not image orthicons—he soon learned how to use his cameras for the best reporting job.

Crotty when asked which he would prefer: An experienced remote man or a station-promoted man as a new crew member, stated emphatically in favor of the latter. "He knows company policy," Crotty said. "I can teach him how to di-

rect and supervise a remote pickup, but knowing policy is something else again. Television outdoors cannot afford to be in the hands of unalert men. The director must be alert to 'never offend'—never show anyone in the audience unfavorably on camera." There's that indefinable "policy" at work.

Crotty is proud, and rightly so, that in his five years' (time out for the war) operation, taking cameras from Times Square to the Bronx Zoo, covering more than 800 remotes, he's never had any complaints . . . that is from the public.

Crew Required

The number of men, mostly engineers, technicians and cameramen, sent out on a remote job varies naturally with the pickup involved and the number of cameras used. For the average pickup, station crews vary. For instance:

¶ DuMont has a crew of seven men with a director and announcer, making a full crew of nine.

¶ WBKB has more or less standardized its remote crew. For a two-camera operation: five engineering personnel, including electrician; and three program personnel, including one field director and two cameramen. (Cameramen are on the program staff at WBKB).

¶ NBC usually assigns eleven men (engineering dept.) to a remote in addition to three men from the program department—director, announcer, and spotter. (See "Doing Remotes Is No Fun," TELEVISER, March-April, 1946).

There is plenty of good program material available for television despite the short supply of film and lack of live music—and the "remote," including both sports and special features, will help stations do a public service job at the same time filling FCC's required 28-hours of weekly telecasting. And, an excellent feature about "remotes" is the ready sponsorship found for them by alert managements. The remote can mean money in the till.

New Stations' Plans

Most managements granted commercial television CPs have reported "program plans not yet formulated" but the Associated Broadcasters, Inc. of San Francisco, California, for instance, indicates that "initial programs will revolve around special events, sporting events, home economics demonstrations, schools and educational activities."

(Cont'd on Page 39)

PICTURE SHOWMANSHIP

By MAX FLEISCHER*

SHOWMANSHIP is a very delicate art but not impossible.

The basic principle of showmanship is the art of attracting and maintaining attention. This involves two basic principles: 1) We must regard the mass as a composite individual for the purpose of predicting and controlling their emotions and reactions, and 2) The audience must believe that what we present for them to see or hear is true. Thus, showmanship is a study of the minds and reactions of people. The producer must become a showman engineer.

It is a strange fact that in all the arts, the layman recognizes and appreciates professionalism and displays little or no interest in the unprofessional even though he cannot explain his choice. However, no two people see the same thing at the same time. Therefore, perspective is the producer's most important hunk of knowledge, but he must put something of himself, his heart, into the show.

The producer must know the technique of concealment and amplification. He must know what's underneath before he can present the surface to the audience.

People have developed the faculty of switching off—not their receiving sets—but switching off their minds. Like the turtle, our audiences have developed the faculty of theoretically pulling in their heads. They have learned to protect themselves against the persistent onslaught of crude, clumsy and aggravating presentations.

This persistent disregard of normal human emotions and reactions, this continued violation of the basic principles of showmanship will, eventually, exact its toll. Sponsorship will shrivel and evaporate.

The Secondary Picture

In the art of presentations, the following comparison is frequently made between radio and television:

"Television employs visual presentations, plus dialogue, while radio employs dialogue, minus the picture."

Technically, this may be so, but in the psychological sense it is not true. There

* Pioneer motion picture cartoon animator, now instructor in "Picture Showmanship" at the Television Workshop (Training Division), New York City.

are two types of pictures involved:

1. Pictures which are received by the eye.
2. Pictures which spring from imagination.

You may be surprised to learn that mental pictures, the pictures we imagine, exert the most powerful influence upon us. In this fact alone lies the secret of radio's wordpower.

The great power of the motion picture and of television lies not alone in the pictures presented, but in the combined use of both the visual and the imaginative. Suppose we cite examples of these techniques:

Upon the screen we see the smiling face of a child. We may experience mild or unemotional interest. Now we can hear the doctor's words: "Madam, your child is . . . incurable. Her time is . . . short."

Our emotional interest is instantly swirled to the heights of gripping drama. It is the same picture. The very same child, but the words have added imaginary pictures to the visual presentation. Our mental pictures have overpowered the visual pictures.

Through sheer necessity radio must fashion word-pictures, in addition to its theme dialogue. Very often this is accomplished by the use of a few words, in this manner:

1st voice: "You're not leaving this room . . . that is . . . not with the briefcase."

2nd voice: "That's what you think."

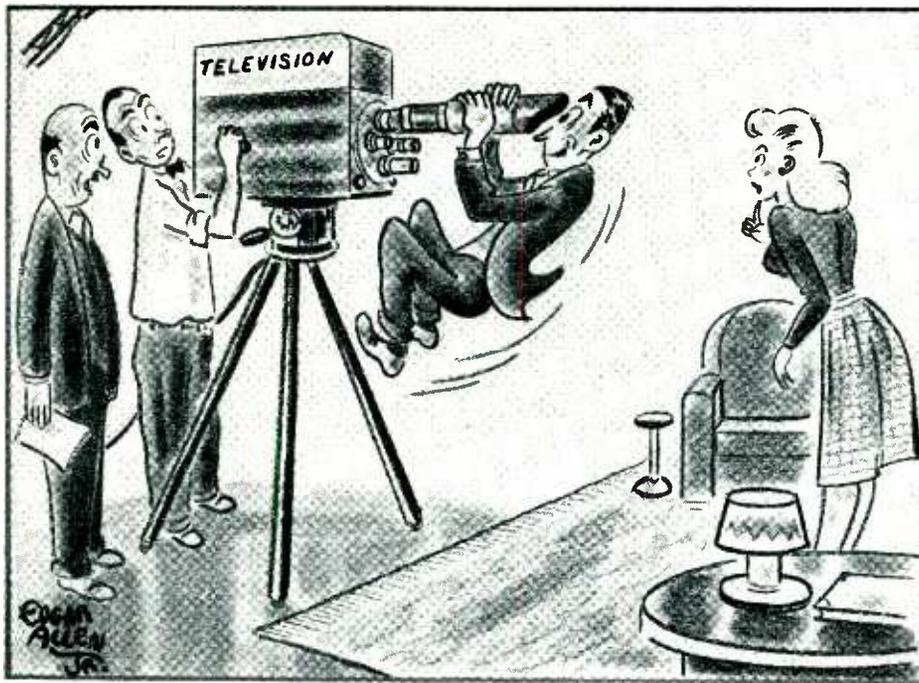
1st voice: "I don't think. I know!"

2nd voice: "Ummm, I get it . . . you argue with a gun."

Here we find that while radio dialogue is employed to progress the theme, a few words are injected for the purpose of painting imaginary pictures. In the psychological sense, radio does employ pictures, imaginary pictures, which are truly as effective as the visual type.

In any case, whether it be motion pictures, radio or television, when the performance is over only memory is left, and in this memory the imaginary picture remains just as vivid as the visual presentation.

In television, therefore, we must write and direct our show with a secondary picture in our minds. Otherwise television will not succeed.



"I don't know of another actor who hogs the limelight that much!"

Fundamental Principles of Good Television Production

By WARREN WADE*
Program Director, NBC Television

TELEVISION is here and, if the director will let them, everyone can see everything that's going on.

I don't believe the television audience will demand of video entertainment the same pretentious program that they demand when they go to the theater. Television programs will naturally get better as we go on and as better facilities and talent are available. But, it will not put on the production that the theater does, since the theater asks the audience to come to it. Television goes to the audience. The theater has geared its entire operation for effect, from the time the ad is out in the newspaper until you go to the theater and see the lobby display. Then you are ushered inside where there is a big build-up in the way of fixtures, lighting, plush seats, and a very ornate picture frame. So the picture that comes on the screen, or the show that comes on the stage, must be comparable with the frame that the theater puts around it,

**Excerpts from talk given at the recent Television Broadcasters Association Conference, Program Panel, at the Hotel Waldorf-Astoria, New York City.*

and the trouble you were put to go to the theater. In the home, the video frame is very commonplace, it is something seen every day. The television picture or entertainment will always look better than your frame.

I have but two fundamental principles for television productions:

1. Have a good show, and
2. Be sure the audience can see it.

Use the Medium

These principles cover the production problems in studio, film and field. Television is no great new art; just plain ordinary show business that has always been based on talent and hard work. It is a medium of communication, and what goes on in the studio or on film or in the field is what counts. If we have a good show before the cameras it will be a good show on the receivers. There's nothing in the television camera that will help it or hurt it. Whatever is done well will communicate well. It will not suffer by the medium through which it reaches the audience.

"Use the medium" invariably is trans-

lated to mean—close-ups, long shots, dolly, lighting tricks, superimpositions, dissolves, etc. Forget the tricks. "Use the medium" to have a good show. "You just can't put on plays without actors"—that's an old Wade saying that's been in the family for years. Be it education, news, mobile or what not, you just have to have good players and a good play.

Television's ability to be there when it happens is the one "use of the medium" that can't be sold short. Use it. Point it up. If you use a newspaper as a prop, have it the latest paper, the headlines the family read that very day. We are a great people to want "to be there when it happens."

Tempo in Television

The program in television cannot be the same length as on radio. And, I think that we will find that programs are going to wear out sooner than on radio. In television, you must move your program fast—it must not lag. Television must demand that vaudeville tempo.

Operation of television is more important than in radio. That you get into your program and out of your program in a showmanlike manner will make your station or operation a professional one or an amateur one. The contents of a program will always be a matter of opinion. What one person likes, another one will not. But if you come on stage in a professional way and make your exit in a professional way, you will be rated with a professional show no matter what the content. Television should open big to get attention. You should put your best foot forward first and from then on keep it going. Pace is very important.

The word "entertainment" should be kept uppermost in the mind, no matter what type of program you are putting on. Now, by entertainment I do not mean that there must be a song and dance in everything. But, there must be something unusual and intriguing whether it be a play, a game, an educational program, or even a religious program. With television we have the very unique thing of "being there when it happened." It will be the little human touches that you put into a program that people will talk about and that make your program entertaining. In each program have a human touch even though you have to plan it to happen.

(Cont'd on Page 23)

How to Conduct A Television Interview— and Make It Interesting . . .

By EDNA E. GAMBLE*

DO television interviews bore you? Yes, the interview which should be a video headline program may become the bane of television, principally because of poor camera coverage.

Most interviews on television today have a tendency to be "just another interview," static and stereotyped. Because of the simplicity of its concept, directors are prone to consider the interview the easiest kind of show to plan and direct on television. However, it is the visual presentation—the director's camera coverage—that will hold or lose the interest of the home audience in the video guest.

Picture composition is a basic factor in all camera work—pleasing pictures build interest and unpleasing ones throw a story out-of-joint. It is picture composition that I want to touch upon—not lengthily, but to point up some simple observations.

Movement and Masses

Nine out of ten television interviews today begin with: 1) The interviewer seated at a desk or table speaking about the video guest, in this instance Captain Paul Ashley, an explorer recently returned from India (see pictures on opposite page); 2) The guest enters, is greeted and introduced; and 3) They are seated and go into a talk session. From here on the same movements and masses are repeated over and over until the pictures (camera coverage) become monotonous.

Now, it would be easy to suggest a new method of televising an interview, but to do so would be impractical since even an entirely different studio setting and format would become equally as boring if used over and over again. My suggestion, therefore, is to take the same main plan for the interview, but to vary the resulting picture composition by placing the table or desk at different angles, having the scenery placed so that walls are on separate planes, arranging objects to give interesting lines.

Basic preparation and planning are essential to the good video interview just

as it is essential for every studio-produced program. Picture composition starts with the interviewer and with the shooting format. In planning and rehearsing the program these points should be considered in order of their importance:

1. Everyone who has directed an interview on television knows how important it is to have a pleasant person do the interviewing, one who can pick up the conversation when it lags, whose personality will carry the show, concealing the guest's lack of ease and unfamiliarity before the television camera.

2. The director should speak with the guest as soon as possible. He may have things to show which, without advance preparation, would be impossible to include at the last minute. If he has trophies to show, as in the case of Captain Ashley, so much the better. However, they must be viewed beforehand so the director can arrange to exhibit them to advantage. Another important point: If the guest has a dark complexion suggest to him that he wear lighter clothes if possible, and vice versa.

Basic Pictures

3. Prepare a script or outline of the way the interview should run, including as much pictorial action as possible, (charts, film, puppets) indicating special camera shots, action, etc. Here is the first step in securing good composition for the television interview. Plan the best shots to be picked up by cameramen who are the most interested in composing good pictures. Of course, these shots must be verified at rehearsal.

4. Select scenery for the interview, being careful to choose a background that will be light enough to give good picture contrast between people and the scenery.

5. Decide upon a contrast in the articles shown—dark articles should not be placed before a dark background, etc., because in the camera shots an attempt should be made to balance all pictures with light and dark masses. Much of this will depend upon the cameramen, but the director must also know when his composition is good or bad, pleasant or annoying. In all camera shots the values must be distributed so as to form good composition. (Note close-up of knife and hands on opposite page.)

6. If a map is to be used, it is preferable to have the studio artist prepare one rather than use an ordinary map, for he will know the proper colors and tonal qualities to be used.

Rehearsal

7. Before beginning rehearsal, it might be well to clear up crucial points with the crew, rather than break into the middle of the action. Also advise the guest on such matters as looking into the camera—his biggest audience. Too many personalities constantly turn toward the interviewer rather than the home audience. If the guest needs makeup see that he brings out his best points. Also chalk lines might be helpful for the placement of elbows and for the guidance of movements. Further, the guest should be advised of the importance of the placement of objects he wishes to display, how to hold them for camera pickup.

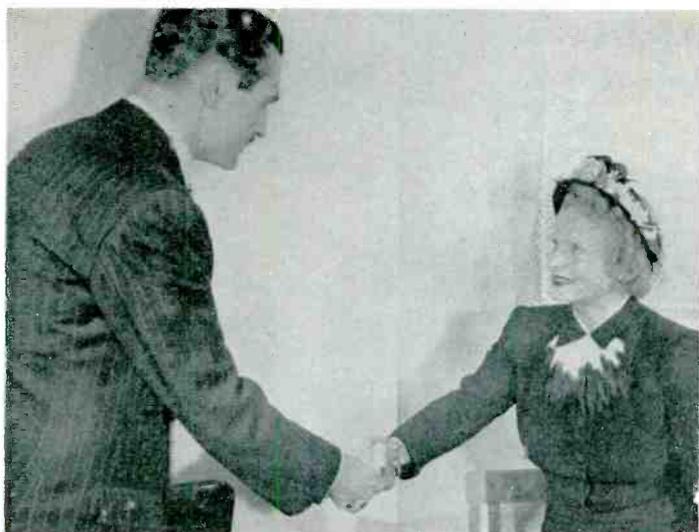
8. At rehearsal, the interviewer and guest should run through the interview for the benefit of the studio crew and the director before the actual camera rehearsal begins. At that time, the crew can be appraised of unique shots desired; objects on the table or desk can be placed to break up the flat surface, and material arranged to give interesting lines.

9. During camera rehearsal, the complete picture format should be checked. When a particularly desired shot is obtained, it should be called to the cameraman's attention. He will be just as anxious to get that shot during the telecast as the director. I talked with Don Pike, a cameraman at WNBT about this. His opinion was that most cameramen can get at least twenty compositions of a desired thirty requested at rehearsals.

10. All desired camera shots should be noted on the shooting script during camera rehearsal. Any particularly difficult shots should be re-rehearsed to fix the action in the minds of the cameramen and for the benefit of the studio crew and performers as well.

If these basic principals are adhered to in building and rehearsing the interview, it should be an attention holding program, pleasing to look at. The public is interested in noted people and wants to meet personalities. It's up to the director and cameramen to give a good show.

* Edna E. Gamble, artist and assistant producer, is the wife of producer Raymond B. (Bud) Gamble. She has been working with him on weekly television productions on WABD.



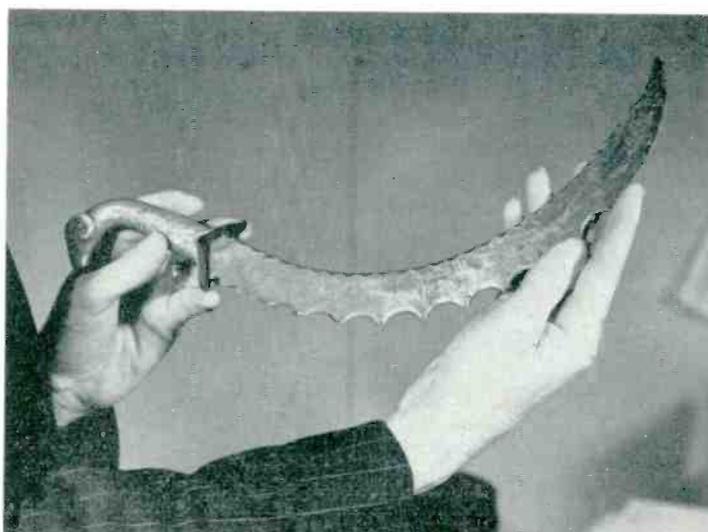
1: Memi Powers Glazer, interviewer, greets Capt. Paul Ashley, guest explorer. Note how the vertical wall line gives room depth.



2: Angle of table eliminates usual horizontal line at base of picture. Light background on table and walls silhouettes people and axe.



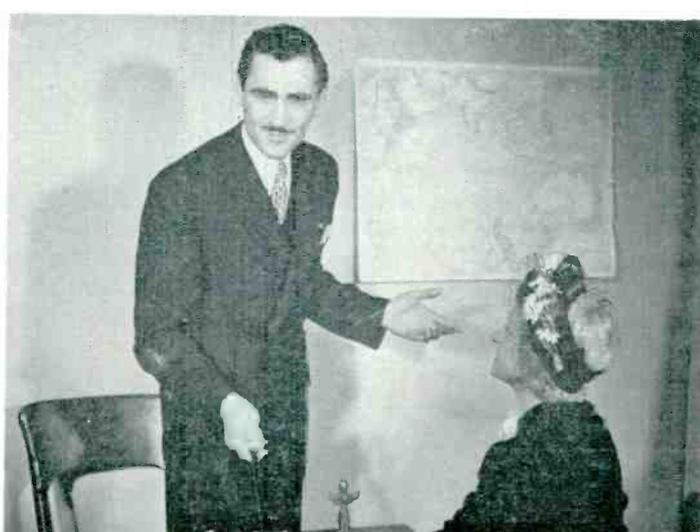
3: Warn guest to look into camera, at home audience. Note how curved knife is held for camera pickup and for cut to closeup.



4: Show audience trophy in closeup, taking advantage of picture composition made with guest's interesting hands—adds interest.



5: Ashley at map, pointing out where trophies were picked up in India, adds action and contrast. Interviewer subordinates herself.



6: Guest returns to table for conclusion of interview. A pleasing shot like this makes viewing audience feel guest is visiting with them.

Turning Sound Programs Into Good Video

By HARVEY MARLOWE
Executive Television Director,
American Broadcasting Company

WILL radio programs make good television shows?

Television licensees, many of whom are also radio station owners, want to know the answer to that question—want to know how many of their popular sound programs can be given visual formats. And further, there's this factor: Can radio actors, actresses and announcers make the switch over to television?

These program problems are causing many headaches to managements now setting up video staffs. To program directors, particularly, faced with the minimum 28-hours of weekly telecasting required by the FCC.

The American Broadcasting Company has had a lot of experience in adaptation of radio shows to television, probably more than any other telecaster. Prior to our active entrance into television, a year and a half ago, considerable research and study was made of possible program material. Consequently, it was not mere accident or an arbitrary decision on our part that we started with the declared policy of adapting suitable radio network programs for video production. We felt that by using shows with a good audio foundation and by giving them proper visual presentation we should have good television shows.

We now think we know some of the answers to these questions. One is that most of the programs now on radio will never see the inside of a television studio, at least, not without undergoing drastic revisions. Further, the home audience once it can see as well as hear shows demands good visual entertainment after the novelty of seeing radio personalities wears off.

Some of the types of radio shows we've experimented with on television include: Mystery-drama (*Famous Jury Trials*), personality-philosophy (Ted Malone), the woman's hour (*Nancy Craig*), the Mr. and Mrs. format (Pegeen and Ed Fitzgerald), the variety show (*On Stage, Everybody*), the daytime strip (*Ethel and Albert*), and that so-called video natural, the audience participation show (*Ladies Be Seated* and *Detect and Collect*).

Some of these television presentations have been good and some only better than average. Roughly, they fall into two types of adaptations: 1) Programs presented with very little change from the radio format; and 2) programs completely revamped for visual production.

The audience participation show, such as *Ladies Be Seated*, with its gags and crazy stunts that gather laughs from the studio audience, is a formula that has been extremely successful both on radio and in television. It is visual and it has a certain spontaneity comparable to a remote pickup.

A careful analysis was made of *Ladies Be Seated* to see how much could be lifted bodily and how much had to be revamped to encompass the visual audience. Very little of the format had to be changed. The important thing for television production in this case was the placing of cameras and the general set-up of props and the studio audience. Emcee Johnny Olsen was accustomed to moving about stage. However, not knowing what the contestant would really do with a gag, some effort was made to anticipate his actions by rehearsal with stand-ins (two or three hours). By doing this we were able to catch most of the closeups when needed.

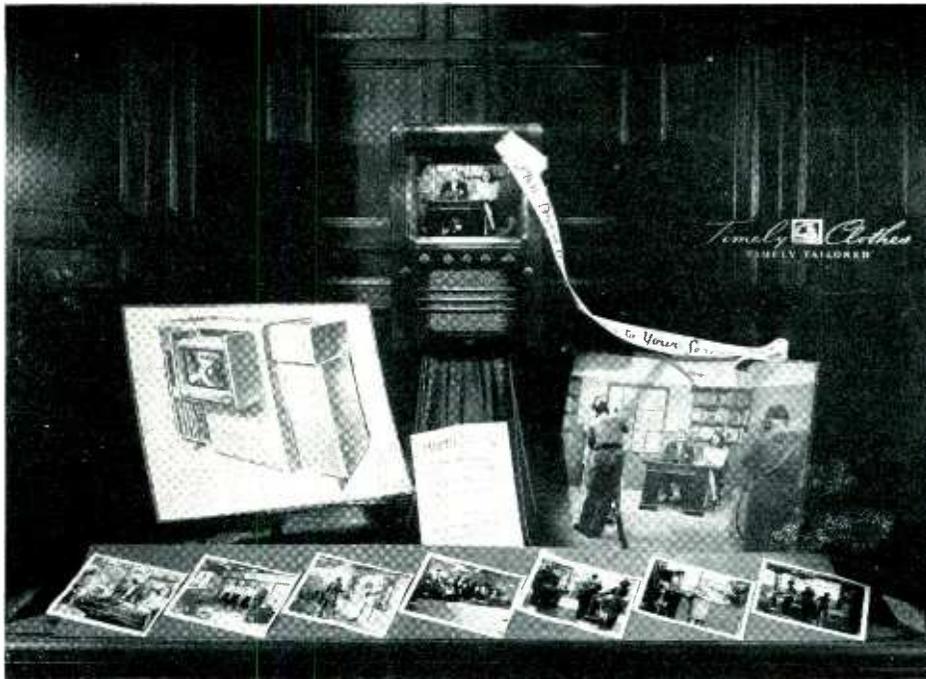
Only strong visual gags were used, resulting in one of the best rated video shows to date. Johnny Olsen and *Ladies Be Seated* was presented for a 13-week series over WRGB, Schenectady, and on various occasions at WABD, New York, WPTZ, Philadelphia, and WBKB, Chicago. In other words, the show has played the ABC circuit.

Another show which required very little change in its adaptation was *Detect and Collect*, with Lew Lehr and currently with Lew Parker emceeing. This is another audience participation show, handled on the clue idea, the contestant guessing from oral clues what is behind the magic curtain. The radio pay-off gag was nearly always a highly visual stunt set up within the confines of a specially constructed proscenium in full view of the studio audience. In our adaptation, the basic elements were used completely intact, the set being aligned to conform with camera requirements. One portion of the set was used for the studio contestants, adjacent to the curtain. Lehr or Parker worked in front of the curtains. Cameras were always in position to catch any action. Here again, two to three hours' rehearsal with stand-ins to anticipate reaction and to rehearse pay-off gags, is essential.

On the opening night, introducing this show on television, one of the pay-off gags called for a baby pig. The prop department telephoned all over New York for such an animal, finally locating one in



Short story writer Jack Payne with halo and wings on ABC's "Stump the Authors."



Display in John David's Fifth Ave. window tying up with an ABC teleshow over WABD.

New Jersey. A truck was sent for it, and what was delivered was a huge boar, impossible to handle. What was used? A calico pig from John Wanamaker's china department. The wrongly-cast gag cost about \$200.

Completely Revamped Shows

An entirely different type of radio show was *On Stage, Everybody*, a network variety program which was nothing more than a showcase for both new and established talent. In our television adaptation, a story continuity was developed—a distinguished personality, Billy Rose on one occasion, was "scouting" talent from a "theater" seat. The theater atmosphere was projected by opening on a miniature marquee with flashing electric lights. The personality was used as a transition between acts, cameras cutting to him discussing the merits of the performer just as home viewers were probably doing while waiting for the "curtain" to rise on the next artist. Considerable rehearsing is required with a show of this type—run-through rehearsals with acts, camera rehearsals for the entire show, altogether some eight to ten hours, three at least in the studio. In the case of this program, very little of the radio format except the name was used.

Another radio show which required a completely different visual treatment was *Stump the Author*, an impromptu storytelling session with three name authors concocting on the spur of the moment dramatic episodes built around several ob-

jects handed to them. This Chicago originating radio program makes good use of a studio audience. In adapting it to television, the audience was eliminated and the show set in a simple living room, planned as a party. The authors make use of props, moving about the set as they develop their impromptu skits based upon a couple of unrelated objects, a nightstick and a pair of glasses, for instance. This final video format, however, was arrived at only after week-to-week experimenting. The opening show on television followed the original radio pattern very closely. Considerable time, at first, was devoted to studio rehearsal (three to four hours) but once the authors became accustomed to the medium, only an hour or so is now required for technical business, getting in and out of the show. The authors do not see their props until they are handed to them on the air.

And of course we tried the daytime strip, *Ethel and Albert*. As heard on the ABC network, *Ethel and Albert* is a two character daily fifteen minute show of their trials and tribulations. In televising it (four weekly shows), we were concerned mainly with the problems that would beset us if we had to present it as a five-a-week. First consideration was rehearsal time and the extra-curricular time needed for memorization. Scripts were selected which would lend themselves particularly to visual presentation. Then, instead of asking the actors to study and learn their lines, they were asked to become thoroughly familiar with the situa-

tions. The performers, having worked together constantly in radio, had developed an easy going style. It was remarkable how naturally they stepped into a visual enactment of this series. Two sets were used to give movement and variety to the performances, which ran twenty minutes.

When *Town Meeting of the Air*, the network's forum, was televised, it was actually a camera report of a radio program since the forum was broadcast at the same time. Consequently, the only effort at visual adaptation was added use of maps, pictures and props. Speakers still stood before the microphone. One camera was set on the speaker's platform as a cover shot for all participants; one camera was utilized as a closeup of individual speakers; and a third camera was turned on the audience for studio reaction. Even though this was a static television show, the home audience got a tremendous kick out of apparently being in on a behind-the-scenes program, judging from the many letters and reports received. Had this been a straight television presentation the entire program would have been revamped and made more visual.

Problem of Casting

The television-radio station operator must consider talent for his visual shows. Top radio performers probably will fill similar roles in television. They have talent and there is no substitute for that. But most radio actors, particularly those without stage background, may find their radio training a handicap. At least, many of the radio actors we've tried on television were like fish out of water when asked to perform without scripts.

Another factor in television production which the radio-experienced management must consider in programming is rehearsal time—rehearsal time required for actors to memorize lines and set the show, and further rehearsal time with cameras. Then there is costuming and stage setting, visual elements essential in television.

We have learned that we cannot constantly expect our television shows to come from established radio programs. Consequently, we have cautiously experimented with new shows as well. However, the batting average has always been better with adaptations from radio programs (not always using the radio talent) than with original ideas.

What to Keep in Mind if You're Writing for Tele

By EDWARD STASHEFF

VERY few top "money writers" are attracted by the prices currently being paid for video continuities, but the neophyte plunges in where veterans disdain to tread, and tries his luck. The average writer who wants to try television has probably had a fling at other types of writing first. He has probably had a number of radio scripts accepted, and has sold short stories to the slicks . . . or even to the pulps. But somehow or other, he gets the impression that television is virgin territory, just waiting for the homesteader to come along and stake out a claim. He fails to consider picture thinking—that is picture storytelling, the essence of television.

First of all, good writing is good writing in any medium. In dramatic continuity, the story's the thing, with dialogue that has the smack of reality running neck and neck with the story line. Now, granted that our television scribe possesses the ability to tell a tale and make his characters sound more like real people than like characters in a day-time serial, what else ought he to bear in mind when writing for video?

Pictures More Than Words

Let the writer bear in mind that his brain-child must be seen more than it is heard. (I know that's obvious; it still needs repeating.) Radio must keep a constant stream of sound pouring out, with the exception of rare and deliberately meaningful seconds of dead air. But television must give us something worth looking at! And, please, moderate your flow of dialogue. Don't write long speeches and then go back to figure out some device to get movement into the tableau. One earnest young writer whose work I read recently had a narrator-interlocutor interviewing a typical family, just as they were about to start on an automobile ride. I pointed out, gently, that having him propped up on the running board for the next thirteen minutes while they discussed the impossibility of hiding from the atomic bomb would be rather static.

Figure out what's doing . . . and then decide what the characters have to say . . . absolutely have to . . . in order to advance the story action. Don't have mother get out of her porch rocker (Yes, I saw that serial on television, too) and say, "well, I guess I'll go into the house and see how that cake is getting along!" Remember,

in television, she just gets up and goes . . . we see her doing it, and we know she's gone! It isn't necessary for a character to remark, "What are you doing with that gun?" to let the audience know the character pulled a gun. If we can't see the little derringer, the prop man will get you a forty-four.

Limit the Locale

Further, the video writer should be aware of the present day economics of the medium—small budget sets and effects.

Edward Stasheff, script supervisor and director of Television Development. Station WNYE, the New York City Board of Education radio station, has been writing the CBS television series, "Judge for Yourself," for the past year and a half, which is televised over WCBS-TV. In addition he has written and participated in scores of other video programs. During 1946, Mr. Stasheff has been a member of the Television Workshop's teaching staff, conducting courses in Television Writing.

If his story can be told with a minimum of settings (2 to 4, at the outside), a reasonable number of stock film sequences, and a cast that would make a mixed basketball team rather than a football line-up, he has that much more chance of interesting a producer.

Script Format

What about script format—the form in which you should set up your masterpiece? In most studios the accepted tele-script is set up in two columns—the left* side of the page headed, "VIDEO" and the right side, "AUDIO." As a writer, you are concerned with the right hand side, with the dialogue and play action which tells your story.

The "VIDEO" column is the director's concern. In fact, it may be wise to just develop your story without fussing about "VIDEO." The director will visualize the action. He's paid to exercise a little imagination, too, and in his own way he's likely to be rather more of a creative artist than you are. I know, just being paid for it regularly doesn't make him one, but working at it regularly does help. So don't feel impelled to show how much you've learned in that course on directing

*ED. NOTE: *At NBC the columns are reversed, with "audio" on the left and "video" on the right.*

for television by writing a mess of video gobbledegook reading something like: "MCU OF JOHN AND MARY ABOUT TO EMBRACE, DOLLY IN SWIFTLY TO CU OF ARRESTING CLINCH. CUT TO LONG SHOT OF MARY'S HUSBAND ENTERING DOOR. CUT BACK TO TIGHT TWO-SHOT. CUT TO LONG SHOT, PAN OVER TO HUSBAND AT DOOR, THEN PAN BACK WITH HIM AS HE JOINS THE GUILTY LOVERS."

The audio, the dialogue, on that masterpiece, as I recall, ran: JOHN: *At last!* HUSBAND: (DRILY) *Not quite!* MARY: *Ob!* There is such a thing as carrying the sight-to-sound ratio too far in the laconic direction.

Does that mean you have no right to indicate what is basically necessary in the line of visual action? Not at all. Write in all the action you want, and I almost dare say the more the better, but put it in the "AUDIO" column, typing it in capital letters. Again, remember it is not your job to indicate in advance just how the director is to shoot that action. Most directors have the notion that shot-calling is what they're supposed to do, and few of them have the time to be gentle when explaining that to a new writer.

The Simple Story

The simple story, simply told, is still the best bet. Don't feel that you can show your grasp of the medium and your imaginative power by planning a long list of tricky mechanical effects, complete with superimposition, chemical smoke, miniatures of the Taj Mahal, with translucent mermaids in the center pool. Given an interesting situation, a conflict whose outcome is not too readily predictable, and a few attractive people in whose fortunes viewers can be genuinely interested, and all the camera tricks in the world are unnecessary.

Fresh angles; well-composed shots; adroit cutting . . . well, that's the job of the directors and the cameramen! And would that we writers knew our job as well as they know theirs!

So you still want to try it? Good! Put your papers and carbons into the typewriter. Set up two columns—one marked "VIDEO," and one marked "AUDIO." Start: "Hit the music, and dissolve to TITLE." Take it from there, brother, it's all yours.



Negro quartet and Eddie Mayehoff, comic-emcee in a rustic song sketch on Standard Brands' "Hour Glass," WNBT-NBC, Thurs., 8-9 p.m. (See story of sponsor-agency experience, page 30.)

Cues for the Tele Actor— and the Director, Too

By SARA JANE TROY*

ACTING for television is pretty much the same as acting in any other medium. The television performer must be first and foremost, *an actor*. The artist who is a trained craftsman won't, for the most part, find it too difficult to adapt his acting to any of the mediums: theater, radio, films and television. With each medium the technique of acting varies, but the art of acting remains the same with all. A good actor who may never have played before a camera is a far greater asset to a television show than a poor actor who may have been lucky enough to do several video broadcasts.

At this stage of television, the producer-director is much too occupied working out camera shots and angles to take time to conduct a class in basic acting. However, the actor may expect direction

**Sara Jane Troy, associate producer with Lee Wallace Teleshows, independent package organization, started her professional career as an actress, later becoming a radio sound effects engineer. While with radio station WOR she was assigned to work on its experimental television shows catapulting her into television.*

and help in his relationship to the camera. If, on the other hand, a performer is somewhat familiar with the basic requirements for television acting, this added experience assists the director in obtaining a more polished production all the way around.

Utilizing the Tele Camera

If the first requisite of a good television actor is to be a good actor, the second is to be a camera-conscious actor. That does not mean self-conscious before the camera. It means being conscious of the closeup intimacy of the camera and its tremendous sensitivity to its subject, which is the actor most of the time. The director, sitting in the control room at rehearsal, sees the picture that is to go out over the air. If he says to the actor: "Cut—you're not giving me a true character," nine cases out of ten the performer is over-acting.

Perhaps the scene is a close-up of a man about to commit suicide and the script calls for a revelation of that man's emotions. The actor who is not television camera-conscious runs away with himself. The character he is playing might conceivably at that moment wring his hands, shake his head wildly, and stride about

frantically. The camera-conscious actor is in control of himself and knows how to create the same effect of frenzy with half the amount of movement. He is in control of the situation if, for instance, he reveals his emotion through his eyes alone. Then, instead of distracting the viewer, he is guiding the viewer's vision compelling him to focus all his attention on one thing thereby heightening the dramatic moment. The actor is not forcing the viewer to take in a *number* of things, which by creating a hodge-podge of irrelevant movement would destroy illusion.

Concentration and Awareness

If the actor thinks of the camera as a foolproof agent transmitting his innermost thoughts, his acting is more likely to be sincere, and he will lean more toward understating a role than overplaying it. A television scene may call for a closeup of an actress reacting non-verbally to dialogue going on "off camera." The director has a purpose in focusing a camera close-up on one face. If he is going to sustain that shot, each split second of its appearance on the screen must be justified. Dramatic action does not necessarily imply or demand movement. The actress might not "move" anything but her eyes during that time, but nevertheless she is acting. If she is thinking as the character she is playing would think in those moments, the camera will reveal the general tenor of her thoughts.

Intensive concentration, therefore, must be a chief concern of the television actor. The moment the television actor loses his concentration, the camera immediately discloses the subsequent discrepancies in his performance, and the illusion he was attempting to create is destroyed.

Concentration in television is much more difficult to achieve than one might think. It may come with a certain amount of facility to the actor when he is working in the sanctum sanctorum of his rehearsal room, but his powers of concentration must necessarily increase if he is to sustain his thoughts and feelings before a collection of prop men, cameramen, sound men, and electricians in the television studio. True, the movie actor, too, is subjected to similar distracting elements in the shooting of a scene, but unlike the television actor, he knows that a retake is possible. In the movies, if an actor should "lose his concentration" just as the cameras are dollying in for a close-up, the director will cut, places are taken

(Cont'd on Page 24)

SET DESIGN AT CBS: IMPRESSIONISM VS. 3-DIMENSIONALISM

EVEN at this early stage of television, there are two schools of thought about scenic designing. One claims that settings must be motion picture realistic, complete to final detail. The other believes that television with its fleeting programs, small screen, limited operating personnel, and more limited budgets (even when sponsors will be paying in the thousands for packaged time), requires impressionistic realism rather than the real and the round in its settings.

Thus, today scenic artists in present operating television stations are divided into two camps. The art department of the realistic school goes in for construction work, building sets and effects. Scenery is solid; woodwork, cornices, ledges are real. Furniture is furniture you can feel and touch. The impressionistic-realism school believes in expert painting, achieving with brush, canvas and beaver board the required panels, posts, railings, cornices—silhouettes being cut out by jig saw: i.e., achieving reality on flat surfaces. A chair is a chair only if someone must sit on it. A column is a round, substantial column only if it stands in the center of the set, otherwise it is an effect on canvas backed by beaver board, with fine detail achieved with paint.

Impressionistic Realism

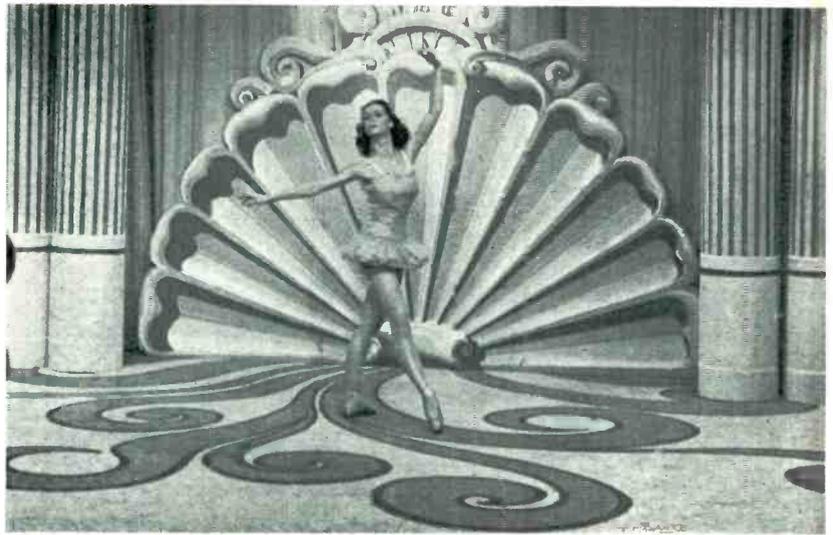
Exponent of the impressionistic group is CBS's James McNaughton, television's pioneer scenic designer in this country. (See *Video's Veterans*, page 23).

"After eight years in the business, I'm just beginning to find out what the medium is and what television scenic art is," McNaughton declared.

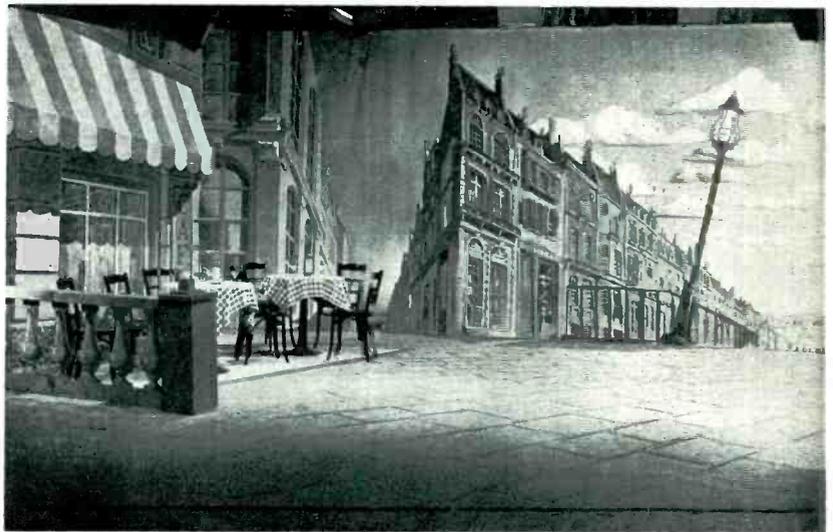
The television scenic artist should think a little fantastically—be a Dali—according to McNaughton. The painter distorts furniture to get a good picture. Television should be thought of in that way, he believes. It is the picture, the picture on the receiver screen, that counts.

It is the artist's job to design settings for the program to be framed. Because of the nature of television, its present-day lack of stage lighting, the scene designer must take artistic license, putting in shadows and utilizing forced perspective. This is true for both schools of thought. People should appear as though they are walking around in a room in space, and not against shallow surfaces. Actors must stand out; the television picture must be given dimension and depth.

The television medium differs from both motion



Fan piece, pillars are painted on flat canvas on board frames, jigsaw cutout. →



Painted cutout buildings, lamppost; also wire-hung clouds; curtain backdrop. →



Checkerboard floor (canvas) painted in perspective. Pillars, railing are cutouts. →



Hindu statues (cutouts) and mirror change dance setting. Note painted floor design.



Floor (12-foot painted canvas), backdrop add depth illusion. Sets by McNaughton.



Wall treatment of room (cutouts) used against monotone flats. Note plain floor.

pictures and the theater, a point upon which all television art directors agree. Motion pictures go in for stark realism; the theater for faked effects. The theater, however, is verging more and more to realism because of the influence of the movies. In television, McNaughton believes, realism is unnecessary because viewers are entertained by design—the video audience does not expect to see a room in full detail but an impression of a room. Further, television studio shows are of such short duration—half-hour, an hour to an hour-and-a-half at most—then sets are broken, carted back to the scene dock to be redesigned, repainted for another production.

Use of Floor

McNaughton makes great use of the floor (which is in most camera shots) in his settings to give perspective and depth. In the CBS dance series, for which director Paul Belanger received the TBA award for 1946's outstanding artistic program, McNaughton's settings, with forced perspective and floor designs, contributed no little to its accomplishment. It was in this series that he excelled himself in his floor motifs, designed to blend with and be part of the ballet. (*see photographs*).

McNaughton's basic requirements of television scenery are:

1. It must be light and easily moved;
2. It must be cheap (minuscule cost);
3. Because shadows cannot be achieved by video's present overall lighting, scenery must be beautifully painted to give a feeling of dimension and perspective.
4. It must never interfere with actors;
5. It should tend to be in the mood of the show without attracting attention in itself.

The Influence of Budget

Television requires scenery, costumes, lights—a picture to look at. Most of the money spent should go into what is to be seen. However, this isn't true in television today and perhaps may never be true. McNaughton attributes this to the fact that television is run by radio people accustomed to the relatively simple production job involved in putting on a radio show.

The television art director must be the most budget conscious person in the studio. He must figure out how to make something out of nothing. For instance, at CBS the studio has three canvas ground cloths—one of them has had 46 coats of paint! The studio uses casein paint because it covers quickly and is fireproof. Most sets are painted in photographic gray, achieving the shades of gray necessary for beautiful effects.

(Cont'd on Page 22)

Television has need of fine scenic painters. However, major studios are unionized. The United Scenic Artists (AF of L)—this includes both art directors and scenic painters (theater, motion pictures, television)—claims jurisdiction over all television. The union in New York City has instituted a training program for theater people, training them for television work. McNaughton believes that it is necessary for theater-trained scenic people to spend a year changing their methods and concepts for television.

A television art department should consist of three main divisions in major studios and at least two in independent stations. The principal divisions are: Titling and Lettering; Scenery; Costuming. With the art director in charge of all operations, this means one or two people for titling and lettering, at least one or more scenic painters (the art director can paint also when necessary), and a costume designer (also the art director in small stations). This is the nucleus of a television art department.

As art director of WCBS-TV, James McNaughton feels completely responsible for every picture, every frame composition that goes over the air. He works directly with directors, standing in the control room, watching artistic effect of shots.

Regardless of the merits of the impressionistic-realism school of tele scenic design with its economical and artistic aspects, the realistic school, as exemplified by the NBC video art department, has its points of merit. These will be presented in a later issue of **TELEVISER** when we will visit WNBT's production group at work.

VIDEO'S VETERANS

This is the fourth of a get-acquainted series of Who's Who in working television studios, including producers, scenic artists, writers, etc.

James McNaughton

"THERE are only two art directors in television who understand the medium," is the emphatic belief of slender, intense James McNaughton, pioneer video scenic designer and



Jim McNaughton

currently art director at WCBS-TV, New York. The former Captain in the Marine Corps (he saw action in the Solomons), architectural designer (Carnegie Tech), ballet dancer, and musician takes himself and his job seriously. McNaughton concedes the other video art director is Bob Bright now on the coast with W6XYZ.

McNaughton, in his early 30s, with the temperament and flair of his North Country ancestors (Irish, Welsh, Scotch, English) was born in Pittsburgh. During his college years he designed stage settings, produced ballets and conducted a symphony orchestra. It wasn't until 1938 that he joined NBC experimental television leaving a designer's job with Steuben Glass. As a freelance he had been also doing assistant stage designing (Broadway productions) and commercial art.

At NBC he applied himself to the video medium and its demands on the scenic artist. After the war, he returned to NBC for a brief period, went to Hollywood for eight months (MGM set designer) and returned to New York, joining CBS television in late 1945.

The musician-dancer-artist, quiet voiced and gentle, grows rabid about television scenic art: "It's a new medium and the artist must find new materials and new modes of expression." And that's what he's doing: Designing sets for the electronic camera (see story and photographs page 20) and riding herd on directors demanding composition in every picture sent out on the air.

Robert B. Stone

MODEST, lank Robert B. (Bob) Stone, senior producer at WRGB, Schenectady, hides his talent beneath a friendly, lackadaisical manner. Gifted musician, scholar, baseball fan and connoisseur of Maine lobster, the six-foot down Easterner would rather experiment with production problems of operas, plays, musical comedies than remember studio schedules



Bob Stone

or dinner. Scoring four-part harmony for a quartet is dashed off between sandwiches and coffee.

Bob, with a bachelor's degree as voice pedagogue and opera performer (Eastman School of Music, Rochester, N. Y.), is interested more in theory, orchestration, composition and dramatics than in singing. His first job was in radio as producer at WGY, Schenectady, where he was arranger, script writer, director (WGY Players), part time actor, announcer, accompanist.

Joining NBC Radio-Recording Division as producer-writer (1936-41), he supervised Thesaurus recordings. Moving over to CBS's production staff, he was settling into his job when a television offer came from Schenectady.

He has adapted and produced works of Frank Sullivan (*The Jukes Family*) and Ring Lardner (*The Love Nest*). Sullivan watched the actual telecast, later giving Stone "Honorable Mention" in PM and the *New Yorker*.

Presently Bob is involved with the Schenectady Civic Players (*The Importance of Being Earnest*) and the Civic Light Opera Company (*Pirates of Penzance*). In between, he's working on Auber's *Fra Diavola* for television.

Stone has little use for popular music, calling "swing" musical slang. His personal musical slang is singing commercials for Kruschen Salts, Roma Wines, Sweet Caporal Cigarettes.

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Production Technique

(Cont'd from Page 13)

When asked, "What are the production problems" in the studio, film, or remote, I can't think in terms of equipment, space or facilities. I can think only in terms of personnel. Inventions, improvements will go on just as they have in the theater, and facilities problems will be solved, but personnel problems are not so easy. Two big problems are:

1. The young person of today asks: "What are the hours?" I'm very old-fashioned when it comes to "hours." I still believe that you have to think, live and work in the "theater" twenty-four hours a day. In creative work, I'm still old-fashioned enough to think that it can't be done on a basis of 9 to 5:15. And, if you don't feel you can live show business then you've got no business in it. For, whether you put your efforts in the studio or in the field, it's the effect the picture gives on the kinescope that counts. Did you make them laugh? Did you entertain?

2. There's talk in television as there was in radio or motion pictures that the actors or the human element must adjust themselves to this new medium. *The medium must be adjusted to the human element.* If a man or woman is endowed with a spark of genius, if he or she has the ability to sway the emotions of his fellowmen, well it's a great gift, a gift to be respected. But along comes an invention and right away this gift becomes secondary to the medium. Today, the sports events and the "on the spot" broadcasts are so popular because the medium is used as it should be as a means of transmission. The better team wins the game, the better man wins the fight, and dramatic moments occur naturally, and no one adjusted human nature to the medium.

Let the Audience See

While I have talked in terms of shows and actors, I do not mean just studio productions. Whatever we do from whatever point of origination, it is still a show, and the way the cast plays the story is important. If you have a Broadway success you'll do better than if you have an unknown's original. If you've landed the best baseball games or best fights, you'll have the best programs. If you've got the show and if you've sense enough to just let the audience see it, you'll do

(Cont'd on Page 39)



"Designs for Tomorrow", 13-wk. Television Workshop series for Durez Plastics & Chemicals Co. (Buffalo, N. Y.) featured leading industrial designers and Jessica Dragonette, brought 270 mail inquiries.

Since 1943—It's Been New York's TELEVISION WORKSHOP For Top Rating Video Productions

"Psychological exploration into the guilt of an acquitted murderess provided a vehicle for one of the best live shows televised via DuMont. Session produced by the Television Workshop presented a professional cast under skilled direction and demonstrated what such a combination means to the video medium. . . ."

☆ ☆ ☆

THIS was *Variety's* comment of a Television Workshop production on July 5, 1944—a time when the Television Workshop, established in 1943, was already doing more than a show a week on stations in New York City and stations elsewhere.

Since then the Television Workshop has produced more than 150 television programs for advertising agencies, department stores, and television stations in New York, Schenectady and Philadelphia.

This vast backlog of experience and know-how, of scripts and ideas, of talent and personnel trained exclusively for television, is now available to Sponsors, Advertising Agencies, and Television Stations anywhere in the country.

☆ ☆ ☆

Be assured of the best in program production. Write for details of the Television Workshop's new program series, now available for sponsorship.

TELEVISION

(Production



WORKSHOP

Division)

Eleven West Forty-second Street
New York 18, N. Y.

Cues for Tele Actor— and Director, Too!

(Cont'd from Page 19)

again, and the whole procedure is repeated. The television actor can't afford to lose his concentration on a "take," because his "takes" are real, live "on the air" takes. His acting is not being recorded on film. He is performing before an audience, invisible though it may be to him.

Memory of Feeling

The television actor, aware of his vulnerable position in front of a camera should bring to rehearsal a large backlog of information which he can call upon in playing a role. The successful actor is one who has developed his awareness to situation and characters. The actor's memory should serve as a storehouse for a variety of information about situations that he has actually experienced and not contrived . . . about people he has actually seen and not just imagined . . . about characters he has really known and not just dreamed up. Out of the rehearsal hall or away from the television studio, the actor is never really off duty. He must always be a keen observer wherever he is—whatever he's doing. The professional actor should never cease to make mental notes, to store information away for future use.

Just as important as concentration and character awareness is *memory of feeling*. The good actor who missed getting the lead in a Broadway show because he contracted the mumps the first day of rehearsal and was laid up for three weeks afterwards, will remember his feeling of disappointment. He'll remember how he had told all his friends; how wires of congratulations had come in; and how he really felt deep down inside when overnight his bubble burst. He never knows when he will be compelled to recall that feeling of disappointment to portray a part. The situation in the play may not even approximate his own particular experience, but there may well be similarity in the feeling demanded of the character. The actor who is well equipped with this

kind of information will have an easier time concentrating. The actor who concentrates on something he really believes—he can only believe what he understands—will make his character believable to the audience.

Like the legitimate stage actor, the television actor is subject to some of the pitfalls of performing before an audience: going blank, throwing the wrong cues, etc. However, it is easier for the stage actor to cover up an error. The television actor has the added responsibility of playing to a camera. A pretty miserable situation would occur on a television show if an actor should suddenly decide to inject unrelated business, to walk off stage, or otherwise confuse fellow performers, the unsuspecting cameraman, and the director. The actor must improvise "in character" to cover missed lines or cues without destroying illusion or causing production confusion.

Because a live television show is being performed at the same time it is seen on the screen, there are many other performance handicaps to overcome. These are a

challenge to the actor as well as to the cameraman and director. Often a television actor must be concerned with getting "out of character" as well as "getting into character." Getting out of character is something that is peculiar to television and might be compared with exits and entrances on the stage. An actress may be seated on the set, taking part in a scene. It may be necessary, for some reason, for her to move her position without showing the change on the screen. At a given moment, the actress will have to get out of character, move her chair downstage, sit down, and then get back into character in preparation for the next camera shot which will include her once again.

Television's demands on the actor are certainly greater than those of motion pictures or the theater. The television actor is beset with the liabilities of both and has the assets of neither. Unlike the film actor, the television actor must deal with *immediacy in performance*. Unlike the stage actor, he has restricted movement and an added responsibility to the revealing camera.

2 New Tools FOR TELEVISION

S-F Finder

For studio and remote shot-planning—you know your pick-ups and light placements without carrying your camera.

NOT for the camera—but for YOU! NOW you can know IN ADVANCE exactly what the camera will see.

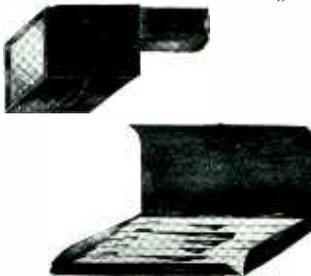
An exact image viewer which gives you in a pocket size, the various matching magnifications and fields of views of your television camera—long shot to close up.

Its tiny turret mounting carries precision-ground lenses which match the ike's 6, 8, 12, and 14 inch lenses. Other focal lengths will be substituted upon request, as will be lenses to match ortho or other cameras in place of ike mounts.

AND, this director-type viewer, styled to the last inch, carries a pop-up monochrome filter for checking lighting and contrast balance.

No need to put cameras on the line or trundle them around the studio—no wasted rehearsal time for producers, directors, cameramen, designers or lighting directors.

\$49.50 post paid, with any four lens choices. Mail orders invited for this and other S-F designs.



Shot-Plot Set

This effectively styled set carries eight transparent plastic drawing instruments which are translations of the fields of coverage of your television camera's 6, 8, 12 and 14 inch lenses. Two angles of view, horizontal and vertical for each lens, make up the eight piece plot set.

Now you can scale out your sets and camera shots in vertical or horizontal plot on special scale-ruled plot paper.

Know your camera coverages for studio and remotes, plot your scenes, cameras and action for the most effective shots—see what you cover and from where—top to bottom and side to side.

3 sizes of scale-ruled plot paper included in each adroitly designed case—ruled 1/4, 1/2, and 3/4 inch to one foot.

This Shot-plot Set is designed to help you plan the best lens choices, set designs and camera placements at your own desk.

\$22.50 post paid, with ike angles for 6, 8, 12 and 14 inch lenses. Other lens fields for this and other cameras substituted upon request. Mail orders are invited.

STAN FORD ASSOCIATES

Designers of the Hollow Cross System for Television Lighting.

5237 GREENWOOD AVENUE CHICAGO 15

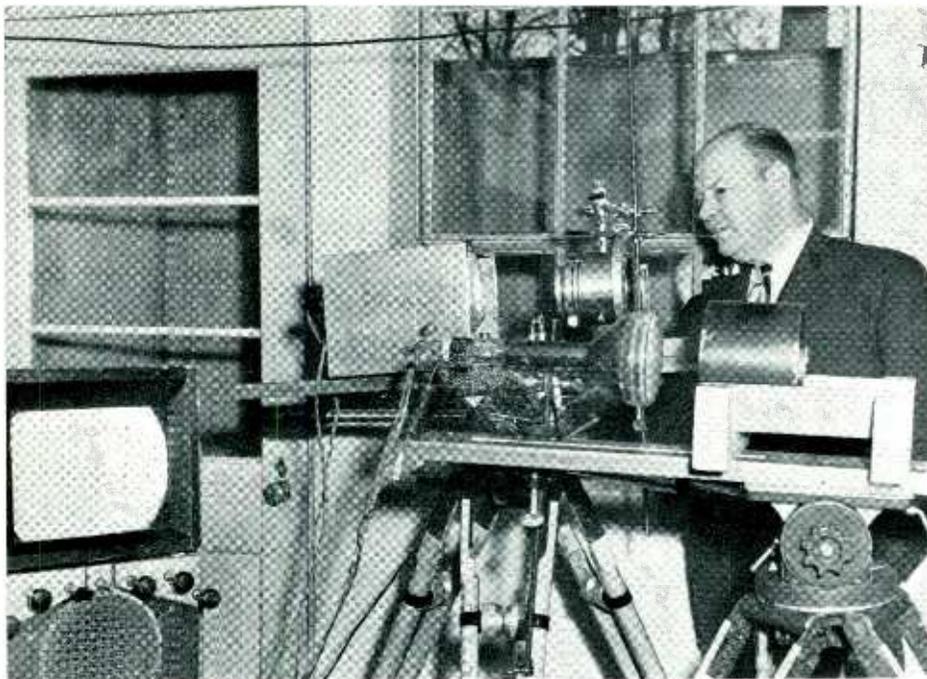
BOB LOEWI

Television Productions
Films for Television

11 W. Forty-Second St., N. Y. C.

• Models of S-F Finder for use with the RCA TK-30 Camera now available •

2: OPERATION AND MANAGEMENT



Dr. Allen B. DuMont looking at transmitting equipment of his "Photovision." Cathode-ray tube beams video signal through lens.

More UHF Channels A Myth; Color Battle's Last Rounds

THE eyes of all television, while carrying on daily routines, are currently focused on the FCC ultra-high frequency color hearings, scheduled to be resumed in New York City in a Federal court room the week of January 27, when CBS, proponent of the sequential UHF color system, has been requested to "be prepared to give a demonstration of its color system." Following the demonstration, the hearings requested by CBS to set UHF standards now, will be resumed in Washington. Opening evidence was heard in December (9-13).

With the scheduled proceedings in New York, other organizations opposing standards now, will be given the opportunity to examine the CBS system and to present further evidence or demonstrations of their own developments. RCA, for instance, is now on the air with its simultaneous UHF color system, continuing its experiments. It also has a converter attachment working with a black-and-white receiver, demonstrating the practicality of receiving UHF signals (the green signal) with present low-band tele sets,

thereby eliminating obsolescence (TELEVISER, Nov.-Dec., 1946), a factor CBS has seemingly dropped.

DuMont Laboratories, opposing standards now, has a direct viewing tube under development which was shown to the Commission. It is a three-pronged cathode-ray tube called a Trichroscope — in reality, three cathode-ray tubes in one, having a common screen face. It can be used, according to Dr. Allen B. DuMont, cathode-ray tube wizard, with either the simultaneous or sequential system. It is felt that this tube will provide a much better color picture than can be obtained either by projection means as recently demonstrated at Princeton or by the use of a color filter. The DuMont people, it is understood, will demonstrate that a much greater brilliance can be obtained by this method as well as better contrast range.

At the opening Washington hearings, CBS presented its case, followed by testimony of the Radio Manufacturers Association color television sub-committee, and by RCA, Zenith, Bendix, Cowles and others. DuMont and Westinghouse are

still to be heard either at the New York proceedings or at Washington, followed by cross-examination of all parties concerned.

The decision to hold the hearings in New York, it is reliably understood, is because FCC Chairman Charles B. Denny, due to illness, did not accompany the Commission on its inspection tour on Dec. 16 and Denny is desirous of seeing first hand the DuMont Laboratories' tube developments and the CBS special color television show, which necessitates a trip to New York. At the same time, this will put CBS operation on the record and open it to cross examination.

The CBS demonstration, this time open to all interested parties and to the press (it wasn't on Dec. 16), will put on view the new all-electronic tube Dr. Peter C. Goldmark mentioned in his testimony that he is developing for color reception, and also the dual-channel television receiver designed for both low band and UHF sequential color reception.

There has been mention of monopoly thrown into the hearings by T. A. M. Craven, vice president of Cowles Broadcasting Co. and a former member of the Commission. "Failure to 'standardize' the frequency bands above 400 megacycles for its commercial development might serve to entrench as a permanent monopoly those few broadcasters who have obtained broadcasting rights in the limited range of comparatively low frequencies now open for black-and-white television.

"Unless these upper bands are open for commercial television in the near future," Craven went on to say, "the commission can easily foster permanently a virtual monopoly in telecasting.

So-called Elbow Room a Myth

According to CBS's own proposed standards, utilizing a 16 megacycles band width, the number of channels available in the UHF is limited, although at first glance there appears to be plenty of "elbow room."

Hart Coperthwait, Chief of the Allocations Section, Television Division of the

FCC, pointed out that the CBS UHF allocation plan is based on a channel width of 16 megacycles, giving 27 available channels in the 480 to 820 mc. region. (There are a possible 13 channels available in the lower bands.)

Generally speaking, he points out, the number of channels per city under the CBS plan exceeds very little the number available under the existing low-frequency plan. This is especially true along the crowded Eastern Seaboard.

Citing a few representative examples, he pointed out:

CITY	CHANNELS AVAILABLE		Increase In No. of Possible Stations
	Present Low Band (44-88 & 174-216 mc)	UHF Band (480-820 mc)	
New York	7	7	None
Philadelphia	4	5	Plus 1
Baltimore	3	3	None
Washington	4	5	Plus 1
Providence	1	2	Plus 1
Scranton	2	3	Plus 1
Easton-	1 (Com-	1 (Metro-	
Allentown	munity)	politian)	
<i>Less Congested Areas:</i>			
Birmingham	3	7	Plus 4
Des Moines	4	7	Plus 3
Seattle	4	7	Plus 3

Why is it not possible to assign more channels per city? In the present low band television, New York and Philadelphia were assigned adjacent channels. Because of the greater adjacent channel spacing required under the UHF plan, this allocation can no longer be maintained, according to Coperthwait. Adjacent channels are not assigned in order to prevent cross talk and interference.

Of the 27 channels, only 14 are available to be assigned to any one area. In the New York area, for example, there are four cities which must be assigned these 14 channels: Philadelphia, New York, Trenton, and Easton—with New York, receiving 7, Philadelphia 5, Easton-Allentown 1, and Trenton 1.

Trade Questions?

Questions uppermost in trade minds are: What will the FCC decision be—to adapt UHF color television engineering standards now based on the CBS sequential system? Or, to further study both the CBS sequential method, which Dr. Goldmark has fathered, and the RCA simultaneous system laboratory-presented in a strategically timed demonstration in October, 1946? Or, will some fence-straddling decision be handed down?

There are further perturbing questions: If the FCC decision is to standardize UHF color (CBS system), what effect will this (Cont'd on Page 27)

Did You Know . . .

THE Allen B. DuMont Laboratories, Inc., hold the basic patent rights to a three-tube system for color television? Application was made on April 26, 1941, and patent granted on December 28, 1943.

Patented Dec. 28, 1943

2,337,980

UNITED STATES PATENT OFFICE

2,337,980

SYSTEM FOR COLOR TELEVISION RECEIVERS

Allen B. DuMont, Upper Montclair, and Thomas T. Goldsmith, Jr., Cedar Grove, N. J., assignors to Allen B. DuMont Laboratories, Inc., Passaic, N. J., a corporation of Delaware

Application April 26, 1941, Serial No. 390,528

4 Claims. (Cl. 178-54)

This invention relates to a system of color television which is suitable for reception as well as transmission, in which three colors, red, green and blue, or other suitable combinations, may be section through a cathode-ray tube suitable for this invention; Fig. 2 is a side view of Fig. 1, showing three color field areas;

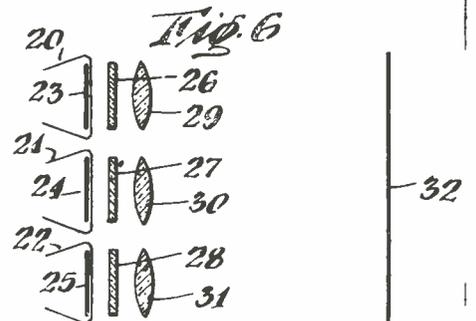
The patent shows the use of three separate cathode-ray tubes, equipped with either filters or various colored phosphors, focused on a common screen by means of three lenses and fed from identical scanning signals.

The tube set-up may be used with a simultaneous color television system (RCA) or with a sequential method (CBS). Embodiments of the invention pertaining to the simultaneous method are:

"In the modification shown in Fig. 6, three separate cathode-ray tubes 20, 21 and 22 are shown with their retentive or time-delay white light screens 23, 24 and 25. A red filter 26, a green filter 27, and a blue filter 28 are provided for tubes 20, 21 and 22, respectively, and lenses 29, 30 and 31 are provided to superpose the pictures optically upon the viewing screen 32. The filters 26, 27 and 28 may be omitted and the screens 23, 24 and 25 made of different retentive materials so that screen 23 radiates red under the influence of the electron beam, screen 24 radiates green, and screen 25 radiates blue.

"With the three-tube scheme the problem of linearity is less serious than with a single tube because the several tubes

can be provided continuously with identical scanning signals, and a locally generated control signal can be used to turn on each tube at the time corresponding to its color modulation signals. These control signals may be applied to the cathodes of the three tubes while the grids are continuously modulated by the incoming video signals."



What is claimed in part, and this applies to the simultaneous system, is:

"In a color television system, a plurality of cathode-ray tubes all scanned simultaneously with identical scanning signals, and control signals to render the beams active in said tubes in succession corresponding to the colors desired from said tubes."

The patent relates to a system of color television that is suitable for reception as well as transmission, in which three colors, red, green and blue, or other suitable combinations, may be used.

DuMont and RCA are cross licensed.

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UHF COLOR TELE

(Cont'd from Page 26)

have on the present low-band black-and-white television system, particularly in face of current grants of commercial licenses and construction permits?

CBS Claims and Stand

CBS has demonstrated its dual television receiving set to the Commission, and Dr. Goldmark stated that "The sequential transmission standards which CBS has proposed can be used for all basic forms of color television equipment now developed, or likely to be developed in the next ten years or more."

He further states: "The CBS sequential color method is a universal one which functions not only with the single-tube pickup and single-tube reproduction methods in operation today, but will also function interchangeably with three-tube methods, either pickup or reproduction, in the event future development should prove them to be workable and economically desirable."

Frank Stanton, president of CBS, before the FCC stated: "Should the Commission rule adversely upon our petition, we are *not* prepared to expend further substantial corporate energies in this direction.

"If the Commission acts favorably on the CBS petition, we intend to convert our present extensive black-and-white operations (WCBS-TV) into ultra-high frequency color television as rapidly as feasible. We are prepared to inaugurate a partial color television program schedule within a few weeks after a favorable Commission decision and to build it into a substantial, regular color television program schedule within a year."

RCA's Stand

Dr. C. B. Jolliffe, executive vice president of RCA in charge of RCA Laboratories Division, told the FCC that: "We propose to carry on with our research and development work in monochrome and color with all the resources at our command, regardless of the status of operations, manufacture or adoption or non-adoption of standards. We will not cease in our efforts to improve service to the public."

All of which it is up to the Commission to sift . . . and hand down a decision—UHF commercial standards now? or, what?

Network Charges Set By NBC

ONCE network charges are established and put into effect it is evident that television commercial networking is here.

The National Broadcasting Company entered an agreement with Station WPTZ in Philadelphia on October 1, 1946 to exchange programs, both commercial and sustaining, and on December 1, 1946 put into effect its first network service charges. These charges become fully effective on April 1st. However, in the interim period, a reduction of \$50 is being allowed in each category—to induce sponsors to avail themselves of the extra coverage at small additional cost.

The NBC-WNBT service charges, which include transmission (relay) and air time on Philco's WPTZ, are:

Program Time	Network Charge
1 Hour	\$250
1/2 Hour	\$170
1/4 Hour	\$130
10 Mins.	\$105

Network Sponsors

Seven sponsors, representing nine commercial programs, have availed themselves of the New York-Philadelphia network coverage. These sponsors and programs on WNBT are: Bristol-Myers (*Tele-Varieties*), Standard Oil of N. J. (*Your Esso Television Reporter*—Newsreel), Gillette Safety Razor Co. (*Cavalcade of Sports*—Main Bout, twice weekly), Borden's one-shot Sunday night, RCA (*T-Day* program, one-shot) and Firestone Tire & Rubber Co. (*Voice of Firestone Televiews*—Film). From WPTZ: Sears Roebuck & Co., sponsoring *Visi-Quiz*, availed itself of New York coverage last November.

Other sponsors on WNBT-NBC, notably the Borden Co. (*I Love to Eat*, with James Beard) and Gulf Refining Co. (*You Are an Artist*, with Jon Gnagy) are ready to sign for network coverage as soon as time on WPTZ can be cleared. Standard Brands, with its two video programs, *Face to Face* and *Hour Glass* has not contracted for network service. However, WPTZ is picking up these programs (just as WRGB is at this time) although service, of course, is not assured.

WRGB, Schenectady, N. Y., by agreement, picks up WNBT programs but this is bonus coverage to sponsors, the General Electric station not having a rate card in effect. (The station is waiting until

there are more receivers in the Albany-Troy-Schenectady area).

DuMont Laboratories, with its two operating television stations, one in New York City (WABD) and the other in Washington, D. C. (WTTG), pipes programs southward via AT&T's coaxial cable several nights a week. However, since WTTG is operating under a temporary commercial license (until its new transmitter, antenna and studio facilities are installed), it has no service rates.

CBS has in no way participated in television network operation, even experimentally, except for pool pickups from Washington, D. C.

Network Facilities

Television networking along the Eastern Seaboard between New York and Schenectady (one-way relay to Schenectady) has been in existence since 1939. Similarly, New York and Philadelphia transmission has been in operation since 1942 with the opening of the Philco one-way relay station at Mt. Rose, N. J. Transmission from Philadelphia is by coaxial cable, although permanent terminal equipment is not installed in that city. Temporary service from Philadelphia was provided for last November for football pickups. This was accomplished by AT&T's borrowing the transmitter terminal equipment from Washington, D. C.

The AT&T coaxial cable installed last year between New York and Washington, D. C. currently is made available to television stations free of charge during the experimental period. However, line charges are involved, covering terminal installation and rental fee for circuit miles from terminal to station. These charges may run into considerable money since circuit rental covers a minimum period of one month. (Minimum radio line charges are for one week.)

NBC is looking forward to the opening of its Washington, D. C. tele station, scheduled for early 1947. The network's future plans include the possibility of a video hookup with Boston—Westinghouse, operators of radio station WBZ, an NBC affiliate, having received a commercial television CP. However, NBC is making no commitment to any station, but is playing ball with its own affiliates. The Bell Telephone System expects to have its micro-wave radio relay, linking New York-Boston, in service by spring.



Cameraman and supervisor Rudy Bretz (WCBS-TV) climb high on a scaffolding for film showing demolition of Fifth Avenue building.

PROBLEMS OF SHOOTING FILM FOOTAGE FOR TELE

By IRWIN A. SHANE

EARLY on December 12, thirteen hopeful days before Christmas, the Associated Press teletype rang nervously at NBC—and in newspaper offices throughout the country—to spell out the story of a terrible tragedy, the worst of its kind in New York City history. A tenement had collapsed, snuffing out the lives of 37 persons, wiping out almost entire families.

Paul Alley, director of film programs at NBC, upon receiving the news, hastily assembled a film crew and rushed them to the scene of the disaster, and there, shot thousands of feet of film to record this pre-Christmas calamity.

Men desperately fighting fire and collapsing walls, police and firemen attempting the rescue of trapped victims, children and old men being pulled from the rubble . . . these were some of the tragic scenes captured on film, rushed to NBC's laboratories for quick processing and then to Paul Alley for editing and commentary.

That night, at 7:50 P. M., the first film story of America's worst tenement disaster was flashed on NBC's regular "Television Newsreel." NBC had scored another news "beat."

At the scene of the tenement collapse,

however, NBC had not worked alone. Side by side with them had been film crews from CBS and ABC. Only DuMont, not having a news film organization, lacked representation. But DuMont's audience, at 8:30 that evening, saw the footage taken by the American Broadcasting Co. (on a program sponsored by the U. S. Rubber Co.).

The ABC newsroom, upon receiving the flash, notified Bud Pierce, director of special features, at 4 A.M. By 6 A.M., an ABC cameraman and an assistant were already at the scene of action, taking pictures by the light of police emergency lamps. They were the first cameramen present.

Here was a dramatic instance of how three television networks brought headline news to its audiences, "scooping" the newsreel companies by several days. It was only one of many already achieved by the television companies, with more yet to come.

As a result of the spectacular success television stations have achieved in filming "hot" news, special features, and documentaries, it is now generally conceded that the motion picture camera must take its place next to the remote pick-up camera as standard equipment for all "on-the-beam" television stations.

Conceding this point, what are the problems? Can John Dokes, program manager of Station PDQH-TV, shout into the intercom: "Sam! Grab the Mitchell and dash over to Jones' Department Store. The place is burning down. And . . . oh yes . . . please hurry back with the stuff. I need it for tonight's news program."

Sure he can, that is, IF:

- 1) The station owns a Mitchell, a 16mm camera (silent) with turret lens that costs \$3300.
- 2) Sam is a trained cameraman and belongs to the right union.
- 3) There is a film processing lab in the station's community.

Should the station be located in Waltham (Mass.), Fort Wayne (Ind.) or Albuquerque (N. M.), to name only several of the places where C. P.'s have been granted but where, unfortunately processing labs don't exist, our friend, Joe Dokes, would be out of luck. By the time the films were airmailed or air-expressed to New York, Chicago, or Los Angeles (or some other film center), processed and then returned, the fire will have become old news.

The only logical alternative, then, is for the station to install its own "dark room." This means an investment of approximately \$10,000 for standard high-speed developing equipment. The Houston, a fast portable one-unit developer-printer, developed for the Signal Corps for daylight processing of negative, positive and reversible film, may be purchased for as little as \$5450. With 25% Federal Tax, expressage from Los Angeles and installation, the final cost would probably come to over \$7000.

Because of the large initial investment, salaries of two employees, and cost of chemical supplies, film processing is very uneconomical unless adequate use is made of the equipment. In fact, a station might find the cost prohibitive unless it made a practice of accepting outside work on a regular commercial basis. Thus, local motion picture enthusiasts and commercial film companies, instead of sending their work to Rochester (N. Y.), or elsewhere, could have their films processed by the town's television station. The film work of television stations in nearby cities could also probably be obtained, in which

case the station with a processing lab might conceivably operate its equipment on a "break-even" basis, or better.

With the major problem of processing settled, the others are comparatively easy. First, is the question of whether the station is to use 16mm or 35mm equipment. Of the three networks, NBC and ABC use 35mm film, claiming that it is technically superior. On the other hand, CBS uses 16mm film stressing its economy both as raw stock and in processing. Another factor in its favor is the fact that 16mm is non-inflammable and may be sent through the mails. To a station that must send and receive the "cans" regularly, this is an important economy factor. But probably the most important factor is the convenience and ease of shooting with a 16mm hand camera, which may be done by one person, whereas the more bulky 35mm equipment requires a cameraman and an assistant.

Setting Up Film Dept.

Now comes the question of film cameramen. If your station is in a metropolitan city, it may be necessary to employ IATSE men, whose Manhattan scale is \$50 to \$75 per day, but less elsewhere. Both NBC and ABC hire them on a per-diem basis. CBS, on the other hand, insists film making is a technical operation, and assigns its own film-wise technicians and engineers, all IBEW men, to film shooting.

In building a film department, Rudolph Bretz, CBS film editor, recommends using men with previous film experience, especially men who are army trained. Since thousands were trained by the Signal Corps, a new station needn't encounter difficulty in securing trained film men. (Then, too, outside film shooting, which most television shooting is, doesn't require the skill of indoor shooting, where lights are important factors.)

The last major problem is that of training film editors, who must be the world's fastest. In fact, it's not uncommon for NBC or CBS to receive hundreds or thousands of feet of processed film as late as 4:30, and within a few hours have the film completely cut, edited and ready

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to go on the air, complete with news commentary, filling a 3 or 5 minute spot.

This obviously requires people who can make fast, accurate decisions. Film in reverse must be hastily screened and re-screened, and quick decisions made. A person with a feeling for news as well as aesthetics, with a quick mind, is best qualified. From then on, it becomes a matter of experience.

News commentary is furnished by a writer from the news department, who must be able to cut his copy to match the fast moving action, to be described on the air by a news commentator. Here, too, experience becomes a large factor in a successful news film operation.

Documentaries are the simplest, least expensive, least hurried type of film making. Since the news angle is often not of paramount importance, stations are not dependent upon hurry-up processing. At CBS documentaries run from 5 to 7 minutes, are usually shot in a single morning (when the sun is highest). A typical one was "The Statue of Liberty" done by CBS. A cameraman, with his paraphernalia, took a taxi to South Ferry, and there boarded a jitney ferry to Bedloe Island, shot several hundred feet of film of scenes that caught his eye, and returned to the station a few hours later. When the film was returned from the lab, it was screened several times by Bretz, film editor, and cut down to required length (5 minutes), and commentary was written to match the scenes and dubbed in on the

air. When it served its purpose, the film was placed in a can, labeled, and filed away in the cutting room for possible future use. It was as simple as all that.

From all present indications, television stations will produce more and more of their own films, dishing up for their nightly listeners exciting news filmed that day, fascinating special features, and entertaining-educational documentaries.

The shooting of the Manhattan tragedy was, by now, routine for the New York television stations. The fires at Staten Island, and Luna Park, the docking of the Queen Elizabeth and the America, the tug boat strike, the buyer's strike, the replacing of New York's street cars by buses, and scores of other events, not to mention ABC's special films showing Beauty Queens at Atlantic Beach, horse-racing at Saratoga, a train wreck at Mansfield, Ohio, car making in Detroit, and other events of interest, were captured by the alert film cameras of NBC, CBS and ABC.

If television continues with its exceptionally good film shooting, television set owners will be getting more than their money's worth!

ANIMATED COMMERCIALS

Cartoons and Technical
Titles - Special Effects
Miniature Sets

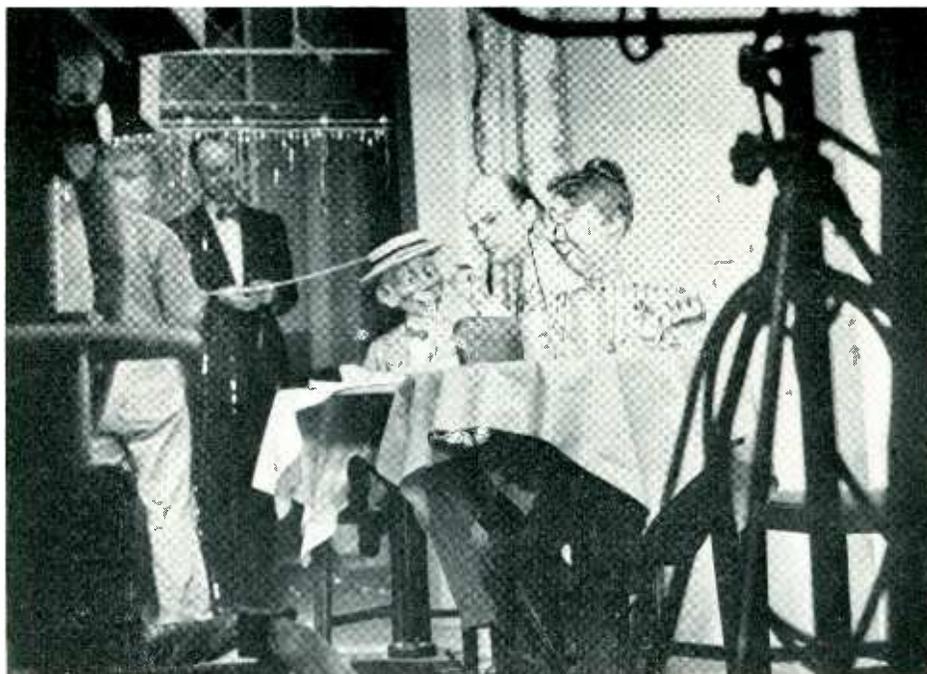
Fletcher-Smith Studios, Inc.

CI 6-5280
1585 BROADWAY, N. Y. 19, N. Y.



ABC's Harvey Marlowe and cameraman shoot Detroit's auto city for "New Cars" film documentary.

3: ADVERTISING AND MERCHANDISING



Mortimer Snerd, Edgar Bergen and Effie Klinker rehearse for their television debut on Standard Brands's "Hour Glass" (WNBT).

At J. Walter Thompson, a staff of seven persons at least are engaged full time on the writing and production of the *Hour Glass*, which in its eight months since May 9, 1946 has video debuted such stars as Edgar Bergen and Charlie McCarthy, Edward Everett Horton, Evelyn Knight, comedian Joe Besser, Jay (*Mr. D. A.*) Jostyn, Joey Faye, comedian Eddie Mayehoff, and scores of others.

Agency Supplies Staff

The ad agency pays all production staff salaries—its service contribution to clients. Standard Brands, it is reliably reported, has budgeted about \$3,000 to cover total weekly show costs (originally trade reported as \$4,000). Of this, approximately \$1,600 is available to cover all talent, costumes, scenery, props, etc., but not rehearsal time. Rehearsal time with studio facilities costs \$150 an hour (WNBT rate) and approximately eight hours of camera rehearsal are required for each show, bringing this weekly facilities cost to \$1,200—making an estimated minimum of \$2,800 per show.

Howard Reilly, producer of the Fred Allen radio show, was originally selected to produce the Chase and Sanborn *Hour Glass*, working with writer Ed Rice. Now Ed Rice and Harry Hermann share production chores, each working independently, producing a show every other week, each with his own writers. Thus, one producer is putting a show on the air, while the other is assembling the following week's program.

Producer's Responsibility

The producer is responsible for the overall show—to assemble the show (script, booking, casting) and to supervise rehearsals. After months of production (the program started out as a collection of vaudeville acts, one following another without rhyme or reason), the story line format has been evolved so that each show is a unit and has direction. The motivating personality has been mistress of ceremonies Helen Parrish, now on maternity leave. Currently comedian Eddie Mayehoff, the plastic face cutup,

Standard Brands's \$105,000 Tele Experience With "Hour Glass"

By JUDY DUPUY

EIGHT months ago Standard Brands's entry into television for Chase and Sanborn—and with an hour variety show at that—caused headline sensation along radio row and gave video a much-needed program priming. Now, however, the sponsor's renewal of the *Hour Glass* (NBC-WNBT) for 52 weeks (with the usual 13-week cancellation clause) is being accepted as routine. But the Thursday night (8 to 9) show is not routine to Standard Brands nor to its ad agency, J. Walter Thompson, with their stake in production—the acquiring of video know-how.

Standard Brands's advertising director, Donovan B. Stetler, who decided it was a good idea to enter television last year (*Hour Glass* premiered May 9, 1946) and who received the 1946 TBA (Television Broadcasters Association) award for the best entertainment program, was motivated by two reasons:

1. To obtain a franchise on selected video time (bait currently offered clients by stations); and
2. To learn something about the use of the visual advertising medium.

Stetler (it was the client going to the advertising agency and not the agency selling the client on the value of television now) selected the variety format because it was so successful on radio, Standard Brands having started in radio back in 1928-29 with the *Rudy Vallee Hour* (Fleischmann's Yeast, Thurs., 8-9 p.m.) and at the same time with the Chase and Sanborn Choral Orchestra (Suns. 8 to 8:30 p.m.). Therefore, it is not coincidence that he selected the same time segments for television, the Sunday 8 p.m. spot on WNBT also being sponsored by Chase and Sanborn (*Face to Face*, cartoon quiz). It is the video variety hour, however, that is receiving special attention because every form of entertainment can be experimented with in its framework—song and dance, drama, and even quiz spots (although the quiz hasn't been tried to date).

Production of the live talent television shows are handled by vice president Joel (Joe) Bigelow's group because vice president R. M. Gilham, in charge of motion pictures and television, hasn't a video production staff.

under video contract to J. Walter Thompson, is supplying the binding ingredient.

Each producer's schedule is something like this:

☐ Friday morning after the Thursday night show: Get together with writer and bat out a new idea for the next show assignment (two weeks hence).

☐ Show planned and booked by Tues.

☐ They work two ways on booking:

1) Acts that are liked are used as a central theme and the show is woven around them, other acts booked to fit in;
2) Try to book specific types of acts which fit in with a story idea.

☐ Final script by Friday, leaving a week for rehearsal, final brushup, etc., and last minute changes.

☐ Friday talk to NBC production and scenic departments. However, as soon as scenic needs (special effects, particularly) are known, such information is transmitted to NBC studios.

☐ Script is typed on Friday, mimeographed on Monday, and copies sent to all involved.

☐ Rehearsals are started on Monday or Tuesday with individual acts, however acts with set routine aren't rehearsed prior to camera rehearsal.

☐ Studio camera rehearsals: Wednesday, 3 to 7 p.m.; Thursday, 12:30 to 7 p.m. (dress scheduled for 5:30 to 6:30). On the air at 8 p.m.

Standard Brands's *Hour Glass* is the only video show with a chorus line. The dancing girls, six in number, are hired week to week. In reply to an advertisement inserted in New York newspapers, 250 girls showed up, of which five were selected. Now, only two of the original group are in the line. The producers looked for faces, figures, dancing and voices.

The agency has considered putting them under contract but until the group is built into a unit, nothing definite will be done because the idea of a "line" may be dropped if the show evolves in another direction.

The commercial, up to now, has been handled by the producer, both casting and direction. These selling spots—dramatic in-use vignettes—are written by Tiffany Thayer (author of *Thayer's The Three Musketeers, One Woman*) who is an agency staff commercial writer for Standard Brands' radio commercials. They are still "radio" commercials on the video *Hour Glass*.

Since the commercials have been the show's weakest spot, a dialogue director has been added to the agency's television production group under Joe Bigelow. The dialogue director's job is to see that actors give a convincing performance of real people making and drinking Instant Chase and Sanborn. It is suggested that what the coffee needs is a television commercial writer—one who sees the sales spot visually and not in dialogue.

Auditions

Tuesday afternoons are reserved for auditioning talent. At the NBC rehearsal room, agency and station personnel gather—producers, writers, directors, technicians, everyone connected with the production of the *Hour Glass*—to sit in and observe acts. Here agents and unaffiliated talent come to show their stuff: quartets, Russian dancers, a comedian with a chalk talk on atoms, night club dance teams, two Negro teen-age girls in soft shoe and tux routine to *Main Stem*, animal acts, magicians, ventriloquists, etc. — some good, most bad. In a bare room before a bunch of guys sitting around, the performers turn on their personalities. A brief "thank you" dismisses the impossible acts; a brief phone number request adds another name to the agency's list.

Knowledge Gained

Teamwork in television is essential—teamwork between producer and writer, producer and talent, principally between producer and station director who takes

over once the show is brought into the studio—according to agency men.

"Television scares me a little," producer Harry Herrmann confided. "Television requires top talent—better than better. It cuts all things in half. On closeups you can show only part of a person, part of a set, part of an object. In the theater you have a whole stage set and when the lights go up it looks like something. The same set in television looks like a bunch of props. Therefore, in television the set is designed schematically or impressionistically, and the illusion is better—only it doesn't work in every case.

"Talent and staging are the principal reasons for our dropping drama. The performance nearest to what we think television demands was Peggy Conklin in *The Witless Witness*. She is a television actress—but where are the others?"

Joe Bigelow, v.p. in charge of radio production, feels that television is hampering. He finds present studio equipment obsolete, cameras bulky, the studio (WNBT) small—all inhibiting expression.

"Once we get light mobile cameras, large sound stages, and lights," he said, "then we can concentrate on putting on shows, not solving problems, getting around hampering details."

Donovan B. Stetler thinks they are making satisfactory *progress* (the italics are his), learning something about video production.

A SELF-APPOINTED CRITIC REPORTS

A self-appointed critic in Red Bank, N. J., has been sending the agency more or less weekly unsolicited reports on the *Hour Glass*. She states; "Observations are my own as well as reactions of others." Here are some of her comments:

"Place viewed: Sal's Tavern, catering to family trade. Type of audience: average intelligence, small-town, low-income, friendly group of men and women; ages 20 to 60; from 35 to 50 people.

"Sept. 5: All introductions were too fast, lacked rhythm. Singer was well liked but looked best a little off. Dancers liked by all. Some of the best steps however were lost by being showed sideways. The sketch held attention. Too much mugging by man at times which distorted his face. The impersonators were well liked but at times too fast—most of their gags were lost entirely. Too much hand

movement detracted and were out of focus. The announcer was so good he showed up the others.

"Oct. 24: Sketch with Huelitt and Fletcher in *The Last Inch* well liked. Presentation of J. Jostyn (*Mr. D.A.*) really fine. A very convincing personality that is enhanced by television. Sheldon and Joyce, jugglers, entertaining and held attention. Spoken asides not heard. Eddie Mayehoff, comedian, good. Tops for a single act in television. The Ganzaes Sisters with their dog act, cute as the dickens. The scientist was an unusual educational angle that held the attention of everyone, the men in particular, some of them crowding around the set for a better view. Miss Parrish deserves a mention for her handling of the interview. This program is attracting a nice class of people."

Commercial Teleshows Since September, 1946

Has Video Started Down Radio's Path?

By THE EDITORS

"TELEVISION," states Jack Gould, radio editor of the *New York Times*, in his article, "Television: Boon or Bane?" in *The Public Opinion Quarterly* (Fall, 1946), "has started down radio's path. The advertising agencies have been invited to continue their activities in program preparation. The emphasis again is on the selling function and not on television itself."

To a degree, this is true. At least, sponsors and agencies are becoming actively interested in television as the accompanying list of shows, sponsors and agencies indicates. The elusive sponsor is doing more than "getting his feet wet," a phrase that was tossed glibly around only six months ago. Sponsors, particularly Standard Brands, Inc. (see story on page 30), Ford, U. S. Rubber, and Standard Oil are all actively using television.

Gould takes cognizance of the fact that television requires substantial capital. His challenge to station managements and more pertinently to educators is that "television will prove not a brake on subservience to the dollar bill, but rather an impetus of almost incalculable and alarming potential . . . that there will be every incentive to cut corners in regard to preserving the medium's integrity if badly-needed income is thereby obtained." And he does not hold the advertising agency responsible . . . "with their sights fixed on one main objective—the sale of merchandise." However, he declares, "What television promises is the irritation, the insistence and repetition of today's radio advertising in a new dimension."

Sponsor Approach to Tele

Such programs of unquestionable cultural value as WCBS-TV's dance series and WNBT's Teletheater have gone begging, while fights, wrestling and cooking have found sponsors.

The current list of sponsors utilizing television is but a meager one albeit it companies with vision, with an eye to video's potential selling power. That some programs are inept, amateurish may be

(Cont'd on Page 33)

PROGRAM — START, DURATION (Teleshows in italics are off the air)	SPONSOR	AGENCY
WABD—DuMont, New York, N. Y.		
Charades, fashions, audience participation, variety, special film, children's shows, etc. Tues. & Thurs.; April 15, 1946 to date.	ABC (client)	(none)
Magic Carpet, fantasy and film, Fri. 8-8:15 pm; April 7, 1946 to date.	Alexander Smith Carpet Co.	Anderson, Davis & Platt
Play the Game, charades, Tues. 8-8:30 pm; Sept. 10, 1946; 10 weeks (renewal). An ABC show.	Alexander Stores	William Warren
<i>Ladies Be Seated</i> , with Johnny Olsen, Thurs. 8 pm; Sept. 19, 1946. An ABS show.	B. T. Babbitt Co., Inc. (Bab-O)	Duane Jones
Weather Reports (approx. 20 sec.) film cartoons, April 19, 1946 to date.	Botany Worsted Mills	Silberstein-Goldsmith
<i>Powers Charm School</i> , Thurs. 8-8:30 pm; Oct. 3, 1946; 13 weeks. An ABC show. (cancelled)	Chernow Agency for Junior First, Inc., other clients	Chernow
Chevrolet Presents, film, 1 hour, Sun evg; Jan. 12, 1947; 26 weeks. (new)	Chevrolet Motors Div. (General Motors)	Campbell-Ewald
DuMont Telesets, one-minute film spot; July 30, 1946 to date.	DuMont Labs.	Buchanan
Time signals; April 16, 1946 to date.	Elgin Watch Co.	J. Walter Thompson
<i>Professional football games</i> (8), Yankee Stadium; Sept. 12, 1946.	Ford Motor Co.	J. Walter Thompson
Detect and Collect, audience quiz, with Lew Parker, replaced <i>Badminton by Video</i> ; Nov. 14, 1946, 7 weeks. An ABC show.	Hirshon-Garfield (Natura Fabrics, Speidel Jewelry, other clients)	Hirshon-Garfield, Inc.
Time signals, T-W-T, 9:30 pm; Oct. 1, 1946 to Oct. 25, 1946.	Longines-Wittnauer Watch Co.	Arthur Rosenberg
Serving Thru' Science, films, Tues. 9-9:30 pm; May 5, 1946 to date.	U. S. Rubber Co.	Direct
Time signals; April 17, 1946 to date.	Waltham Watch Co.	N. W. Ayer & Son
WBKB—Balaban & Katz, Chicago, Illinois		
Sidewalk Tele Talks, remotes	Cutter Cravats	Direct
Telequizzicals, home audience telephone quiz; Fri. 8 pm.	Commonwealth Edison	Direct
"Live" Time Spot.	Elgin Watch Co.	J. Walter Thompson
Tele-Chats, Fri. 7:30 pm.	The Fair Store.	Direct
<i>Northwestern football games.</i>	Ford Motor Co.	J. Walter Thompson
Hockey games, Wed. 8:30-11 pm; Nov. 24, 1946 to Mar. 16, 1947.	General Mills	Knox Reeves
<i>Let's Have Fun</i>	Goldblatt Brothers	Direct
Hockey games, Sun. 8:30-11 pm; Nov. 24, 1946 to Mar. 9, 1947. An ABC show.	Henry C. Lytton & Sons	Ruthrauff & Ryan
<i>Don McNeill's Dinner Club</i> , Wed. 8-8:30 pm; Sept. 25, 1946, 26 weeks (cancelled)	Marshall Field & Co.	Foote, Cone & Belding
Stump the Authors, Fri. 9-9:30 pm est; Nov. 29, 1946, duration indefinite. An ABC show.	Television Associates	Direct
Special Program, daily, 12 noon-3 pm; Nov. 25, 1946. For RCA Victor dealers.	RCA-Victor dealers	Direct
<i>Bathing Time for Baby</i> , film, Nov. 12, 1946. One-shot. An ABC show.	Pool Sponsorship Johnson & Johnson	Direct
Wrestling Matches from Rainbo Arena, Wed. 9:30-10:30 pm.	An ABC Show	(none)
WCBS-TV—CBS, New York, N. Y.		
Time signals, Nov. 6, 1946, 52 weeks.	Benrus Watch Co.	Young & Rubicam
Weather report, (60 sec.) three times weekly; Sept. 15, 1946, 52 weeks.	Borden Co. (Reid Ice Cream)	Doherty, Clifford & Shenfield
King's Party Line, audience participation, with John Reed King, (replaces <i>Hoff Cartoons and Sports Almanac</i>), 8:30-9 pm; Jan 12, 1947, 39 weeks.	Bristol-Myers Co. (Ipana & Vitalis)	Doherty, Clifford & Shenfield
Time signals, Aug. 22, 1946, 52 weeks.	Bulova Watch Co.	Biow Co.
Time signals, Jan. 16, 1946, 52 weeks.	Elgin Watch Co.	J. W. Thompson

PROGRAM — START, DURATION
(Teleshows in italics are off the air)

SPONSOR

AGENCY

WCBS-TV—CBS, New York, N. Y. (Continued)

Football, sports at Madison Square Garden except boxing; Sept. 28, 1946, 52 wks. Ford Motor Co. J. W. Thompson
Time signals, Apr. 3, 1946, 52 weeks. Gruen Watch Co. McCann-Erickson
Television News, Thurs. 8:15 pm; June 20, 1946, 52 weeks. Gulf Oil Corp. Young & Rubicam

WNBT—NBC, New York, N. Y.

Weather reports, film cartoon; Oct. 5, 26 Botany Worsted Mills Silberstein-Goldsmith
I Love to Eat, with James Beard, Fri. Borden Co. Young & Rubicam
8:30-8:45 pm; Dec. 13, 1946, 13 weeks.
Let's Celebrate, audience participation, Sun. Borden Co. Young & Rubicam
8:40-9:20 pm; Dec. 15, One-shot.
Tele-Varieties (replaced *Geographically Speaking*), Sun. 8:15-8:30 pm; Dec. 8, 1946, 13 weeks (Network). Bristol-Myers Co. Young & Rubicam
(Trushay and Minit-Rub)
Time signals; Sept. 5, 1946, 26 weeks. Bulova Watch Co. Biow Co.
Time signals; Oct. 6, 1946, 26 weeks. Elgin National Watch J. W. Thompson
Voice of Firestone Televues, film; Mon. Firestone Tire & Sweeney & James
9:10-9:20 pm; (Network). Rubber Co.
Educational films, Mon. 8-8:15 pm; Sept. 30, 1946, 26 weeks. Ford Motor Co. J. W. Thompson
Boxing from Madison Square Garden and St. Nicholas Arena, Mon. & Fri. 10 pm; Feature Bout. (Network). Gillette Safety Maxon, Inc.
Razor Co.
Army-Navy football game, Sat. Nov. 30, 1946, from Philadelphia. Gillette Safety Maxon, Inc.
Razor Co.
Army football games (10), West Point, N. Y.; Oct. 5, 1946. Goodyear Tire & N. W. Ayer & Son
Rubber Co.
You Are an Artist, with Jon Gnagy, Thurs. 9-9:10 pm; Dec. 12, 1946, 13 weeks. Gulf Refining Co. Young & Rubicam
Macy's Thanksgiving Day Parade, Thurs. 10:45 am; Nov. 28, 1946. R. H. Macy & Co. Direct
World in Your Home, film, Fri. 8:46-9 pm. RCA Victor J. W. Thompson
Visi-Quiz, Thurs. 9-9:30 pm; Nov. 7, 1946, 4 weeks (originates at WPTZ-Philco, Philadelphia. Network). Sears, Roebuck & Co. Benjamin Eshleman
Face to Face, studio cartoon quiz, Sun. 8-8:20 pm; May 9, 1946 to date. Standard Brands J. W. Thompson
(Chase & Sanborn)
Hour Glass, variety, Thurs. 8-9 pm; May 9, 1946 to date, 52 weeks (renewal). Standard Brands J. W. Thompson
(Chase & Sanborn)
Esso Reporter, newsreel, Mon. 9-9:10 pm; Dec. 9, 1946, 52 weeks. Network. (renewed) Standard Oil Co. Young & Rubicam
of N. J. (Esso)
Television Quarterback, with Lou Little, U. S. Rubber Co. Campbell-Ewald
Fri. 8-8:15 pm; Sept. 27, 1946, 13 weeks.
Time signals: Wed. 8; 26 weeks. Waltham Watch Co. N. W. Ayer & Son

WPTZ—Philco, Philadelphia, Pa.

Audience participation, quizzes, dramas, etc. Fri. 8-8:30 pm; ABC series. ABC Shows (none)
Hockey from Philadelphia Arena, Tues. 8:15-10:30 pm; ABC series. ABC (none)
Football, University of Pennsylvania. Atlantic Refining Co. N. W. Ayer & Son
Basketball, University of Pennsylvania games, Wed. and Sat. nights; Dec. 21-1946 to Mar. 15, 1947. Atlantic Refining Co. N. W. Ayer & Son
Tele-Varieties, Sun. 8:20 pm; Dec. 8, 1946. Bristol-Myers Young & Rubicam
Network from WNBT. (Trushay and Vitalis)
Voice of Firestone Televues, Mon. 8-8:15 pm; Nov. 4. Network from WNBT. Firestone Tire & Sweeney & James
Rubber Co.
Cavalcade of Sports, Tues. and Thurs. 10 pm; Feature Bouts at Madison Square Garden. Network from WNBT. Gillette Safety Maxon, Inc.
Razor Co.
All Eyes on Gimbels, 21 weeks. Gimbel Brothers Direct
Visi-Quiz, Thurs. 9-9:30 pm; Sept. 12, 1946, 13 weeks. Sears Roebuck & Co. Benjamin Eshleman
The Mummies Parade, Wed. 10:15 am; Jan. 1, 1947. Sears Roebuck & Co. Benjamin Eshleman
Matinee for Youth, children's films, Fri. 4-5 pm; Nov. 29, 1946. Sears Roebuck & Co. Benjamin Eshleman
Esso Television Reporter, newsreel, Mon. 9 pm; Nov. 4, 1946. From WNBT. Standard Oil Co. Marschalk & Pratt
of N. J.

(Cont'd from Page 32)

put down to inadequate budgets, inexperienced "smart" producers who approach the medium as just another branch of radio.

Poor shows put on by agencies, even at NBC whose brochure states clearly that programs must "measure up to NBC standards," are allowed to reach the air. Little control seems to be exercised over "commercial presentation" — not that such presentations at present are in bad taste but lack showmanship, are boring.

One sponsor, Standard Brands, is allocating a budget (not too adequate it is true for the time and talent desired) for program development as well as "commercial" exploration. From the facts gathered, stress is laid on "program." That its aim is good variety entertainment may not be lofty "theater" but satisfactory vaudeville.

Tele Attracting Sponsors

In spite of "internal strife over technical matters" the medium is attracting sponsors, essential financial supporters according to our broadcasting economies.

Television Productions, Inc., (W6-XYZ), Hollywood, reports that there is quite a demand for time by top sponsors now that the station has received its commercial CP. Inquiries are being received also from New York clients and ad agencies. The station is now in the process of setting up a rate card—the basis of which will be the number of receiving sets in the area. WRGB, the General Electric station at Schenectady, N. Y., has not yet gone "commercial," waiting to issue a rate card until there are a quantity of receivers in its coverage area.

At WNBT, New York, the majority of its programs are sponsored, with one notable exception, its *Television Newsreel* on Thursday evenings for which the station is asking \$2000. This spot, Ren Kraft, sales manager, stated, could have been sold several times but NBC is selective of the products to be displayed over its channel.

Station managements, however, with contracted top sports events are not finding ready sponsorship for these large-budget packages. CBS is dickering with Ford and Shell for the Brooklyn Dodgers. DuMont has yet to find a sponsor for its Yankee baseball and pro-football buy for which it has reportedly contracted to pay \$40,000 on a sustaining basis and \$70,000 if commercial. NBC, left with the Giants, has made no mention of any deals.



What a N. Y. Ad Agency Learned About Its Nighttime Tele Serial

WILL the television audience tune in a serial?

Thus far there has been only one such serial telecast (*Faraway Hill*, TELEVISER, Nov.-Dec., 1946), and the viewer answer seems to be definitely "yes."

In a survey made by The Caples Company (television's traditional type of survey, a postal card), it developed that out of a possible 3,600 set owners, 409 had seen at least 2.9 episodes, with only slightly more than 10% in this category, the great percentage of the 409 having witnessed an average of 5 episodes. These figures are better by far than comparative continuous listening to radio serials.

The slightly over 10% who had viewed the 2.9 episodes was that group who had called the serial "poor," "no," "don't like," "terrible," etc. As is to be expected the group that viewed all eight episodes (the number telecast at the time the survey was made) called the serial "excellent," "fine," "perfect," "best," "very, very good," etc. The greatest number viewing the entire eight episodes was in the secondary group who were less profuse with their admiration.

Liked Daytime Serial

Certain facts seem evident from the Caples survey:

1. A post card survey today is considered good if it brings back between 10 and 15% returns. *Faraway Hill* received 14.55%.

2. The number of viewers per receiving set continues to be high—this survey indicating 8.5.

3. Men still continue to be the primary television tuners. (They seemed to like the daytime serial as well as the woman).

4. Children still continue to be viewers, an average of 13% of the viewing sets having children in the audience despite the fact the serial was telecast at 9 p. m.

5. The time is fast approaching when

"Faraway Hill" serial (WABD) was enjoyed by most viewers according to agency survey.

some stabilized method of television audience research will be developed. The return of 524 from a 3600 mailing is not bad but the Caples Company, as many others, choose to consider this return projectable, i.e., to claim that it is representative of the total television audience—the Caples organization making the claim: "We are conservative in arriving at the figure of 84.86% as being the share of the potential audience which we have reached." Obviously such a contention ignores research fundamentals. They have, as have most other researchers in television, thrown out the non-respondents (those who did not return the cards) from the base, taking as representative of 100% the 524 who returned their cards. On the face of it, of course, even without research knowledge, this cannot be sustained. People who return their cards are like respondents to any voluntary form of research—they are fans. There is nothing to sustain any contention that the non-respondents view television in the exact ratio that the respondents do in this survey or any other survey. All that can be concluded is not the size of the audience, but the likes and dislikes of that segment which returned their cards. Once this is accepted, the Caples figures are interesting. The fans who responded like serials. The

(Cont'd on Page 39)

ANALYSIS OF POST CARD RETURNS—CAPLES COMPANY SURVEY OF "FARAWAY HILL"

Comment	Total	Cumulative Total	%	Episodes Viewed		No. Seeing All 8 Episodes
				Total	Average	
A. Excellent, Fine, Perfect, Best, Very, Very Good, etc.	47	47	11.49	356	7.57	32
B. Very Good, Very Much, Very Interesting, etc.	186	233	45.47	1151	6.17	82
C. Good, Yes, Okay, etc.	88	321	21.52	457	5.19	25
D. Fair, etc.	41	362	10.03	181	4.41	5
E. Poor, No, Don't Like, Terrible, etc.	4	409	11.49	138	2.93	1
			100.00		Total	145 or 35.45%
F. Haven't seen—no reason given or haven't seen enough to express opinion	57	466				
G. No sets, etc.	42	508				
H. Disqualified*	16	524				
J. Errors in address—returns	10	534				
					Mailing Returned	3600
					% Returned	524
						14.55

% of Potential Audience (A to E against A to F plus H, or 482—409) 84.86

* Those disqualified were ruled out for incomplete replies, for having seen only part of one episode, yet attempting to form an opinion, or for seeing only one episode after receiving the card.

4: REVIEWS, SCRIPTS AND VIEWS

BOOKS:

"HERE IS TELEVISION," *Your Window to the World*, by Thomas H. Hutchinson. *Hastings House, 1946. 366 pp. \$4.*

Here is one of the most comprehensive presentations of the whole operating and service functions of television to date, from an introduction to video tools to a detailed analysis of program production and an evaluation of its commercial aspects. The author, Thomas H. (Tom) Hutchinson, a pioneer in television production, gives the reader the benefit of his years of experience and observation at NBC and RKO Television.

"Here is Television" is more than a text book for the beginner (although it will probably be used as such); it is a "book of knowledge" packed with information for everyone from producer, writer, actor, cameraman, to advertising and agency executives—but particularly for the producer-director. It's that rare book, well-written, well integrated, that contains the sort of information on the many phases of television each has been looking for—information presented in a lucid, understanding manner. The book is full of pictures, action shots representing all stations now in operation.

* * *

"TELECASTING AND COLOR," by Kingdon S. Tyler, *Harcourt, Brace & Company, 1946. 213 pp. \$2.75.*

Kingdon S. Tyler, construction engineer of the Columbia Broadcasting System, has compiled a readable technical story of television and how it works. His many schematic graphs simplify complex operations from a "Block Diagram of Television" to a color plate showing the "CBS Color System for Film." The slender volume brings the reader right up to date, including CBS's sequential color television system now being argued before the FCC.

The book, a companion piece to Tyler's *Modern Radio*, is for the lay reader. He covers control room operations, sound system, electronic tube, telecamera, transmitter and receivers—all without a single frightening calculus equation.

"COMMUNICATION THROUGH THE AGES," *From Sign Language to Television*, by Alfred Still. *Murray Hill Books, Inc., 1946. 196 pp. \$2.75.*

To quote from the book jacket: "Alfred Still has not been content to give a cut-and-dried historical account of the scientific background of communication. He has presented as well a review of the accompanying progress of man and of the changing philosophies."

That quotation accurately sums up the character of *Communication Through the Ages*. It correlates influences by men in literature, history and science which marked the development of communications from "Drums, Fire and Smoke" to

television and "Communications Without Words."

* * *

"THE PREPARATION AND USE OF VISUAL AIDS," by Kenneth B. Haas and Harry Q. Packer. *Prentice-Hall, Inc., 1946. 223 pp. \$4.*

Although only one brief chapter is devoted to television, authors Haas and Packer pack in an appreciation of the nature of television programs and how to use them in personnel training. Of greater value to the educator and sales executive are the many chapters devoted to the use of visual aids—film, charts, etc. All this information can be translated into video application.

BOOKLETS & BROCHURES:

TELEVISION PICTORIAL—*Issued at Second TBA Conference by Television Broadcasters Association, Inc., New York, N. Y. \$1.*

The 80-page TBA souvenir program contains hundreds of pictures of television stations' activities, and maps showing allocations of television channels.

* * *

BROADCAST NEWS, AM-FM-Television—*Radio Corporation of America, Engr. Products Dept., Camden, N. J.*

Monthly publications, devoted to RCA products. October, 1946 issue: The TK-30A Camera, the Image Orthicon camera, complete with photographs showing it in action. June 1946 issue: "How a Television Station Can Grow in Easy Steps."

* * *

DUMONT IMAGE ORTHICON CHAIN, Type No. Ta-124-A—*Allen B. DuMont Laboratories, Inc., Passaic, N. J. 1946.*

Technical pamphlet issued by company's Television Transmitting Equipment Division lists and describes units and accessories required with the Image Orthicon.

* * *

DU PONT MOTION PICTURE FILM—*E. I. du Pont de Nemours & Co., Inc., Photo Products Dept., Wilmington 98, Del., 1946.*

Technical data presented as a practical guide to the use of Du Pont motion picture film. It does not discuss the new

"television" film, but does contain much valuable information necessary for the handling of film.

* * *

FEDERAL'S HIGH POWER TRANSMITTER—*Federal Telephone & Radio Corporation, Newark, N. J., 1946.*

Pamphlet describes the high power transmitter built for Columbia Broadcasting System for color or fine line television.

* * *

RCA REVIEW—*Radio Corporation of America, RCA Laboratories Division, Princeton, N. J. Quarterly. Subscription: \$2.*

The technical journal contains articles by RCA scientists and engineers. Introduced in 1936, it was discontinued during the war. Publication was resumed with Volume VII, March 1946.

* * *

THE SHOW'S THE THING, In Television Too—*American Broadcasting Company, New York, N. Y., 1946.*

A pictorial review of the first year of ABC television.

* * *

TELEVISION, A Bibliography of Technical Papers by RCA Authors, 1929-1946. *RCA Review, RCA Laboratories Division, Princeton, N. J.*

The list includes some 275 technical papers on television and closely related subjects, most of them of interest to the engineer; some of them to program people.

REVIEWS of TELESHOWS » » »

By
JUDY DUPUY

"New Cars"

Style: Documentary film; 35mm with sound track added (commentary and music); half-hour

Executive Director: Harvey Marlowe

Commentator: John Tillman

Writers: Harry Cushing and John Pival

Station: Produced by ABC Television and telecast over DuMont's WABD, N. Y. and WTTG, Washington, D. C. (Sustaining)

Reviewed: Wed., Dec. 19, 1946; 8:31 p.m.

While no academy award winner, ABC's half-hour documentary film, "New Cars," first of a series, *Video Reports to America*, marks a significant milestone in television film programming. It bellweathers television stations' entry into film production.

Produced by its television department in cooperation with the Automobile Manufacturers Association, the film depicts the automobile industry's story behind the present lack of car deliveries.

Chief fault of the documentary lies in its script, over-use of a commentator, and in its editing. Too much uninteresting footage—bushings and bolts—were included, obviously to cover a constant explaining of production conditions. Frequently the commentary was not directly related to the screen picture. Thus, the viewer was asked to watch oddly-shaped metals being conveyed along endless assembly lines while trying to listen to "reasons why" cars weren't being produced. Portions of the film were excellent: Montage of materials which go into automobiles, animated assembly chart, small parts headaches, salvage of shavings—sequences which told their own stories.

Commentator John Tillman handled the "talk" assignment well. For an overall difficult job, director Harvey Marlowe deserves a bow. And a bow to ABC for pioneering in producing films of this nature.

Production Details

☐ Film is a composite of specially shot footage and sequences taken from various automobile industrial films made available by the AMA.

☐ New footage for the 35mm film was shot silent. Sound track (commentary and music) was added to finished edited film.

☐ Car sequences with buyer and salesman cried out for voices. Similarly, when presidents of corporations spoke, commentator reported what each had to say. This was a jarring note in continuity.

☐ Story planning and editing took much more time than shooting, with over ten days spent on editing alone.

☐ Editing was the hard part of the job, particularly with thousands of feet of industrial film to preview in order to lift sequences for "New Car" continuity.

☐ Marlowe, assisted by John Pival, with a Jam Handy crew, shot essential new footage in Detroit, spending about five days' work.

☐ Costs ran up into the thousands, reportedly \$10,000.

☐ Film is scheduled to be telecast over WRGB, WPTZ and WBKB, also.



"Allelujab, Allelujab," sang the choir.

"Candlelight Services"

Style: Christmas Eve services from Grace

Church: half-hour remote (sponsored)

Producer: Henry A. Mackay (sponsor)

Director: John B. Murphy

Sponsor: U. S. Rubber Co. (direct)

WABD-DuMont, N. Y.; Dec. 24; 8:30 p.m.

The impressive Candlelight Services on Christmas Eve televised from Grace Church on lower Broadway, New York City, transported viewers to the walls of worship, making them part of the assembled congregation.

The telecast opened on the congregation, cameras panning to arched windows, to murals, and then to the altar; with full organ and choir background.

This first telecast from a church, at least the first sponsored pickup, was handled with dignity and good taste, both by the U. S. Rubber Co., the sponsor and producer, and by WABD-DuMont's remote crew.

It was a deeply satisfying public service program, indicative of what television will mean in the lives of people.

Production Details

☐ Entering a church with television cameras presented, in addition to technical problems, the problem of camouflaging cameras and crew so as not to distract worshippers during services. This involved camera placement. Microphones are easily disguised.

☐ A preliminary survey indicated that the best coverage would be from the organ loft, but tests showed that the powerful vibrating organ notes caused picture noise (disturbance).

☐ Two image orthicon cameras were finally located at the side of the altar and slightly to the rear of part of the choir, with one camera on a platform. This gave good coverage of the minister, the dolly IO being used for closeups.

☐ Both IO's were used to cover the minister, soloist, choir and congregation.

☐ Cameras were shielded from view of the congregation by velvet drapes, camera lenses being poked through curtain opening for congregation and church shots.

☐ Altar light had to be augmented by several 5,000-watt floods, which were hung on either side of the altar, out of the camera crew's line of vision (otherwise the intense light would have bothered the men).

☐ Two announcers were used: One at the church to keep home attendants briefly oriented; one at the studio for opening and closing announcements.

☐ Relay was solved by using relay line-of-sight from the church tower to the DuMont-Wanamaker building two blocks south. (Telephone matched lines would have cost \$1000—cost of installation and one month's rental, minimum for even a one-shot.)

☐ Commercial was limited to slide introduction, "United States Rubber Company brings you," and closing.

"Tele-Varieties"

Style: 20-minute variety show

Producer: John Heiney (agency)

Director: Ernest Colling; Fred Coe

Technical Director: Al Protzman

Sponsor: Bristol-Myers for Minit-Rub

Agency: Young & Rubicam

Station: WNBT-NBC, N. Y., 8:20 p.m., Suns.

Reviewed: Dec. 8 and 15, 1946

Mark the opening *Tele-Varieties* as a complete miss, chalk it up to experience and forget the show. It was that bad.

Second show had production and talent, Senor Wences being about the best there is as a ventriloquist-juggler. He works well with a dummy on his knee and with a dummy head in a box keeping up a crossfire of repartee with subtle play on human foibles. For variety he added some juggling while talking to and with the dummies. He's tops, visually.

Bob Hawken, impersonator, used showwise to knit the acts together, handled his assignment smoothly and his character show spot wasn't so bad. Amateur baton swinger Connie Stevens, a good-looking majorette, went through her paces admirably. But it was Senor Wences's show. It's the old adage, you can't hide talent.

In the dramatic commercial, girl with the sniffles being relieved with Minit-Rub, actor John McQuade (remember him in *Home Life of a Buffalo*) gave a poor performance of an about-to-propose swain. Getting conviction into commercials is tough, it seems.

Tele-Varieties has yet to prove itself as entertainment, the show depending upon the Y & R production department and talent available.

Production Details

☐ First two shows indicated a loosely constructed variety format, the acts coming on without story line.

☐ Commercial is a live dramatic spot similar to the cartoon film commercials previously used with *Geographically Speaking*, the film program *Tele-Varieties* replaced.

☐ The dramatic sniffles commercial was absurdly amusing. Dangling string which wafted the Minit-Rub tube to the rescue of the sneezing miss was clearly visible, destroying the illusion of tube's appearance from nowhere.

☐ Camera coverage of second show was excellent, particularly close-ups covering Wences, whose act is completely visual.

"I Love to Eat"

Style: Cooking session with James Beard; 15-minutes; commercial
Producer: Wesley McKee (agency)
Director: Roger Muir (station)
Technical Director: Al Protzman
Sponsor: The Borden Co.
Agency: Young & Rubicam
Station: WNBT-NBC, N. Y.; 8:30 p.m., Fri.
Reviewed: Dec. 6 and Dec. 20, 1946

James Beard is good when he's concerned only with food but when he must remember commercial copy, camera position and cues, he ceases to be a personality and becomes an automaton. Producer McKee should take a lesson from Warren Wade's article in this issue: "Make the medium (video) conform to the personality; don't make the performer conform to the medium."

Beard is real when he's cooking and chatting; he's a person enjoyable to watch (TELEVISER, July-August, 1946, *Radio City Matinee* review). Even hedged by Borden's plum pudding his personality came through intermittently, particularly when he was showing the ingredients that went into the holiday goody, heaping a steaming one with hard sauce and brandy (Hennessy's), and lighting it at table.

The director went out into left field for a laugh when he cast odd-appearing Arnold Stang (radio) as the Western Union messenger to introduce Elmer into the program. The Christmas card sketch of Elsie, Elmer and children was too dark to be seen clearly.

Commercial, built around Elsie, the Borden cow, plugs Hemo, Chateau Cheese, milk. Special products receive program mention and demonstration: None-such Mince Meat and Plum Pudding. In addition to opening and closing titles, Beard makes frequent reference to Borden products, using one or more in each cooking session.

Tone of shows caught was forced fun. How about letting Beard be himself?

Production Details

☞ The roll titles on film, make a smooth pictorial introduction which dissolves from "Elsie Presents" to Beard ready at the stove.

☞ Camera work is good; the producer dollying in or cutting to closeups so people can see details. On one occasion, however, a camera, switched off the air, dollied right into the camera picture on the air. It showed how close and small the settings are.

☞ Show indicates considerable pre-camera preparation—setting program, getting food, etc.



James Beard enjoys his television cooking.

"Let's Celebrate"

Style: Audience participation show; special half-hour one-shot, with Mel Allen, emcee.
Producer: Wesley McKee (agency)
Writer: Ray Harney
Director: Ed Sobol (studio)
Talent: Calgary Brothers, slow-motion pantomimists
Sponsor: The Borden Co.
Agency: Young & Rubicam
Station: WNBT-NBC, N. Y., 9.02 p.m.
Reviewed: Dec. 15, 1946

The show initiated two important events: First use of image orthicon cameras (three) for studio telecasting by NBC, and first show produced in still unequipped video studio 8-G. As far as this reviewer recalls, it is also the first studio audience quiz produced by NBC Television. Also, it marked the first video appearance of Elsie, the Borden cow.

As entertainment, the show rated no special laurels—the usual bag of inane parlor gags plus one top talent act. But, one act doesn't make a show. And on top of that, if stunts had been caught on closeup so one could have seen what was taking place, the program might have been amusing, particularly the reaction of the blindfolded boy dating a girl who turned out to be Elsie, the Borden cow. He seemed dismayed and chagrined.

Best part of the show was the Calgary Brothers, slow motion boxing pantomimists, who put on their vaudeville act for a polio-stricken Brooklyn boy who had been given an RCA television set. Here the image orthicons caught the action, the essence of their act, and one didn't need to see faces clearly.

The image orthicons showed unsatisfactory picture definition under studio operation. Even in closeups, pictures were grainy; fine details befogged. The IO's are excellent for action coverage when what is happening is important but when character and emotional reaction are to be "photographed," the lack of picture definition and contrast is a handicap to a satisfactory show.

If one can't see clearly what is supposedly going on, there is no show.

Production Details

☞ Three image orthicon cameras were used: One set up on the stage (used for closeups of contestants and studio audience shots) and two located in the rear of the studio (used for long shot coverage of the stage).

☞ Studio 8-G is a converted radio studio with a stage at one end. Banks of overhead theater stage lights were installed, many of them with gelatines (color filters). Also, special rows of footlights were rigged up.

☞ Detail of gag costumes and trick hats were completely lost, a waste of creative effort.

☞ Reaction shots of the audience added flavor to the program, but here again the picture wasn't clear.

☞ Mel Allen was excellent as emcee.

Attend TELEVISER'S 2nd Annual
"Television Institute," Apr. 14-15,
Hotel Commodore, N.Y.C.



Stanton: "Easy as shaving with Gillette."

"Gillette's Cavalcade of Sports"

Style: Boxing from Madison Square Garden, Ray Robinson - Tommy Bell welterweight championship bout; remote commercial
Director: Bill Garden
Announcer: Bob Stanton
Sponsor: Gillette
Agency: Maxon, Inc.
Station: WNBT-NBC, N. Y.
Reviewed: Fri., Dec. 20, 1946; 9 p. m.

The SRO sign was hung out at viewing room 980, NBC studios, for the Robinson-Bell welterweight bout. Men began to trickle into an almost empty room for the preliminaries, evidently not having been at all interested in the early studio-originated shows.

Covering sports is television's forte. With image orthicon cameras which clearly report the action-packed drama of contests, the viewer is given a ringside seat. And, judging by my fellow viewers, they are all for a camera-view of fights.

Production Detail

☞ Two image orthicon cameras were used at the Garden to cover the bouts, the producer switching for closeup and long shots. (Cameras are equipped with various lenses of different focal lengths.)

☞ Most of the action was held on full-figure of the fighters, cameras panning with the action, the producer cutting to closeups occasionally.

☞ Between rounds, one camera covered the left corner, one the right.

☞ Announcer Bob Stanton turned in his usual easy reporting coverage.

☞ The Gillette commercials were the same static slides (brief cut-backs to the studio) with oral plugs inserted between times.

"Let's Rhumba"

Style: Dancing Lesson, with D'Avalos; five-minutes; sustaining
Director: Howard Cordey
Technical Director: Al Protzman
Station: WNBT-NBC, New York, N. Y.; 8:25 p.m., Fridays
Reviewed: Nov. 22 & Dec. 20, 1946

D'Avalos's rhumba lessons, while they don't disrupt the studio, which one might expect, are carefully worked out and do teach. After the opening dance (he and partner are discovered doing a rhumba), D'Avalos with all seriousness, perhaps because he has difficulty expressing himself in English, carefully ex-

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New York City

(Continued from Previous Page)

plains the lesson for the day. First, however, he reviews the step of the previous lesson. Then he goes over the new step, explaining footwork and balance, repeating everything three times. And, then to music with partner. I learned "the box" and, lesson seven, the double rocking step.

Partner contributes little eye-appeal, lacking a wolf-call personality. To inject lightness into the routine, facetious jive talk is handled by a voice off-camera, at opening and close of program. The over-hep patter has been toned down, blending more with the spirit of the stanza.

Camera work is good. However, spot could use some showmanship.

Production Details

¶ Programs opens on long shot of dancing couple, with title dissolves over them.

¶ Camera coverage is played on long shot and closeup—long shots to hold the dancers; closeups of his feet to explain and demonstrate steps; medium closeups for the few occasions D'Alvaos speaks directly to the audience.

¶ Closeup on feet, at the start of instruction, was dark and one could see light being added to the picture (a floor spot being rushed to the rescue).

"Styles with Tula"

Style: 10-minute fashion show, sustaining one-shot

Director: Ernest Colling

Technical Director: Al Protzman

Station: WNBT-NBC, N. Y., 8:40 p.m.

Reviewed: Dec. 15, 1946

Styles are to be seen and when a producer shows styles on long shot and medium close-ups, never tilting down to include skirt or train, that producer turns in a poor production. This happened with *Styles with Tula*.

Fashions, magnetic audience builder, cries for showmanship presentaton. It's no easy job, but we're convinced it can be done.

Production Details

¶ Taking a leaf from CBS color argument, it's bad enough to have detail and color of lounging clothes and hostess robes described, but when full skirt, tailored trousers, or shoulder detail is mentioned and not seen in closeup—it is exasperating

¶ Show was oddly presented at that—many times the viewer was at a loss to understand what was on the screen. The cut to dancers Elsworth and Fairchild seemed to end the fashion show, while in reality the spot was used as an interlude—to give the models an opportunity to change clothes. Then when the models returned, viewer again had to orient himself.

¶ Setting was a living room, with models lounging about. Time: Night before Christmas for hostess gowns; morning, for lounging robes.

¶ Voice off-camera called attention to detail, model casually leaving group to display gown or robe.

¶ Format of show was excellent *if one could have seen* and viewer had been oriented at all times.

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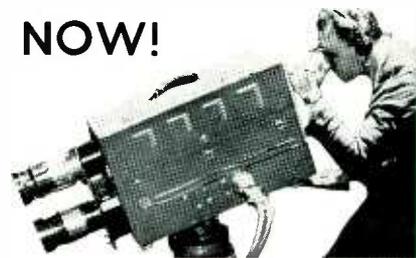
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An Accredited Technical Institute

Production Techniques . . . (Cont'd from page 23)

all right. And, don't try "video" tricks.

To see the play has been the basic problem of every playwright and director. Theaters with sloping floors and balconies, were built so that the audience would be literally on top of the players, so that it could see. Opera glasses were invented so that you could get a close-up. Television slopes the seats and gives you opera glasses all rolled into one. You have the tools to let your audience see what is going on and, added to that, see it when it happens.

The television producer or director must decide what the audience wants to see. Well, look at the show yourself. Take a pair of opera glasses and sit in the audience. What do you want to look at? I know so-called television directors

who gave the audience a close-up of a girl dancer's face when she was dancing in brief costume!

Now, there are little human touches that make great directors. Frank Capra has one he uses: In the midst of great drama, a quick shot of simplicity. In one of the great pictures produced by the Signal Corps on the invasion of Africa, as the boats under cover of darkness were meeting and the men were tense, there was a simple shot of one lone GI playing a mouth organ. Well, the "mouth organ player" has been copied. Maybe Capra isn't the first to do it. But you can find it in a lot of his pictures.

How much equipment you have in the studio doesn't matter. It's what you get on that screen that counts. Don't take

a picture in which there's something going on that can't be seen by the audience. If it's important enough to be happening there, it's important enough for the audience to see. Long shots, medium shots, or closeup methods—how many you use depends on a reason to use them. Make a reason to use a closeup. That's what the director is for. Use a long shot if there's broad action that demands it, but don't make the action such that it requires a closeup to see it.

There are no problems for television as a medium. Engineers will keep up with the times and always find new and better equipment. There are only basic production problems that have existed since the first montebanks performed. Have a good show and make sure the audience easily sees what's going on. I repeat, "easily sees it."

Special Features (Cont'd from Page 12)

Don Lee expects to program a flexible and varied schedule of special events both on film and by remote pickup.

DuMont's Washington station, with its present two image orthicon cameras, is starting on a remote schedule, particularly sports from Uline Arena.

The Evening Star Broadcasting Co., Washington, D.C. expects to complete construction by Spring (1947). It already has two image orthicon cameras which it is using for training purposes.

WGN, Inc., Chicago, expects to be on the air in June or July, 1947, with portable field equipment.

WWDT, the Evening News television station, Detroit, is already on the air from temporary quarters in the WWJ studio building.

KSD-TV, the Pulitzer Publishing Company, St. Louis, expects to be on the air by March 15, 1947, using remote equipment.

KOB-TV Albuquerque Broadcasting Co., Albuquerque, N. M. has "extensive plans for local television programs: Indian dances, Spanish fiestas, rodeos and many other special features in New Mexico." Station expects to be on the air by late 1947.

WEWS, the Scripps-Howard tele station, Cleveland, plans "highly local" programming, "live and newsreel film of local events, local sports." Station expects to be telecasting by late summer, 1947.

KCPN, Carter Publications, Fort Worth, Texas, expects to be on the air by September 1947 with "film, remotes and Western type" programs.

Only WTVR, the Havens & Martin television station, Richmond, Va., which expects to be on the air by June or July 1947, depending upon transmitter delivery and installation (studio will definitely be ready by February 1947), plans to concentrate on studio and film programs. It has no remotes scheduled. Management writes: "Network programming is anticipated."

Results of Ad Agency's Survey of Tele Serial

(Cont'd from Page 34)

manner in which they actually like it is shown on the accompanying chart.

The audience liked *Faraway Hill* despite the fact that only a little over one-third of them saw the entire eight episodes, proving that a serial can be interesting to viewers despite missed episodes.

Also, because a number of cards were returned from public places, there is an indication that even in bars, grills, etc., patrons look at serials.

The facts justify further experimentation with dramatic serials and television audience research. *Faraway Hill* has opened the door in this direction but it has only opened the door, and is interesting as a straw in the wind—not as conclusive data.

Attend . . .

Televiser's

2nd Annual

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& Trade Show"

April 14-15, 1947

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VIEWS OF TELEVISION BY THE EDITORS

Sports Only?

WHEN one sees an advertisement these days plugging a line of television receivers (mostly RCA and DuMont), sports events are usually featured.

From the advertisements, you'd get the impression that television consists almost entirely of football games, boxing, wrestling, hockey, baseball, and basketball. No doubt, there's merit in featuring exciting sports events, especially when the future purchasers of television receivers may be sports-minded men. But the program tastes of other members of the family should be considered and assuaged.

Shouldn't the tempting advertisements also include scenes from NBC Teletheatre series; vaudeville from Chase & Sanborn's *Hour Glass*; children's programs from WRGB, Schenectady; news from CBS; quiz programs from WPTZ, Philadelphia, and WBKB, Chicago; theater pick-up scenes from City Center, New York?

Although non-sports programs and acts are still inferior to what is dished up by Hollywood, the Broadway stage, or the Music Hall, they have sufficiently improved this past year to warrant attention by the advertising estate.

The continued harping on sports events is discouraging to creative artists, from actor to producer, engaged in building educational, public service and entertainment programs. Give them a hand!

* * *

Look Where You Leap!

ONE hears these days of people hastily going into the television "business" to produce programs, films, this, that, and everything else. There is even an instance of members of a television class at one of the colleges who decided that they ought to own a television station, and considered soliciting friends and relatives for \$1000 each with which to start the station. When the principal instigator of the plan was questioned regarding where and when he and his friends planned to construct the station, what his ideas were on initial outlays and operating costs, he was very vague. His principal asset, it seems, was an unquestionable faith in the future of television and a conviction that now was the time for persons of like faith to begin digging the foundation of a station, or a series of stations, and even a network.

There is another sad instance of a group of 12 hepped-up students, only half way through their course, who decided they knew enough about television, and formed a corporation to produce live television programs and films. After sinking a sizeable amount of money and time into their first production, seven sadly disillusioned incorporators withdrew, leaving

behind their investment in time, money and faith in television. They had decided to make a living in some easier field.

Other instances have come to our attention. Several partnerships and associations, formed for the purpose of producing television, have gone out of existence after a brief time. The reasons, in most instances, are very evident: 1) Lack of knowledge and/or experience in this new medium, which is neither stage, radio or motion pictures, yet seems so similar to all three that a person with some experience in any of those fields feels competent to make the plunge into television; 2) Shoestring financing, without the realization that you can't make a "killing" at a time when there are still few sponsors and low budgets.

For those considering setting up in television we recommend: 1) Careful study of all phases of the industry; 2) Television training and possible experience in the specific phases in which one is interested; and 3) Sufficiently large capitalization to carry one through two or three "rough" years.

* * *

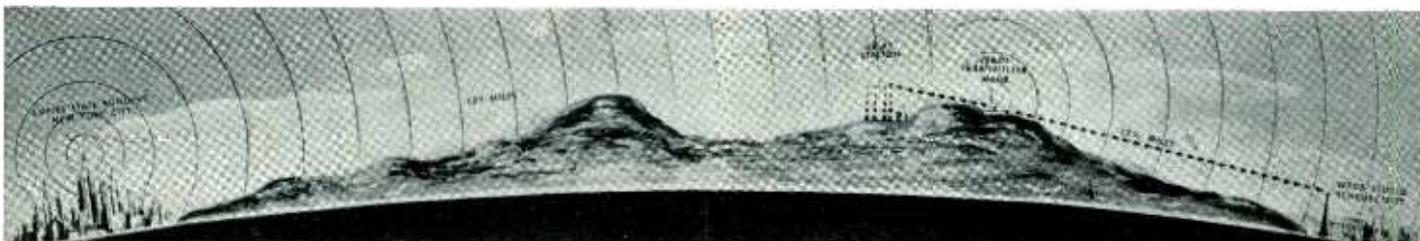
Clear the Atmosphere . . .

WHATEVER the outcome of the current color television hearings one industry benefit should result, we hope, clearing the atmosphere of confusing issues.

Second only to the FCC's responsibility to examine all claims to judge wisely for the public welfare is the FCC's responsibility to television station managements, particularly in view of the new low band stations, scattered throughout the United States, being readied for video service in their areas.

Whatever the outcome, television is here. Cameras in the past few months have gone into churches to bring religious services into set-owner homes—the Grace Church Candlelight Service in New York (WABD-U. S. Rubber Co.), Solemn High Mass (Television Productions, Inc.) on the West Coast. The opening of Congress and attendance at the United Nations Council, in addition to sports, parades and other public functions—all are television realities, no longer promised rainbows of video tomorrow. It is of little import that set owners are few. Those few will be augmented by the thousands as soon as receivers can be purchased.

Man cannot hinder the advance of television. He can only place hurdles in its way which will be brushed aside in time. However, man can direct the development of television service. It is the bounded duty of the FCC to direct the energies of the industry for the greatest benefit to the public, and that decision, if wisely arrived at, will be to the greatest benefit of the industry.



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KDTH..... Dubuque, Ia.	WALA..... Mobile, Ala.	WGST..... Atlanta, Ga.	WNYE..... New York, N. Y.
KDYL..... Salt Lake City, Utah	WAPQ..... Chattanooga, Tenn.	WHAM..... Rochester, N. Y.	WOAI..... San Antonio, Texas
KECA..... Hollywood, Cal.	WAVE..... Louisville, Ky.	WHAS..... Louisville, Ky.	WOC..... Davenport, Iowa
KELO..... Sioux Falls, S. D.	WBAL..... Baltimore, Md.	WHB..... Kansas City, Mo.	WOI..... Ames, Iowa
KEX..... Portland, Ore.	WBAP..... Ft. Worth, Texas	WHBC..... Canton, Ohio	WOL..... Washington, D. C.
KFAR..... Fairbanks, Alaska	WBAX..... Wilkes-Barre, Pa.	WHIO..... Dayton, Ohio	WONS..... Hartford, Conn.
KFBI..... Wichita, Kansas	WBBM..... Chicago, Ill.	WHK..... Cleveland, Ohio	WOR..... New York, N. Y.
KFL..... Los Angeles, Cal.	WBEN..... Buffalo, N. Y.	WHKC..... Columbus, Ohio	WOW..... Omaha, Neb.
KFNF..... Shenandoah, Iowa	WBEZ..... Chicago, Ill.	WHN..... New York, N. Y.	WOWO..... Fort Wayne, Ind.
KFMB..... San Diego, Cal.	WBML..... Macon, Ga.	WHO..... Des Moines, Iowa	WPAT..... Paterson, N. J.
KFRO..... Longview, Tex.	WBNS..... Columbus, Ohio	WHTD..... Hartford, Conn.	WPDQ..... Jacksonville, Fla.
KFUO..... St. Louis, Mo.	WBT..... Charlotte, N. C.	WIBC..... Indianapolis, Ind.	WPEN..... Philadelphia, Pa.
KFWB..... Hollywood, Cal.	WBZ..... Boston, Mass.	WIBG..... Orelana, Pa.	WPTF..... Raleigh, N. C.
KFXM..... San Bernardino, Cal.	WCAE..... Pittsburgh, Pa.	WIBW..... Topeka, Kansas	WRAW..... Reading, Pa.
KGA..... Spokane, Wash.	WCAO..... Baltimore, Md.	WIND..... Chicago, Ill.	WRBL..... Columbus, Ga.
KHQ..... Spokane, Wash.	WCAU..... Philadelphia, Pa.	WING..... Dayton, Ohio	WRC..... Washington, D. C.
KGB..... San Diego, Cal.	WCBM..... Baltimore, Md.	WINS..... New York, N. Y.	WRDW..... Augusta, Ga.
KGER..... Long Beach, Cal.	WCCO..... Minneapolis, Minn.	WINX..... Washington, D. C.	WREC..... Memphis, Tenn.
KGFJ..... Los Angeles, Cal.	WCLO..... Janesville, Wisc.	WIP..... Philadelphia, Pa.	WROL..... Knoxville, Tenn.
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KGKO..... Ft. Worth, Tex.	WDAY..... Fargo, N. D.	WITH..... Baltimore, Md.	WRUF..... Gainesville, Fla.
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KQV..... Pittsburg, Pa.	WGAR..... Cleveland, Ohio	WMUR..... Manchester, N. H.	WWJ..... Detroit, Mich.
KRGV..... Welasco, Tex.	WGKV..... Charlestown, West Va.	WNAC..... Boston, Mass.	WWL..... New Orleans, La.
KRNT..... Des Moines, Ia.	WGL..... Ft. Wayne, Ind.	WNBK..... Binghamton, N. Y.	WWSW..... Pittsburgh, Pa.
KROW..... Oakland, Cal.	WGN..... Chicago, Ill.	WNBH..... New Bedford, Mass.	WXYZ..... Detroit, Mich.
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