













the complete guide to



RECORDS
TAPE & FM RADIO































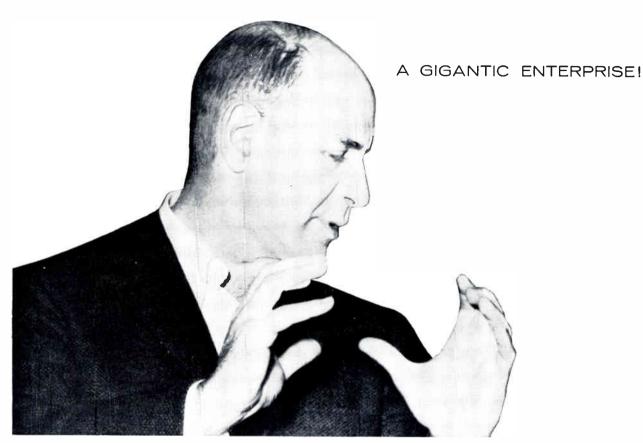












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The complete Piano Trios: Paul Badura-Skoda, piano; Jean Fournier, violin; Antonio Janigro, cello. The complete String Quartets and Quintets: The Barylli Quartet.

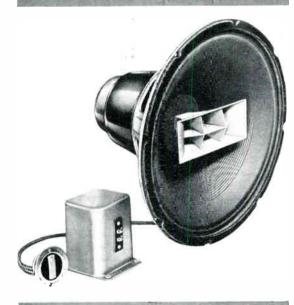
The complete Piano Sonatas: played by Reine Gianoli. To be released soon.



H-222



H-520



H-530

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Above, you see one example of what many discreminating people have pictured in their minas . . . but have not been able to find. It is a mostifully proportioned cabinet of fine wood, craftsmanship and finish . . . ngineered specifically to high ndelity! This cabinet is designed as scientifically as your rapplifier, and, at the sums time, its hendsome appearance is in keeping with the finest living rooms, in place of index ble or mu reshift in stalle tions.

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THE COMPLETE GUIDE TO HI-FI REPRODUCTION FROM RECORDS, TAPE AND FM RADIO

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Milton B. Sleeper, President and Treasurer Fred Reynolds, Vice President Ethel V. Sleeper, Secretary

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COVER PHOTO Ray Robertson's design for the cover of this issue is intended to mark the beginning of what is generally considered as the sixth year of widespread hi-fi activity, and the end of the second year that HI-FI MUSIC Magazine has been published. Also, it is a reminder that the editorial contents covers music and equipment for all three sources. namely, records, tape, and FM radio.

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#### Trade Note

A 3-speed, portable phonograph weighing only 61/4 lbs. is now available. Just imagine! That's almost the weight of the output transformer in a real hi-fi amplifier!

# FM-AM Station WGKA, Atlanta, Ga.

We are hearing some excellent reports on the programming of this station, where about 95% of the time is devoted to music. Of that part, 50% is classical, and the remainder divided into semi-classic, light classic, and popular selections. Transmission starts at 7:00 A.M. The AM transmitter shuts down at sunset, but the FM transmitter, with 10,000 watts effective radiation on 92.9 mc., continues until midnight. Dave Lyndon is station manager.

# Dave, Penny, et al.

The photographer who took the tape recording pictures in the November-December issue was quite disappointed because he was not identified. We hasten to make amends. He is Jason Hailey, 506 S. San Vicente Street, Los Angeles.

# Speaker Preview

Visiting at Arthur Janszen's home in Cambridge, Mass., we saw and heard a new speaker system that was very handsome in appearance, excellent in performance. The perfectly plain cabinet, measuring 48 ins. wide, 36 high, and 18 deep, was attractive and at the same time inconspicuous. It contained a Janszen electrostatic speaker to handle the middle and treble ranges, and two Bozak woofers. Price, we were told, is \$537. There will be a similar model one-half as wide, with one woofer, at \$333.

# Comment on Commentaters

Neil O'Hara, columnist for the Boston Traveler: "Wonder do certain radio commentators and newscasters (network and local) know there is such a thing as a paragraph? Those we have in mind rattle off a succession of unrelated comments and news bulletins without pausing an instant

Continued on page 7

# to Charles Munch, Conductor of the Boston Symphony... to Arthur Fiedler, Conductor of the Boston Pops...



# A BATON WORTHY OF A TRULY MAGNIFICENT ORCHESTRA!

RCA Victor salutes the brilliant Boston Symphony on its 75th Anniversary with five great Diamond Jubilee Albums!

Here you see Frank Folsom, President of RCA, presenting a diamond-studded baton to conductors Charles Munch and Arthur Fiedler in honor of the Boston Symphony's 75th Anniversary. And you, too, can share in this musical celebration with the latest and greatest

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cially recorded for this diamond jubilee

anniversary. Hear them today at your

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All new! All in RCA Victor glorious "New Orthophonic" High Fidelity Sound! And only the Boston Pops. Visit your nearest record dealer \$3.98 for each 12" Long Play record . . . only \$1.49 for each 45 EP record. Here are thrilling classics, performed by Charles Munch conducting the Boston Symphony Orchestra . . . superb the superbolic personality with the flourish of a baton!

Only 98¢ - worth \$3.98. 12" Long Play Historical Highlights of the Boston Symphony & Boston Pops. Only 49¢ — worth \$1.49. 45 EP Story of the Boston Pops; with excerpts from Arthur Fiedler's sparkling repertoire. Collector's items. Nationally advertised prices

January-Jebruary 1956



# the new Ampex Time Pay Plan

Now you can afford the best home music system. And there's no need to wait — no need to compromise on lesser quality which may lead to a costly succession of unsatisfying sound equipment. You can buy your Ampex today, get immediate listening pleasure, and pay for it conveniently on the new Ampex Time Pay Plan. It's a simplified financing plan with personalized terms designed to fit your budget. It can be easily arranged in just a few minutes by any Ampex Dealer. Whether you choose the exciting Ampex 612 Stereophonic System or the 600 portable tape recorder and 620 Amplifier Speaker, you can be sure of this fact: Ampex tape equipment is a lasting investment.

It's durable, trouble-free, clearly performs with the highest professional quality. The recognized Ampex reputation for quality maintains the market value of an Ampex with less depreciation than any other sound equipment. Therefore an Ampex is well worth financing — and now it's easier than ever on the new Ampex Time Pay Plan.

There's an Ampex dealer near you



Dealers in principal cities (see your local Telephone Directory under "Recording Equipment"). Canadian distribution by Canadian General Electric Company

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934 Charter Street, Redwood City, California

# RECORDS, TAPE, AND FM

Continued from page 4

after each item. It's sometimes confusing, and often irritating to the listeners.

# Should We Use That Word?

Because hi-fi music reproduction involves both art and science, there has been a general reluctance to refer to this activity as a hobby, for fear that it would discount the dignity of the pursuit of perfection. But does it, really? We call photography a hobby. Beyond the Brownie camera stage, photography also moves into the artscience realm. Why, then, should we eschew "hobby" or "hobbyist" when we talk or write about hi-fi. We'd like to get some opinions. May we have yours?

#### "Speakers and Enclosures"

This is the title of a new book by Abraham B. Cohen, engineering manager of University Loudspeakers, Inc. Advance information indicates that it is a most important contribution to the hi-fi bookshelf, covering all types of speakers, horns, baffles, enclosures, and networks. Rooms acoustics are treated as a part of the acoustic circuit. Publisher is John Rider, 480 Canal Street, New York 13.

#### Campus Hi-Fi

William Diemer, mechanics instructor of Illinois Institute of Technology, Chicago: "Technical culture predominates at IIT, but that doesn't mean our students are just a bunch of walking slide rules." Since the Institute does not own hi-fi equipment, Mr. Diemer has loaned his to put on record concerts at the I.T. Student Union, 33rd and Federal Streets. Student response is proving to be very enthusiastic.

# Henry Cowell

The author of "Composing with Tape" in this issue, is truly one of America's most distinguished and most prolific writers of serious music. In 1950, he estimated that he had written well over eight hundred individual compositions, and he has been enormously active since that time. Virgil Thomson said of him: "The fact remains that no other composer of his time has made, outside the immediate domain of his own compositional production, so solid a gift to the history of his art as Cowell has done by printing and distributing music that nobody else would print and distribute." We are honored to have him as a contributor.

# "The Benny Goodman Story"

The general reaction of the huge crowd attending the press preview of the Universal-International's "Benny Goodman Story", was both enthusiastic and effervescent. It is a crackerjack film, especially for the Goodman fans and the jazz bugs. The kids should love it. The 86th Street Theatre, where the picture was premiered, Concluded on page 8

NE should not expect to find Audiophile records as widely available as records made for the mass market. They are not "mass records." The reluctance on the part of some dealers to carrying Audiophile records is an understandable and valid position to everyone except the customer who wants to buy. In other words, nobody wants Audiophile records except customers — and, after all, customers are only people.

Audiophile is serving a long list of "repeat" customers. If you have truly good playback equipment — and if your dealer is the reluctant type, write us and we will be glad to ship direct from the laboratory. Descriptive booklet is available at your request.

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High Luality Recordings

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# New COMPLETE OPERAS



For THE MOZART YEAR-Three Operatic Masterpieces

# LE NOZZE DI FIGARO

Figaro Susanno Contessa Almaviva Cherubino Bartolo Marcellina Basilio Cesare Siepi Hilde Gueden Lisa Della Casa Alfred Paell Suzanne Danco' Fernando Corena Hilde Rossl Majdan Murray Dickie Barberina ... Anny Felbermayer
Don Curzio Hugo Meyer-Welfing
Antonio ... Harold Proglhof
CHORUS OF THE VIENNA
STATE OPERA. THE VIENNA
PHILHARMONIC ORCHESTRA.
conductor: ERICH KLEIRER. 4 –
12 inch records with complete vocal
score. XLIA 35 \$19.92

# DIE ZAUBERFLÖTE (The Magic Flute)

Tamino Le
Pamina Papageno
Queen of the Night
Sarastro ......
Papagena
Speaker .....
Monostatos

Leopold Simoneau
Hilde Gueden
Walter Berry
ght Wilma Lipp
Kurt Bochme
Emmy Loose
Paul Schoeffer
August Jaresch

DON GIOVANNI

Supporting Cast
CHORUS OF THE VIENNA
STATE OPERA. THE VIENNA
PHILHARMONIC ORCHESTRA.
conductor: KARL BOHM. 3 – 12
inch records with complete vocal
score. XILA 33 514 94



# DON GIOVANNI



Cesare Siepi Fernando Corena Anton Dermota Suzanne Danco Lisa Della Casa Hilde Gueden Walter Berry Kurt Boehme

CHORUS OF THE VIENNA STATE OPERA, THE VIENNA PHILIARMONIC ORCHESTRA. conductor: JOSEF KRIPS. 4 – 12 inch records with complete vocal

XLLA.34 \$19.92

# Another PUCCINI TRIUMPH on ffrr



CHORUS AND ORCHESTRA OF L'ACCADEMIA DI SANTA CECILIA, ROME conductor: ALBERTO EREDE

conductor: ALBERTO EREDE 3-12 inch records with Italian-English libretto.

XLLA 36 \$14.94





# RECORDS, TAPE, AND FM

Continued from page 7

could use a new battery of hi-fi speakers, for we understand that the sound track is much more brilliant and clean than the reproduction we heard. The Goodman story itself differed in many details from the facts, as is necessary with most every film biography. If you would like to compare what really did happen with what you see in the picture, be sure to read Fred Reynolds' authentic account of Benny Goodman's career in the July-August and September-October, 1955 issues of Hi-Fi Music. Copies are still available. The second part includes a Goodman discography.

## Buy, Sell, or Swap

Readers who use the Buy, Sell, or Swap column which appears on the last page of each issue report that this is a wonderful place to do business, and that the response to their announcements is really surprising. Do you have some equipment you don't need any more that you'd like to sell or swap? Or perhaps there is something you'd like to get at a low price by buying it second hand. Try the B.S. or S. department.

# Tiny Tubes

There's no information about making them generally available, but G.E. has developed a tiny tube only  $\frac{3}{8}$  in. high, and of approximately the same diameter that can be used to replace some of the conventional

vacuum tubes. One of these days, we may have miniaturized preamps.

# WBBQ-FM Augusta, Ga.

Operating on 103.7 mc. with 10,500 watts effective radiation since last August, this station carries background music from 9:00 A.M. to 6:00 P.M., with only station identification breaks every half hour. From 7:15 until midnight, the Augusta Radio Music Association programs the station with classical records. This evening service is underwritten by listener subscriptions at \$1.00 per month, and by six sponsors, each of whom is given one institutionaltype announcement each night. Now, to add variety to recorded music, remote pickups of the local choral society and other live performances are being added. John Lyon is station manager, and Marvin Tarplay is the chief engineer.

# Silver Sulphide

In areas infested by smog, there is hydrogen sulphide in the air, and sulphide tends to form on silver contacts. In audio equipment, that's a serious problem, because circuits through the contacts become noisy. There are two preventative measures: First, operate the switches frequently, turning them back and forth. That helps to keep them clean. Also, put non-inflammable containers of ordinary mothballs inside your cabinets. That inhibits the formation of silver sulphide.

#### Good Music Stations

First to be called a Good Music Station, as far as we recall, was WQXR New York. Significance of the title must be reappraised now, however, because it has come to imply not only the transmission of good music, but the very best audio quality. In the latter qualification, WQXR programs are generally sub-standard. Despite the limitations of a very restricted operating budget, City-owned WNYC FM and AM averages to provide the best audio quality of any New York station, despite its very limited operating budget, and it gives a bonus of live-talent broadcasts, many of which are a delight to hi-fi FM enthusiasts.

# Jan Syrjala

His name is missing from this issue because he's flying around somewhere in the Pacific with two planeloads of Martha Graham's Dance Company and an "Orchestra surrogate" (fancy name for a quantity of audio equipment and tape machines which supply the music). It's an Internation Exchange project cooked up by our State Department in association with the ANTA (American National Theatre & Accademy). Tour will take 16 weeks, covering all those places with romantic names, such as Siam, Malaya, Burma, India, Ceylon, and Iran. It's nice work, and Jan got it!

## Equipment Reports

Be sure to read the discussion on page 42. It might be worth \$50 to you.

# Does your High Fidelity system have a



Are you using an obsolete or inadequate turntable assembly with an old style tone arm? You'll be surprised at the difference a Gray Turntable\* and Viscous Damped tone arm will make in your listening pleasure.

# IMAGINE! Vibration free performance with

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- 5. A Cue light to aid you in placing your pickup on the record.

# AND THAT'S NOT ALL!

- 1. Your Tone Arm is virtually isolated from any mechanical disturbances.
- 2. Tone Arm resonance is damped out—thereby preventing Tone Arm skipping on loud passages.
- 3. Anyone can now operate your system without fear of damage to your prized records or your costly cartridge.
- 4. Your Tone Arm cannot jump or skip even under the most adverse conditions.

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**GUARANTEE**—all Gray High Fidelity products are absolutely guaranteed against defective material and workmanship. Your listening pleasure is fully guaranteed!

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# Unbelievable?

... Perhaps, but this happens to be true!



Mark III.

A High-Fidelity phonograph-tuner combination is at last available as a completely integrated unit. It is a product of AMI INCORPORATED,\*

Long believed impossible, this new "packaged" unit eliminates the need and uncertainties of successfully joining together the many separate components previously thought essential to real High-Fidelity reproduction.

The AMI phonograph includes components of superior quality. They are identical with those which the most dedicated Hi-Fi fan would select and assemble for himself. The result: a musical instrument that meets the most stringent requirements for authentic reproduction of recorded music throughout the entire audible range.

The new AMI phonograph is complete, ready to plug in and play. It brings out the very best from your most treasured recordings. It has a precision changer, high output amplifier, three-way exponential horn system, and frequency dividing network. variable reluctance cartridge and AM-FM tuner. All components are precisely matched for balance and shielded against extraneous noise. Their placement within the cabinet-a definite and integral part of the superb AMI sound system —is carefully calculated. The cabinet itself is a distinguished piece of fine furniture that gracefully complements any home decor.

# Soon . . .

. . . For the hundreds of enthusiastic listeners . . . all who sought to buy our prototype models off the exhibit floors at the High-Fidelity Shows in Chicago, New York, Boston and Philadelphia . . . your patience will soon be rewarded. The new AMI phonographs are in limited production. Within a few weeks you may have and hear one for your very own.

To others . . . who have not had an opportunity to hear the truly magnificent music of the AMI phonograph . . . we urge you to visit-at your earliest convenience-your dealer (name on request).

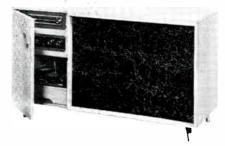
You'll be delighted at the ease and simplicity of the AMI phonograph controls . . . their flexibility in achieving tonal balance with various record characteristics and acoustical environments. Whatever they may be . . . you get all the music on the record with amazing clarity and presence. Your own TV set or tape recorder takes on a thrilling new dimension when played through the AMI sound system.

We believe you'll agree once you hear the AMI phonograph that it alone is the instrument of your choice for authentic realism in the reproduction of recorded music.

> AMI Fine Furniture Cabinetry is available in your choice of Light and Dark Mahogany Finishes with Accents of Gleaming Brass



Mark I



Mark II



Mark IV with Mark V AMI 3-way horn system enclosure for wall placement.

\*AMI, since 1909, a pioneer in the manufacture of automatic musical instruments for commercial installation. brings to its new Home High-Fidelity line almost half a century of experience in the electronic and mechanical reproduction of music.





Member, Institute of High-Fidelity Manufacturers



# IDEAS for YOU

N ORDER to keep you up-to-date on new equipment and components that are being brought out, illustrations have been omitted in this Department, enabling us to bring more items to your attention in the space available. You will find the manufacturer's name and address after each description. Use the Catalog Request Cards bound into this magazine to send for bulletins and descriptive literature, so that you will have the full details.

Fairchild Amplifier

Model 275 is a 65-watt design for highquality reproduction, similar in appearance to the 25-watt model 255, but with a perforated metal cover over the tubes. There are adjustments for balancing the 6550 output tubes, bias, and hum. Output impedances are 4, 8, and 16 ohms. Input for full output is .8 volt rms. Fairchild Recording Equip. Co., 165th St. & 7th Ave., Whitestone, N. Y.

# Rider Books

A new catalog of books on all subjects related to hi-fi, radio, television, and electronics is now ready for distribution. John F. Rider, Inc., 480 Canal St., N.Y.

Presto Tape Recorder

The R-11-H is a 2-speed professional model incorporating various design improvements. It is furnished as a transport deck, or mounted in a metal cabinet with the amplifier and controls for 3 microphones. Presto Recording Corp., Paramus, N. J.

Mid-West Transistor Amplifier

A hermetically-sealed amplifier is contained in a block 5/8 by 3/4 in., only 1/8 in. thick, with 4 leads protruding. A similar unit is tubular in form. This transistor amplifier offers some interesting possibilities for experimenting. Mid-West Coil & Trans. Co., 1642 N. Halsted St., Chicago 14

**Bell Amplifiers** 

For the benefit of those who do not plan to hide their amplifiers, the three Bell amplifiers are now furnished with attractive pierced-metal covers of satin-gold finish. This is an optional feature. Bell Sound Systems, 563 Marion Rd., Columbus 7,



# ACCEPT THIS AMAZING OFFER! LEARN ABOUT THE RECORD DIVIDEND CLUB'S PROFIT SHARING PLAN

THE RECORD DIVIDEND CLUB was

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You will receive 5 additional records FREE.

Payments must be included with every order.

Thus costly book-keeping to you is eliminated.

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Every long playing record purchased through the RDA plan is credited to your share of the club's earnings. The more records you buy the more dividend records you will receive free.

Music lovers will appreciate that every record shipped is carefully fresh. Since club operates only through mail, you are assured that you are the first to play the

protective covers

All records are shipped with a polyethylene envelope, . One that can be used as a permanent protector for your precious disks,

EXTRA BONUS 1 year FREE subscription to HI-FI MUSIC AT HOME No. 1 magazine for record reviews

# RECORD DIVIDEND CLUB OF AMERICA, INC.

135 BROADWAY . Dept. M . NEW YORK 6, N. Y. Ist selection.

Please enroll me as a trial member of The RDA. I am to receive FREE with my first two selections (at \$3.98 or more each) one DIVIDEND record (list price \$3.98). In addition I am to receive FREE s long playing record catalog. It is understood that I have the privilege of cancelling my membership after this initial order. If I decide to remain a member I will be entitled to all the advantages the RDA offers. Plus a year's subscription to HI-FI MUSIC AT HOME. It is further understood that there are no restrictions to the number of records I may purchase through the Club's dividead earning plan. I agree to pay the nominal charge of 25c for each record to cover the cost of shipping.

		_plus	25¢	shipping
2nd selection	n			
		_plus	25¢	shipping
Dividend se	election			
(	FREE (bay	only)	25é	shibbing
NAME	FREE (pay		,	
ADDRESS_				
CITY	ZONE No	ST	ATE	
Enclosed fine	d Check or Money O and shipping,	rder i	for \$	
to cover cost	and shipping.			

## Rauland TV Sound Unit

This compact device makes it possible to receive TV sound on channels 2 to 13 by plugging it into the Rauland HF155 FM-AM receiver, or the HF355 tuner-amplifier. Operation is independent of the TV set, so that it can be used for better audio quality on TV reception, or just for listening to TV sound. Rauland-Borg Corp., 3515 W. Addison St., Chicago 18

Pickering Fluxvalve Pickup

Turnover design accommodates all records, including those requiring a stylus of less than 1 mil. Easily replaceable styli operate at 2 to 5 grams. Output is 25 millivolts

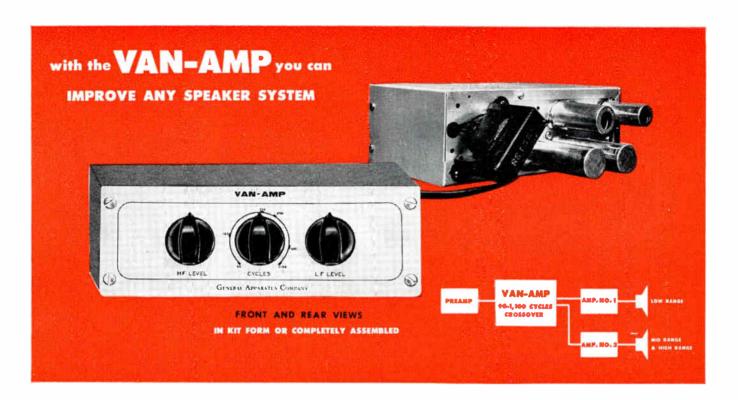
at normal recording level; termination is 47,000 ohms. Pickering & Co., Inc., Oceanside, N. Y.

Klipsch Shorthorn Speaker

Formerly available only in kit form, this cabinet is now supplied in mahogany, primavera, or utility finish, without speakers, or complete with 3-way speaker system. Klipsch & Assoc., Hope, Ark.

Fisher Amplifier

Model 80-AZ, rated at 30 watts, is completely enclosed by a pierced metal cover, carrying on the end plate the Z-Matic and Continued on page 14



# The Ultimate Improvement in Musical Quality

HOW THE VAN-AMP IMPROVES THE REPRODUCTION FROM ANY TWO-SPEAKER SYSTEM, AND WHY SO MANY CRITICAL LISTENERS ARE INSTALLING VAN-AMP CONTROLS

T IS common practice to use one amplifier to feed a fixed crossover network, and two speakers—a woofer for low frequencies, and another speaker for mid-range and high frequencies—and to control the volume of both at the preamplifier.

But consider the conditions in such a system: no two types of speakers are of the same efficiency. Woofers vary widely. Some of the best are very low in efficiency compared to speakers designed for the middle and upper registries. Their individual output level is also affected by the enclosures in which they are mounted, whether in the same or separate cabinets.

- 1. Since they are connected to the same amplifier output, it is not possible to feed extra power to the low-efficiency speaker, and less power to the other. As a result, the bass may be inadequate. Adjusting the tone controls is not the right answer, because what is needed is more power fed to the woofer.
- 2. There is also the question of the network crossover point. Is it exactly right for your particular woofer and speaker combination? It cannot predetermine accurately. You will probably find that a slight shift up—or down— will make a decided improvement.

HOW THE VAN-AMP OPERATES: The VAN-AMP is designed to solve these two most important problems. A 6AV6 and a 12AU7 are used in this variable network, with separately adjustable, low-impedance outputs for the low and high ranges. Each has an adjustable voltage gain up to 8 times. The two outputs are fed to separate power amplifiers to provide individual drives for the speakers.

1. With seporate amplifiers, and the individual channel

output controls on the VAN-AMP, the power fed to the woofer and speaker can be adjusted precisely to compensate for their unequal efficiences, thereby providing exact balance. Generally, two 10-watt amplifiers are adequate. If they are not of the same power, and the woofer is of low-efficiency design, drive it from the more powerful amplifier. Once the VAN-AMP has been set, adjust the volume from the preamp.

- 2. The cressover point on the VAN-AMP is continuously adjustable from 90 to 1,100 cycles. This covers all requirements of two-speaker systems, including those with the Arthur Janszen or Pickering electrostatic speakers. You may be surprised to see the difference between the crossover you have been using, and whot you find to be the optimum setting on the VAN-AMP!
- 3. Because each amplifier handles only a part of the audio range, intermodulation distortion is lower than when one amplifier, carrying the full audio range, is used to feed both woofer and speaker. This is an additional odvontoge of the VAN-AMP over conventional speaker systems using fixed networks.
- 4. There is no other method of operating two speakers that affords these ultimete improvements. The VAN-AMP can improve the quality of any two-speaker system.

IN KIT FORM, OR COMPLETELY ASSEMBLED: The VAN-AMP is supplied assembled, as shown in the front and rear views above, or as a kit, complete with tubes and punched chassis, which you can assemble with a screwdriver, pliers, and soldering iron. You can purchase the Instruction Book, containing step-by-step instructions, picture diagrams, parts list, and circuits, and deduct the price of \$1.00 when you order a VAN-AMP.

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# IDEAS FOR YOU

Continued from page 11

input level controls, and a peak-power indicator. Output is 8 or 16 ohm. Price is \$99.50. Fisher Radio Corp., 21-21 44th Drive, Long Island City 1, N. Y.

# Altec Cabinet Speakers

There are two types in bass reflex cabinet of attractive, simple lines. The larger has a 15-in. speaker and high-frequency driver, with a crossover at 800 cycles. The smaller has a 12-in, speaker with a crossover at 3,000 cycles to a high-frequency speaker. Prices are \$324 and \$180. Alter Lansing Corp., 161 6th Ave., New York 13

#### Harman-Kardon Preamp-Amplifier

Rated at 10 watts output, this unit, employing printed circuits, has inputs for phonograph, radio, and tape, and a tape output independent of tone controls. All standard operating controls are provided, including a rumble filter switch. Metal cabinet is finished in black and copper. Price \$55. Harman-Kardon, Inc., Westbury,

#### Cabinart Hi-Fi Cabinets

A wide range of cabinets for speakers and audio equipment of all kinds are described in four new bulletins. Both finished types and kits are shown, including units to make up storage walls. Cabinart Div., G & H Wood Products, 99 N. 11th St., Brooklyn 11, N. Y.

## Presto Portable Tape Recorder

Put up in separate tape transport and amplifier cases, model SR-27 operates at 7½ and 15 ips., delivering quality suitable for professional recording. Amplifier has standard operating controls, a VU meter, and two low-level speakers for monitoring the recorder and playback. Price is \$588. Presto Recording Co., Paramus, N. J.

# Amberg Record Carrying Case

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# Karlson Speaker Cabinets

A series of cabinets in finished and kit form is now available for 8-in, speakers. Outside measurements are 171/2 by 113/4 by 10 ins. deep. These and others for 12 and 15-in. speakers are described in bulletin 130. Karlson Assoc., Inc., 1610 Neck Road, Brooklyn 29, N.Y.

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Concluded on page 52



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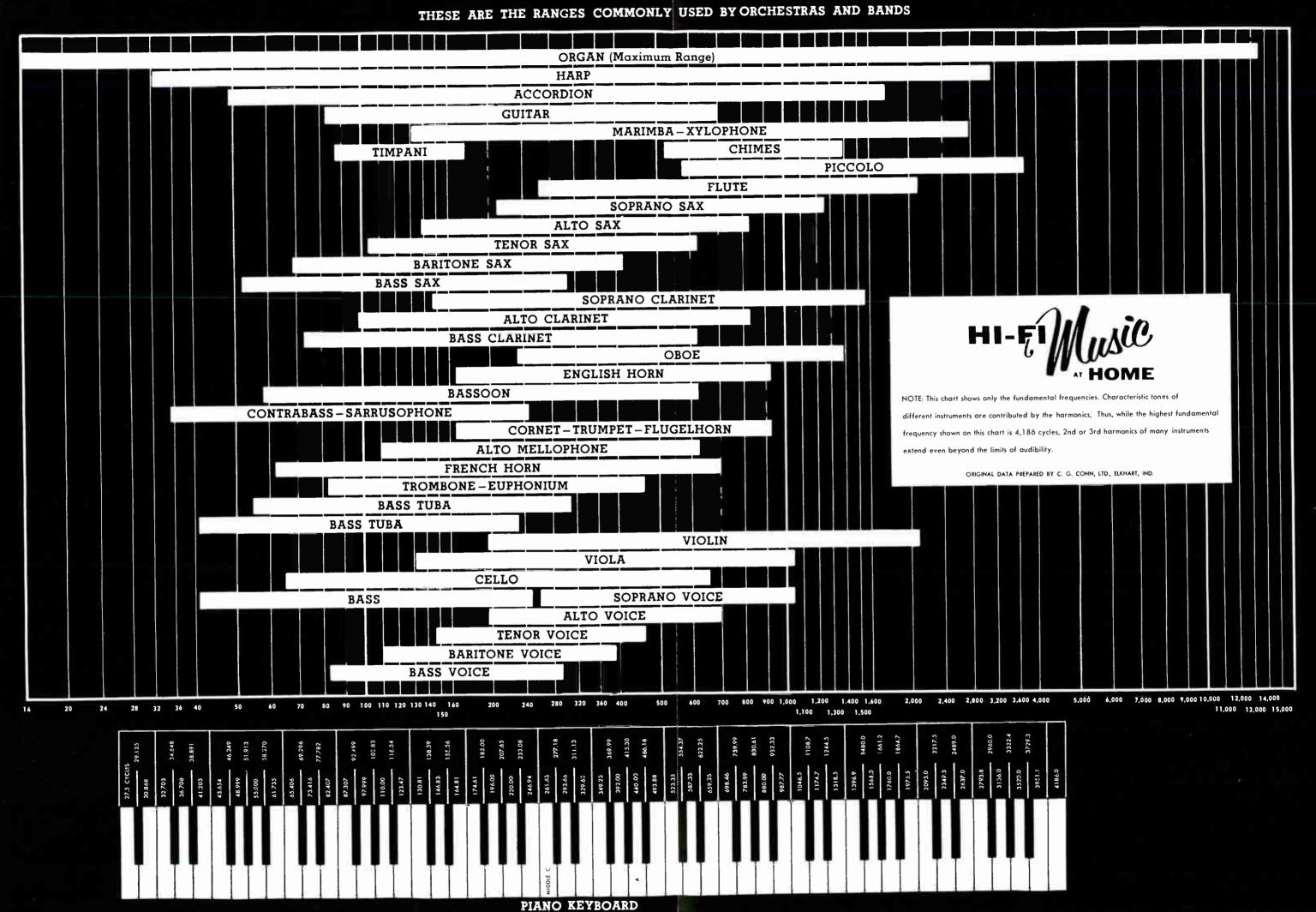


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Milton Sleeper discusses

# MUSIC IN YOUR HOME

WHAT KIND of people are hi-fi music enthusiasts? Well, thanks to the questions which our subscribers answer, and which we study most thoughtfully for the purpose of planning our editorial contents, we know that they range in age from 16 to at least 74, nearly threefourths live in houses as distinct from apartments, about one-half have children at home, 9 out of 10 buy or plan to buy components they can install themselves, and of each 100 readers, 95 are interested in records, 50 in FM, 45 in tape, and 12 in television. They are engaged in more different occupations than you could list if you tried. They are pilots, antique dealers, librarians, cameramen, editors, and such specialists as sailmaker, grain inspector, and theatre owner, with a liberal sprinkling of lawyers, advertising executives, doctors, artists, writers, and salesmen. Which means that almost anyone may belong to this

First and foremost hi-fi music enthusiasts are individualists. Beyond that, only common denominator is the enjoyment of music at home, reproduced with the most authentic quality they have been able to attain, and which they expect to improve still further. We know also that they are people who have the capacity for self-expression. Otherwise, they would be satisfied with conventional phonographs and AM radios, and they would be TV addicts, which they are not.

The capacity for self-expression is a definitely distinguishing intellectual characteristic. It is a characteristic of the communicators — not limited, as by the Spectorsky definition, to "Madison Avenue merchants of dreams for the rest of the nation", but rather, in the broadest sense, Clifton Fadiman's [intellectual] "frontiersmen of the 20th Century". There are relatively few communicators who originate ideas and transmit them to great audiences. But there are a great many who open-mindedly receive communications from far and wide which they screen through highly selective, discriminating judgment, and transmit what they accept by expressing themselves in terms of the homes in which they live.

Individualists, communicators, intellectual frontiersmen? Do these words not describe the people who, rejecting the conventional ways of life in the lands where they were born, crossed the seas to build the nation of which we are now a part? And with them they brought music. Some brought precious instruments. Others could only carry the love of music in their hearts. They sang hymns and folksongs. Those who couldn't sing listened, and tapped their feet. Music helped them work and play. It filled a need when they were lonely, or afraid. It played a vital part in their religion.

As time passed, and living became less a matter of self-preservation, the pioneering spirit of self-expression was addressed to art and literature, politics and commerce, science and industry, and in the practice of communications by which all human endeavor is bound together.

Until today, we have in small towns and big cities, and in all walks of life, great numbers of people who, as intellectual pioneers, are expressing themselves in their homes, as in their occupations: a whole new breed, definitely 20th Century, very much post-'29, and thriving as never before in the favorable climate of the last 10 years.

These, then, are the people of whom Clifton Fadiman wrote: "So do not smile at us, at our chatter about 'roots', at our fumbling gestures of do-it-yourself, at our silly status competitions, at our shiny new small-town patriotism. We may be the most ludicrous frontiersmen in history. But we are blazing a trail, and marking out a new country."

So today, while the pioneers no longer set up their outposts on geographical frontiers, but more often in crowded cities and suburbs, they still travel singly with their hopes and fears and accomplishments and, yes, their frustrations, too, just as their forebears did. They carry the same love of music in their hearts. The only change is in the way the music is produced, for today the finest music is available for enjoyment at home from records, tape, and FM radio. And because the construction of a home music system is an avenue of self-expression, and because each intellectual frontiersman is devoted to the search for improvement in whatever may be his field, he is logically a potential member of the hi-fi fraternity.

Because they are individualists, they cannot be typed by statistics or pictured on charts. They cannot be represented by a norm, but only as departures from it to the extent of the original, imaginative manner in which they express themselves. All of which comes back to and affirms our own description of hi-fi enthusiasts as the most interesting people we know!

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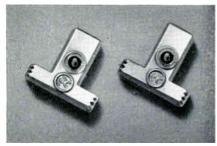


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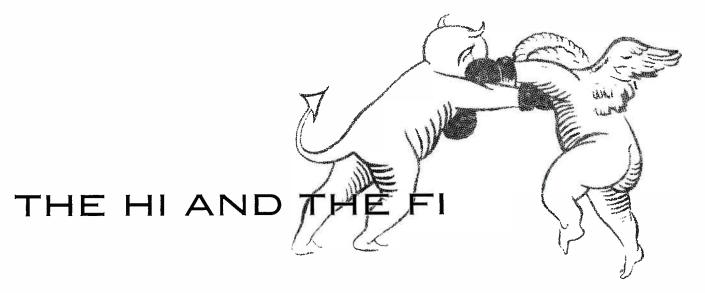
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ALL MUSIC is becoming popular." So says George Zeisler, one of Ohio's largest record dealers, after three years of programming classical music on Columbus FM-AM radio station WCOL. His program "Symphony Hall" recently celebrated its third anniversary, and Bill Spencer, the station manager, states that "Symphony Hall" has run longer than any one-hour show that WCOL has ever carried.

Why is all hi-fi music entering the 'popular' 'bracket? According to Mr. Zeisler, what started as a craze for hi-fi sound has now developed into a genuine interest in listening to music. "Three years ago," says Mr. Zeisler, " 'Symphony Hall' first went on the air. The idea from the beginning was to disc-jockey classical music. Pop records were having a field day doing it. Why shouldn't the idea work for classical records too?" Obviously it has, and it is working well for other FM stations who insist on programming fine music and playing it on fine equipment. But we have often wondered why so little attention is paid by the local FM stations to the altogether fascinating musical talents that are to be found in every city. Breaking up recorded programs with "live" music creates a change of pace that sparks new interest on the part of the listeners. Of course, few FM stations can afford to do this with the magnificent regularity of municipal station WNYC, New York, to which many artists donate their talents. WNYC also carries many feature musical events, with the happy blessings of the musicians' union. But in any city there are school bands and choruses, an amateur Dixieland band, a college or school glee club, orchestra, and dance band, a barbershop quartet, church choirs, and various musical groups that can make for marvelous listening on FM. Not only would cooperation be willingly and enthusiastically given, but the resulting hullabaloo about the programs might do wonders for the station in particular and FM in general.

A LONG-DISTANCE friend of ours in Holly-wood told it to us first hand. He happened to be strolling down Vine Street one smoggy evening when he overheard a conversation between two serious fellows who obviously were hi-fi experts. Sharing

their enthusiasm, and a trifle more curious than the average cat, he lounged against a building to listen: "Talk about amplifiers," said one, "they are obviously all of 30 watts."

"Yeah, and that crazy pre-amp," replied the other, "what a wild hook-up!"

"The thing that really gets me," emphatically stated the first, "is the bass reflex. Positively the most."

'Sure, oversized woofer too,' continued the second. Well, our friend stood and listened for several minutes more, during which time the conversation consisted chiefly of such terms as "intermodulation", "roll-off", "precise tuning", "matched components", "flat frequency response", "flutter", "rumble", and "damping control". But the remark that truly raised our friend's hair was the clincher. Said the second to the first: "What ruins the whole system is the tweeter. Man alive does it squawk! The lowest fidelity you ever heard, and hear it is all you do.' That gave our friend the clue. Those hi-fi terms weren't used to describe audio equipment. What else? Well, music is not the only thing that's here to stay!

WHICH PART of the Chicago Tribune can you believe? In a recent hi-fi section, one headline read: "MARRIED FOLK BIGGEST HI-FI PURCHASERS". Two pages later on, a second headline proclaimed: "Teenagers Are Largest HI-FI MARKET".

Pleased is the word for it when we learned that Percy Faith, talented music man of Columbia Records, had agreed to initiate our series titled "The Music in My Home". We chuckled at his story of being advised by his son to cover Capitol's now-fabulous hit record Sixteen Tons, by Tennessee Ernie. Cover, a term widely used in the record world, means to put out your own particular version of a song that somebody else has recorded for another company when that song looks as if it will become a big money-maker. Thus, if Mr. Faith had taken his son's shrewd advice two days later, Columbia might have had a recording on the market of Sixteen Tons by, say, Frankie Laine or Tony Bennett. Covering means that you are sure the other fellow has the hit, and you know

you haven't a chance of pushing his record out of public favor, but you want to be in on the killing, too. Incidentally, one of the most amazing things about Sixteen Tons, which might well be called "The Coal Miner's Lament", is that the song has been around and waiting for someone to discover it since 1948. Occasionally, Tennessee would sing it on his TV show, and each time some of the record dealers would report that folks were asking if they could get it on a record. Despite the fact that this kind of information always gets around in the trade, no one, no company at all, paid any attention to the reports. "Little old bitty" Tennessee can be most thankful that he finally decided to record it himself, for in just three weeks his record of Sixteen Tons shot to the No. 1 position in every popularity poll, and it has already passed 1,000,000 copies.

•HE ADVENT of small, light-weight AM and FM radios has given birth to many productive ideas. We were highly amused at the twist of purpose contained in some recent correspondence from David Coolidge of the Mir-A-Call Corporation, Chicago. Mir-A-Call is a cueing system designed specifically for TV and film studios. It broadcasts from a low-frequency transmitter to various pocket-size, cordless receivers that weigh less than 8 ounces. Mr. Coolidge had the outright audacity to suggest that Mir-A-Call might well be used as a home paging system and therefore save the weary housewife many dreary steps. Clever boy, this David Coolidge. But we shook him off quickly when we discovered that an average home installation would cost about \$1000.

However, this is a big political year, and we remember with some horror those long, long hours before our TV screens when we watched the political conventions of 1952. We waited and waited while politicians wrangled and generally botched things up beyond all understanding until they finally settled down to do important things. We hope fervently that Mr. Coolidge will equip the Republicans and the Democrats with his gadgets. We are sure it would work wonders in polling the delegation from Alabama, and think of the boredom that alone would save us!



# She Sings to Conquer

Explaining, How Maria Callas,
Highest-Paid Singer in
Contemporary Opera, Gets What
She Wants — By Robert Prestegaard



the age of 14, the irresistible force who is Maria Callas has been moving immovable obstacles with the ease of a kitten, and the self-assured determination of a goddess.

Callas' conquests have been many, but her most triumphant victory to date occurred on a wintry day last November during the second week of her second season as star of Chicago's Lyric Theatre. On November 8th, Mme. Callas signed to sing at the Metropolitan Opera House. This will bring her before New York audiences for the first time, when she opens the Metropolitan season October 29th in Bellini's "Norma".

Typical of the Callas way of doing things, she did not go to the Met; she waited for the Met to come to her. It did, in the person of general manager Rudolph Bing. This was also as it should be, for Callas will have no discussion with anybody's intermediary. She works only with the boss. The boss is the person who meets her terms. These terms, incidentally, may wreak havoc at the Metropolitan Opera where artists have settled, some of them unhappily, for a long-established \$1,000 a performance. Regarding a contract, Mme. Callas has one artistic stipulation. She demands more money than anybody else. It is unthinkable that she would take less, even at the Met. Bing is noncommittal about the fee, but Callas is pleased, and Callas, as the world knows by now, is pleased only when she gets what she wants.

Getting what she wants comes naturally. Maria Meneghini-Callas is the most publicized, highest paid singer in contemporary opera, not only because of her magnificent voice, but because of her capacity for hard work, plus an unwavering devotion to her art.

Born in Brooklyn 32 years ago of Greek parents, Maria was taught to sing at the age of 8 because her druggist father thought all young ladies should be given this privilege. Actually, her fabulous career began early in her teens when she went with her mother to visit relatives in Athens. Enrolling at the Royal Conservatory, she studied under Elvira de Hidalgo, the first professional singer and teacher to recognize the tremendous potential of the Callas voice, versatility, and will-power.

Once her debut in "Cavalleria Rusticana" was behind her, Maria set out to get the one thing she wanted more than anything else in life, the respect and admiration of everyone important in the musical world. Before long, the Callas name was carrying almost as much weight as the woman herself. At one time she weighed more than 200 pounds, and she turned down an offer from the Met because she was too fat. Frankness is one of Maria's most disarming qualities. She now tips the scales between 125 and 130, and confines herself to a rigid diet of her own choosing: salad and beefsteak.

With success following success in Europe, it was only natural that Maria should keep an eagle eye in the direction of La Scala. She made it, of course, but in a round-

Rudolph Bing, general manager of the Metropolitan Opera, New York, went to hear Mme. Callas' performance in "Il Trovatore" at Chicago





about way, and with the help of Tullio Serafin, former La Scala conductor. He heard her sing, vowed he would make her famous, and signed her for performances throughout Italy, with a brief appearance at the El Teatro Colon in Buenos Aires. She won ovations everywhere. La Scala came with a contract. Graciously, she wrote out her signature. In no time at all, Maria was installed as Queen of La Scala, and today she practically runs the place.

As for her determined, independent attitude, Maria can afford it. She is married to Giovanni Batista Meneghini, a Milanese millionaire 20 years her senior. A devoted husband, he now spends all his time caring for his wife's affairs. He would be the first to tell you, however, that his wife would continue to get what she wants even if they lost every lira they have between them. This is true. She would do it because she possesses three outstanding qualities: a voice unequaled in opera, an amazing dramatic ability, and an astute business sense. She could have made a fortune in any of these fields but, being Callas, she chose all three of them. This makes her a unique combination of Sarah Bernhardt, Ivy Baker Priest, and all of the great prima donnas of the past rolled into one costly package.

Although some people prefer the pure, liquid tones of La Scala's Renata Tebaldi, Mme. Callas is the only present day artist who takes one back to the Golden Age of Opera. Like Mary Garden, Claudio Muzio, Geraldine Farrar, Amelia Galli-Curci, and Rosa Raisa, Maria can sing anything. Perhaps she is best compared to Muzio and Garden — Garden for acting, and Muzio for mezza-voce. Not the least bit afraid to use mezza-voce, she has the courage and instinct to do so whenever the nature of the role demands. This, combined with her unusual control, technique, and genuine feeling for each role, makes any Callas opera an unforgettable experience. Furthermore, she knows virtually every part ever written for soprano, and some day will probably commission an opera of her own because she will have run out of difficult material.

Operas that have been gathering dust for years, because no one could sing them, have been taken off the shelf for Callas. These include "Alceste", "I Puritani", "La Sonnambula", and "Medea". Those who saw her "Medea" in Rome are convinced that, for sheer dramatic ability alone, she surpassed the brilliant acting done by Judith Anderson who starred in the stage version.

To Maria, it makes no difference whether the role is dramatic, lyric, coloratura, or contralto, she will sing it and, nine times out of ten, she will sing it better than anyone else. It is likely she would tell you this herself.

Critics have called her performances "incredible", "incomparable", "magnificent", and "unbelievable". This pleases Maria; it is nothing more than she expects, or deserves. At final curtain, a stunned audience usually takes a few seconds to catch its breath; then comes the storm of applause, stamping of feet, and ear-splitting bravos. It happened in Chicago and, if Callas is Continued on page 60

The combination of her unusual control, technique, and genuine feeling for each role makes any Callas opera a truly unforgettable experience



# HI-FI MUSIC IN MY HOME

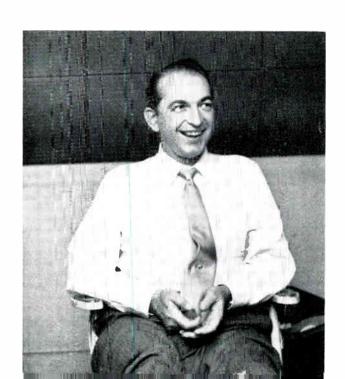
What Hi-Fi Music Means to Me at Home, and Its Importance in My Profession — By Percy Faith been important. For me it has been a source of pleasure and of inspiration in my work. For my wife and family, it has always been a part of the everyday experience of living; and when we have guests in our home, it becomes a means of entertainment.

However, when I talk about music in my own home, I find myself in a rather ambiguous position. I'm in the music business, and at the same time I'm a music fan. My problem is that I must tread very cautiously as a "listener" to avoid becoming saturated with a particular composer or style. I always look for new sounds in music, but I can't take a chance on being over-influenced by any one in particular.

At our home, I'm fortunate in having the latest in hi-fi equipment. In the den — my music room — there is one 8-in. speaker, along with an amplifier, FM-AM tuner, record changer and a tape machine. Two other 15-in. speakers feed the living room. The arrangement of the speakers is perfect, and when I play a record, all of the first floor is filled with sound.

We also have a recreation room with a phonograph for the exclusive use of the kids — both of whom are now only visitors to the Faith home. Marilyn, now married, has presented us with one grandchild, and Peter is in college. Peter, incidentally, plays the piano and clarinet and has a set of drums. He also has his own collection of records now, and has conditioned himself to record-listening as he studies. Every now and then he passes along a little musical advice to Dad. A couple of weeks ago, on the day the record was released, he called me from Boston to say, "Dad, I think you'd better cover Sixteen Tons. It's going to be a hit." He couldn't have been more right!

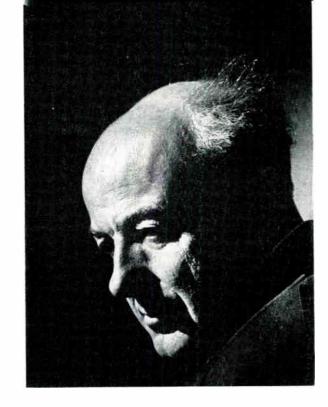
My own taste isn't restricted to any one type of music, though I feel quite strongly that Bach, Beethoven, and Brahms are the arithmetic of music. Without them, the whole music picture collapses. Working with young arrangers today, I sometimes wish they had been trained in the classics rather than with dance bands. You can't get the full range of an orchestra if you don't know how to write for strings, oboe, and other in- Continued on page 54





Above: Lu Ann Simms tries a new song under Percy Faith's direction Below: At ease, and in action during a recording session for Columbia

# Composing with tape



The perfection of tape recording has altered the whole concept of the function of composers in music. We, the composers, do not fully realize this; in fact, we are apt to go on writing just as if nothing had happened. But some composers have emancipated themselves from the middleman by means of tape — not red tape, but good old 15-inches-per-second magnetic tape. What middleman? Why, the performer, of course.

By HENRY COWELL

The first thing we noted, when magnetic tape came into use during the late '40's, was that fine, faithful sound could be reproduced from tape recordings. Then we learned that if a mistake occurred in performance, it was no longer necessary to re-record an entire movement. The mistake could be snipped off the tape (yes, it can be cut in two and patched together again) and everything went on just as if nothing had happened. Then we got another idea — to the horror of producers, performers, and record companies which pay for studio time; composers could change their compositions, cutting out a note here and there if they didn't like it on actual hearing, and even substitute new sounds by inserting bits of tape patched in wherever they seemed to be required.

Next came the revolutionary idea. Composers write music. Before anyone can hear the result, it must be performed, hopefully by someone who plays better than the composer himself. (We usually play very indifferently.) In the case of an orchestra or choral work, of course, the composer cannot present the music at all. So the composer's idea may be realized only by having a group of literate musicians play his notes. His function is to write notes on paper which are symbols of music, since the music itself occurs only in performance.

The revolutionary idea is that composers can compose their music directly on tape, not necessarily writing down notes, but selecting desired sounds from bits of tape which have the sounds already recorded on them, and then patching the sounds together in the right order and lengths. By re-recording, such sounds may be superimposed, one on top of another, to gain richer harmony, more strands in counterpoint, and more simultaneous rhythms.

Pierre Schaeffer, in Paris, seems to have been the first one to try this idea out, on October 5th, 1948. He called it Musique Concrète, because the composer deals with actual or concrete sounds instead of written notes, which merely stands for sounds. This name has remained, although Shaeffer is more of an experimenter than a composer, and there are others whose music for tape is more creative, whose magnetically-recorded sounds result in real compositions.

Radio Française was very receptive, and gave Schaeffer every technical assistance possible in making his constructed tapes. He was joined by Pierre Henry, who had the idea that a symphony might be performed by one man operating a phonograph, and he wrote Symphonie pour un Homme Seul. The press did not care about his use of the word Symphonie, and so he came forth at once with an Antiphonie instead. These works are full of amusing and original sounds; but both Henry and Schaeffer suffer from a lack of organization in composition, and it is evident that they are interested as sound engineers more than as composers, with the result that the form is oversimplified to the point of childishness, while the sounds employed are quite complex but often seem to have little musical sequence.

Obviously, any variety of sound can be used in tape music. I myself, long before we heard of Musique Concrète, proposed that we build a bank of orchestral sounds on which composers could draw for tape symphonies. The idea was to engage a player of each instrument, and to have him record on tape one long tone of each pitch possible on his instrument. Then, by re-recording, one could

Continued on page 57



# "Willie" Has a Silver Spoon

English Composer William Walton's Successful Works Owe No Stylistic Debt To Anyone, Past or Present — By P. Glanville-Hicks



Hi-Ji Music at Home

New York cocktail party, I recalled to mind some of the stories that used to be current about him when I was a student long ago in London.

I manoeuvered myself into a position by his elbow. "Is it true," I said, "that when the first exposition of surrealist paintings was shown in London, you pinned a kipper to one of the pictures, and that it remained there for the show's duration undetected?"

"Oh no!" he replied in a pained voice, "you've got it wrong; you've missed the whole point of the thing. It wasn't a kipper, it was a red herring!"

I meditated on the symbolism of his device. "Besides," he went on, "someone did notice it. The author of the picture saw it, at once, and told me to leave it there. He said it was an improvement."

Walton's career has always been characterised by a lively sense of humour. In the early 20's, when Americans were offering Antheil's road drills and Henry Cowell's elbow-clusters, "Willie"— as he was always called—at that time already deep in league with the redoubtable Sitwells, launched upon the world his "Façade", with a text by Edith Sitwell which was declaimed through a mask with megaphone attached.

These were the days of Arthur Bliss's Color Symphony, and other such psuedo-scientific experiments relating the spectrum and sound, and which startled the staid British public no end. Walton's outrageous "Façade" added humor to the radical scene with its witty and vivacious score supporting the stentorian tones of Edith's muchmagnified Oxonian drawl, and it simply brought down the house.

Walton was famous overnight, and with the inestimable luck of Sitwellian support, his career never looked back. His musical life has been an easy one as the lives of composers go. Discovered early for a precocious talent, he passed with a scholarship through Christ Church, Oxford, first as a choir boy, later as undergraduate, a training that initiated him into the hermetic way of life of the English Public School, without which even the greatest natural gifts find it hard to gain a hearing in Britain. He claims to be self taught as a composer, and although he once took a few lessons in the art from Sir Hugh Allen, from about sixteen onward he ''did it himself'', as he explains it.

He appeared at the ISCM Festival in Salzburg in 1923, when his First String Quartet was given, and the "Façade" episode occurred that same year. Then, in 1925, upon the heels of this spree, came the Portsmith Point Overture, a skillful, high-spirited tableau after a print by Rowlandson, which ran up the first flag for his more serious reputation as an important composer. Six years later, in 1931, he presented his Balshazzar's Feast, carving for himself a grand place in contemporary music. For this work was then, and still must be considered, one of the most important pieces in the 20th Century choral repertory.

A scene from "Troilus and Cressida," Walton's first opera, premiered a year ago, in London, starring Elisabeth Schwarzkopf and Richard Lewis. It was performed subsequently at San Francisco and at New York City In 1934, the *B Flat Minor Symphony* was performed for the first time, and another kind of sensation ensued. Walton, always a slow writer, had promised it for premiere, and when the final date came along and the finale was still non-existent, he allowed it to be premiered without it. Performance of the whole thing was given the following year, and it was thereafter known among the composers as the "Instalment-Plan Symphony". Among the younger and less fortunate composers then working in England, this was regarded as just another example of the "spoon-feeding" reserved for Willie, when conductors and management would humour him thus!

In 1938, Walton came to the U. S. to consult with Heifetz on the *Violin Concerto* then in work, a composition that, with his *Viola Concerto*, may be considered as among his finest pieces. Back in England when war broke out in 1939, the composer suddenly disappeared, and was shortly discovered driving a garbage truck, doing his bit in some unsalubrious corner of London. Quickly came official succour, and almost before his hands had had time to get dirty, he found himself in the Ministry of Labour, where "his bit" became the writing of scores for official films.

For one whose reputation is that of a slow writer, Walton has managed to adapt himself well to the exigencies of commercial movie making, as well as the more leisurely documentary. He has delivered, and presumably on a deadline, fine scores for "Escape Me Never" with Elizabeth Bergner, and "Henry V" with John Gielgud, to name only two. His score for this latter tapestried pageant was one of the loveliest musical settings that ever graced the camera art.

Around the late 30's in England, Walton, the composer born with a silver spoon in mouth, suffered an eclipse that was some years in passing. The firm of Boosey & Hawks decided to "put Britten on the map" with such fanfare that all other composers in the land would pass unnoticed. Forthwith, they set to work, applying the Tin Pan Alley song-plugger technique to that young man's music. Since such cunning promotion was a thing at that time unheard of, and unprecedented in the sedate realms of serious music, the campaign worked like a charm. Before anyone knew what had happened, Britten was a household word throughout the British Empire, where the Boosey chain extended.

Fame and widespread performance have much to do with luck in management, and not necessarily much to do with quality and magnitude when it comes to serious music. Thus Walton, always a richer and more genuine musical gift than Britten, though perhaps less clever and sophisticated, suffered eclipse along with the other English composers when this Broadway salesmanship hit England's "green and pleasant land".

The war years evened the score, however, as gradually under crisis official sponsorship of one kind or another took over the country's musical life. Although the Britten legend gained added impetus from the aid offered by the British Council, the Arts Council, and other organisations, officialdom could not be party to monopoly. So other composers came in for aid and promotion, too.

Walton has never been a prolific Continued on page 55







# COLLECTORS' CORNER

Trouldn't happen to better albums. Those pictured above are three that seem to the Music Editor to be worthy of especial citation. This month we do warmly recommend: 1) "Old Masters"—Bing Crosby (Decca); 2) "Die Zauberflöte"—"The Magic Flute" (London); 3) "Army Air Force Band"—Glenn Miller (RCA Victor).

LOOKING into the crystal ball, what can we see coming up in 1956? Each record company of any size is very frank to admit that it has many, many worthy releases scheduled for the Mozart Bicentennial. By the time December rolls around, Wolfgang A. Mozart will surely be one of the most recorded composers, and even the most insatiable of Mozart collectors should be satisfied. To keep up with this waterfall, starting in March, Hi-Fi-Music will devote a special part of the record and tape review section to the latest in Mozart. Too bad, isn't it, that he couldn't be around to collect the royalties?

ASIDE from Mozart, Westminster in 1956 will issue the complete Bach organ works performed by Carl Weinrich; the complete harpsichord works of Rameau by Robert Veyron-Lacroix; and many new Laboratory Series recordings, including Strauss waltzes, Delibes ballet suites, and the Stravinsky Firebird Suite. In addition, there will be de luxe albums of the Haydn London Symphonies and the nine symphonies of Beethoven, all conducted by Scherchen.

RCA Victor will stand forth with the complete Laurence Olivier "Richard III", highlights from "Madama Butterfly" with Albanese and Peerce, and three LP's of Caruso. In the popular-jazz field,

there will be a major series titled "Meet the Girls", with records by Barbara Carroll, Martha Carsen, Kay Starr, Lena Horne, Lurlean Hunter, Dinah Shore, Jaye P. Morgan, Gwen Verdon, and Teddi King. Also look for a two-volume set of old Tommy Dorsey records, and a five-LP de luxe album of heretofore un-reissued Benny Goodman gems (like the 3 Glenn Miller editions).

THE Columbia-Epic records of 1956 will include the complete Chopin Nocturnes by Eugene Istomin; Offenbach's Gaité Parisienne by the Philadelphia Orchestra; a complete biographical album of Gershwin; Beethoven's Symphony No. 5 and Schubert's Symphony No. 8 by Szell and the Cleveland Orchestra; and the start of a new series titled, "Monumenta Italicae Musicae". The initial release in this one will be Vivaldi's The Seasons and Torelli's Concerti Grossi.

VANGUARD will release the complete Brahms Hungarian Dances conducted by Mario Rossi; the Elizabeth madrigals under Alfred Deller; C. P. E. Bach's Magnificat under Felix Prohaska, and a jazz special by the Boston trumpeter, Rudy Braff.

Mercury will continue its excellent programs with the Minneapolis Symphony, the Detroit Orchestra, and the Eastman-Rochester Orchestra under Howard Hanson. Also, look for the first recording of Dr. Hanson's Sinfonia Sacre coupled with the Barber Symphony in One Movement.

From Capitol there will be new and stunning works by the Pittsburgh Symphony, and by Nathan Milstein, Frank Sinatra, Gordon MacRae, Clancy Hayes, and Les Brown.

Cook Laboratories, which usually has

an ace up its sleeve, definitely has something called "The Complete Hie Fidelytie" in the works, and maybe that will put an end to all these fantastic demonstration records. Also, Emory Cook, who has been travelling again, recorded a second edition of "Steel Bands".

FROM Clef and Norgran you can count on some high-powered jazz, including new releases by Count Basie, Art Tatum, Illinois Jacquet, Charlie Ventura, and Ben Webster.

Am-Par will hit the LP market with albums by the Trio Shmeed, Bobby Scott, Urbie Green, Dave McKenna, and a sound-thriller by Alec Templeton.

Angel's 1956 list is long and distinguished, including as it does the Philharmonia recordings of the Sibelius *Symphonies Nos. 1*, 2, and 3 under Paul Kletzki and Nos. 6 and 7 under von Karajan. Von Karajan and the Philharmonia will also record Beethoven's *Ninth Symphony* with Elisabeth Schwarzkopf, Marga Höffgen, Otto Edelmann, and Ernst Häfliger.

Production series with a batch of 18 discs due for simultaneous release early in January, containing most of the organ music of Bach played by Helmut Walcha. Too, Markevitch will lead the Berlin Philharmonic in Berlioz' Symphony Fantastique.

London will present Tchaikovsky's "Eugen Onegin", Mussorgsky's "Boris Godunov", Puccini's "Turandot", and Verdi's "Forza del Destino" with Del Monaco, Tebaldi, Corena, Siepi, and Simionato. Ansermet and the Orchestre de la Suisse Romande will do the complete Firebird Suite; Kubelik and the Vienna Philharmonic will offer all the Dvořák Slavonic Dances; and Mischa Elman is down for the Beethoven Violin Concerto.

MATCH out for the pre-recorded tapes. All of a sudden this relatively new business is feeling its oats. 1956 will surely be a great year here, possibly establishing a trend and forecasting wonderful things to come thereafter. We predict that by the end of '56 every major recording company will be releasing pre-recorded tapes.



# By AL COLLINS, OLIVER DANIEL, PEGGY GLANVILLE-HICKS, DAVID HALL, JAMES LYONS, ROBERT PRESTEGAARD, FRED REYNOLDS

BRAHMS: Sir Adrian Boult Conducts Brahms

Philharmonic Promenade Orchestra under Sir Adrian Boult

Westminster WN 4401 4-12"

Boult

STRAUSS: Till Eulenspiegel's Merry Pranks, Opus 28, and Death and A-A Transfiguration, Opus 24 B-A NBC Symphony under Toscanini RCA Victor LM 1891 12'

Toscanini

LALO: Namouna—Ballet Suites 1 & 2 London Philharmonic Orchestra under Jean Martinon Α London LL 1268 12"

Martinon

MOZART: In the Gardens of Mirabell (Assorted Mozart Works) The Columbia Symphony Orchestra В under Bruno Watter Columbia ML 5004 12"

Walter

BEETHOVEN: Symphony No. 5: A-A "Fidelio" Aria Elisabeth Schwarzkopf with the Phil-A harmonia Orchestra under Herbert von Karajan Angel 35231 12"

von Karajan

RAVEL: Rapsodie Espagnole CHABRIER: España Rapsodie IBERT: Escales (Ports of Call) The Detroit Symphony Orchestra under Paul Paray Mercury MG 50056 12"

A-A-A Α

In every detail this major release by Westminster is magnificent and sumptuous. It is the finest that you can obtain. Packaged richly and presented in stunning sound, Sir Adrian Boult conducts the four Brahms Symphonies, the Tragic Overture, the Academic Festival Overture, Variations on a Theme of Haydn, and the Alto Rhapsody for which he is joined by contralto Monica Sinclair and the Chorus of the Croydon Philharmonic. Sir Boult readily admits to a sincere affinity for Brahms' mighty works, and his understanding of them is immense; it is this very warmth and understanding that makes his conducting so unquestionably right.





Both of these tone poems by Toscanini date from 1952, and they offer further proof that the Maestro occupies a musical realm all of his own. When it comes to precision, character, and emotion, none can equal him. His "Till" is a merry rogue, a mocking, bombastic fellow, whistling as he ascends the gallows, unable to believe that he will swing—until he does. Toscanini makes that swing just as surprising to the listener as it must have been ta "Till". Death and Transfiguration is magnificent Strauss and superior Toscanini, if there is such a thing. Poetic, powerful, and moving, this is surely the definitive performance. Fine sound.

Edouard Lalo (1823-1892), whose fame rests mainly on the violin-and-orchestra Symphonie Espagnole, seems to have shared with many of his French contemporaries a taste for the exotic. Namouna is a romantic ballet, set in part among sailor dives on the Greek island of Corfu. Accordingly Lalo has supplied music well spiced with piquant rhythmic and orchestral effects, but also with considerable melodic substance and expressive fervor. Excellent performance under Martinon's baton and altogether superb recording make this by far the best available disc of this music.





The unsigned program notes describe the Mirabell palace and gardens built by Prince-Bishop Wolf Dietrich von Racknau, a prince of the Medici line who rose to the Bishopric in his early twenties. Five interesting photographs of the Gardens will intrigue those who have not been there and evoke nostalgia in old Salzburgers. And the music? It's the usual Mozart, nicely recorded. Perhaps it would be better off on 78's, where one ought to hear one at a time. Listening to four overtures in sequence is mighty bad programming. This record will do more for the Austrian tourist bureau than for the joy of Mozart listening. Planes leave for Austria daily.

If von Karajan and the heroic Fifth tempt you, then Schwarzkopf in "Fidelio" will cinch the deal. Her alorious singing of the famous recitative and aria - Abscheulicher! Komm Hoffnung - from Act I of Beethoven's only opera, leaves you wishing to hear much more of her Leonora. Although the noble C Minor Symphony has been recorded many times now, and brilliantly, von Karajan's reading must be rated as among the best. It is a performance of magnificent stature, vital, forcible, and triumphant. Coupled with the Schwarzkopf aria, the album is a worthy Beethoven addition to any record library. Recorded sound is the usual high-quality Angel. RP





Paul Paray, the gifted Frenchman, has been very closely associated with the music on this recording, and interpretively, therefore, this can be looked upon as the peak presentation of each work. Artistry, performance, and recorded sound are quite in keeping with the interpretations, so Mercury can be right proud of this achievement. The Detroit Symphony is a splendid organization, and Paray knows his business. He has infused the works with great vitality and spirit, yet he does not confuse the issue, nor does he whip the orchestra to achieve an added vigor. In all, a crackerjack accomplishment.

#### RATINGS OF CLASSICAL MUSIC

The following explanation of the Record Rotings which occompany the Record Reviews is given so that you will understand exactly the significance of the three letters which appear at the left of each review.

# COMPOSITION (Top Letter)

A: Outstanding
Indicates that the composition is one of the composer's best works, or that it is outstanding in a particular class of music. Assignment of this rating is an unqualified recommendation.

## B: Important

This roting is but slightly below the A ronk.

composition which moy merit representation in a li-rory of the composer's works, or in a collection of that porticulor music.

# PERFORMANCE (Middle Letter)

#### A: Outstanding

Indicates a superb performance. Assignment of this rating is an unqualified recommendation.

#### B: Excellent

A noteworthy performance, subject only to minor criticism.

#### C: Satisfactory

A performance not without flows, yet deserving public

## RECORDING QUALITY (Bottom Letter)

A: Outstanding Realism

Representing the highest present ottoinments in occustic ond recording techniques.

#### B: Excellent Quality

Slightly below A roting because of minor foults in the ocoustics or recording, or because the noise is considered somewhot obove the minimum currently ottoinoble.

# C: Acceptable Quality

Representing the current overage of the better LP

R: Indicates on original 78 now re-issued as on LP record. Important Note: Records which are roled below C as to the composition, artist or archestro, or recording quality ore not ordinorily reviewed here. However, the amission of a record does not mean that it was rejected, as it may not have been submitted to HI-FI MUSIC AT HOME for review. CORELLI: 12 Concerti Grossi, Op. 6 (Complete) The English Baroque Orchestra under Argeo Quadri Westminster, WN 3301 3-12"

Westminster has done a beautiful job in bringing out these twelve Concerti Grossi replete with excellent program notes by David Randolph. This is music of great spirit, endowed with a kind of enduring magic that keeps it wonderfully alive. Revival of interest in Corelli is welcome indeed. Such attractive works as these are pleasing under almost any conditions. However, neither the performance, which is rather routine and lacking in tonal lustre, nor the recording, which is good and wellbalanced, will set the hi-fi set on its eardrums. The whole package is so fine it would

Corelli

A C

SIBELIUS: Symphony No. 4 in A Mi-A-A nor, Op. 63; Symphony No. 5 in E Flat Major, Op. B2 The Philadelphia Orchestra under Eugene Ormandy Columbia ML 5045 12"

Ormandy

IVES: Symphony No. 3 DONOVAN: Suite for String Orchestra and Obce Baltimore Little Symphony under Reginald Stewart Vanguard VRS 468 12"

Stewart

BACH: Six Brandenburg Concerti Basle Chamber Orchestra under Sacher Epic SC-6008 3-12"

Sacher

HARRIS: Fantasy for Piano and Or-A-C chestra; "Abraham Lincoln Wolks A-B at Midnight" В Johana Harris, Piano, with the MGM Orchestra under Izler Solomon; Nell Tangeman, Samuel Thaviu, Theo Salzman, Johana Harris MGM E 3210 12" Solomon

BEETHOVEN: The Four Overtures for A "Fidelio" Philharmonia Orchestra under Otto Klem-Angel 35258 12"

Klemperer

HONEGGER: Pacific 231; B-B-B Movement Symphonique No. 3; Prélude pour Le Tempête A London Philharmonic under Herman Scherchen Westminster W-Lab 7010 12"

Scherchen

LALO: Symphonie Espognole, Op. 21 David Oistrakh, Violin, with the Philharmonia Orchestra under Jean Martinon Angel 35205 12"

Oistrakh

GROFE: Grand Canyon Suite C-C COPLAND: El Salón México The Boston Pops Orchestra under Arthur В Fiedler RCA Victor LM 1928 12"

Fiedler

B-C

PAGANINI: Violin Concertos No. 4 in D Minor, and No. 1 in D Major Respectively Arthur Grumiaux with the Orchestre Des Concerts Lamoureux under Franco Gallini and Herman Krebbers with the Hague Philharmonic under Willem Van Otterloo

Grumiaux

make an impressive wedding or Mother's Day present. This recording, issued in commemoration of the composer's 90th birthday, again

amply illustrates the enormous power and brilliance of the Philadelphia Orchestra, as well as the affinity that Ormandy has for Sibelius. The recording is superb. Sibelius wrote his Fourth Symphony in 1911, when he was in a way sensing the grave disaster that was shortly to follow. Hence it is a work of somber intensity, with "nothing, absolutely nothing of the circus about it." The Fifth Symphony followed three years later, when Finland was fully at war as part of Russia, and yet this is a work of hope and eventual harmony. Both are true of the man.



lves was first among those who crystallized the "American" sound, an idiom instantly nostalgic to us, instantly recognizable to the foreigner as of this continent. Such crystallization is a sub-conscious process, coming often, as in this case, from a primitive or amateur. Ives remained both all his life, and his total lack of selectivity resulted in total lack of formal unity, for not all materials are capable of synthesis. Donovan, a later product of this "flowering of New England", is perhaps less gifted in raw materials, but is a far greater master of form.

Schweitzer called these works "The purest products of Bach's polyphonic style", and Epic should glow with pride at this handsome Brandenburg album, for the technical achievement alike of performing artists and artist-engineers has produced a modern-Baroque gem. Sacher's tempi are at once gracious and vital; his instrumentalists embody individual virtuosity and esthetic grace, a blend that again combines in the unity of the full ensemble. For the student, Karl Geiringer's explicit annotations are a handy addition to the reference shelf. Packaging is in keeping with the over-all excellence of the recordings.





Some works make their point better on records than in actual performance, and these two by Harris are typical. One finds them more intriguing with repeated hearing, and that is rare praise. The Fantasy can take its place among the important piano and orchestra works of our time. Johana Harris is a whiz. It's big time piano playing, and Solomon conducts with authority. On the reverse side, Nell Tangeman gives an impressive performance, singing the rather awkward text of Vachel Lindsay. There is fine artistry here. Admirers of Harris and of Tangeman will be grateful to MGM for this outstanding release.

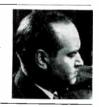
Coupling four "Fidelio" Overtures will be a boon to the music appreciation teachers and a probable bore to their charges. Programmatically, it is unsatisfactory, although Mendelssohn tried it first in Leipzig's Gewandhaus back in 1840, after which Schumann exhorted publishers to print all four together for "both master and pupil". No doubt, he would have rejoiced at this scholarly release. Klemperer approaches his task with teutonic-style profundity. There is little to raise it above the level of hundreds of other performances of these works. Withal, it's better for music appreciations than any of the currently advertised recorded nostrums.





Despite Scherchen's well nigh perfect performances, it is interesting to see how sterile and dated these rabble-rousers from the twenties seem today. Part of the era of harmonic revolt that destroyed diatonic cliché is still apparent in such music by its ghost in sentiment and its denial in terminology. Should anyone be disposed to explore modernism for the first time, start in the 1950's and proceed backwards to the creative destroyers of the 20's, for these bomb-throwing pieces are not the avant garde, but were merely a demolition squad.

Of the quite large output that Lalo produced, it is this melodious and faintly exotic work that above all others has established him among major composers. The exceptionally large and brilliant tone of Oistrakh makes the work scintillate here, and it is an opus that can sit down badly, for it has a somewhat rhapsodic form for so long a piece. Jean Martinon's expert pacing and dynamic liveliness with the Philharmonia also contribute to the punch of this performance.





Grofé's music is "effects" rather than substance, but it is highly effective effects, orchestrally speaking, a fact that has not escaped Hollywood; for here, surely are the prototypes of many a Hollywood score. Thanks to this "borrowing" by the Los Angeles boys, Grofé now seems like the plagiarist: His Sunrise suggests both a sunrise and Cecil B. de Mille, while one can just SEE the whitened cattle skulls and hovering vultures in The Painted Desert number. Even so, the Grand Canyon Suite seems more coherent and more full of red blood than Copland's erudite arrangement of Mexican night-club ditties. PG-H

The mad Rasputin had nothing on the eccentric Paganini when it came to putting on a startling show. In 1831, Paganini conquered Paris with his Fourth Concerto "réservé aux Parisiens". He played it once, never again, and upon his death, the manuscript could not be found. How it was discovered, a century later, by an editor and a junkman, is a fascinating story. In November, 1954, the concerto was heard again with Grumiaux as soloist. This recording was made a few days later. Grumiaux is a good workman, the music an exciting find, but the sparks will really fly when Oistrakh plays it. Side two offers an adequate D Major. Good sound.



Epic LC 3143 12"

CONCERTOS

Nathan Milstein with the Pittsburgh Symphany Orchestra under William Steinberg

Capital P8313 12"

Milstein

BEETHOVEN: Violin Concerto in D Α Major, Op. 61 Wolfgang Schneiderhan with the Berlin В Philharmanic Orchestra under Paul van Kempen Decca DL 9784 12"

VIVALDI: Concerti in A Major and A-B-A D Minor LEO: Concerto in D Major SACCHINI: Edipo a Colono The Scarlatti Orchestra under Franco Caracciala Angel 35254 12"

Caracciola

В

BEETHOVEN: Piano Concertos No. 2 A-A in B Flat Major, Opus 19, and A-B No. 4 in G Major, Opus 58 Rudolf Serkin with the Philadelphia Orchestra under Eugene Ormandy Columbia ML 5037 12"

Serkin

LISZT: Piano Concerto No. 1; Hun-B-B garian Fantasia Geza Anda, Piano, with the Philharmania Orchestra under Otta Ackermann В Angel 35268 12"

Anda

SAINT-SAËNS: Concerto No. 1 in A Minor for Cello and Orchestra LALO: Concerto in D Minor for Cello and Orchestra André Navarra, Cello, with the Paris

Opera Orchestra under Emanuel Young Capitol P 8318 12"

TCHAIKOVSKY: Quartet No. 2 in F, Armenian State (Komitas) String Quartet Angel 35238 12"

MOZART: Sonatas in B Flat Major and E Flat for Violin and Piano, K. 454 and K. 481 Joseph Szigeti, Violin, and George Szell,

Piana

Columbia ML 5005 12"

Szeli

SURINACH: Ritmo Jondo; Tres Cantos B-B-B Bereberes; Tientos Chamber Ensembles under Carlas Surinah В MGM E 3268 12"

Surinach

BACH: Suite No. 4 in E Flat Major; Suite No. 5 in C Minor; Suite for Solo C Cello Antonia Janigro, Cello Westminster WN 18073 12"

Beethaven wrate his anly violin cancerta during the same year he camposed his Fourth Symphony. An epic work that dwarfed all earlier violin cancertas, it is a masterpiece in which symphonic music plays just as important a rale as the sola instrument. Bath Milstein and Steinberg are very much aware af this fact, and their splendid teamwork results in one of the most expressive and campletely satisfying performances of the D Major on lang play. As far Milstein alane, the man daes same af his mast beautiful and inspired playing. Brilliant and unforgettable. Capital reproduction is far above the average.





Here is a clean, warmly lyrical reading of the most supremely meladic of all vialin cancertas; but unhappily minus the seraphic strain that lends the hallmark af greatness ta such recarded perfarmances as Szigeti-Walter (Calumbia), Oistrakh (Angel), Menuhin-Furtwängler (HMV) Ricci-Bault (London), Milstein-Steinberg (Capito!). Sanically, this disc is well in the class of the Capitol and London competition, but sheer loveliness af saund is no substitute far the "plus" element in musical interpretatian affered in the five ather recordings enumerated!

Again we find the joy of re-discovering music lang buried. Lea, Sacchini and, until recently, Vivaldi were paid hamage chiefly by musicalagists wha read their nates but rarely heard them. In all of these warks there is an innate musicality. Audaciaus they may have been in their own time, and that characteristic seems to give them the fresh sound to our ears. These works afford pleasant relief to those interested in music of this period, relief from the endless repetitions of the standard classics. These works whet the appetite. What would the operas of Lea and Sacchini be like? Perhaps the little Angel will let us knaw.





With this addition af the Second and Fourth, all five Beethoven piana cancertos are now available with Serkin, Ormandy, and the Philadelphia Orchestra. Wha can blame you far wanting the complete set? Serkin's artistry and knowledge af Beethoven combined with Ormandy's intuitive assistance make for beautifully integrated per-formances. Thase af you wha know the famed Serkin Fourth fram the cancert stage will not be disappainted. It is eloquent Beethaven. Fine playing also of the B Flat Major, a graceful wark revealing haw strongly Beethaven was influenced by Mozart in the writing of his early piano cancertos. Saund is excellent.

Anda's interpretative faibles are sometimes infuriating because there can be mistake about his superiar ability ta cammunicate musical ideas. As a technician he knaws few equals even in this epoch of velacity. As a Hungarian, he should be slightly mare attuned to the Lisztian scale of values than these performances would indicate. The listener gets a definite feeling that Anda could play a great deal lauder and faster if he wanted to. Why, then, daes he handle these massive vehicles as if they were Dresden china? Na matter. His pianism gleams brightly enaugh to shadaw the faregoing liabilities, which are a matter of opinion anyhow.





André Navarra is a rare cellist, and gives here a magnificent performance of two works seldom heard, largely because of the shartage of cello virtuasi and the rareness of their appearance with orchestras. One of the more difficult forms to bring off successfully, the Saint-Saëns Concerto is a lesson for the composer aspiring to write in this genre, for the textures and themes are built with robust clarity. Lalo's less modern-sounding work depends rather on inspired melodic continuity than classic proportion, but is also rewarding music. PG-H

Considering the guarantee of amortization that inheres by axiom in any enterprise bearing the Tchaikovsky label, we have waited overlong for this LP première of his middle quartet. Its predecessor is beloved for a pair of melodies that were honored by desecration in Tin Pan Alley. No such fate is in store for the No. 2. More euphemistically put, it does not so easily give up its secret. Happily, it is replete with the other Tchaikovskyan substitutes for sustained auditory interest, principally an impassioned melancholy that manages to avoid the maudlin, but not by much. A persuasive performance, and well engineered.



MUSI

BER

HAM

Both Szigeti and Szell treat Mozart with a special fondness. Together they achieve a most satisfying result. These works do not have the broad appeal of many other Mozart works. But while one might differ somewhat with those who esteem these among Mozart's masterpieces, they are none the less splendid pieces, masterfully performed. Knawing Szell as a conductor, one tends to forget that he is likewise a superb pianist. In fact he performs much as he conducts. Szigeti is almost self-effacing in his approach. Mozart seems to give a lion's share to Szell, but enough to Szigeti, especially in the slow movements, to keep the score even. OD

Surinach is perhaps the strangest creative talent Spain has produced since Falla; his Spanishness has, due to his German training, made an abstract of Spanish character without its mannerisms. From Germany he gained mastery, from his own folk material has grawn his individuality. As a theatre score Ritmo Jondo is exciting, but as a cancert piece, the shart chamber version (MGM) is better. The Tres Cantos Bereberes and even mare, Tientos, fram idea to instrumentation spring right from antique Spain into madern guise. PG-H





James Lyons' altagether bracing nates are the most entertaining part of this album. The works, revered by a name-mad world, may easily have been written as finger exercises for same cellist friend, and Mr. Janigro's rather acid and sometimes hesitant execution fails to discover any qualifying beauty in the compositions. It may be that the unaccompanied string apus is just not for this reviewer, and that cello players and/ar the greater public will wax feverish with enthusiasm for this platter. But I simply can't see it.

MULLER: Sinfonio No. 2 for Strings ond Flute, Op. 53;

BARTOK: Divertimento for Strings
Andre Jaunet with the Zürich Chamber Orchestra under Edmond de Stoutz
London LL 1183 12"

REGAMEY: String Quortet No. 1
Winterthur String Quartet
HONEGGER: Petite Suite; Donse
de la chêvre
MOESCHINGER: Violin Sonoto
Nicolet, Flute; Schneeberger,
Violin; Souvairan, Piano
London LL 893 12"

HAYDN: Trio No. 10 in E Minor; Trio No. 16 in G Minor; Trio No. 24 in A Flot Major

Jean Fournier, Violin; Antonio Janigro, Cello; and Poul Bodura-Skoda, Piano Westminster WN 18054 12"

SCHUMANN: Quintet in E Flot Minor HUMMEL: Quortet in G Mojor
The Hollywood String Quortet with Victor B Aller, Piano
Capitol P 8316 12"

Slatbin

MOZART: Divertimento No. 15 in B
B-Flot K.287 A
Members of the Vienna Octet B
London LL 1239 12''

MARAIS: Five French Donces; Suite in D Minor
HERVELOIS: Two Suites
Paul Doktor, Viola and Fernando Valenti,
Harpsichord
Westminster WN 18088 12"

SCHUBERT: Die Winterreise (Complete) Hans Hotter with Gerald Moore, Piano Angel 3521 3/S 1½-12"

Hotter

MOZART: Thomos, König von Ägypten, K. 345
Ruthilde Boesch, Isle Hollweg, Waldemar Kmentt, others, with the Kammerchor and Vienna Symphony Orchestra under Bernhard Paumgartner
Epic LC 3158 12"

Paumgartner

SCHUBERT: Lieder
Lucrezia West with Leo Taubman, Piano
Westminster WN 18090 12"
B

Wast

CLAUDEL-MILHAUD: Christophe Colomb B Madeleine Renaud, Jean-Louis Barrault and their company with orchestra under Pierre Boulez
London International TW 91084/5 2–12"



Swiss composer Paul Müller (b.1898) is represented on an earlier London disc by his First Sinfonia for Strings. The musical idiom of this Second Sinfonia with flute is mildly modern with pleasantly lyrical overtones. M. Jaunet, one of the finest Swiss flautists of our day, acquits himself admirably in performance. More formidable is the music of Bartók's lively Divertimento, but this performance scarcely matches the drive and sparkle of such earlier disc versions as those by Fricsay (Decca) or Dorati (Victor).

The Swiss Composers' League has been responsible for a formidable series of London LP's featuring works by the leading contemporary musical creators in Switzerland. Constantin Regamey's String Quartet is the most rhythmically vital piece here, but with some Bartók-Hindemith flavor and much "scrubbing brush" technique for the string. The Honegger pieces are highly attractive trifles. Moeschinger is the most conservative of the group, but with a fine lyrical line to offer. Recorded sound is generally excellent, save for the confining studio walls which bring unnecessary stridency to the work of the Winterthur Quartet.





The combined forces of a Frenchman (Fournier), an Italian (Janigro), and an Austrian (Badura-Skoda) make for some exquisite chamber music, and the important role assigned to the piano in these works provides a golden sunshine of opportunity in which the 29-year-old Paul Badura-Skoda makes hoy. His perfect stylistic sense bestows distinction, and his tonal and technical poise contribute an extraordinary balance to this fine ensemble. For the complete chamber music library, this disc makes on important addition. It was recorded in the famous Mozortaal, Vienna, in June of lost year.

PG-H

Under the leadership of Felix Slatkin, the Hollywood String Quartet, without fuss or fanfare, is steadily building the kind of reputation it deserves — a distinguished one. The group is composed of skilled musicans who perform with authority, taste, and musical dignity. Aller is a more than suitoble addition; he is a sensitive pianist who does some fine work in the fomed Schumann Quintet in E Flat Minor. Hummel's Quartet in G Major is not nearly so well known, but it is charming music and should find many friends. Unless you have a predilection for the music of the Budapest or Busch quartets, you will enjoy this album immensely. Some beautiful sound, too. RP





The delectable pages of this music are usually heard as a 6-movement violin concerto with strings and two horns (see Vanguard 444); but it can also be played to equally good (if different) effect as chamber music (one player to each string part, plus two horns). A wonderful sense of stylistic elegance informs this reading by the Vienna Octet players with Willi Boskovsky as the excellent solo violin. The horns overbalance occasionally, but otherwise this version has much to recommend itself by comparison to the alternate choice with full string body.

Forgive me, but I've never before heard music by either Marim Marais (1656–1728) or by Caix D'Hervelois (1670–1760). Heaven bless the record makers — and especially Paul Doktor — for digging them up. There is excellent playing here by both Doktor and Valenti, and the music is worth having. According to Valenti's program notes, Marais produced nineteen children as well as music admirable after nearly three hundred years. His viola-eye view of America is noted in his Américaine, a "whimsical, bizarre little rondeau with irresistible humor and mock pomposity." Put this on your "must" list. It is a splendid addition to the collector's catalog. OD





It is a commonplace that voice is not everything in the vocal art. Hotter does not have the resplendence that was once his, but he brings to this painfully beautiful music an interpretative mastery that should be the envy of many a more ringing baritone — granted that the cycle might better be denied all but tenors of dark, heavy timbre in the first place. The poignance of the whole is made truly affecting by Moore's manifest understanding of the Müller poems. Both artists have done them for records before, with other partners, but not at all so compellingly. Until the great Hüsch performance is re-issued, this one will do nicely.

Many years ago Mitropoulos gave us a shellac sampling of this incidental music for a "heroic drama" by Tobias Philipp Freiherr von Gebler. At last we have it entire, and Mozarteans will not be deterred. Less dedicated listeners will not be carried away. The text, all about the triumph of fate, elicited first a pair of so-so choruses (1773). In 1779, the composer revised and augmented them. The final version has much to disclose as a precursor to Die Zauber flöte; it would not be too much to call it the pilot model of that mosterwork. Otherwise it ill sustains the heart or the intellect. Carefully prepared performance reverberantly recorded.





Lucrezia West has a fine voice and has built thereon a real lieder technique and musical understanding: She stands firmly in the line of the great tradition and bears the trust well. The voice has dramatic power and color; once in a while its very volume throws the pitch just a shade off balance: If greater security in this respect, and the fine points of intimate phrasing could be added, a distinguished artist would be before us. For Schubert lovers, there are many songs here not too often encountered in recitals.

The performance rating herewith is at some variance with the composer's own; in the accompanying notes he says it is perfect but in France an occasional raggedness of ensemble is not grounds for complaint. The work is not related to Milhaud's opera of the same little except in dramatic content, which is of course history. That he was twice caught up with the saga of Columbus is hint enough of how deeply it stirred his sense of theater. And indeed, his incidental music for Claudel's play reflects the truth of his assertion that he addressed himself to it "with all my heart".

Stylistically old hat, but profoundly moving.



MUSI

VOCAL

MOZART: Don Giovanni (Complete)
Cesare Siepi, Fernando Corena, Anton
Dermota, Suzanne Danco, Lisa della
Casa, Hilde Gueden, with Chorus and
Orchestra of the Vienna State Opera
under Josef Krips

London XLLA 34 4-12"

Siepi

MOZART: Don Giovanni (Complete)
George London, Hilde Zadek, Léopold
Simoneau, Walter Berry, Sena Jurinac,
others, with the Vienna Symphony and
Chamber Choir under Rudolph Moralt
Epic SC 6010 2–12"

Zadek

Α

BEETHOVEN: Missa Solemnis in D, Op. 123

Choir of St. Hedwig's Cathedral and Berlin Philharmonic Orchestra under Karl Böhm with Maria Stader, Marianna Radev, Anton Dermota, Josef Greindl Decca DX 135 2-12''

J. STRAUSS: Die Fledermaus (Complete)
Elisabeth Schwarzkopf, Rita Streich, Nicolai Gedda, Helmut Krebs, others, with the Philharmonia Orchestra and Chorus under Herbert von Karajan Angel 3539 B/L 2–12"

Streich

VERDI: Aida (Complete)

Zinka Milanov, Jussi Bjoerling, Fedora Barbieri, Leonard Warren, Boris Christoff, with Chorus and Orchestra of the Rome Opera House under Jonel Perlea RCA Victor LM 6122 3–12"

Milanov

Α

MOZART: Die ZAUBERFLÖTE — The Magic Flute (Complete)

Hilde Gueden, Léopold Simoneau, Walter Berry, Wilma Lipp, Kurt Böhme, others, with the Vienna State Opera Chorus and the Vienna Philharmonic under Karl Böhm

London XLLA 33 3-12"

Gueden

MONTEVERDI and MARENZIO: A-B
Madrigals on Texts from "Il Pastor
Fido" by Giovanni Battista Guarini
A
The Golden Age Singers

Westminster WLE 105 12"

HAYDN: Die Schöpfung (Complete)
Teresa Stich-Randall, Anny Felbermayer,
Anton Dermota, Paul Schoeffler, others,
with the Chorus and Orchestra of the
Vienna State Opera under Mögens

Vanguard VRS 471/2 2-12"

Wöldike

Wöldike

PUCCINI: Madama Butterfly (Complete)
Maria Callas, Nicolai Gedda, Renato Ercolani, Lucia Danieli, and Others, with the
Orchestra and Chorus of La Scala,
Milan, under Herbert von Karajan.
Angel 3523 C 3–12"

Callas

DEBUSSY: The Blessed Damozel A-B
BERLIOZ: Summer Nights A-B

Victoria de los Angeles with the Boston Symphony Orchestra under Charles Munch Victor LM 1907 12"

de los Angeles

In any work of this magnitude, it is senseless to dwell knowingly on whatever faults it may have. Rather it is the over-all that matters, and the over-all of this London "Don Giovanni" is simply splendid. We have, in the closest sense available today, a recorded sound to match the live performance. If some of the singers, particularly Siepi as Don Giovanni and Corena as Leporello, are better than others, then that is to be expected. Certainly Krips' full-fledged direction of chorus and orchestra is beyond anything but minute reproach, and the album itself is packaged magnificently. It includes a complete score.





Vocally this recording of Mozart's masterpiece is a joy, for some of the best voices extant are included herein. However, let's say that the ladies are more at home with the opera than the men. Moralt's direction of the accompanying material is sometimes a little lacking in the grace and intimacy implicit in the Salzburg master's style, but none could deny the general excellence of the performance. Even so, it is doubtful that this version of "Don Giovanni" quite comes up to the London presentation of the same work. Technically — to quote Oliver Daniel whomever he may be — the fi is hi and the conto bel!

The cosmic grandeurs of Beethoven's "Missa", with its evocation of Man striving to achieve oneness with the Godhead, are difficult enough to convey in live performance and all but impossible of realization through the medium of monaural recording. Three-track sterophonic is the thing, plus a conductor with the kinesis of Toscanini, the lyrical fervor of Klemperer and the solo quartet featured in this newest recording. The distant microphone pick-up deprives the music of needed impact, but the soloists are altogether superb. Böhm's reading and the choral work are clean and solid but lack the all-important divine spark.





The unreconstructed operaphiles will tell you that great singing makes any performance great. Just play this recording for them. Vocally, it is beyond reproach. Sonically, it is the best in a sizeable field. And the Philharmonia never played more enchantingly. But the spirit just is not there. Karajan is clearly to blame. Either the essential Gemütlichkeit is beyond him or — more likely — he regards it as beneath him. Even the routinier Ackermann does this kind of thing with more persuasion. Gorgeous singing, to be sure, but I am bound to admit that the overall aspects are alien to the younger Strauss. The London recording remains the exemplar.

There is no doubt in my mind that this is an extraordinarily good "Aïda", worthy to stand beside, if not beyond, its only competition (London). Recorded in Rome under the supervision of George Marek, each feature of this all-star recording has been attended to with every possible care. Sound is excellent, Perlea's direction achieves a first-rate balance and a distinct feeling of pageant, and the singers each operate to the best of his and her ability. Of particular excellence is Leonard Warren's Amonasro and Fedora Barbieri's Amneris. If not the dream "Aïda", this surely is one you can be proud to own.





I think that this is a perfectly wonderful presentation of Mozart's great opera. However, I may be a trifle prejudiced, as Hilde Gueden strikes me as something extra special in the way of sopranos, and "The Magic Flute" has long been one of my favorite operas, what with its great range of musical ideas, its symbolism of Freemasonry, and its central theme of perfect love evolving from the "maturity of human personality". Most of the singers seem extremely well cast, and Miss Gueden is superb as Pamina. The work of Mr. Böhm with the Vienna Chorus and Philharmonic is both brilliant and masterful. A magnificent contribution to this Mozart year. FR

The Golden Age Singers do a valiant job and they present some fabulously beautiful music in a splendidly artistic manner. But there is something rather white about their performance that makes it seem more English than Italian. The tang of the sixteenth century is filtered out. Their singing of English madrigals is something quite special; their singing of the Italian equivalent is a bit on the prissy and Protestant side. But should one carp? How often does one hear such works of genius as the Monteverdi madrigals? Let Mr. Benjamin, the man who gives prizes to composers who write soft, relaxing music, cock his ear to this platter.





On the whole this third version of *The Creation* is the most satisfactory to date. It is not an ideal representation of the work: certain of the soloists fall short of the Haydnesque ideal and Wöldike's conception is more documentary than dramatic. Still, the performance is painstakingly musical, however understated, and the recorded sound is splendidly sonorous. The sopranos are strongest; of the gentlemen the lower voices fail to impress. The set issued by the Concert Hall Society on its MMS label is not to be overlooked, by the way. It costs but a fraction as much as this latest and overall it compares quite favorably.

Above a certain level in excellence, preference among different recordings becomes a matter of taste; Thus, von Karajan's reading of "Butterfly" with Maria Callas would be for those who like a Mozartized reading, detailed as chamber music, fast-paced, and with a taut restraint that bestows greater intensity than the more usual Latinized voluptuousness. Callas' voice lacks the pure loveliness of the los Angeles' singing of the same role (RCA Victor), but its very edge increases the exotic oriental tension. For this reviewer, von Karajan's orchestral balances and pacing are incomparable.

PG-H





Debussy's "Blessed Damozel" unfolds superbly and the combination of de los Angeles, Munch, and the BSO is splendid indeed. The same applies to the Berlioz works, though a bit pallid. Hence it may seem uncharitable to note that both of these works are far more impressive in actual performance than in the recorded version. Munch has done much to reawaken interest in Berlioz and much of the music has a wonderfully pleasant dated charm. The "Summer Nights," for instance, sounds best if taken in fragment. All at a clip it gets to be a bit of a bore. But LPs have a way of doing that to music.

R. STRAUSS: Ariadne auf Naxos (Com-Elisabeth Schwarzkopf, Irmgard Seefried, Rita Streich, Rudolf Schock, Karl Dönch, Alfred Neugebauer, others, with the Philharmonia Orchestra under Herbert von Karajan

Angel 3532 C/L 3-12"

MOZART: The Abduction from the Seraglio (Complete) Maria Stader, Rita Streich, Ernst Häfliger, Martin Vantin, Josef Greindl, others,

with the RIAS Symphony Orchestra and Chorus, Berlin, under Ferenc Fricsay Decca DX 133 2 12"

Fricsay



There are times — all too frequently, I am afraid — when a reviewer is impelled to eschew the dignity of his station and let go with unrestrained hyberbole. One of those occasions is at hand. Angel has covered itself with glory in this first complete recording of a masterpiece too long denied its proper place in the international repertory. The singing is in style and vocally as close to the ideal as one could rightly expect. Karajan gives us incomparably his best work to date, shepherding the sensitive Philharmonia with unfailing insight into the subtleties of the orchestral score. Elegant sound.

Sheer delight are the only descriptive words for this "Turkish" comedy opera of rescue and romance written by the young Mozart when he first came to Vienna. The immensely virtuosic arias for the female leads, Constanza and Blonda, reflect not only his admiration for the sopranos of the Court Opera, but his love for the two Weber sisters, Aloysia and Constanza, the latter of whom he married. Maria Stader and Rita Streich are superb throughout, as is basso Josef Greindl in the comic-villain role of Osmin. Verve, style and brilliance characterize the entire recorded performance under Fricsay's baton.



**COUPERIN: The Harpsichord Pieces** (Complete)

Ruggero Gerlin, Harpsichord London/L'Oiseau-Lyre OL 50052/67 KEYBOARD 16-12"

Σ



Imperfect or not, this massive issue will stand as a landmark of the phonographic art. Would that LP had overtaken Landowska when she was making her Society recordings in the thirties. Gerlin, one of her pupils, is considerably less imaginative as to interpretation. But he gets there, and his conservatism will please the musicologists who could not share Landowska's flashes of vision. Now that he has finished her job we have the wherewithal to put right our faulty perspective on an unfairly neglected composer. This set houses all four books of the Pièces - some 230 of them. In sum, a dozen hours of delectation for the adventuresome listener.

**CLEMENTI: Pionoforte Sonatas** Vladimir Horowitz, Piano RCA Victor LM 1902 12'

Horowitz

SCHUMANN: Faschingschwank Aus Wien, Abegg Variations, Arabeske, Blumenstück

Joerg Demus, Piano Westminster WN 18061 12"

lowing what it followed, and presaging what it presaged. The great indebtedness of Beethoven to Clementi strikes one like a blow, as one listens to this lovely array of Clementi's finest pieces in the powerful and sensitive hands of the master Horowitz. What pleasure it is, also, to hear the gigantic ratios of tone and velocity Horowitz possesses scaled to the perfect mark for the aesthetic of these works. A wonderful disc in every way!

Lenore Engdahl gives a wonderfully sensitive performance of these pieces from

America's impressionist era. Griffes was a tremendously gifted composer whose music belonged to a style that dated before it was widely known. As piano literature

of an epoch, these works are highly poetic, highly expert, and are here fortunate enough to find a pianist whose tone and touch can evoke all their romantic color.

The works are real additions to pianoforte literature.

How illuminating a missing chapter in music's history can be when put in place fol-



Joerg Demus is exceptionally poetic in his treatment of Schumann. Obviously he is not one of the racing stable pianists and prefers to let his music move without beating it. His playing of the Faschingschwank — or Carnival Pranks — is most satisfying and withal this whole record is filled with pleasurable moments. The almost heartsand-flowers sentimentality of the Abegg Variations is charming here without cloying. What a relief to be able to get away from the Sturm und Drang pianists. Demus belongs among the new crop of interpretive pianists. Perhaps we can thank one of his mentors, Edwin Fischer, one of the great interpretive pianists of our time.

GRIFFES: Roman Sketches, Op. 7: Three-Tone Pictures, Op. 5; Fantasy Pieces, Op. 6 Lenore Engdahl, Piano

MGM E 3225 12'

BACH: Organ Music, Vols. IV-VI Albert Schweitzer, Organ C Columbia SL-223 3-12

Engdahl

Notwithstanding his rightful eminence among our authentically Great Men, Schweitzer is less than remarkable as a performer and much of his playing, indeed, is downright indefensible. So that these otherwise loving and scholarly performances suffer from logy tempi, ragged phrasing, and a mismatching of flesh and spirit that makes a shambles of the big passages. Still, the moments of insight serve to offset executive inadequacies. Assembled are the Toccatas and Fugues in D Major and Minor; Preludes and Fugues in C Major and Minor, A Major and Minor, G, and E, F, and B Minor;

Schweitzer

Josef Hofmann's Golden Jubilee Recital Josef Hofmann, Piano R Columbia ML 4929 12"

Hack criticism to the contrary notwithstanding, there are not three pianists now before the public who could challenge the lingering sovereignty of long-abdicated Josef Hofmann. Far from effacing so tender a memory, this album more than justifies the obeisance that old timers have reserved for the ancien régime. A tall order, but there is no refuting the reasonably gudible evidence. Although the 1937 sound is at best primitive, such music-making demands preservation. The notable documentary assembles a half-dozen Chopin standards and virtuosic trifles by Rachmaninov, Mendelssohn, Beethoven and Moszkowski.

Passacaglia and Fugue in C Minor; and six Chorale Preludes.



BEETHOVEN: Sonata No. 21 in C Major, Op. 33; Sonata No. 17 in D Minor, Minor, Op. 31, No. 2 Jacob Lateiner, Piano Westminster WN 18086

CHOPIN: Waltzes (Complete) Artur Rubinstein, Piano RCA Victor LM 1892 12" C

Mr. Lateiner plays these Sonatas of Beethoven in a Mozartean frame of mind. His crisp, light fingers are apt to skim the work as though its substance lay in shallow surface layers of tone. The lack of the deeper, more brooding tonal colors makes the tempi seem faster and out of focus also. An accomplished pianist, Mr. Lateiner appears to possess all kinds of assets for his chosen vocation, but he does not possess the capacity to move one, at least he doesn't in these recorded performances.

Chopin's famous fourteen waltzes performed in high style by one of the greatest of all pianists. Ideally suited for these trim and delightful pieces, Rubinstein never allows them to become the least bit sentimental. Warmth is deftly blended with wit, tenderness with sparkle. Each waltz has its own special appeal, but all of them are splendidly presented, from the haunting lyricism of the A Minor to the shining brilliance of the E Flat. There is one question, however, and that concerns the matter of recorded sound; it has a curious lack of depth and resonance. Even so, it takes

more than that to mar the superb Chopin of Rubinstein.



Rubinstein

Jazz Studio 4 Jack Millman's Orchestra Decca DL 8156 12

Purpose of this album is to present the original compositions of West Coast jazz stylist Jack Millman in arrangements by a dozen different arrangers: Jimmy Giuffre, Shorty Rogers, Jack Montrose, Spud Murphy, Millman, Chico Alvarez, Gerald Wiggins, Bill Holman, Pete Rugolo, Frank Erickson, Johnny Mandell, and Gene Roland. The picked band they got together to do the experimental playing included Buddy Collette, Barney Kessel, Shelly Manne, Fred Alguirre, and Bob Gordon. All of this results in a pretty exciting jazz LP. Certainly there is nothing monotonous here, for there are too many people throwing ideas at you from too many directions.



The Five Pete Jolly Quintet RCA Victor LPM 1121 12"

The Five includes pianist Jolly, bassist Buddy Clark, drummer Mel Lewis, trumpeter Conte Candoli, and tenor sax Bill Perkins. The tunes are a straight intermixing of standards and originals by Jolly and Shorty Rogers. It is this same Shorty Rogers, a big wheel of the West Coast Pipe and Slipper set, who made all the arrangements. Playing is quite slick, as it would have to be, for Rogers let his arranging mind roam all over the place. He even touched on such "old-fashioned" musical forms as boogie woogie and ragtime. The Five does manage to swing most of the numbers with a modern ease, and throughout there is a feeling of independence.

Jolly

R R

Music for Torching Billie Holiday Clef MG C 669 12"

It would be silly to presume that, after all she has been through, Billie Holiday is today the same superb singer she was 15 years ago. She isn't. Her voice has a husky flavor about it now that isn't always pleasant and her range is not as wide, but the old phrasing is still here as is the ability to make an individual experience of each song she sings. And Billie is still a very good performer. Her backing on this LP by the likes of Benny Carter and John Simmons is splendid, and the songs, including Come Rain or Come Shine and I Get a Kick Out of You, are definitely superior. But Billie just isn't the Holiday she once was.



A New Voice in Jazz Kitty White EmArcy MG 36020 12"



Miss Kitty Jean White has been singing around California for a number of years, but this is her first big-time record. It's about time, for the young lady has a great deal to offer. In style, maybe, she might fit in somewhere between Lena Horne and Dinah Shore. At any rate, she is clean and convincing, and I enjoyed her very much. Accompanied by a small, splendidly attuned group, Kitty sings such tunes as Sky Lark, If You Were Mine, With the Wind and the Rain in Your Hair, With Every Breath I Take, Let's Go Around Together, and Out of This World. I thought that the sound was a little too close for comfort.

Trombones for Two Kai Winding — J. J. Johnson Quintet Columbia CL 742 12'' Columbia's latest experiment into the jazz field centers on two trombonists, Winding and Johnson. While they are both excellent musicians, while this unusual experimentation is interesting and rewarding, over the full stretch of the 12" LP it tends mentation is interesting and tendentially controlled to run down hill. Aided in their enterprise only by pianist Dick Katz, bassist Paul Chambers, and drummer Osie Johnson, Kay and "Jay Jay" swap leads, toss phrases back and forth, and play together, and they do it all easily and with great technical ability. Songs are good, although we could have done without Give Me the Simple Life and Close as Pages in a Book.



Winding





There is something relaxing and musical and stimulating about two guys getting together — two good guys who know each other and their music well ing out a batch of splendid standards. That's what happens here, and the results are well worth your time. Drummer George Wettling and pianist Frank Signorelli are as old, as venerable, as undestructive as the tunes, and that's high praise indeed. They fit the easy, ragtime mood like a pair of old shoes, and they go as well together. Some of the songs they play are Singin' the Blues, That's A-Plenty, After You've Gone, Someday Sweetheart, and Rose of Washington Square.

A Musical History of Jazz Grand Awards 33-322 12" В This musical history of jazz, from the blues to progressive, spotlights the playing of such stars as Will Bradley, Eddie Safranski, Bud Freeman, Peanuts Hucko, Pee Wee Erwin, and Rex Stewart. The narration, written by George Simon, is recited by Wally Cox, who doesn't sound altogether convincing, but he is very homey. The various musical examples — Maple Leaf Rag, Blues Boogie Woogie, When the Saints Go Marching In, Sunday, Take the "A" Train — are well played, and they are not cut, which is good. Simon's fleeting look-see at Jazz's history is a nicely rounded surface picture, and provides a fine introduction for the novice to jazz. FR



College Classics Les Brown and His Band of Renown Capitol T 657 12'



Despite many new entries, Les Brown still commands one of our relatively few really good dance bands. It is a band with a style completely its own, a swinging, modern, cohesive organization that plays with feeling and spirit. In this album, the Les Brown band gives us striking, colorful arrangements of Alma Mater, Maine Stein Song, Sweetheart of Sigma Chi, Violets, Washington and Lee Swing, Girl of My Dreams, Goodnight Sweetheart, The Wiffenpoof Song, The Blue and White, The Eyes of Texas, and Betty Coed. As with everything that Les Brown plays, these numbers are equally fine for dancing and listening.

# RATINGS OF JAZZ AND POPULAR RECORDS AND TAPE

It must be abvious to everyone that popular music, jazz, and music of the theatre and mation picture, cannot be rated in the same manner as classical music, save for the audio quality of the records. Therefore, the following explanation is given so that you will fully understand the significance of the three letters which appear at the left of reviews of papular, jazz, theatre and motion picture albums:

# COMPOSITION (Top Letter)

#### A: Extraordinary

Indicates that the collection is of superior character, bath fram a standpoint of material and programming. Assignment of this rating means an unqualified recommendation.

In general, the callectian is excellent, but additions or substitutions might have made the wark more attractive and mare lastinaly enjoyable.

A callection that is highlighted by only a few numbers, yet the over-all is quite acceptable. This might aften apply to callections that have a limited appeal, yet are important to those wha specialize in specific types of music. It might often apply to collections of historic importance where the artistic performance is the primary

PERFORMANC (Middle Letter)

A: Extraordinary

Indicates a superior performance thraughout the callection. Assignment of this rating means an unqualified recommendation.

#### B: Good

In general the performance is excellent, save that there are minor imperfections ar breaches of artistry.

# C: Satisfactory

To all intents and purposes an enjoyable recarding, yet one that does not qualify for B rating.

# RECORDING QUALITY

(Bottom Letter)

A, B, C: The same as far classical recardings. R: Indicates a re-issue.

Your Musical Holiday in Paris Werner Müller and His Orchestra Decca DL B161 12"

Harry James in Hi-Fi Harry James and His Orchestra Capitol W-654 12'

Braadway Goes Hollywood Jack Pleis, His Piano, Orchestra and Chorus Decca DL B167

Champagne for Dinner R Amando and His Orchestra R RCA Victor LPM 1122 12' B

The Voice Frank Sinatra Columbia CL 743 12"



A R

Miller

Reisman

В

A B

What a superb package this is! Here was Miller's finest archestra, ranking with the twa ar three great dance bands af all time. There are 74 selections an these heretafare unavailable recardings, mast of which were taken from the "I Sustain the Wings" braadcasts, and many of which are campletely new as far as Miller recards are cancerned. The pragramming is excellent, the packaging is strictly deluxe, and the audia is easily the best af all the Miller discs. Here is the band far which Glenn Miller gave his life, in an album of which he wauld be praud incomparable saund gaing an and an. Dan't pass it up!

I think that this Barbara Lea is samething, a singer of unaffected warmth, skill, and taste. She's fram Detrait and Wellesley College, and she knaws music. I was very impressed with this initial LP af hers, which somehaw praves that good things came in small packages. Far Barbara Lea is very good indeed. It isn't necessary to place her anywhere at all, but I would say that she reminds me af a cambination af Lee Wiley and Jeri Sauthern. That is rare praise. Her accampaniment by the Billy Taylar tria and trumpeter Johnny Windhurst is splendid, as are the sangs, including Come Rain or Come Shine and Love Is Here To Stay.



RCA Victor, taking a cue fram Jack Pleis and Decca's "Music fram Disneyland", has released this calarful LP, which includes When You Wish Upon a Star, Whistle While You Work, Love Is a Song, Who's Afraid of the Big, Bad Wolf, Little April Shower, You Can Fly!, Zip-a-Dee Doo-Dah, Alice in Wonderland, Bella Notte, Never Smile at a Crocodile, Bibbi-Di-Bobbi-Di-Boo, and A Dream Is a Wish Your Heart Makes. Reisman, who made the lively, imaginative arrangements, conducts bath archestra and chorus, and he does so with a splendidly happy affinity for the familiar sangs. It is resaundingly hi-fi taa.

Ever since Silvana Mangano starred in "Anna" and Gina Lollabrigida shawed her considerable charms in all kinds of motion pictures, the music of Italy has found its way to the forefront of American popularity. Besides, lots af nice people have suddenly discovered how wanderful it is to take a holiday in Italy. If you have thrilled to the charms of Italy, this new album will help you to remember; if you haven't, then here are your dreams. Your musical holiday in Italy features Tiritomba, Mattinata, Funiculi Funicula, O Sole Mio, Santa Lucia, Maria, Maril, Torna a Surrienta, Reginella Campagnola, Ciribiribin, Seranata, II Bacio, and Vieni Vieni.





Other albums in this colorful Holiday series include musical holidays in the Alps, Rio, Vienna, South America, Havana, and the West Indies. In this particular album, we are again treated to the delights of George Kainapau, who unquestionably owns the finest falsetto voice ever ta come out of Hawaii. The Hawaiian music is graceful and lilting and full of charm, and certainly reflects the joys of this Island paradise. Your Hawaiian holiday includes Lei Aloha, Nelani, My Isle of Golden Dreams, Pagan Love Song, Blue Lei, That's What the Lei Said to Me, Moon Over Cocoanut Island, Hawaiian Luau, and When the Orchestra Plays Aloha Oe.

With this and other albums, Decca institutes a series of musical holidays, that should indeed make brighter evenings of those spent at home. Each, to varying degrees, captures the spirit of the haliday rendezvous, and each comes in a colorful album. Mr. Müller, a continental gentleman of suave charm, leads a romantic orchestra through imaginative arrangements. Your Paris holiday features Les Feuilles Mortes, Damino, La Vie En Rose, La Petite Valse, Parlez Moi d'Amour, Bolera, La Seine, Pigalle, J'Attendrai, Sous Les Toits de Paris, Je Suis Seul ce Soir, and Symphonie. It is all nicely Mantmartre.





The big swing numbers — Trumpet Blues, Two O'Clock Jump, and James Session are heavy and noisy, and the band never gets a fluid drive. On the slower selections the memories are richer and sa is the orchestra, and the James horn is clear and soaring. However, the top spots in the LP go to I've Heard that Song Befare, I'm Beginning To See the Light, I Cried for You, and It's Been a Long, Long Time, all of which are sung by Helen Forrest. For my money, their excellence is due mare to Miss Forrest than to Harry James. She's still a wonderfully warm songbird — graceful, natural, and lilting.

This album presumes that certain famous Broadway musicals will soon be made into motion pictures; others already have, and so "Braadway Goes Hollywoad". Here, in a most enjoyable collection, are Oh! What a Beautiful Morning and People Will Say We're in Love fram "Oklahoma!"; Hello, Young Lovers and We Kiss in a Shadow from "The King and I"; I Love Paris from "Can Can"; A Wonderful Guy and Younger than Springtime from "South Pacific"; Stranger in Paradise from "Kismet"; Hey There fram "The Pajama Game"; I'll Know from "Guys and Dalls"; I Get a Kick Out of You from "Anything Goes"; and Old Devil Moon from "Finian's Rainbow". Splendid.





As much as anything else, the cover of this record, showing a lovely lady in a red dress about to partake of some apparently excellent bubble juice, should sell the package. A majority of the songs were written by A. Trovajali, an Italian Irving Berlin, who was responsible far the musical score of the Silvana Mangano film, "Anna". Aside from his frothy melodies, there are Star Dust, The Man I Love, I Only Have Eyes for You, and I Love You. All are played with the proper amount of aged effervescence by Signor Armando and his Orchestra. Even if you haven't the price French champagne, this still goes nicely with dinner.

Columbia is probably selling more of its Sinatra records today than it ever did when he was under contract to that company. That's because Capitol caught him just before the release of "From Here to Eternity", and he immediately got hot on records too. So Columbia, in a sense, should thank Capitol. At any rate, Columbia has re-issued another batch of Sinatra standards. "The Voice" includes I Don't Know Why, Try a Little Tenderness, A Ghost of a Chance, Paradise, These Foolish Things, Laura, She's Funny that Way, Over the Rainbow, That Old Black Magic, and Spring Is Here. That beats par on anyone's course.



Sinatra

Pleis

This "romantic jazz" bit has me a bit buffaloed. For instance, one of the tunes is Petite Waltz, and that little ditty is about as divorced from jazz as Capitol is from RCA Victor. Through the LP there is a suggestion of the old time dance form as exemplified by Paul Whiteman. Sy Oliver made all the arrangements, and Oliver, even when working with the Gleason formula, can be solid and swinging. Here and there someone or other takes a solo, but mainly this is Gleason without Bobby Hackett lushly and firmly recalling some all-time favorites, including My Blue Heaven, The Lady Is a Tramp, and There'll Be Some Changes Made.



Gleason

I Can Hear It Now: Winston Churchill A Edited by Edward R. Murrow and Fred W. A Friendly with Narration by Edward R. — Murrow Columbia ML 5066 12"

Murrow

Spotlight on Percussion
Arnold Goldberg, Classical Percussion;
Kenny Clarke, Jazz Drummer; Al Collins,
Narrator
Vox DL 180 12"

The Scots Guards
Regimental Band and Massed Pipers of the Scots Guard
Angel 35271 12"



An invaluable and magnificent collection of the speeches of Sir Winston Spencer Churchill, who many regard as the greatest of all the great men of this 20th Century. The editing and the narration are excellent, and the whole therefore emerges as a gigantic chapter of world history. It is vivid history, vital and forcefully alive, as we hear it spoken in the immortal phrases and intonations of Mr. Churchill. No written words, no series of pictures could speak more eloquently for a man and his gallant leadership than this recording. For this recording is Winston Churchill, and he stands supreme.

As Al "Jazzbo" Collins states at the start of this disc: "Here are the sounds of 61 percussion instruments. This is the epitome of the art of the percussion player. The spotlight is on percussion." It really is, no doubt about that, and to excellent effect. Both Goldberg and Clarke are very able fellows, and they proceed to demonstrate their art in sounds that crash all over your hi-fi rig. For students of music and/or percussion, I should think that this record would be better than a hundred books. The running discourse by Collins is splendidly done; he is clear and he is unobtrusive. Of its type, an extraordinarily good record.



HE SOUTS OF ARDS

I'm not at all sure why I have such a great fondness for a bunch of clansmen playing old Scotch tunes on the bagpipes. Maybe it's because I wear argygle socks. Anyhow, a Johnny Walker toast to the Scots Guards, a magnificent force, as splendid musically as it is traditionally. They play in stunning sound the marches, reels, patrols, and strathspeys that are native to their land. Believe me, this thing at 6 A.M. at full level will get any wife out of bed. She'll honestly think the whole, wild MacGregor clan is about to swing into her bedroom. The oatmeal fairly flies! FR

JOHANN and JOSEF STRAUSS: Vienna Bonbons Vienna State Opera Orchestra under Anton Paulik A-V Tape Library 1039 E Double Track 7½ ips

Paulik

В

Α

Organ Recital, Vol. I
Professor Kurt Rapf, Organ
Audiosphere 711
Binaural 7½ ips

Jazz Showcase Urbie Green and His Band AV Tape Library 703 B 7½ ips Double Track

Cha-Cha-Cha and Mambo at the Palladium
Machito and His Orchestra; Tito Puente and His Orchestra
Tico Tape TI 5-3
Double Track 7½ ips

Miss Teddi King
A-V Tape Library
Double Track 7½ ips

New Orleans Jazz B
Paul Barbarin and His Band B
Atlantic AT 7-8
Binaural 7½ ips

Note: Comments in these tape reviews are based on reproduction from an Ampex 600

If anything, the Vienna Opera Orchestra lacks in resonance and depth, but it often makes up for this lack with spirit and gayety. The Egyptian March is a brisk one, with enough triangles, drums, and clashing of cymbals to-please the most ardent hi-fit tape enthusiast. In reality, "Vienna Bonbons" is a coating of icing on the cake, and Bandit's Galop is a dandy ride that is a lot of fun. Things do bog down somewhat, though, when it comes to the more poetic works: Music from the Spheres, Where the Citrons Bloom, and Roses of the South. Sound in most cases appealed to me enormously.



Kurt Rapf, born only 33 years ago in Vienna, is today the director of music of Innsbruck, Austria, in charge of its Symphony Orchestra and Conservatory. Many of you perhaps heard him in person when he toured this country in the winter of 1954 with his Vienna String Symphony. He is an enormously accomplished organist, and for this superb binaural tape he performs J. S. Bach's Toccata and Fugue in D Minor, Felix Mendelssohn's Sonata No. 2 in C Minor, and César Franck's Chorale in E Major. This tape should be a must for those binaural fans who enjoy both fine organ and fine music.

The popular—popular in the sense that he plays for a great many discerning maestros—Urbie Green is one whale of a trombonist. And this kind of small band playing is right up his alley. With him for Lullaby of Birdland, Med's Tune, Old Time Modern, and I Got It Bad and that Ain't Good are Ruby Braff trumpet, Med Flory alto sax, Bobby Donaldson drums, Sir Charles Thompson piano, Aaron Bell bass, Freddie Green guitar, and Frank Wess tenor sax and flute. Ruby Braff is one of the most prolific trumpet players on wax and tape today; it should be like that, for he plays all types of jazz well.





If you want to be really up to date on your tape machine, then you'd better get this one. For the Mambo and the Cha-Cha-Cha are among the most popular of dances these days, and Puente and Machito are looked upon as tops in performers. Puente plays Camina Cameron and Tatalibaba, and Machito cha-chas with Tennessee Waltz, Lagrimas Negras, Come Back to Sorrento, Tea for Two, Oye Me Mama, Sopa De Pichon, El Niche, and Night of Nights. Everything is done up bright with a great deal of rhythm and sound to match. Your teen-age son or daughter should love this one.

Miss King, a relative newcomer to jazz singing, is very good in her initial tape, and I have no hesitation whatsoever in recommending her to your attentions. Her phrasing, her intonations and feeling are all quite excellent for one so young, and the background, which features the nifty trumpeting of Ruby Braff, is elegantly in taste with her singing. The choice list of songs includes I Saw Stars, Love Is a Now and Then Thing, New Orleans, Love Is Here To Stay, I Guess I'll Have To Change My Plans, It's All in the Mind, It's the Talk of the Town, and Spring Won't Be Around this Season.





Paul Barbarin is one of the real old-timers of authentic New Orleans jazz. He was born in the Crescent City in 1901, and is a veteran drummer of the King Oliver, Luis Russell, Louis Armstrong, and Sidney Bechet bands. Actually, this record-tape (Issued also by Atlantic Records) was made in New York City when Barbarin was here at Child's Paramount, and his band includes John Brunious, Willie Humphreys, Bob Thomas, Lester Santiago, Danny Barker, and Milton Hinton. The jazz they play is woolly and in the strutting tradition of New Orleans, and the binaural sound is olmost excellent.



The amplifier-speaker units of this stereophonic tape system are so small as to be hardly noticeable against the New York skyline

# Stereophonic Tape Installation in a New York Apartment

Hi-Fi Equipment Should Be Conspicuous Only for the Quality of the Music It Provides There was a time when a man, before he could bring himself to purchase an automobile, had to overcome the mental hazard of anticipating the shouts of "Get a horse" from people who would crowd around him every time — and this was inevitable — his car became mired in mud, or refused to respond to the hand crank.

The early purchasers of hi-fi equipment were faced by a similar but even more devastating hazard: the wife who, if she was forewarned, could utter with such finality the pronouncement, "You're not going to turn my living room into a workshop!"

There may have been some justification for that attitude from the distaff side, at least until recently. But no longer. Even the more advanced hi-fi enthusiasts who are going in for stereophonic tape reproduction can, if they wish, install equipment so inconspicuously that its presence will not disturb the decorative scheme of the room where it is used!

The accompanying photographs show how true this is. They illustrate an installation in the penthouse apartment of Oliver Daniel, long-time musical director of CBS, and now in charge of a major contemporary music project for Broadcast Music, Inc.

He explained: "I didn't have a corner or a wall space for even one loudspeaker, to say nothing of two, and I didn't want to rearrange my living room to accommodate any large pieces of equipment. At the same time, I had become intrigued with the effects I had heard from prerecorded stereophonic music tapes."

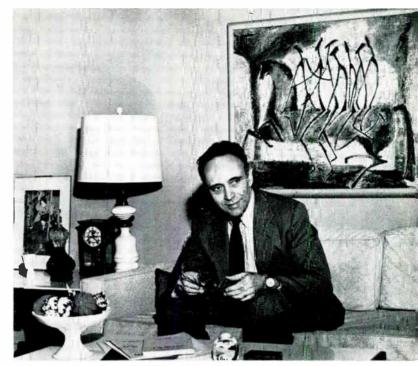
It was an easy matter to set up and wire the complete system, for it was just a matter of connecting each of the three units to 115 volts AC, and plugging in a shielded lead to connect each amplifier-speaker to the tape machine. The wires were easily hidden under the furniture, showing only at the bench next to the piano. Even there they were arranged more neatly after the photograph was taken. Only because the leads supplied did not reach quite far enough was it necessary to get out the electric iron, and solder the terminals to longer lengths of shielded wire!

There is always an element of uncertainty in setting up stereophonic equipment, because of room acoustics. Sometimes locations for the speakers which seem perfectly logical prove inadequate for bringing out the full stereophonic effect which reproduces music in a way to put each instrument or action in its original location. This may call for cut-aud-try experimenting. In Oliver Daniel's apartment, however, the first try was a complete success. The only objects moved were the two window boxes which, when put together at the corner of the window, left space for the speakers.

Even a short time ago, it would have been impossible to put in a stereophonic system to meet the requirements of this installation. That it can be done now is an indica-

This portable tape phonograph (playhack only) has a removable cover which should be put in place when the machine is not in use. The same equipment is also furnished in a wood cabinet





Oliver Daniel in his penthouse apartment: "I had become intrigued with effects I had heard on pre-recorded stereophonic music tapes"

tion of the manner in which the design of hi-fi equipment is being revised so that today there are three choices available for planning installations: 1) A room can be planned originally or rearranged around the equipment, 2) the units can be hidden in special cabinets or existing furniture pieces, or 3) inconspicuous types can be selected that do not require any special mountings.

So there is no longer any reason for hi-fi equipment to present a disorderly appearance, and cause the frenetic complaints that were heard in the early days when units

> originally designed for broadcast stations were purchased for home use, as they were originally.

> Interestingly enough, the Ampex units illustrated here were intended primarily for portable use, and each case has a handle and removable cover. The tape unit, by the way, is only for playback and is, therefore, less expensive than the recording-playback machine of similar external appearance. The same tape and amplifier-speaker equipment is also put up in wooden cabinets of simple lines.

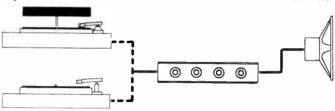
All of which recalls the famous slogan: "Never underestimate the power of a woman." That certainly applies to hi-fi, for only now that it has become acceptable in appearance has it started to qualify for a place in the living rooms of well-kept homes. Fortunately, it has been possible during the course of this metamorphosis to make continuing technical improvements.

# PLANNING A PHONO INSTALLATION

This Author Says You'll Do Better If You Don't Take Advice From Anyone — By Harold Taplin

THIS ARTICLE, written for the benefit of those who are planning their first hi-fi installations, is probably unique in that the only advice to be given is: "Don't take the advice from hi-fi experts. You'll be happier with your installation if you take the time to work out all your own decisions.'

At this point, you may say: "How can I do better on my own, when all I know about hi-fi is that I want the kind



NO. 1. LEAST EXPENSIVE
PHONOGRAPH
Changer: Note the various functions
performed by the different types.
Favor the more expensive models.
Pickup: You must use a high-output type to feed the amplifier directly

Amplifier: Better have one with tone controls, and enough power to drive the speaker you select.

Speakers Let your ear decide. You have a choice of buying a finished cabilet, or assembling one yourself from a

of music in my home that my neighbor has? Surely he, or some of my other friends who have hi-fi systems can tell me what I should buy."

Ah, that's the whole reason for this article! Your friends will be only too glad to tell you what to buy, and they will be most generous with their advice. But because

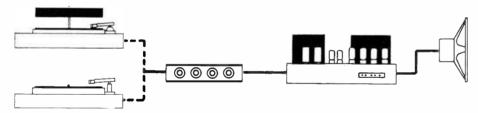
to be paid for with your money, isn't it logical to start out not with what pleases someone else, but to determine what will be most satisfying to you?

You have a choice of three available sources of hi-fi music, namely, records, tape, and FM radio. Here, however, only records will be considered, since the largest number of newcomers to hi-fi want to begin that way. Moreover, components used for record reproduction provide the starting point for adding tape and FM equip-

# 1. The Question of Cost

While no two hi-fi phonograph installations look alike, there are just five basic varieties, represented by the accompanying illustrations. With the proper components, any one will make excellent music. Some sound even better than others, as you would expect when you get into the higher price brackets. The price range for unmounted components to make up a hi-fi phonograph installation runs from \$200 to \$1,500. This is comparable to the price range of automobiles, which might be categorized as good, better, still better, and very fancy.

You don't need anyone to advise you as to how much you can spend. Only you can decide that. One word of warning, though: you'll probably wind up spending twice



NO. 3. USING A SEPARATE PREAMP AND AMPLIFIER
Changer or Turntable: Either type can be used. Pickup: See No. 2.
Tone Arms See No. 2.
Preamp: Look for one that will serve as a control center if you add FM radio, a tape machine, or TV sound. The preamp must be near the record-player, but the amplifier may be at some distance from the preamp.

Amplifier: No tone cantrols are needed, as they are on the preamp. Get an amplifier powerful enough to on the preamp. Get an amplifier powerful enough to drive your speaker.

Speaker: Remember the 2- and 3-speaker systems.

they know more about hi-fi equipment than you do, you will not realize, nor do they for that matter, that each one carries in his heart the burning conviction that no one, but no one, has an audio system equal in performance to his. Each will be perfectly sincere, too, for his equipment, in his home, unquestionably sounds best to him. That does not mean, however, that a similar system, in your home, will be the best for you. In fact, it probably won't, as you will see from the discussion which follows.

Since this is going to be your installation, in your home,

NO. 2. LOW-OUTPUT PICKUP & PREAMP

Changer or Turntable: Make your own choice between the two. Take plenty of time to make up your mind. Pickup: With a preamp, you can use any low-output type. Get a diamond stylus for 33-rpm. records, at least.

Tone Arm: Try them all. See which will Tone Arms Iry them all. See which will be easiest for you to use.

Preamp-Amplifier: These are combined in one unit. Check the features carefully, and hear it with the speaker you decide to buy.

Speaker: See No. 1. as much as you intended originally, and you'll be glad

So the first step is to head your planning sheet with the number of dollars you expect your system to cost. That, of course, must be related to the kind of a system you want.

The five different varieties of phonograph installations are represented by the accompanying illustrations. The numbers 1 to 5 do not represent successive steps of quality or price. These are different kinds of installations, each with its own features, virtues, and advantages. A careful study of the following details will enable you to decide which one meets your particular needs. When you have made up your mind, there will only remain the task of picking out components which will add up to the sum you plan to spend, or at least not more than twice that amount!

# 2. Changer or Turntable?

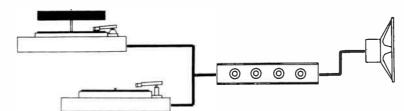
Do you want a turntable, or do you prefer a record-changer? There are all kinds of reasons for buying one or the other.

The simple solution, and not a bad one, is to buy both. If you want to stack up two hours of music, or even more, (up to 4 hours) without leaving your chair, the changer is a must. That holds, too, if you want background music, particularly for reading in bed.

If you are going to be very critical of your reproduced music, you will consider the technical advantages of a turntable and the elimination of the elaborate changer mechanism. Then you will have to buy a tone arm to carry the pickup. This means starting each record by hand in the professional manner, although there are models which start the tone arm automatically. You will pay more for a plan to use it much, although a diamond for 78's, too, is a good investment.

An amplifier of 10 to 20 watts output is adequate. There are models with built-in tone controls, and less expensive ones without them. The speaker - well, you can spend as much or little as you choose. At \$25 for an unmounted speaker, the quality will be consistent with the rest of the system. You can buy a finished speaker cabinet, or an inexpensive kit that you can put together yourself.

This is an admirable starter outfit. You can pick out the components yourself with full assurance that you won't make any mistakes. It's a good idea to have your local



NO. 4. SYSTEM USING A CHANGER & TURNTABLE Changer: If it is for your use, get a good one. Far the children, consider a 45-rpm. type.

Turntable: There are several new models available now. Better look at all of them.

Pickups: You can use any type in this system. It will pay to get a diamond stylus, even for the children.

Preamp-Amplifier: Remember to look for one that has connections for two pickups, and be sure they will handle the pickups you talent. pickups you select.

pictups you select.

Speaker: You can have a separate speaker connected in the children's room to go with their changer, if you wish, with a switch to connect either one.

good turntable and arm than for the best changer. In either case, you must have a mounting base, unless you plan some kind of a cabinet in which the device is to be mounted directly.

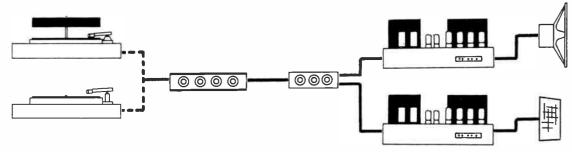
The best way to reach a final conclusion on the changerturntable question is to operate both of them yourself. You'll make up your mind quickly when you get the feel of handling them. Then you will be ready to enter the second item in the plan for your hi-fi system.

# 3. Pickups, Amplifiers, and Speakers

Now for the details of choosing the system best suited to your requirements, and the conditions under which it is dealer hook up the units for you, so you can hear the results, and he can show you just how to connect them. But the wiring is so simple that you'll be perfectly safe in ordering the equipment by mail, and following the very simple instructions supplied.

The difference between Figs. 1 and 2 lies in the substitution of a combined preamplifier and amplifier, permitting the use of a low-output magnetic or reluctance cartridge. Since the electrical output of this type is lower than that from a ceramic or magnetic pickup, the current must be amplified in the preamp before it can drive the amplifier adequately.

There are combined preamp-amplifier units of 10 to 20



NO. 5, AMPLIFIER FOR EACH SPEAKER Changer or Turntable: You can use either or both. Pickup: See No. 2. Tone Arm: See No. 2

**Preamps** See No. 3. If you are going to use both the changer and turntable, be sure there are connections for

two pickups.

Van-Amp: This variable network is available assembled or in kit form. Its function is to feed the lower frequencies to a woofer, and the mid-range and upper frequencies to a second speaker.

Amplifiers: Fine audio quality is more important than

power. Output of 10 to 20 watts may prove sufficient, or you may decide on extra power for the woofer amplifier. The omplifiers need not be identical.

Speakers Try various combinations. Compare the tone of a coaxial speaker with an electrostatic type for the mid and

upper frequencies.

to be used. The simplest, diagrammed in Fig. 1, calls for only a turntable or changer, an amplifier, and speaker. In such a system, a high-output pickup, such as a crystal or ceramic type, must be used since the only amplification is provided by the amplifier. That is, the electrical impulses from the pickup are fed directly into the amplifier, without being boosted first in a preamplifier.

High-output pickups are the least expensive. The dual type, with styli for both 78 and 45-33 records, is the most convenient, eliminating the necessity of using separate pickups. By all means get a diamond stylus for 33 and 45rpm. records. A sapphire is all right for 78's if you don't watts output. The more powerful is not necessarily superior. It will simply give added speaker volume.

Fig. 3 is similar to Fig. 2 except that the preamp and amplifier are separate units. In case you decide on an amplifier that does not include a preamp, and there are several models of that sort, the separate preamp is necessary with a low-output cartridge. The choice between Fig. 2 and Fig. 3 is a matter of personal preference. The single-unit designs generally cost a little less.

As to performance, that depends on the components you select. The fact that the diagrams look simple does not mean that the systems are cheap or lim- Continued on page 52



Fig. 1. Studio end of the living room, with the speaker enclosures above

# The House That Hi-Fi Built

The Recording Studio and Laboratory
That Ewing Nunn Has Built as a
Part of His New Home — By Fred Reynolds

Ewing D. Nunn unquestionably ranks No. 1, a place which, as you can judge from the accompanying illustrations, he intends to hold for some time to come. As you probably know, Ed Nunn is the man who built a hi-fi installation and then found that it could reproduce better audio quality than was put on commercial records. So he set up a very complete laboratory and workshop in his home, and undertook to make his own records using, for the most part, microgroove cutting at 78 rpm. These he made strictly to share with Mrs. Nunn, but when others heard them, they insisted on getting copies. That's how it came about that he found himself in the record business — which was the last thing he ever intended!

A year ago, via the grapevine, I heard that he had a new project under way. Later, I learned that Mr. and Mrs. Nunn were designing a new home or, rather, they were planning an elaborate recording studio to which their home would be an adjunct! They were most reluctant to supply details, however, and at that distance from New York, I was entirely in the dark as to what was actually going on until I received the photographs reproduced here, and a letter from Himself, from which the following descriptions are quoted.

About Figs. 1 and 2: "The living room, as we laughingly term it, is 28 by 41 ft. The carpeting is arranged so that it can be rolled up when the occasion demands, if I may use the expression. The ceiling is acoustically treated, not to the point of completely absorbing sound, but it is about 25% efficient. Acoustics of the room are very good indeed for a small group—anything under a marching brass band."

"On the extreme left of Fig. 1, a door leads into the laboratory, and the curtain directly in back of me covers the laboratory window used for observation purposes during recording sessions. There are a turntable and amplifier in the living room for playback purposes, but it is intended primarily for my collection of old 78's. This picture also

 $^{1}\mbox{See}$  "Nunn But the Finest" by Fred Reynolds, HI-FI MUSIC, November-December 1954

Fig. 2, left: The living end of the living room which measures 28 by 40 ft. Fig. 5, right: Mr. Nunn's audio equipment and workbench along the laboratory wall opposite the recording setup shown in Fig. 3







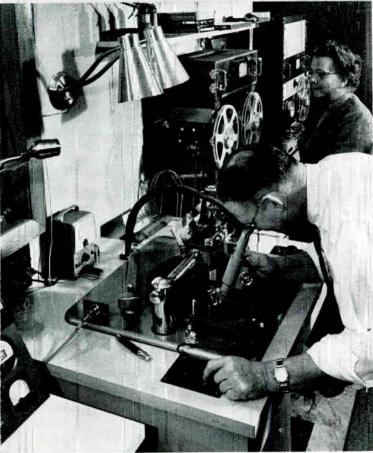


Fig. 3, above: Tape and record-cutting equipment in the laboratory.

The curtained window faces the studio. Fig. 4, below: Mrs. Nunn, herself
a keen critic of audio quality, is an able assistant to her husband

shows the speaker compartments. Above are eight 12-in. Bozak woofers built into a suitable baffle-cabinet. In the lower compartment are four mid-range speakers, and eight of Art Janszen's new electrostatic speakers. It is, therefore, a three-way system, with crossover points at 300 and 1,000 cycles. This sound, when driven by two McIntosh 60-watt amplifiers in parallel, is quite satisfactory." I haven't heard the system, of course, but knowing Ed Nunn, I would rate that last comment as the understatement to end all understatements!

"The curtain in the laboratory, Fig. 3, is the one you

see in Fig. 1. The room is 14 by 24 ft., with a 9-ft. ceiling. Barely showing at the left is the speaker used for monitoring. The turntable on the cabinet is a Rek-O-Kut BI6H, with two Pickering arms and cartridges. To the right is a home-built preamp with unusually low intermodulation distortion. Next is the cutting lathe, most of which is home-built.

I even went so far as to make my own pattern for an aluminum casting for the table. It worked out very well. The turntable is laminated aluminum and Bakelized canvas, an expensive but effective idea. Next in order are two Magnecord tape machines which are standard so far as the tape transport mechanism is concerned. The amplifiers have been gone over to adjust them to my requirements. If you look sharply, you will see a job beneath the table. This is not used for musical purposes; it is a collector for the nitrate thread which is cut from master discs and safely deposited in this jar of water through rubber tubing."

Of Fig. 4, a closeup of the cutting lathe shown in Fig.3, Mr. Nunn merely said: "It is self-explanatory." But how can anyone speak so lightly owning such equipment as appears here? Truth is that he doesn't take it lightly himself, for I'm sure that no hi-fi equipment in the whole world receives the meticulous and loving care he lavishes on this installation. Fortunately, Mrs. Nunn is as interested in this whole project as her husband, so there is no competition between her and the equipment! But to return to the illustrations:

"Fig. 5 shows the other side of the laboratory, opposite from Fig. 4." As you will see, nearly everything is available for all average measurement work. The only thing lacking, although currently contemplated, is a distortion meter. This, as you may know, takes the wave and disassembles it, to tell where the distortion lies. It's an important instrument in amplifier development work, and is a useful adjunct to intermodulation measuring equipment

"We spend many happy hours in this room, and in the living room (studio) too, for that matter. As my good friend Hugh Knowles once said, 'It may have been expensive — but it keeps you out of mischief.' Now, if you know Hugh Knowles, you will know darn well that I have rephrased this saying somewhat, but this is what he meant, in principle."

It probably wasn't Ed Nunn's intention that his letter would be quoted here, but certainly no one else could explain the hi-fi part of his new home as he can. At the same time, I'm sure that there are many carefully planned details he didn't mention, for he is a very modest man.

You might get the idea that Ed Nunn is rather high-hat about the records he makes, because he is very frank and outspoken about intending them for use with equipment capable of fine audio reproduction. But that is only because, when he goes to such lengths to get every last element of audio quality, even to cutting microgroove records at 78 rpm., he wants people to hear what he has accomplished for them. That, of course, calls for the best equipment. Now, knowing something about the new studio and recording setup, it will be interesting to hear the first discs made in "The House that Hi-Fi Built".

# HI-FI EQUIPMENT REPORTS

F You have received and returned one of the questionnaire cards that is sent out with each HI-FI Music subscription acknowledgement, you are probably one of the many who, on the line "Please publish more articles about . . ." has written in, "Reports on equipment".

The fact that such reports have not appeared in this Magazine does not indicate indifference to these requests on the part of our editorial staff. On the contrary, it has been the subject of very serious consideration and much discussion for nearly two years. As of this time of writing, we still haven't found the answer.

Oh, we know there is one, and we'll find it, somehow, somewhere. Maybe you can help us. You see, it is easy to say: "Good! Let's start a Report department in the next issue." All we have to do is to lay out a plan and set it down on paper: 1) purposes to be accomplished by the reports; 2) tests to be made; 3) test procedures: a. measurements, b. listening, c. some combination of both; 4) format of the reports, and 5) policies to be followed in interpreting the data and presenting conclusions. That part is easy.

Now to fill in the details. Of course, equipment is designed and produced by manufacturers. Manufacturers pay

We are heartily in accord with the great number of our readers who have asked for equipment reports in this Magazine. But before we settle on a format for such reports, we want opinions from our readers as to just how they can be made most interesting and useful. To encourage a real round-table discussion, we shall publish as many letters as possible, with special awards for the best ones, as you will see at the end of this discussion.

money to magazines for advertising. Let's stop right there. Facts are facts. The minute we consider advertisers in connection with reports on equipment, we become involved in engineering politics and diplomacy. Unless, of course, the purpose of the reports is to give the manufacturers a pat on the back and supply them with favorable comments they can quote in their advertising. That's not good. Our reports must have a legitimate purpose, and that is not legitimate. Neither is it constructive from the readers' point of view.

Reports can be made quite spectacular. There are ways to test components that will show this item at \$10 to be superior to a similar one from another manufacturer priced at \$25, or it can be shown that highly-regarded equipment is really quite inferior. It is possible to do that, and to support the finding with incontrovertible evidence. Also, it's a splendid way to start arguments, gain publicity, and sell subscriptions. "Spend fifty cents and learn how to save fifteen dollars!" A lot of people would, too, and if they were naïve enough to swallow this bait and act on such information, they might never know how much they were misled. However, that is not an ethical purpose. We can

forget the advertisers, but we must be honest and sincere with the readers.

Reports can be used to build prestige for the individual who writes them. It requires a substantial amount of egotism coupled with a little skill in a particular style of writing. An engineering background is not necessary, or even a technical knowledge of hi-fi equipment. If reports are to present personal opinions, the statements and conclusions do not need much support from factual evidence. A liberal sprinkling of technical terms that are not understood precisely by the average reader throws a mantle of authority over the writing. And those who know the score, while they won't take the writer seriously, may read such reports out of curiosity, thinking: "What is this fellow shooting off about now?" When you analyze such reports, they don't seem to be so bad. They may be interesting, and they're probably as harmless as some of the long-hair record reviews. After all, very successful columnists make their living by writing on subjects of which they have no expert knowledge. Well, that's a possibility, but is it the right answer?

Another way to handle reports is to present data on

the comparative performance of similar units. The simple way is to make AB, BC, and CA tests. But how conclusive is this method? One listener's opinion isn't enough. There are seldom if ever unanimous opinions about hi-fi equipment from a group of listeners, so the majority vote is not decisive, as far as you are concerned, unless you happen to hold with the majority. Or you may, however, go along with

the minority opinion, in which case you will be prepared to argue that the vote didn't mean a thing!

Or should the comparisons be based on measurements? That would make the reports objective up to the point where the tests are interpreted in terms of performance. Who was it that said not long ago: "If the measurements show that it's good, but it doesn't sound right, you can throw it out. But if it sounds right, the measurements don't matter!" This all sounds like going around in circles without arriving at any useful purpose to be served.

Of course, if arguments are an end in themselves, the most important thing about reports is that what appears in one publication should not agree with the findings that appear in another. The readers can take it up from there, and decide who is right and who is 'way out in left field. Could this be a raison d'être for reports?

And there you have, in brief, the pros and cons of discussions that have been going on for months. Up to this time, no conclusion has been reached. At least, we have arrived at the point of discussing the subject with you, our readers. Remember that wartime slogan: "The difficult we do immediately. The impossible take a little longer"?

Continued on page 59



You Can't Judge a Book By Its Cover, nor Hi-Fi Equipment By Its Outward Appearance. Here Are Photographs Showing the Actual Inside Construction of New Components

# "INSIDE

# INFORMATION"

PILOT model HF-56 FM-AM tuner, preamp, 35-watt amplifier. Virtually a complete hi-fi system, requiring only the addition of a loudspeaker and, according to the requirements of the installation, a phonograph, tape machine, and TV sound.

Controls at the front are, left to right: volume and power switch; treble control; 5-position equalizer; selector for FM, FM-AFC, AM, phonograph, tape, and one extra input; bass control; and tuning.

At the rear are the phono input with a calibrated load adjustment and a level control; tape input and output for playing tapes or recording off the air; TV sound input; balance and bias adjustments for the KT66 output tubes, and meter connections for use in resetting those adjustments; speaker terminals for 8 and 16 ohms;

and a socket for plugging in a Pilot DD-10 dynamic speaker damping control, available as extra equipment. There is a built-in 20-cycle rumble filter, and an additional switch-controlled filter on the top of the chassis. Tubes:

6BA6 RF amp. 6U8 Osc. & mixer 12AT7 AFC

6BA6 1st IF

12AX7 Phono preamp 12AX7 Tone amp.

6SN7GT AF amp. & phase inv.

6AU6 1st lim., 6SN7GT AF driver

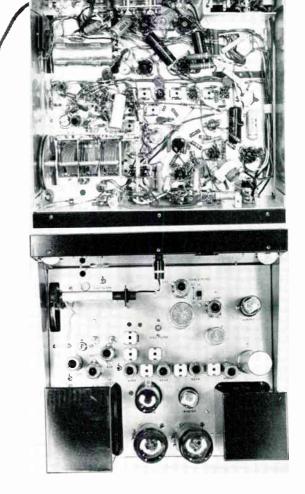
6AU6 2nd lim. KT66-2 AF output 6AL5 FM disc. 5U4GA Rectifier

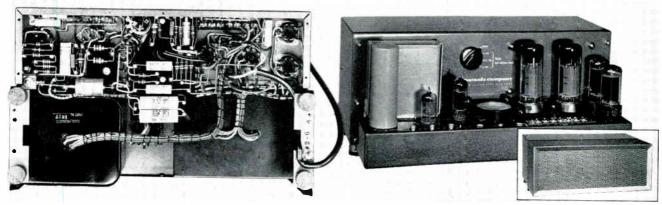
The entire front panel is so designed that it can be removed and remounted on the front of a cabinet. (A table cabinet is available in wood.) Dimensions are 14½ by 7½ ins., by 13¼ ins. behind the panel; weight 31 lbs. \$209.50. Pilot Radio Corp., 37-06 36th St., Long Island City 1, N. Y.

Four views of the Pilot FM-AM tuner, preamp, and amplifier on one chassis









The Marantz amplifier can be operated as an ultralinear circuit with 40 watts output, or as a 20-watt triode amplifier

MARANTZ 40-watt amplifier. This amplifier is intended for use with any preamp, but it is specifically a companion to the Marantz preamp in its meticulous design and workmanship, military-type construction, and precision components capable of withstanding substantial overloads.

The inset photograph above shows the pierced metal cover that snaps into position over the tubes and the front of the chassis. There is space between the cover and chassis for bringing out the leads.

This amplifier is unique in two respects: It can be operated as an ultralinear circuit with 40 watts output, or as a triode amplifier with 20 watts out-

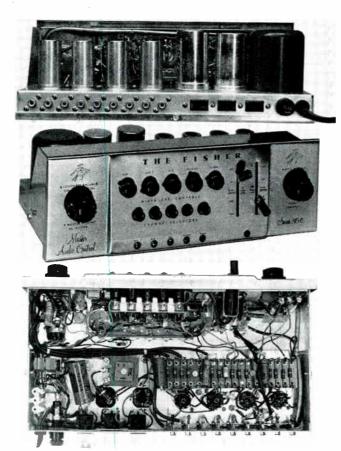
put. Also, it is equipped with a meter and switch to read the bias on the cathodes of the output tubes; DC balance for adjusting the bias on the output tubes; and the AC balance. The AC balance position of the switch has a spring return, so that the switch will not be left in that position.

The variable damping circuit has separate damping returns, each with the correct feedback resistor for each output impedance tap. A 600-volt oil condenser is used for the B+ input filter; the electrolytic is a telephone type with a rated life of 10 years or more; Mylar condensers of very low DC leakage are used for coup-

ling between the 6CG7 phase inverter and the output tubes. The latter are the new 6CA7's. Rectifiers are 6AU4GTA's, with slow-heating heater-cathodes, to protect against starting surges, and are operating very conservatively.

There are three inputs: one is for 2 volts to drive the amplifier at full rated output, and one is for .8 volt, both with a filter rolled off below 20 cycles. The third is for .8 volt, without the filter. Output impedances are 4, 8, and 16 ohms. Dimensions: 15 ins. wide, 6½ high, by 9½ deep; weight, 41 lbs. Price is \$189. Marantz Company, 44-15 Vernon Blvd., Long Island City, N. Y.

FISHER model 80-C preamp and mixer-fader control. Unlike conventional preamps, this instrument has, in addition to the



Fisher preamp and mixer-fader for five input channels

usual preamp adjustments, front-panel controls by means of which as many as five separate inputs can be regulated as to level, and fed into the amplifier simultaneously. Ordinarily, however, only two inputs are used together, as when a microphone and phonograph are combined.

There is an interesting arrangement of the power circuits to the receptacles in the rear. A special receptacle is provided for AC to the amplifier. The power is turned on for it by the on-off switch at the left of the front panel. The tuner and one other input source can be plugged in at the rear also, but the AC is switched on by the TUNER and AUX 1 channel-selector buttons.

Two or more input channels can be cut in by pressing the selector buttons at the same time. Then they can be released by pressing any other button. Pilot lights along the bottom row indicate the channels in use. The top row of knobs permit individual control of input level for the two auxiliary inputs, microphone, phonograph, and tuner. Concentric knobs at the left are for master volume and the AC on-off switch and loudness balance switch; at the right for bass and treble tone controls. The lever switches provide high-end and low-end equalization for the phonograph.

Two cascaded triode stages are used for the phonograph and tape preamp. The microphone preamp is completely separate, and provides sufficient gain for all types of microphones, including the low-level, professional types.

The tube compliment is comprised of three 12AX7's and a 12AU7A. These are carried on a shock-mounted sub-chassis. The built-in power supply has a full-wave selenium rectifier for B+, and a bridge-type selenium rectifier to furnish DC to the tube filaments.

The front panel design is such that the chassis can be mounted in a custom cabinet, or in a wood table cabinet furnished for this purpose. Chassis is 1234 ins. wide and 412 high, by 734 deep including the knobs. Power consumption is 20 watts at 105 to 125 volts, 50-60 cycles; weight 10 lbs. Price is \$99.50; table cabinet \$9.95. Fisher Radio Corp., 21-21 44th Drive, Long Island City 1, N. Y.

COLLARO model RC-54 record changer. A number of refinements have been incorporated into this latest of the Collaro series of 3-speed changers. For example, the RC-54 handles 7, 10, and 12-in. records intermixed, of the same speed, without requiring any special preset adjustment. The changing cycle has been reduced to 6 seconds, regardless of speed, and the reject action has been made almost instantaneous.

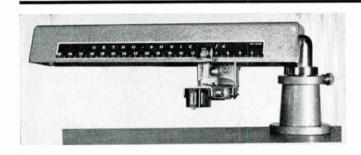
Other features include an automatic cut-off after the last record; automatic disengagement of the driving idler; a heavy rubber turntable mat; and a stylus-pressure adjustment accessible from the top of the base plate. Two plug-in heads are supplied, with mounting hardware to take any of the standard pickups. Base measures



Model RC-54 is the latest in the series of Collaro changers

 $13\frac{1}{2}$  by 12 ins. Clearance space is  $5\frac{1}{8}$  ins. above the mounting board, and  $2\frac{5}{8}$ 

below. Rockbar Corp., 215 E. 37th St., New York 13.



This arm keeps the stylus always tangent to the groove

ORTHOSONIC model V/4 tone arm. The use of a tone arm that keeps the stylus tangent to the record grooves at all times

is so reasonable and logical that it is hard to understand why the pivoted arm has been used exclusively for so many years past. Probably this is due to the mechanical simplicity and stability of the pivoted arm, and to resistance to change from the habit of handling arms of that design. Nevertheless, records are cut with a mechanism that keeps the stylus tangent to the groove at all times. There is, in consequence, a pinch-effect if the pickup stylus is not kept tangent.

Whether or not the latter will be replaced by the tangent design, only time will tell. It will probably depend largely on the "feel" of operation. The model V/4, illustrated here, carries the pickup on V-groove rollers riding on two rods. In use, the arm is tipped back to raise the stylus, and is then swung back off the record. Bard Record Co., 66 Mechanic St., New Rochelle, N. Y.

HARMAN-KARDON model C300 preamp and 30-watt amplifier. Here is a unit of relatively high power, incorporating features of high-priced equipment, designed to a moderate price, in a compact package. Whether or not you approve of this design philosophy, this instrument represents carefully-considered adjustments of performance, appearance, and cost.

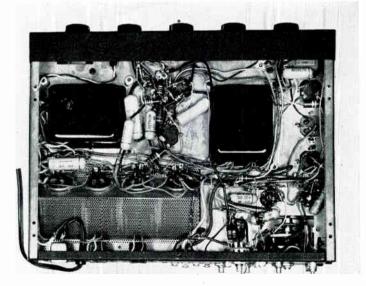
Front panel controls are: function selector with 3 phono equalization settings which are repeated with a sharp cutoff at 50 cycles, and positions for tuner and 2 auxiliary inputs; contour with 0 to 5 operating positions; volume and AC switch; and bass and treble controls.

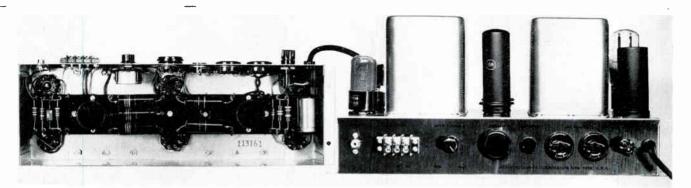
There is a phono input jack at the rear with a slide switch adjustment, and two

others for a high-level pickup or tape recorder. These and the tuner input have individual level controls. Speaker damping control is calibrated from .1 to 20. Speaker outputs are for 4, 8, and 16 ohms. Dimensions are 12½ by 4 ins., by 95% deep excluding the knobs. Weight is 26 lbs. Price \$129.95. Harman-Kardon, Inc., 520 Main St., Westbury, N. Y.

Front, rear, and underside views of the Harman-Kardon preamp-amplifier







INTERELECTRONICS 40-watt amplifier. This unit is described as having basically new and original design features and circuitry'', but further information cannot be added here since the schematic

was not supplied. Tubes used are a 6SL7, 6SN7GTA, two 1614's or KT66's, and a 5U4GA. Terminals shown above are for input, and 8 and 16-ohm output. Next is the damping control, socket for connec-

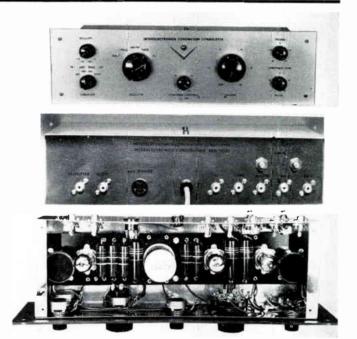
tions from the Interelectronics preamp, socket for an electrostatic speaker, and AC receptacles. Dimensions, 14¾ ins. wide, 5 deep, 6¾ high. Price \$109.50. Interelectronics Corp., 2432 Grand Concourse, New York 58.

INTERELECTRONICS preamp-equalizer. Like the companion amplifier shown above, this unit is finished in highly-polished chrome, and has a satin-gold front panel. The design and work-manship are most attractive, reflecting European influence, but the construction is more rugged. This Consolette can be mounted with no difficulty on a wood or metal panel.

The arrangement of the front panel is very convenient, with the 4-position rolloff and turnover controls at the left, and the treble and bass controls at the right. A feature of the selector switch will appeal to some hi-fi enthusiasts. In addition to the tuner, tape, and TV positions, there are two phono positions, so that either of two pickups can be cut in without the necessity of making an adjustment at the rear of the chassis. The loudness control is at the center, with a pilot light above, and the volume control is at the right.

Connections at the rear are for outputs to the amplifier and tape recorder, the plug cord to the Interelectronics amplifier for an optional power supply, if the separate supply is not used, and inputs from TV tape recorder, tuner, and two low-level pickups. The level controls are just above.

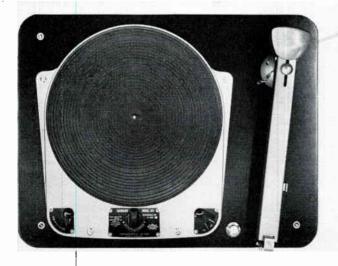
Tubes used are the low-noise English Z729, GE's non-microphonic 12AY7, and a dual triode 12AX7. The metal case is 12½ by 3 ins., and 4¾ ins. behind the panel. Price \$79.50. Interelectronics Corp., 2432 Grand Concourse, New York 58.

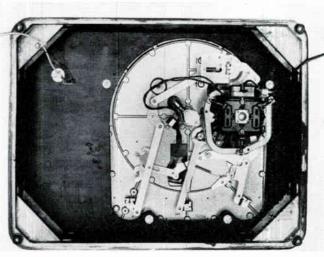


GARRARD 3-speed turntable. This English-made turntable was designed with the same attention to mechanical detail that characterizes the Garrard changers. It is heavy, rugged, smooth in operation. A

novel feature is the mechanical lock preventing damage to the mechanism by changing speeds when the table is running. A frictionless adjustment of speed is provided at all speeds. The driving idler,

moving up and down against 3 diameters of the drive shaft, is retracted when changing speeds and when the motor is cut off. Weight is 16 lbs.; price \$89.00. British Industries Corp., Port Washington, N. Y.





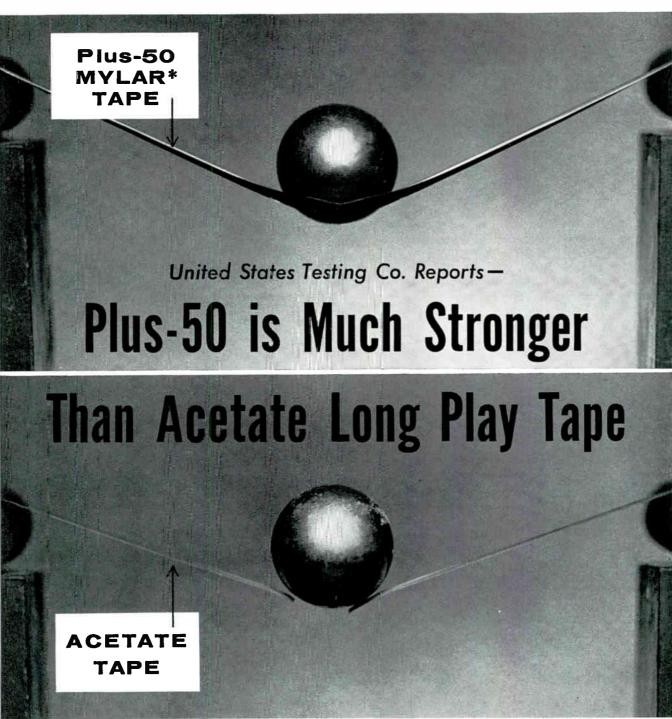
# FM BROADCAST STATIONS, BY CALL LETTERS

694 Commercial and Educational FM Stations Now on the Air in the United States

ALA	ABAMA		Stockton	KCVN	91.3	1	IDAHO		lowa City	KSUI	91 <i>.7</i>
Albertville	WAVU-FM	105.1	COL			Pocatello	KSEI-FM	96.5	Keokuk '	KOKX-FM	102.7
Alexander City	WRFS-FM	105.1		ORADO		Rexburg	KRXK-FM	93.7	Mason City	KGLO-FM	101.1
Andalusia	WCTA-FM	98.1	Colorade Springs		91.3	Twinn Falls	KTFI-FM	99.7	Muscatine	KWPC-FM	99.7
Anniston	WHMA-FM	100.5	Denver	KLZ-FM	95.7			,,,,	Siaux City	KSCJ-FM	94.9
Birmingham	WAFM	99.5	C-14	KOA-FM	95.7	<u></u>	ILLINOIS		Storm Lake	KAYL-FM	101.5
-	WJLN-FM	104.7	Golden	KFML	98.5 104.9	Bloomington	WJBC-FM	101.5	Waverly	KWAR	89.1
	WSGN-FM	93.7	Manitou Springs	KCMS	104.9	Canton	WBYS-FM	100.9	K	ANSAS	
Clanton	WKLF-FM	100.9	CONN	IECTICUT		Carmi	WROY-FM	97.3	Emporia	KSTE	88.7
Cullman	WFMH-FM	101.1	Danbury	WLAD-FM	98.3	Centralia	WCNT-FM	96.5	Independence	KIND-FM	93.5
Decatur Florence	WHOS-FM WJOI-FM	92.5 98.3	Hartfard	WDRC-FM	93.7	Champaign	WDWS-FM WBBM-FM	97.5 96.3	Lawrence	KANU	91.5
Mobile	WABB-FM	102.1		WTIC-FM	96.5	Chicago	WBEZ	91.5	Manhattan	KSDB-FM	88.1
Mobile	WKRG-FM	99.9	Meriden	WMMW-FM	95.7		WEFM	99.5	Ottawa	KTJO-FM	88.1
Talladeaa	WHTB-FM	97.1	New Haven	WNHC-FM	99.1		WENR-FM	99.5	Wichita	KFH-FM	100.3
Tuscaloosa	WTBC-FM	95.7	Stamford	WSTC-FM	96.7		WFJL	93.1		KMUW	89.1
	WUOA	91 <i>.7</i>	DEL	AWARE			WFMF	100.3	KEI	NTUCKY	
AR	IZONA		Wilmington	WDEL-FM	93.7		WFMT WMAQ-FM	98.7 101.1	Ashland	WCMI-FM	93.7
Mesa	KTYL-FM	104.7	DISTRICT C	OF COLUM	RIA		WSEL	104.3	Bowling Green	WLBJ-FM	101.1
Phoenix	KFCA	88.5				Cicero	WEHS	97.9	Fulton Hopkinsville	WFUL-FM WHOP-FM	104.9 98.7
Tucson	KTKT-FM	99.5	Washington	WASH WGMS-FM	97.1 103.5	Decatur	WSOY-FM	102.1	Lexington	WBKY	91.3
ADI	(ANSAS			WMAL-FM	103.3	DeKalb	WNIC	91.1	Lexingion	WLAP-FM	94.5
				WOL-FM	98.7	Effingham	WSEI	95.7	Louisville	WFPK	91.9
Blytheville	KLCN-FM KFPW-FM	96.1		WFAN	100.3	Elgin   Elmwoad Park	WEPS WLEY	88.1		WFPL	89.3
Ft. Smith	KFSA-FM	94.9 107.1		WRC-FM	93.9	Evanstan	WEAW-FM	107.1 105.1		WSDX	90.3
Jonesboro	KBTM-FM	101.9		20104		Evansian	WNUR	89.3	Madisonville	WFMW-FM	93.9
Pocahontas	KPOC-FM	97.7	PLC	DRIDA		Greencastle	WGRE	91.7	Owensbora	WOMI-FM	92.5
Siloam Springs	KUOA-FM	105.7	Daytona Beach	WNDB-FM	94.5	Jacksonville	WLDS-FM	100.5	nt L	WVJS-FM	96.1
CALL	IFORNIA		Gainesville	WRUF-FM	104.1	Mattoan	WLBH-FM	96.9	Paducah	WKYB-FM WPAD-FM	93.3 96.9
			Jacksanville	WJAX-FM	95.1	Mt. Vernon	WMIX-FM	94.1		WI AD-IM	70.7
Bakersfield	KERN-FM	94.1		WJHP-FM WMBR-FM	96.9 96.1	Oak Park	WOPA-FM	102.3	LOI	JISIANA	
B - 1 -1-	KQXR	92.5	Lakeland	WFSI	88.1	Oiney	WVLN-FM	92.9	Alexandria	KALB-FM	96.9
Berkeley	KPFA	94.1 89.3	Miami	WGBS-FM	96.3	Paris Peoria	WPRS-FM	98.3	Baton Rauge	WFB-FM	104.3
	KPFB KRE-FM	102.9		WIOD-FM	97.3	Quincy	WMBD-FM WCEM-FM	92.5 105.1	Ū	WJBO-FM	98.1
Beverly Hills	KCBH	98.7		WLRD	93.9	Gronicy	WTAD-FM	99.5		WLCS-FM	101
Eureka	KRED	96.3		WTHS	91. <i>7</i>	Rackford	WROK-FM	97.5		WLSU	91 <i>.7</i>
Fresno	KARM-FM	101.9		WQAM-FM	94.9	Rock Island	WHBF-FM	98.9	Lafayette	KVOL-FM	96.1
	KFRM	93.7		WWPB-FM	101.5	Springfield	WTAX-FM	103.7	Monroe	KMLB-FM	104.1
	KMJ-FM	97.9	Miami Beach	WLRD	93.9	Urbana	WILL-FM	91 <i>.</i> 7	New Orleans	WBEH	89.3
Glendale	KFMU	97.1		WKAT-FM	93.1		NDIANA			WDSU-FM	105.3
	KUTE	101.9	Orlando	WDBO-FM	92.3					WRCM WWMT-FM	97.1 95.7
Long Beach	KFOX-FM	102.3		WHOO-FM	96.5	Bloomington	WFIU	103.7	Shreveport	KRMD-FM	101.1
	KLON	88.1	Palm Beach	WORZ-FM WWPG-FM	100.3 97.9	Connersville	WCNB-FM	100.3	omerepor.	KTBS-FM	96.5
las Associas	KNOB	103.1	Panama City	WDLP-FM	98.9	Crawfardsville		106.3		KWKH-FM	94.5
Los Angeles	KABC-FM KCBH	95.5 98.7	St. Petersburg	WTSP-FM	102.5	Evansville	WEVC WMLL	91.5 94.5	_		,
	KFAC-FM	92.3	Tallahassee	WFSU-FM	91.5		WIKY-FM	104.1	٨	MAINE	
	KFWB-FM	94.7		WTAL-FM	103.9	Ft. Wayne	WKJG-FM	106.1	Lewiston	WCQU-FM	93.9
	KHJ-FM	101.1	Tampa	WDAE-FM	100.7	Gary	WGVE	88.1	A4 A	DVIAND	
	KNX-FM	101.1		WFLA-FM	93.3	Hammond	WJOB-FM	92.3	MA	RYLAND	
	KRKD-FM	96.3		WPKM	104.7	Hartfard City	WHCI	91.9	Annapalis	WNAV-FM	99.1
	KUSC	91.5	<b></b> .	WTUN	88.9	Huntington	WVSH	91.9	Baltimore	WBJC	88.1
Marysville	KMYC-FM	99.9	Winter Park	WPRK	91.5	Indianapolis	WAJC	91.9		WCAO-FM	102.7
Modesto	KBEE	103.3	GEC	DRGIA			WIAN	90.1	Dash i	WITH-FM	104.3
	KTRB-FM	104.1			00.5	Jasper	WITZ-FM	104.7	Bethesda Cumberland	WUST-FM WCUM-FM	106.3 102.9
Mt. Diablo Oakland	KSBR	100.5	Athens Atlanta	WGAU-FM WABE	99.5 90.1	Lebanon Madisan	WINL WORX-FM	107.1 96.7	Hagerstawn	WJEJ-FM	102.9
Oceanside	KLX-FM KOEN	101.3 89.7		WAGA-FM	103.3	Marion	WMRI-FM	106.9	Oakland	WBUZ	95.5
Ontario	KEDO	93.5		WGKA	92.9	Michigan City	WIMS-FM	93.5			
Pasadena	KWKW-FM	98.3		WBGE-FM	95.5	Muncie	WMUN	104.1	MASS	ACHUSETTS	
Redding	KVRE			WGST-FM	94.1		WWHI	91.5	Amherst	WMUA	91.1
Sacramento	KCRA-FM	96.1		WSB-FM	98.5	New Albany	WNAS	88.1	Boston	WBUR	90.9
	KFBK-FM	96.9	Augusta	WAUG-FM	105.7	New Castle	WCTW	102.5		WCOP-FM	100.7
	KXOA-FM	107.9	٠, ,	WBBQ-FM	103.7		WYSN	91.1		WEEI-FM	103.3
San Bernardino	KVCR	91.9	Calumbus	WRBL-FM	93.3	Terre Haute	WBOW-FM	101.1		WGBH	89.7
San Diego	KFSD-FM	94.1	Gainesville	WDUN-FM	103.9 95.9	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	WTHI-FM	99.9		WHDH-FM	94.5
	KSDS KSON-FM	88.3 104.7	Griffin LaGrange	WKEU-FM WLAG-FM	104.1	Wabash Warsaw	WSKS WRSW-FM	91.1 107.3		WNAC-FM WERS	98.5 88.9
San Francisco	KALW	91.7	Macon	WMAZ-FM	99.1	Washington	WFML-FM	107.3	Brockton	WBET-FM	97.7
San Francisco	KCBS-FM	98.9	Newnan	WCOH-FM	96.7			. 55.5	Cambridge	WXHR	96.9
	KDFC-FM	102.1	Rome	WRGA-FM	106.5		IOWA		Greenfield	WHAI-FM	98.3
	KGO-FM	106.1	Savannah	WSAV-FM	100.3	Ames	WOI-FM	90.1	Lowell	WLLH-FM	99.5
	KNBC-FM	99.7		WTOC-FM	97.3	Boane	KFGQ-FM	99.3	New Bedford	WBSM-FM	97.3
	KXKX	97.3	Swainsboro	WJAT-FM	101.7	Clinton	KROS-FM	96.1		WNBH-FM	98.1
San Jose	KSJO-FM	95.3	Toccoa	WLET-FM	106.1	Davenport	WOC-FM	103.7	Pittsfield	WBEC-FM	94.3
San Mateo	KXSM	90.9	West Point	WRLD-FM	102.9	Des Moines	KDPS	88.1	Springfield	WEDK	91.7
Santa Ana	KWIZ-FM	96.7	Н	WAII			KRNT-FM	104.5		WHYN-FM	93.1
Santa Clara	KSCU	90.1			90.5		KSO-FM	97.3		WJKO-FM WMAS-FM	101.9 94.7
Santa Monica	KCRW	89.9 102.1	Honolulu	KUOH KVOK	88.1	Dubuque	WHO-FM WDBQ-FM	100.3 103.3	Waltham	WCRB-FM	102.5
Sausalito	KDFC	102.1		K V V K	00.1	Donodoe	TT DDG(-1 M)	100.0	i i dinidili	TT CRO-ITM	102.0

W. Yarmouth	WOCB-FM	94.3	Cherry Valley	WRRC	101.9	Bellaire	WTRX-FM	100.5	Pittsburgh	KDKA-FM	92.9
Worcester	WTAG-FM	96.1	Corning	WCLI-FM	106.1	Bowling Green	WBGU	88.1	i ilisborgii	WDUQ	91.5
A416	HICAN		Cortland	WKRT-FM	99.9	Canton	WHBC-FM	94.1		WJAS-FM	99.7
MIC	HIGAN		De Ruyter	WRRD	105.1	Cincinnati	WCPO-FM	105.1		WKJF	93.7
Ann Arbor	WUOM	91.7	Fiorai Park	WSHS	90.3		WKRC-FM	101.9		WWSW-FM	94.5
Bay City	WBCM-FM	96.1	Hempstead	WHLI-FM	98.3	Cleveland	WBOE	90.3	Pottsville	WPPA-FM	101.9
Benton Harbor Coldwater	WHFB-FM WTVB-FM	99.9 98.3	Hornell	WWHG-FM	105.3		WDOK-FM	102.1	Scranton	WGBI-FM	101.3
Detroit	CKLW-FM	93.9	Ithaca	WHCU-FM WITJ	97.3 91.7		WERE-FM	98.5		WEJL	107.3
Delloll	WDET-FM	101.9		WRRA	103.7		WGAR-FM	99.5	ČL	WUSV	89.9
	WDTR	90.9	Jamestown	WJTN-FM	93.3		WHK-FM WJW-FM	100.7 104.1	Sharon	WPIC-FM	102.9
	WJBK-FM	93.1	Massena	WMSA-FM	105.3		WTAM-FM	105.7	State College Sunbury	WDFM WKOK-FM	91.1 94.1
	WBRI	97.9	New Rochelle	WNRC-FM	93.5	Cleveland Heights		95.3	Warren	WRRN-FM	92.3
	WJR-FM	96.3	New York	WABC-FM	95.5	Columbus	WCOL-FM	92.3	Washington	WJPA-FM	104.3
	WKMH-FM	100.3		WABF	99.5		WOSU-FM	89.7	Wilkes-Barre	WBRE-FM	98.5
	WLDM	95.5		WCBS-FM	101.1		WVKO-FM	94.7	Williamsport	WYLC-FM	105.1
	WMAZ	103.5		WEVD-FM	97.9	Dayton	WHIO-FM	99.1	·	WRAK-FM	100.3
	WWJ-FM	97.1		WFUV	90.7	Delaware	WSLN	91.1	York	WNOW	105.7
E I:	WXYZ-FM	101.1 90.5		WGHF	101.9	Elyria	WEOL-FM	107.3		WRZE	98.5
E. Lansing Grand Rapids	WKAR-FM WJEF-FM	93.7		WHOM-FM WMGM-FM	92.3	Findlay	WFIN-FM	100.5	RHO	DE ISLAND	
Ordina Kapitas	WLAV-FM	96.9		WNYC-FM	100.3 93.9	Fostoria Fremont	WFOB-FM WFRO-FM	96.7 99.3			1051
Hillsdale	WBSE-FM	103.9		WOR-FM	98.7	Hamilton	WMOH-FM	103.5	Providence	WPJB-FM WPEM	105.1 101.5
Kalamazoo	WMCR	91.1		WQXR-FM	96.3	Kent	WKSU-FM	88.1		WPRO-FM	92.3
Muskegon	WKBZ-FM	98.9		WRCA-FM	97.1	Lima	WIMA-FM	102.1		WTMH	101.5
Pontiac	WCAR-FM	99.5	Niagara Falls	WHLD-FM	98.5	Marion	WMRN-FM	106.9		** ******	
Royal Oak	WOMC	104.3	Ogdensburg	WSLB-FM	106.1	Mt. Vernon	WMVO-FM	93.7	Woonsocket	WWON-FM	106.3
Saginaw	WSAM-FM	98.1	Olean	WHDL-FM	95.7	Newark	WCLT-FM	100.3	SOUTH	I CAROLINA	۸.
Sturgis	WSTR-FM	103.1	Potchogue	WALK-FM	97.5	Oxford	WMUB	88.5	_		
MIN	NESOTA		Rochester	WHAM	98.9	Portsmouth	WPAY-FM	10,4.1	Anderson	WCAC	101.1
		100 5		WRNY-FM	97.9	Steubenville	WSTV-FM	103.5	Charleston	WCSC-FM	96.9
Mankato	KYSM-FM KTIS-FM	103.5	Schenectady	WGFM	99.5	Toledo	WSPD-FM	101.5	Calumbia	WTMA-FM WCOS-FM	95.1 97.9
Minneapolis	WTCN	98.5 97.1	Springville   Syracuse	WSPE WAER	88.1 88.1		WTDS	91.3	Columbia	WIS-FM	94.5
St. Cloud	KFAM-FM	104.7	Sylucuse	WSYR-FM	94.5		WTRT WTOL-FM	99.9 104.7		WUSC-FM	89.9
St. Paul	WMNS-FM	99.5	Troy	WFLY	92.3	Wooster	WWST-FM	104.5	Dillion	WDSC-FM	92.9
	WNOV	89.1	Utica	WRUN-FM	105.7	Youngstown	WKBN-FM	98.9	Greenville	WAKE-FM	94.9
Winona	KWNO-FM	97.5	Watertown	WWNY-FM	100.5			,		WESC-FM	92.5
MIC	SISSIPPI		Wethersfield			OKLA	AMOHA			WFBC-FM	93.7
			TWP.	WRRL	107.7	Muskogee	KMUS-FM	101.5	Greenwood	WCRS-FM	95.7
Gulport	WGCM-FM	101.5	White Plains	WFAS-FM	103.9	Norman	WNAD-FM	90.9	Orangeburg	WORG	102.7
Hattiesburg	WFOR-FM	97.9	Woodside	WWRL-FM	105.1	Okłahoma City	KOKH	88.9	Rock Hill	WRHI-FM	98.3
Jackson Maridian	WJDX-FM WMMI	102.9 88.1	NORTH	CAROLINA	Α	Shawnee	KBGC	88.9	Seneca	WSNW-FM WDXY	98.1 100.5
Meridian	44 W/WI	00.1				Tulsa	KWGS	90.5	Spartanburg		
			l Asheboro	WGWP-FM	023					WSPA_FM	000
MIS	SOURI		Asheboro Asheville	WGWR-FM WLOS-FM	92.3 104.3	ORI	EGON		Walterboro	WSPA-FM WALD-FM	98.9 106.3
	SOURI KFUO-FM	99.1	Asheville	WLOS-FM	104.3			101.7	Walterboro	WALD-FM	98.9 106.3
Clayton Jefferson City		99.1 98.5			104.3 101.1	Albany	KWIL-FM	101 <i>.7</i> 91.9			
Clayton	KFUO-FM		Asheville	WLOS-FM WBBB-FM	104.3			101.7 91.9 99.1		WALD-FM	
Clayton Jefferson City	KFUO-FM KWOS-FM	98.5	Asheville Burlington	WLOS-FM WBBB-FM WFNS-FM	104.3 101.1 93.9	Albany	KWIL-FM KRVM	91.9	TEI	WALD-FM NNESSEE	106.3
Clayton Jefferson City Joplin Kansas City Kennett	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM	98.5 96.1 94.9 98.9	Asheville Burlington Chapel Hill Charlotte Clingman's Peak	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM	104.3 101.1 93.9 91.5 103.5 106.9	Albany	KWIL-FM KRVM KUGN-FM	91.9 99.1 91.1 96.9	<b>TEI</b> Bristol Chattanooga	WALD-FM NNESSEE WOPI-FM WAPO-FM WDOD-FM	96.9 99.1 96.5
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM	98.5 96.1 94.9 98.9 94.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1	Albany Eugene Grants Pass Oretech	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC	91.9 99.1 91.1 96.9 88.1	TEI Bristol Chattanooga Crossville	WALD-FM NNESSEE WOPI-FM WAPO-FM WDOD-FM WAEW-FM	96.9 99.1 96.5 97.1
Clayton Jefferson City Joplin Kansas City Kennett	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM	98.5 96.1 94.9 98.9 94.5 102.5	Asheville Burlington Chapel Hill Charlotte Clingman's Peak Durham Elkin	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9	Albany Eugene Grants Pass	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC KEX-FM	91.9 99.1 91.1 96.9 88.1 92.3	TEI Bristol Chattanooga Crossville Harriman	WALD-FM NNESSEE WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM	96.9 99.1 96.5 97.1 95.3
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH	98.5 96.1 94.9 98.9 94.5 102.5 91.5	Asheville Burlington Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1	Albany Eugene Grants Pass Oretech	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC KEX-FM KOIN-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1	TEI Bristol Chattanooga Crossville Harriman Jackson	WALD-FM NNESSEE WOPI-FM WAPO-FM WDO-FM WAEW-FM WHBT-FM WTJS-FM	96.9 99.1 96.5 97.1 95.3 100.7
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis Springfield	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3	Albany Eugene Grants Pass Oretech	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC KEX-FM KOIN-FM KPFM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1	TEI Bristol Chattanooga  Crossville Harriman Jackson Johnson City	WALD-FM NNESSEE WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGNC-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9	Albany Eugene Grants Pass Oretech	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC KEX-FM KOIN-FM KPFM KPOJ-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7	TEI Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport	WALD-FM NNESSEE WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM WKPT-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGNC-FM WEQR-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9	Albany Eugene Grants Pass Oretech Portland	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC KEX-FM KOIN-FM KPFM KPOJ-FM KQFM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1	TEI Bristol Chattanooga  Crossville Harriman Jackson Johnson City	WALD-FM NNESSEE WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM WKPT-FM WBIR-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5 93.3
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBD-FM WGNC-FM WGQR-FM WGPS	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9	Albany Eugene Grants Pass Oretech Portland	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC KEX-FM KOIN-FM KPFM KPOJ-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7	TEI Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport	WALD-FM NNESSEE WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM WKPT-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis Springfield West Plains	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGNC-FM WEQR-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9	Albany Eugene Grants Pass Oretech Portland	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC KEX-FM KOIN-FM KPFM KPOJ-FM KQFM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7	TEI Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport	WALD-FM NNESSEE WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM WKPT-FM WBIR-FM WKCS	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5 93.3 91.1
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis Springfield West Plains NE Las Vegas Reno	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderson	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WFMC-FM WBBO-FM WGNC-FM WEQR-FM WGPS WHNC-FM WHPE-FM WHPE-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9 92.5 95.5 89.3	Albany Eugene Grants Pass Oretech Portland	KWIL-FM KRVM KUGN-FM KWAX KGPO KTEC KEX-FM KOIN-FM KPFM KPFM KQFM YLVANIA	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM WKPT-FM WKPT-FM WKOS WUOT WLIL-FM WMCF	96.9 99.1 96.5 97.1 95.3 100.7 98.5 93.3 91.1 91.9 100.3 99.7
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis Springfield West Plains NE Las Vegas Reno NEW H	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderson	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WFMC-FM WBO-FM WBO-FM WGOR-FM WGPS WHNC-FM WHPS-FM WHPS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9 92.5 95.5 95.5	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown Altoona	KWIL-FM KRVM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPFM KPOJ-FM KQFM YLVANIA WFMZ WSAN-FM WVAM-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WAEW-FM WHBT-FM WTJS-FM WJJL-FM WKPT-FM WBIR-FM WKCS WUOT WLIL-FM WMCF WSOK-FM	96.9 99.1 96.5 97.1 95.3 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis Springfield West Plains NE Las Vegas Reno NEW + Claremont	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV  IAMPSHIRE WTSV-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGNC-FM WEQR-FM WGQR-FM WGPS WHNC-FM WHPE-FM WHPS WMFR-FM WNOS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 99.5 100.3	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown Altoona Bethlehem	KWIL-FM KRVM KUGN-FM KUGN-FM KFPO KTEC KEX-FM KOIN-FM KPOJ-FM KPOJ-FM KQFM YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM WKPT-FM WKPT-FM WKOS WUOT WLIL-FM WMCF	96.9 99.1 96.5 97.1 95.3 100.7 98.5 93.3 91.1 91.9 100.3 99.7
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis Springfield West Plains NE Las Vegas Reno NEW + Claremont Manchester	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM  EVADA  KENO-FM KNEV  IAMPSHIRE WTSV-FM WKBR-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WGNC-FM WGNC-FM WGPS WHNC-FM WHPE-FM WHPS-FM WHPS-FM WHOS-FM WNOS-FM WEWO-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9 92.5 95.5 89.3 99.5 90.3	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown Altoona Bethlehem Butler	KWIL-FM KRVM KUGN-FM KUGN-FM KWAX KGPO KTEC KEX-FM KOIN-FM KPFM KPFM KYPOJ-FM KQFM YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WBUT-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.1 97.7	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM WKPT-FM WKPT-FM WKCS WUOT WLIL-FM WMCF WSOK-FM WTPR-FM	96.9 99.1 96.5 97.1 95.3 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KVOC-FM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV  IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WFM-FM WFNC-FM WGNC-FM WGNC-FM WGR-FM WGPS WHNC-FM WHPE-FM WHPS-FM WHPS-FM WHOS-FM WNOS-FM WEOF-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.9 96.9 88.9 92.5 95.5 89.3 99.5 100.3 96.5 92.7	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown Altoona Bethlehem Butler Chambersburg	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPFM KPOJ-FM KQFM YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WGHA-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 100.3 100.7 99.9 101.1 95.1 97.7 95.9	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WJS-FM WJHL-FM WKPT-FM WKPT-FM WKIS-FM WKCS WUOT WLIL-FM WMCF WSOK-FM WTPR-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5 93.3 91.1 100.3 99.7 105.9 97.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM  EVADA  KENO-FM KNEV  IAMPSHIRE WTSV-FM WKBR-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WFNC-FM WGNC-FM WGNC-FM WGNC-FM WGNC-FM WGNC-FM WGNC-FM WHPE-FM WHPS-FM WHPS-FM WHPS-FM WHPS-FM WHOS-FM WEO-FM WEO-FM WEO-FM WEO-FM WEO-FM WEO-FM WBUY-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9 92.5 89.3 99.5 100.3 96.7 94.3	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown  Altoona Bethlehem Butler Chambersburg Coudersport	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPFM KQFM YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WBUT-FM WCHA-FM WFRM-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 100.3 100.7 99.9 101.1 95.1 97.7 95.9 96.7	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris Abilene	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WTJS-FM WJHL-FM WKPT-FM WKPT-FM WKCS WUOT WLIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM	96.9 99.1 96.5 97.1 95.3 100.7 98.5 93.3 91.1 100.3 99.7 105.9 97.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis Springfield West Plains NE Las Vegas Reno NEW H Claremont Manchester Nashua	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV  IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WBBO-FM WGNC-FM WGR-FM WGR-FM WGPS WHNC-FM WHPE-FM WHPE-FM WHPS-FM WHOS-FM WEWO-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WHOS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 99.5 100.3 96.5 92.7	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois	KWIL-FM KRVM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPOJ-FM KQFM YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WBT-FM WCHA-FM WFM-FM WFM-FM WCED-FM	91.9 99.1 90.1 96.9 88.1 92.3 101.1 97.1 100.3 100.7 99.9 101.1 95.1 95.1 97.7 96.7 102.1	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris Abilene Baytown	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WHEW-FM WHST-FM WJHL-FM WKPT-FM WBIR-FM WKCS WUOT WLIL-FM WMCF WSOK-FM WTPR-FM TEXAS  KACC-FM KREL-FM	96.9 99.1 96.5 97.1 100.7 100.7 98.5 93.3 101.1 91.9 100.3 99.7 105.9 97.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM JERSEY WJLK-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E 106.1 100.1 106.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBO-FM WGNC-FM WGNC-FM WGNC-FM WGNC-FM WGNC-FM WHOS-FM WGNC-FM WHOS-FM WHOS-FM WLOE-FM WBUY-FM WBUY-FM WBUY-FM WBUY-FM WBUY-FM WBUY-FM WBUY-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 100.3 96.5 92.7 94.3 94.5 96.1	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown  Altoona Bethlehem Butler Chambersburg Coudersport	KWIL-FM KRVM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPOJ-FM KPOJ-FM WFMZ WSAN-FM WVAM-FM WGPA-FM WBUT-FM WCHA-FM WCED-FM WEEX-FM	91.9 99.1 90.1 96.9 88.1 92.3 101.1 98.7 100.3 100.7 99.9 101.1 95.1 95.7 95.7 95.7 102.1 98.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris Abilene Baytown Beaumont	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WHBT-FM WHBT-FM WJHL-FM WKPT-FM WKPT-FM WKIL-FM WKCS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM TEXAS  KACC-FM KREL-FM KRIC-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9 97.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis Springfield West Plains NE Las Vegas Reno NEW H Claremont Manchester Nashua	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV  IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WBBO-FM WGNC-FM WGR-FM WGR-FM WGPS WHNC-FM WHPE-FM WHPE-FM WHPS-FM WHOS-FM WEWO-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WHOS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9 92.5 95.5 89.3 90.5 100.3 96.5 92.7 94.3 93.4 94.7	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton	KWIL-FM KRVM KUGN-FM WUGN-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.1 95.9 96.7 102.7 95.9 96.7 102.7	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WHBT-FM WHBT-FM WJHL-FM WKPT-FM WKPT-FM WKOS WUOT WLIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KCCT-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9 97.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM JERSEY WJLK-FM WFPG-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WGNC-FM WHOC-FM WHOC-FM WHOS-FM WLOE-FM WHOS-FM WHOO-FM WHOO-FM WHOO-FM WHOO-FM WHOO-FM WHOO-FM WHOO-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 100.3 96.5 92.7 94.3 94.5 96.1	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPFM KPFM KYPM KYPM YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WBUT-FM WCHA-FM WFRM-FM WCED-FM WEST WEST-FM	91.9 99.1 90.1 96.9 88.1 92.3 101.1 98.7 100.3 100.7 99.9 101.1 95.1 95.7 95.7 95.7 102.1 98.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris Abilene Baytown Beaumont	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WHBT-FM WHBT-FM WJHL-FM WKPT-FM WKPT-FM WKIL-FM WKCS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM TEXAS  KACC-FM KREL-FM KRIC-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9 97.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW H Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KCFM KSLH KTTS-FM KWPM-FM  EVADA  KENO-FM KNEV  IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM  JERSEY WJLK-FM WSNJ-FM WSNJ-FM WBGO	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E 106.1 100.1 106.3 94.3 98.5 98.5 98.3 88.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGNC-FM WGNC-FM WGNC-FM WHOL-FM WHOS-FM WHOS-FM WLOE-FM WHOS-FM WLOE-FM WHOS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.9 96.9 88.9 92.5 95.5 89.3 99.5 100.3 96.5 92.7 94.3 93.5 96.1	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton	KWIL-FM KRVM KUGN-FM WUGN-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 98.7 100.3 100.7 99.9 101.1 95.1 95.9 96.7 102.1 98.3 107.9 99.9	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WTJS-FM WKPT-FM WKPT-FM WKCS WUOT WLIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KKCT-FM KKIC-FM KKIC-FM KKIC-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5 93.3 91.1 100.3 99.7 105.9 97.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW  Asbury Park Atlantic City Bridgeton Newark  New Brunswick	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV  IAMPSHIRE WTSV-FM WOTW-FM JERSEY WJLK-FM WFPG-FM WSNJ-FM WAAT-FM WBGO WCTC-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 97.3 103.9 95.5 106.1 106.3 94.3 98.5 98.9 98.3 88.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WBBO-FM WGNC-FM WGPS WHNC-FM WHPE-FM WHPS WHPS-FM WHOS-FM WLOE-FM WROM-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 99.5 100.3 96.5 92.7 100.3 96.1 94.1 96.1 96.1	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPFM KQFM  YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WBU-FM WCHA-FM WCHA-FM WCED-FM WEST WESC-FM WLEU-FM	91.9 99.1 90.1 96.9 88.1 92.3 101.1 97.1 100.3 100.7 99.9 101.1 95.1 95.7 96.7 102.1 98.3 107.9 99.9 97.9	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WHEW-FM WHST-FM WHST-FM WHIL-FM WKPT-FM WKPT-FM WKPT-FM WKCS WUOT WILL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KRIC-FM KRLD-FM	96.9 99.1 96.5 97.1 100.7 100.7 98.5 93.3 91.1 91.9 100.3 97.9 97.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTIS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WOTW-FM WJLK-FM WFPG-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E 106.1 106.3 94.3 98.3 98.3 98.3 98.3 98.3 98.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WGNC-FM WGRIC-FM WGRIC-FM WGRIC-FM WGPS-FM WHPE-FM WHPS-FM WHPS-FM WHPS-FM WHPS-FM WHPS-FM WHOS-FM WLOE-FM WBUY-FM WFM-FM WRWO-FM WRWO-FM WRWO-FM WRWO-FM WRWO-FM WRWO-FM WRWO-FM WRWO-FM WHOS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 82.5 95.5 89.3 90.5 100.3 94.7 101.5 102.1 98.7 98.1 94.7	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton	KWIL-FM KRVM KUGN-FM WYLVANIA WFMZ WSAN-FM WVAM-FM WUGN-FM WUGN-FM WUGN-FM WEEL-FM WEEL-FM WEEL-FM WHHS WAZL-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.9 96.7 102.1 98.3 107.9 97.9 97.9 97.9 97.9	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris Abilene Baytown Beaumont Corpus Christi Dallas	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHBT-FM WJS-FM WJHL-FM WKPT-FM WKOT-FM WKCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KRIC-FM KRIC-FM KRIC-FM KRID-FM KSMU-FM KVTT WRR-FM	96.9 99.1 96.5 97.1 95.3 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9 97.9 91.9 92.1 97.5 95.5 104.5 92.5 89.3 91.7
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW H Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WKBR-FM WOTW-FM JERSEY WJLK-FM WFPG-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 106.1 100.1 100.3 98.5 98.9 98.3 88.3 98.3 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexingten Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount Salisbury	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WBO-FM WGRFFM WGPS WHNC-FM WHPE-FM WHPE-FM WHOS-FM WLOE-FM WLOE-FM WLOE-FM WFWO-FM WLOE-FM WHOS-FM WLOE-FM WHOS-FM WLOE-FM WHOS-FM WLOE-FM WHOS-FM WLOE-FM WHOS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 92.7 100.3 96.5 92.7 101.5 102.1 98.5 100.1	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPFM KPFM KQFM  YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WBUT-FM WCHA-FM WECD-FM WEEX-FM WEEX-FM WEEY-FM WHP-FM WHP-FM WHP-FM WAZL-FM WARD-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 98.7 100.3 100.7 99.9 101.1 95.7 95.9 96.7 102.1 98.3 107.9 97.9 97.9 97.3 89.3 89.3 97.7	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris Abilene Baytown Beaumont Corpus Christi Dallas Denton	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WAEW-FM WHST-FM WJHL-FM WKPT-FM WBIR-FM WKCS WUOT WLIL-FM WKCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KCCT-FM KIXL-FM KSMU-FM KYRL-FM KSMU-FM KYRL-FM KYRL-FM KYRL-FM KYRL-FM KONT-FM	96.9 99.1 96.5 97.1 100.7 100.7 98.5 93.3 91.1 91.9 100.3 97.9 97.9 97.9 91.9 92.1 97.5 95.5 104.5 92.5 89.3 91.1 106.3
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTIS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WOTW-FM WJLK-FM WFPG-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E 106.1 106.3 94.3 98.3 98.3 98.3 98.3 98.3 98.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexingten Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount Salisbury Sanford	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGRF-FM WGPS WHNC-FM WHPE-FM WHPE-FM WHOS-FM WEWO-FM WLOE-FM WEWO-FM WLOE-FM WEWO-FM WFN-FM WFN-FM WFN-FM WFN-FM WEWO-FM WFMAB WEWO-FM WRED-FM WKFM WFMA	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 92.7 94.7 101.5 102.1 98.5 100.7 98.5 100.7	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPFM KPOJ-FM KQFM  YLVANIA WFMZ WSAN-FM WGPA-FM WGPA-FM WGPA-FM WCHA-FM WCED-FM WEEX-FM WEEX-FM WEEX-FM WHP-FM WHP-FM WHHS WAZL-FM WJAC-FM	91.9 99.1 90.1 96.9 88.1 92.3 101.1 97.1 100.3 100.7 99.9 101.1 95.1 95.7 96.7 102.1 98.3 107.9 99.9 97.9 97.9 97.3 89.3 97.7 92.1 95.5	TEI Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WHOD-FM WHIL-FM WHIL-FM WKPT-FM WHIL-FM WKPT-FM WHIL-FM WKCS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 100.7 100.3 91.1 91.9 105.9 97.9 91.9 92.1 97.5 95.5 104.5 92.5 89.3 91.7 101.1 106.3 88.5
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW H Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM VJERSEY WJLK-FM WSNJ-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 106.1 100.1 100.3 98.5 98.9 98.3 88.3 98.3 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGNC-FM WHOE-FM WHOE-FM WNOS-FM WLOE-FM WLOE-FM WNOS-FM WLOE-FM WLOE-FM WLOE-FM WEWO-FM WSTF-FM WFMA WFMA WFTF-FM WRAL-FM WRED-FM WRFMA WGP-FM WGP-FM WOHS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 92.7 94.7 101.5 102.1 106.5 100.7 92.1 106.5 105.5	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton	KWIL-FM KRVM KUGN-FM WOM-FM WUGN-FM WHP-FM WHP-FM WHP-FM WHHS WAZL-FM WJAC-FM WJAC-FM	91.9 99.1 91.1 96.9 88.1 92.3 100.7 98.7 100.3 100.7 99.9 101.1 95.1 97.7 95.9 96.7 102.1 98.3 107.9 97.9 97.3 89.3 97.7 92.1 95.5 101.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth	WALD-FM  NNESSE  WOPI-FM WAPO-FM WDOD-FM WHBT-FM WHBT-FM WJS-FM WJHL-FM WKPT-FM WKPT-FM WKOS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KRIC-FM KRIC-FM KRLD-FM KSMU-FM KSMU-FM KVTT WRR-FM KVOF-FM WDAP-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 110.7 100.3 99.7 105.9 97.9 91.9 97.5 95.5 104.5 98.3 91.7 101.1
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW  Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton Zarepath NEW	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTIS-FM KWPM-FM  EVADA  KENO-FM KNEV  IAMPSHIRE WTSV-FM WOTW-FM WFPG-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM  MEXICO	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E 106.1 106.3 106.3 98.5 98.9 98.3 88.3 88.3 89.5 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount Salisbury Sanford Shelby Statesville	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WGNC-FM WHPE-FM WHPE-FM WHPE-FM WHPE-FM WHPS-FM WGNC-FM WSTF-FM WREV-FM WKFM WSTP-FM WGP-FM WGP-FM WGNS-FM WGNS-FM WGNS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9 92.5 95.5 89.3 90.5 92.7 94.3 94.7 101.5 102.1 106.5 105.7	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster	KWIL-FM KRVM KUGN-FM WUGN-FM WUGN-FM WUGN-FM WUGN-FM WEST WERC-FM WHHS WAZL-FM WARD-FM WARD-FM WARD-FM WUGN-FM WHAS WAZL-FM WARD-FM WARD-FM WUGN-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.9 96.7 102.1 98.3 107.9 97.9	TEI Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WHBT-FM WHBT-FM WYJS-FM WJHL-FM WKPT-FM WKOFT-FM WKCS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KRIC-FM KRIC-FM KRIC-FM KNIL-FM KNU-FM KNONT-FM	96.9 99.1 96.5 97.1 95.3 100.7 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9 97.9 91.9 92.1 97.5 95.5 104.5 92.5 89.3 91.7 101.1 106.3 88.5 100.5 100.5
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton Zarepath	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM JERSEY WJLK-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM MEXICO KANW	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 106.1 106.3 94.3 98.5 98.9 98.3 88.3 98.3 97.5 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexingten Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WGNC-FM WGR-FM WGR-FM WGR-FM WGPS-FM WHOS-FM WHOS-FM WHOS-FM WLOS-FM WLOS-FM WLOS-FM WLOS-FM WLOS-FM WLOS-FM WSTF-FM WREV-FM WREV-FM WREV-FM WKFM WSTF-FM WSTF-FM WGPS-FM WGPS-FM WGPS-FM WOGS-FM WOGS-FM WOGS-FM WOGS-FM WOGS-FM WREV-FM WREV-FM WREV-FM WREV-FM WGPS-FM WGPS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 92.7 100.3 96.5 92.7 101.5 102.1 98.5 100.5 105.5 105.5 105.5	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KUGN-FM KGPO KTEC KEX-FM KOIN-FM KPFM KPFM KYPM KYPM KYPM KYPM WFMZ WSAN-FM WYAM-FM WYAM-FM WGPA-FM WGPA-FM WEEX-FM WEEX-FM WEEX-FM WEEX-FM WEEX-FM WHSS WAZL-FM WHHS WAZL-FM WJAC-FM	91.9 99.1 90.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.9 96.7 102.1 98.3 107.9 97.9 97.9 97.9 97.9 97.9 97.3 89.3 89.3 89.3 89.3 89.3 89.3 89.3 89.9 97.9	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WAPO-FM WDOD-FM WHAP-FM WHST-FM WHST-FM WHIL-FM WKPT-FM WKPT-FM WKCS WUOT WLIL-FM WKCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KCCT-FM KCCT-FM KYLL-FM KYLL-FM KYLL-FM KYLL-FM KYRL-FM KYNT-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9 97.9 91.9 92.1 97.5 95.5 104.5 92.5 89.3 91.7 106.3 88.5 100.7
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton Zarepath NEW Albuquerque	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTIS-FM KWPM-FM  EVADA  KENO-FM KNEV  IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM  VJERSEY WJIK-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM  MEXICO KANW KHFM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E 106.1 106.3 106.3 98.5 98.9 98.3 88.3 88.3 89.5 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexingtcn Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro Thomasville	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGRS-FM WGRS-FM WGPS WHNC-FM WHPE-FM WHPE-FM WHPE-FM WHPE-FM WHOS-FM WLOE-FM WEWO-FM WLOE-FM WEWO-FM WEWO-FM WEWO-FM WLOE-FM WEWO-FM WSTF-FM WFMA WEWD-FM WFT-FM WRAL-FM WFT-FM WRAL-FM WFF-FM WKFM WFMA WEW-FM WKFM WFMA WEW-FM WKFM WFMA WEW-FM WKFM WFMA WISIC-FM WOHS-FM WOIS-FM WIC-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 92.7 100.3 94.3 94.3 94.7 101.5 102.1 98.5 100.7 98.1 100.7 96.1 100.7 100.7 100.5 100.7 100.5 100.7 100.7 100.5 100.7 100.	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon Meadville	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KUGN-FM KUGN-FM KOFO KTEC KEX-FM KOIN-FM KPFM KPFM KQFM  YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WBUT-FM WCHA-FM WED-FM WEEX-FM WEEX-FM WEST-FM WHP-FM WHP-FM WHP-FM WHJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WMGW-FM	91.9 99.1 90.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.1 95.7 96.7 102.1 98.3 107.9 97.9 97.9 97.9 97.3 89.3 97.7 95.5 101.3 95.5 101.3 96.7 100.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth Houston	WALD-FM  NNESSE  WOPI-FM WAPO-FM WDOD-FM WHOD-FM WHIL-FM WHIL-FM WKPT-FM WBIR-FM WKCS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KRIC-FM KKIL-FM KYTT WRR-FM KVTT WRR-FM KVOF-FM KVOF-FM KVOF-FM KVOF-FM KNOF-FM KNOF-FM KNOF-FM KKHL-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 100.7 100.3 91.1 91.9 100.3 97.9 97.9 91.9 92.1 97.5 95.5 104.5 92.5 89.3 91.7 101.1 106.3 88.5 100.5 100.5
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton Zarepath NEW Albuquerque	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM JERSEY WJLK-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM MEXICO KANW	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 106.1 106.3 94.3 98.5 98.9 98.3 88.3 98.3 97.5 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexingten Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WGNC-FM WGR-FM WGR-FM WGR-FM WGPS-FM WHOS-FM WHOS-FM WHOS-FM WLOS-FM WLOS-FM WLOS-FM WLOS-FM WLOS-FM WLOS-FM WSTF-FM WREV-FM WREV-FM WREV-FM WKFM WSTF-FM WSTF-FM WGPS-FM WGPS-FM WGPS-FM WOGS-FM WOGS-FM WOGS-FM WOGS-FM WOGS-FM WREV-FM WREV-FM WREV-FM WREV-FM WGPS-FM WGPS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 92.7 94.7 101.5 102.1 98.5 100.7 92.1 106.5 105.7 105.7	Albany Eugene  Grants Pass Oretech Portland  PENNS Allentown Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon	KWIL-FM KRVM KUGN-FM WUGN-FM WHOM-FM WUGN-FM WUGN-FM WUGN-FM	91.9 99.1 91.1 96.9 88.1 92.3 100.3 100.7 99.9 101.1 95.1 97.7 95.9 96.7 102.1 98.3 107.9 97.9 97.3 89.3 97.7 92.1 101.3 96.9 100.3 98.1	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth	WALD-FM  NNESSE  WOPI-FM WAPO-FM WDOD-FM WHBT-FM WHBT-FM WHJS-FM WJHL-FM WKPT-FM WKPT-FM WKPT-FM WKCS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KKCT-FM KXL-FM KRID-FM KNU-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 100.7 100.3 91.1 91.9 105.9 97.9 91.9 97.5 95.5 104.5 92.5 89.3 91.7 101.1 106.3 88.5 100.5 102.9 101.1 91.3 105.9
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton Zarepath NEW Albuquerque	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KCFM KSLH KTIS-FM KWPM-FM KWPM-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM VSV-FM WSNJ-FM WSNJ-FM WSNJ-FM WSNJ-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM MEXICO KANW KHFM V YORK WMBO-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 106.1 106.3 94.3 98.5 98.9 98.3 88.3 98.3 98.3 98.3	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro Thomasville Wilmington	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGRP-FM WGRP-FM WHPE-FM WHPE-FM WHPE-FM WHOS-FM WLOE-FM WHOS-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WHOE-FM WOOS-FM WINC-FM WINC-FM WOOS-FM WOOS-FM WOOS-FM WOOS-FM WOOS-FM WOOS-FM WOOS-FM WOOS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 92.7 100.3 94.3 94.3 94.7 101.5 102.1 98.5 100.7 98.1 100.7 96.1 100.7 100.7 100.5 100.7 100.5 100.7 100.7 100.5 100.7 100.	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon Meadville	KWIL-FM KRVM KUGN-FM KUGN-FM KUGN-FM KUGN-FM KUGN-FM KOFO KTEC KEX-FM KOIN-FM KPFM KPFM KQFM  YLVANIA WFMZ WSAN-FM WVAM-FM WGPA-FM WBUT-FM WCHA-FM WED-FM WEEX-FM WEEX-FM WEST-FM WHP-FM WHP-FM WHP-FM WHJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WJAC-FM WMGW-FM	91.9 99.1 90.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.1 95.7 96.7 102.1 98.3 107.9 97.9 97.9 97.9 97.3 89.3 97.7 95.5 101.3 95.5 101.3 96.7 100.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth Houston	WALD-FM  NNESSE  WOPI-FM WAPO-FM WDOD-FM WHOD-FM WHIL-FM WHIL-FM WKPT-FM WBIR-FM WKCS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KRIC-FM KKIL-FM KYTT WRR-FM KVTT WRR-FM KVOF-FM KVOF-FM KVOF-FM KVOF-FM KNOF-FM KNOF-FM KNOF-FM KKHL-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 100.7 100.3 91.1 91.9 100.3 97.9 97.9 91.9 92.1 97.5 95.5 104.5 92.5 89.3 91.7 101.1 106.3 88.5 100.5 100.5
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW H Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton Zarepath  NEW Albuquerque  NEW Auburn Bay Shore	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM EVADA KENO-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM VSV-FM WSNJ-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM MEXICO KANW KHFM V YORK WMBO-FM WRBS	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 106.1 106.3 94.3 98.5 98.9 98.3 88.3 98.3 98.5 97.5 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro Thomasville Wilmington Winston-Salem	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGRP-FM WGRP-FM WHPE-FM WHPE-FM WHPE-FM WHOS-FM WLOE-FM WLOE-FM WLOE-FM WLOE-FM WEWO-FM WLOE-FM WEWO-FM WLOE-FM WSUY-FM WFNAB WNAO-FM WRAL-FM WHOB-FM WHOB-FM WHOB-FM WOHS-FM WOHS-FM WOHS-FM WOHS-FM WOHS-FM WAIR-FM WAIR-FM WAIR-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9 92.5 95.5 89.3 96.5 92.7 94.7 101.5 102.1 106.5 105.7 104.3 98.3 98.3 93.3	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon Meadville	KWIL-FM KRVM KUGN-FM WYLVANIA WFMZ WSAN-FM WVAM-FM WCHA-FM WCHA-FM WCED-FM WEST WERC-FM WLEU-FM WHP-FM WHHS WAZL-FM WHHS WAZL-FM WHAS WAZL-FM WHO-FM WHAS WAZL-FM WHAS WAZL-FM WHO-FM WHAS WAZL-FM WHO-FM WGAL-FM WGAU-FM WCAU-FM WFIL-FM	91.9 99.1 91.1 96.9 88.1 92.3 100.3 100.7 99.9 101.1 95.1 95.9 96.7 102.1 98.3 107.9 97.9 97.3 88.3 97.7 92.1 95.5 106.9 100.1 100.3	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth Houston  Longview Plainview	WALD-FM  NNESSE  WOPI-FM WAPO-FM WDOD-FM WHBT-FM WHBT-FM WYJS-FM WJHL-FM WKPT-FM WKCS WUOT WIIL-FM WKCS WUOT WIIL-FM WKCS WUOT WIIL-FM WKCS KACC-FM KREL-FM KRIC-FM KRIC-FM KRIC-FM KRLD-FM KNONT-FM KVTT WRR-FM KVTT WRR-FM KVOF-FM KVTT-FM KVHF-FM KHBL-FM KHBL	96.9 99.1 96.5 97.1 100.7 98.5 93.3 91.1 91.9 100.3 99.7 105.9 97.9 91.9 97.5 95.5 104.5 92.1 97.5 95.5 104.5 92.1 97.5 98.3 91.7 101.1 106.3 106.5 98.3 91.7 101.1 106.5 98.3 88.5 106.5
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW H Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark New Brunswick So. Orange Trenton Zarepath NEW Albuquerque NEW Auburn Bay Shore Binghamton	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KKDOA-FM KKFM KSLH KTS-FM KWPM-FM  EVADA  KENO-FM KNEV  IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM  JERSEY WJLK-FM WFPG-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM MEXICO KANW KHFM V YORK WMBO-FM WRBS WKOP-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 E 106.1 100.1 106.3 94.3 98.5 98.9 98.3 88.3 89.5 97.5 99.1	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro Thomasville Wilmington Winston-Salem	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGRF-FM WGPS WHNC-FM WHPE-FM WHPE-FM WHOS-FM WEWO-FM WLOE-FM WEWO-FM WLOE-FM WEWO-FM WLOE-FM WEWO-FM WLOE-FM WHOS-FM WEWO-FM WLOE-FM WHOS-FM WOS-FM WOS-FM WOS-FM WOS-FM WOS-FM WOS-FM WOS-FM WINC-FM WHAL-FM WFMA WFFI-FM WRED-FM WKFMA WEFD-FM WKFMA WEFD-FM WSIC-FM WOS-FM WSIC-FM WSIC-FM WOS-FM WSIC-FM WSIC-FM WSIS-FM WSIS-FM WSIS-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 92.7 94.7 101.5 102.1 98.5 100.7 96.1 105.7 105.7 104.3 96.3 96.3 96.3 96.3	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon Meadville	KWIL-FM KRVM KUGN-FM WYLVANIA WFMZ WSAN-FM WVAM-FM WUGN-FM WUGN-FM WEEX-FM WEEX-FM WEEX-FM WEEX-FM WEEX-FM WHHS WAZL-FM WHOM-FM WHOM-FM WIGN-FM	91.9 99.1 91.1 96.9 88.1 92.3 100.3 100.7 99.9 101.1 95.1 97.7 95.9 96.7 102.1 98.3 107.9 97.9 97.3 89.3 97.7 95.5 101.3 96.9 100.1 100.3 98.1 100.3 98.1 100.3 98.7	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth Houston  Longview Plainview	WALD-FM  NNESSEE  WOPI-FM WAPO-FM WDOD-FM WHBT-FM WHBT-FM WJS-FM WJHL-FM WKPT-FM WKOS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KRIC-FM KRIC-FM KSMU-FM KVOT-FM KSMU-FM KVOT-FM KVOT-FM KVOT-FM KNH-FM KUHF KTIL-FM KUHF KTIL-FM KUHF KTIL-FM KHBL KITE-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 100.7 100.3 91.1 91.9 105.9 97.9 91.9 92.1 97.5 95.5 104.5 89.3 91.7 101.1 106.3 88.5 100.5 102.9 101.1 91.3 105.9 93.9 93.9 93.9 94.9 95.5 95.5 95.5 104.5 95.5 95.5 104.5 95.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 105.5 95.5 105
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton Zarepath NEW Albuquerque  NEW Auburn Bay Shore Binghamton Brooklyn	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM  EVADA  KENO-FM KNEV  IAMPSHIRE WTSV-FM WOTW-FM  JERSEY WJLK-FM WFPG-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM MEXICO KANW KHFM  V YORK WMBO-FM WRBS WYNE	98.5 96.1 94.9 98.9 94.5 102.5 91.5 97.3 103.9 95.5 106.1 106.3 94.3 98.5 98.9 98.3 88.3 89.5 97.5 99.1	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro Thomasville Wilmington Winston-Salem	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGNC-FM WHPE-FM WHOS-FM WHOS-FM WLOE-FM WLOE-FM WNOS-FM WLOE-FM WEWO-FM WLOE-FM WSUY-FM WFMAB WNAO-FM WNOS-FM WSIC-FM WRED-FM WSFP-FM WGP-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 96.5 90.3 96.5 92.7 94.7 101.5 102.1 106.5 102.1 105.7 104.3 98.3 98.3 98.1 105.7	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon Meadville	KWIL-FM KRVM KUGN-FM WFMZ WSAN-FM WVAM-FM WUGN-FM WUGN-FM WUGN-FM WUGN-FM WEEX-FM WEEX-FM WEEX-FM WEEX-FM WHS WAZL-FM WHS WAZL-FM WHAD-FM	91.9 99.1 91.1 96.9 88.1 92.3 100.7 98.7 100.3 100.7 99.9 101.1 95.1 97.7 95.9 97.9 97.9 97.9 97.9 97.3 89.3 97.7 92.1 95.3 96.9 100.1 100.1 100.1 100.1 95.7 100.1 100.1 95.7 100.1 100.1 95.7 96.9 100.1 100.1 96.9 100.1 100.1 96.9 100.1 100.1 96.9 100.1 100.1 96.9 100.1 100.1 96.9 100.1 100.1 96.9 100.1 100.1 96.9 100.1 100.1 96.9 97.9 97.9 97.9 97.9 97.9 97.9 97.9 97.9 97.9	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth Houston  Longview Plainview San Antonio	WALD-FM  NNESSE  WOPI-FM WAPO-FM WDOD-FM WHEN-FM WHBT-FM WJS-FM WJHL-FM WKPT-FM WKCS WUOT WIIL-FM WKCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM KRIC-FM KRIC-FM KRLD-FM KYLT-FM KYNT-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 100.7 100.3 99.7 105.9 97.9 91.9 97.5 95.5 104.5 98.3 91.7 101.1 106.3 88.5 100.5 102.9 101.1 91.3 105.9 97.3 99.1
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW H Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark New Brunswick So. Orange Trenton Zarepath NEW Albuquerque NEW Auburn Bay Shore Binghamton	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTIS-FM KWPM-FM  EVADA  KENO-FM KNEV  IAMPSHIRE WISV-FM WOTW-FM WFPG-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM  MEXICO KANW KHFM  V YORK WMBO-FM WRBS WKOP-FM WYNE WBEN-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 106.1 106.3 106.1 106.3 94.3 98.5 98.9 98.3 88.3 88.3 89.5 97.5 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexington Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro Thomasville Wilmington Winston-Salem	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WGNC-FM WGNC-FM WGNC-FM WGPS WHNC-FM WHPE-FM WHPE-FM WHPS WMFR-FM WHOS-FM WLOE-FM WLOE-FM WEWO-FM WLOE-FM WEWO-FM WLOE-FM WSTF-FM WRAL-FM WRAL-FM WRAL-FM WSTF-FM WRAL-FM WSTF-FM WRAL-FM WSTF-FM WRAL-FM WSTP-FM WGP-FM WSTP-FM WGP-FM WGP-FM WGP-FM WGP-FM WOGP-FM WOGP-FM WOGP-FM WOGP-FM WOGP-FM WOGP-FM WOGP-FM WSTP-FM WGP-FM	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 88.9 92.5 95.5 89.3 90.5 92.7 94.3 94.7 101.5 102.1 106.5 105.7 106.5 105.7 106.5 105.7 106.5 105.7 106.5 105.7 106.5 106.7 106.5 106.7 106.5 106.7 1	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon Meadville	KWIL-FM KRVM KUGN-FM WFMZ WSAN-FM WVAM-FM WUGA-FM WEEX-FM WEEX-FM WEEX-FM WEEX-FM WEEX-FM WHHS WAZL-FM WHO-FM WHAN-FM WHO-FM WIBN-FM WIBN-FM WIBN-FM WHAT-FM WHIN WHAT-FM WHIN-FM	91.9 99.1 91.1 96.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.7 102.1 98.3 107.9 97.9 97.9 97.9 97.9 97.9 97.3 89.3 100.1 100.3 96.9 100.1 100.3 96.9 100.1 100.3 96.9 100.1 100.3 96.9 100.1 100.3 96.9 100.1 100.3 96.9 100.3 96.9 100.3 97.9 97.9 97.9 97.3 97.9 97.9 97.3 97.9 97.9 97.9 97.9 97.3 97.9 97.9 97.9 97.3 97.9	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth Houston  Longview Plainview	WALD-FM  NNESSE  WOPI-FM WAPO-FM WDOD-FM WHEW-FM WHST-FM WJJS-FM WJHL-FM WKPT-FM WKPT-FM WKCS WUOT WIIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 100.7 100.3 91.1 91.9 105.9 97.9 91.9 92.1 97.5 95.5 104.5 89.3 91.7 101.1 106.3 88.5 100.5 102.9 101.1 91.3 105.9 93.9 93.9 93.9 94.9 95.5 95.5 95.5 104.5 95.5 95.5 104.5 95.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 95.5 105.5 105.5 95.5 105
Clayton Jefferson City Joplin Kansas City Kennett Poplar Bluff St. Louis  Springfield West Plains  NE Las Vegas Reno NEW + Claremont Manchester Nashua NEW Asbury Park Atlantic City Bridgeton Newark  New Brunswick So. Orange Trenton Zarepath NEW Albuquerque  NEW Auburn Bay Shore Binghamton Brooklyn	KFUO-FM KWOS-FM WMBH-FM KCMO-FM KBOA-FM KWOC-FM KCFM KSLH KTTS-FM KWPM-FM  EVADA  KENO-FM KNEV IAMPSHIRE WTSV-FM WKBR-FM WOTW-FM  "JERSEY WJIK-FM WSNJ-FM WAAT-FM WBGO WCTC-FM WSOU WTOA WAWZ-FM MEXICO KANW KHFM V YORK WMBO-FM WRBS WKOP-FM WRBS WKOP-FM WBSN-FM WBNY-FM	98.5 96.1 94.9 98.9 94.5 102.5 91.5 94.7 97.3 103.9 95.5 106.1 106.3 94.3 98.5 98.9 98.3 88.3 98.3 98.5 97.5 97.5 97.5	Asheville Burlington  Chapel Hill Charlotte Clingman's Peak Durham Elkin Fayetteville Forest City Gastonia Goldsboro Greensboro Henderscn High Point  Laurinburg Leaksville Lexingten Mayodan Raleigh  Reidsville Roanoke Rapids Rocky Mount  Salisbury Sanford Shelby Statesville Tarboro Thomasville Wilmington Winston-Salem	WLOS-FM WBBB-FM WFNS-FM WUNC WSOC-FM WMIT-FM WDNC-FM WIFM-FM WFNC-FM WBBO-FM WGRFM WGPS WHNC-FM WHPE-FM WHPS-FM WHOS-FM WLOE-FM WLOE-FM WLOE-FM WFMA WFMA WFMA WFMA WFMA WFMA WFMA WF	104.3 101.1 93.9 91.5 103.5 106.9 105.1 100.9 98.1 93.3 101.9 96.9 92.5 95.5 89.3 99.5 100.3 96.5 92.7 101.5 102.1 98.5 100.7 101.5 105.5 96.1 105.5 105.	Albany Eugene  Grants Pass Oretech Portland  PENNS  Allentown  Altoona Bethlehem Butler Chambersburg Coudersport Dubois Easton  Erie  Harrisburg Havertown Hazelton Johnstown  Lancaster Lebanon Meadville	KWIL-FM KRVM KUGN-FM WYLVANIA WFMZ WSAN-FM WYAM-FM WYAM-FM WOGA-FM WEU-FM WHOL-FM WHP-FM WHST WERC-FM WHU-FM WHST WERC-FM WHST WERC-FM WHST WERC-FM WHST WERC-FM WHST WERC-FM WHOL-FM WHST WARD-FM WHST WARD-FM WHAT-FM WHAT-FM WHOL-FM	91.9 99.1 90.9 88.1 92.3 101.1 97.1 98.7 100.3 100.7 99.9 101.1 95.9 96.7 102.1 98.3 107.9 97.9	Bristol Chattanooga Crossville Harriman Jackson Johnson City Kingsport Knoxville  Lenoir City Memphis Nashville Paris  Abilene Baytown Beaumont Corpus Christi Dallas  Denton El Paso Ft. Worth Houston  Longview Plainview San Antonio	WALD-FM  NNESSE  WOPI-FM WAPO-FM WDOD-FM WHEY-FM WHBT-FM WJS-FM WJHL-FM WKPT-FM WKCS WUOT WLIL-FM WMCF WSOK-FM WTPR-FM  TEXAS  KACC-FM KREL-FM KRIC-FM	96.9 99.1 96.5 97.1 100.7 98.5 93.3 100.7 100.3 99.7 105.9 97.9 91.9 97.5 95.5 104.5 98.3 91.7 101.1 106.3 88.5 100.5 102.9 101.1 91.3 105.9 97.3 99.1
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Hi-Ti Music at Home



\*DuPont trade-mark

Unretouched photos taken by Boston Laboratory of United States Testing Company.

Soundcraft Plus-50 magnetic recording tape is much stronger than ordinary acetate long-play tape, United States Testing Company reports after preliminary tests.

The renowned research firm conducted laboratory tests on Plus-50, made with DuPont Mylar base, and another long play tape made with an acetate or "plastic" base.

In photos above, a one-inch steel ball is dropped 30 inches onto each tape. Plus-50

remains intact, while the acetate tape breaks.

This test was repeated several times. The result was always the same: Plus-50 recording tape intact; acetate plastic tape broken.

When you use long play tape, protect yourself with Soundcraft Plus-50 magnetic recording tape.

SCA-5R-I

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KIT FORM



Features brand new circuit and physical design. Matches WA-P2 Preamplifier. Modern tube line-up provides better than 10 uv. sensitivity for 20 db of quieting. Built-in

ter than 10 uv. sensitivity for 20 db of quieting. Built-in power supply.
Incorporates automatic gain control—highly stabilized oscillator—illuminated tuning dial—pre-aligned IF and ratio transformers and front end tuning unit. Uses 6BQ7A Cascode RF stage, 6U8 oscillator—mixer, two 6CB6 IF amplifiers, 6AL5 ratio detector, 6C4 audio amplifier, and 6X4 rectifier.

Shpg. Wt. 7 Lbs.

# Heathkit 25-Watt HIGH FIDELITY AMPLIFIER KIT

Features a new-design Peerless output transformer and KT66 output tubes. Frequency response within  $\pm 1$  db from 5 cps to 160 Kc at 1 wait. Harmonic distortion only  $1_{o}^{o}$  at 25 watts, 20-20,000 cps. IM distortion only  $1_{o}^{o}$  at 20 watts. 4, 8, or 16 ohms output. Hum and noise, 99 db below rated output. Uses 2-12AUT's, 2-T66's and 5R4GY. Attractive physical appearance harmonizes with WA-P2 Preamplifier. Kit combinations:

W-5M AMPLIFIER KIT: Consists of main amplifier and w-ow AMPLIFIER KIT: Consists of main amplifier and power supply, all on one chas-sis, Shpg. Wt. 31 Lbs. Express only. \$5975

W-5 COMBINATION AMPLIFIER KIT: Consists of W-5M amplifier kit plus Heathkit Model WA-P2 Preamplifier kit. Shpg. \$7950 wt. 38 Lbs. Express only.

# Heathkit HIGH FIDELITY PREAMPLIFIER KIT

Designed specifically for use with the Williamson Type Amplifiers, the WA-P2 features 5 separate switch-selected input channels, each with its own input control—full record equalization with turnover and rolloff controls—separate bass and treble tone controls—and many other desirable features. Frequency response is within  $\pm 1$  db from 25 to 30,000 cps. Beautiful satin-gold finish. Power requirements from the Heathkit Williamson Type Amplifier. \$1975

# Heathkit Williamson Type HIGH FIDELITY AMPLIFIER KIT

This amplifier employs the famous Acrosound TO-300 "Ultra Linear" output transformer, and has a frequency response within  $\pm 1$  db from 6 eps to 150 Kc at 1 watt. Harmonic distortion only 1% at 21 watts. 1M distortion at 20 watts only 1.3%. Power output 20 watts. 4, 8, or 16 ohms output. Hum and noise, 88 db below 20 watts. Uses 2-6SN7's, 2-5881's and 5V4G. Kit combinations:

W-3M AMPLIFIER KIT: Consists of main amplifier and power supply for separate chassis construction. Shpg. Wt. 29 lbs. \$4975 Express only.

W-3 COMBINATION AMPLIFIER KIT: Consists of W-3M amplifier kit plus Heathkit Model WA-P2 Preamplifier kit. Shpg. Wt. 37 lbs. Express only.

# 6 Heathkit Williamson Type HIGH FIDELITY AMPLIFIER KIT

This is the lowest price Williamson type amplifier ever offered in kit form, and yet it retains all the usual Williamson features. Employs Chicago output transformer. Frequency response, within  $\pm 1$  db from 10 cps to 100 Kc at 1 watt. Harmonic distortion only 1.5% at 20 watts. IM distortion at rated output 2.7%. Power output 20 watts, 4, 8, or 16 ohms output. Hum and noise, 95 db below 20 watts, uses 2-6SN7's, 2-5881's, and 5V4G. An exceptional dollar value by any standard. Kit combinations:

W-4AM AMPLIFIER KIT: Consists of main amplifier and power sup-ply for single chassis construc-tion. Shpg. Wt. 28 lbs. Express only. W-4A COMBINATION AMPLIFIER KIT: Consists of W-4AM amplifier kit plus Heathkit Model WA-P2 Preamplifier kit. Shpg. \$5950 Wt. 35 lbs. Express only.

# Heathkit 20-Watt HIGH FIDELITY AMPLIFIER KIT

This model represents the least expensive route to high fidelity performance. Frequency response is  $\pm 1$  db from 20-20,000 cps. Features full 20 watt output using push-pull 61.6's and has separate bass and treble tone controls. Preamplifier and main amplifier on same chassis. Four switch-selected inputs, and separate bass and treble tone controls provided. Employs miniature tube types for low hum and noise. Excellent for home or PA applications. Shpg. Wt. 23 Lbs.

Heathkit construction manuals are full of big. clear pictorial diagrams that show the placement of each lead and part in the circuit. In addition, the step-by-step procedure describes each phase of the construction very carefully, and supplies all the information you need to assemble the kit properly. Includes information on resistor color-codes, tips on soldering, and information on the tools you need. Even a beginner can build high quality Heathkits and enjoy their wonderful performance.



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# A Speaker Designed for Miss (or Mrs.) Hi-Fi

Women, it is well known, are sensitive creatures, and the sensitivity extends to audio reproduction. Distortion and harshness (particularly in the middle and higher frequencies) are more readily apparent to women than they are to most men. To satisfy their sensitivity, it is necessary to minimize intermodulation distortion and frequency modulation distortion, the major causes of this harshness and "fuzziness." With this in mind, Sherwood Electronic Laboratories, Inc. has designed the new Forester speaker system.



The Forester system, using three separate speakers to cover the audio range, is designed with the same engineering approach used in \$400 and \$500 'dream set' systems. The fundamental requisite of all such good multiple speaker systems is complete acoustical and electrical isolation of each speaker. When the proper isolation has been achieved, intermodulation distortion is held to an indiscernible minimum. In complying with this concept, the Sherwood system uses a 300 cps 4-element, 12-db/octave crossover network (some manufacturers use a less effective 2-element, 6-db/octave network).

The Forester system employs a true horn-loaded low-frequency section powered by a 12-inch driver. Completing the system are an 8-inch, heavy-duty mid-range unit with a 14.6 oz. magnet and a wide-angle 5-inch tweeter. All three speakers are separately housed in their own sealed cavities.

Electrical measurements of the system reveal only 0.5% intermodulation distortion with input of 10 watts. This figure should be compared with 12% for a typical single-cone speaker and with 5% for a coaxial unit. As a result, the Forester provides an unusually "clean" and "smooth" performance which was immediately apparent to those who heard it demonstrated at the Chicago and New York Audio Fairs. The system will handle up to 35 watts program material with negligible distortion.

Complete Forester systems are priced from \$189.00 and are available in a variety of cabinet styles. Also included in the line are "do-it-yourself" kits priced from \$129.50. Modernization kits from \$49.50, which include the 8-inch mid-range speaker, 5-inch tweeter, and crossover network may also be obtained for use with your 12-inch woofer. Further information on Sherwood amplifiers, tuners, and Forester speaker systems may be had on request by writing Dept. 1M, Sherwood Electronic Laboratories, Inc., 2802 W. Cullom, Chicago 18, Illinois.

# **IDEAS FOR YOU**

Continued from page 12

damps vibration. Price with 4-pole induction motor is \$124.50, or \$149.50 with hysteresis motor; turntable only, \$89.00 or \$114.00. Gray Research & Dev. Co., Manchester, Conn.

#### E-V Enclosure Kits

Seven kits are described in a brochure on speaker cabinets. These are standard Electro-Voice designs, previously offered only in finished form. Individual instruction books not only explain the method of assembling each kit and applying furniture finish, but give detail drawings for the benefit of those who prefer to purchase the material from local lumber yards. Various speaker combinations and networks for installation in the enclosures are also shown. Electro-Voice, Inc., Buchanan, Mich.

# RECORDS STARRING MARIA MENEGHINI CALLAS

 Callas Portrays Puccini Heroines
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 Callas: Lyric, Coloratura Arias
 Ange 35223

 Bellini: Norma
 Angel 3517

 Bellini: Puritani
 Angel 3502

 Leoncavallo: Pagliacci
 Angel 3502

 Mascagni: Cavalleria Rusticana
 Angel 3508

 Puccini: Tosca
 Angel 3508

 Puccini: Madame Butterfly
 Angel 3523

 Verdi: La Forza Del Destini
 Angel 3531

 Rossini: Il Turco in Italia
 Angel 3535

 Verdi: Aida
 Angel 3537

 Verdi: Aida
 Angel 3537

 Donizetti: Lucia Di Lommermoor
 Angel 3503

## PHONO INSTALLATION

Continued from page 39

ited in audio quality. A single speaker is shown in Figs. 2 and 3, but a two or three-speaker combination, with appropriate networks, can be substituted. The components indicated might easily add up to \$850 or more if you are inclined to be extravagant, or to not more than \$150 to \$200 if you are economy-minded.

There are two reasons for using the arrangement shown in Fig. 4. It is necessary if you are among the increasing number of those who want to have both turntable and changer available. Or you may want a changer with an inexpensive ceramic pick-up for the use of your children. Then you can reserve the turntable and an expensive pickup for your own use. Several preamps are made with inputs for two pickups, and a selector switch that connects either one.

A type of installation that is coming to be looked upon with great favor is illustrated in Fig. 5. This system has a preamp feeding the special VAN-AMP unit, a device which divides the low and high frequencies into two separate channels.

Continued on page 53





# - easier than pushing buttons

Pentron's new Unimagic feather-light selector lever does everything. The Pacemaker's 2 hi fi speakers, automatic index counter, instantaneous braking, brilliant functional styling, and other features add up to the recorder you've dreamed of . . . See it today!





# PENTRON CORPORATION

768 Tripp Ave., Chicago 24, III. Canada: Atlas Radio, Ltd., Toronto

# PHONO INSTALLATION

Continued from page 52

Then each audio channel is fed to its own amplifier and speaker. The dividing point between the lower and upper channels can be varied from 90 to 1,100 cycles. Also, the output from each channel of the VAN-AMP into its respective speaker can be adjusted to obtain exactly balanced volume from the low-range and high-range speakers. This is important because different types of speakers vary greatly in efficiency. Another advantage in this type of system is that the crossover point of the network can be changed by resetting the control knob if, at any time, you want to change one or both of your speakers. In conjunction with an electrostatic speaker, the VAN-AMP is almost a necessity. The amplifiers should be chosen according to the power requirements of the speakers. No tone or volume controls are needed on the amplifiers, since the system can be adjusted entirely at the preamp.

# Further Notes and Comments

At this point, you may say: "This is all very interesting, but it's an over-simplification. I need more details." Well, an elaboration of this outline would get over into the realm of advice, and the purpose of this discussion is to help you get an overall picture of your requirements, leaving you to fill in the details according to your own preferences and the budget you have set up. Thus, your system will represent your own thinking, rather than being a collection of components someone told you you should buy.

Another thing — and this is very important: in the course of studying catalogs, looking at equipment in the dealer's stores, and hearing demonstrations, you will gain a knowledge of the various components available, and their special features and advantages. In that way you will avoid the experience of buying equipment before you know what it's all about, only to wish later that you had selected other types or

On this matter of listening to equipment in dealers' stores, one suggestion is in order. It may border on advice, but here it is for what it's worth: Usually, demonstrations are given with the volume turned up far beyond the level you would ever want in your home. The resulting sound may be spectacular, but it will probably not represent reproduction under normal home listening conditions. There may be times when you will want to make your windows rattle, and shake the ornaments on the mantlepiece, but that is not what you are buying, unless you are a batchelor, living in the woods or out on the prairie. The information that really counts is what you hear with the volume where you will set

There is one other choice in case you are reluctant to do the simple work of ar-Continued on page 54





# Tops on every count'

- ▶ The oldest American magazine specializing in high fidelity equipment is AUDIO. From the beginning, AUDIO's guiding hand has been that of its present editor and publisher, C. G. McProud.
- AUDIO recently devoted an Equipment Report to a searching examination of the worldfamed PRECEDENT tuner. Its conclusion:

"Our observations indicate that the PRECEDENT well justifies its reputation. It is the logical answer to the demand for a maximum of quieting, high sensitivity, and excellent stability...It would be appreciated for its engineering, for its performance, and for its external appearance—tops on every count."

May we send you, without cost, a copy of AUDIO's complete report?

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Again the Audio Fairs confirmed that the experienced listener and music lover value, above all else in a music system.

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that effaces the presence of equipment and completely re-creates the

Time and again, visitors were heard to say: "The best sound is where they are using Bozaks."

Designed on proven, straightforward principles - built one-by-one with painstaking handcraft-tested ruthlessly and tested again -

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More than that - the Bozaks are designed for Systematic Growth. Start modestly, if you wish, with a single B-207A; grow as you can, without discarding a single Bozak, into the unequalled realism of the B-310 the Supreme Accomplishment in the Reproduction of Sound.

# The R.T. BOZAK SALES Co.



BOX 966 . DARIEN . CONNECTICUT

# ONO INSTALLATIONS

Continued from page 53

ranging and connecting components. Some of the companies which manufacture standard hi-fi components are now building them into cabinets, and some cabinet manufacturers are installing standard components in cabinets which they have designed for this specific purpose. These instruments are more expensive than the total cost of the components, since good cabinetwork runs into money, and you must pay for the assembly, the expensive packing required, and the shipping charges.

Whatever course you take, you will still come out ahead if your equipment is chosen in accordance with your own personal preferences. You'll have the satisfaction of having exercised your own judgment. And you will avoid the inevitable mistakes which result from trying to follow the recommendations of others who, no matter how expert, are certain to confuse you.

# THE MUSIC IN MY HOME

Continued from page 22

#### PERCY FAITH'S FAVORITE MUSIC

Rachmaninoff, Third Symphony Beethoven, Ninth Symphony Jacques Ibert, Escales Stravinsky, The Rite of Spring Tchaikovsky, Romeo and Juliet Overture Walter Piston, Symphony No. 4 Lee Wiley, "Night in Manhattan" Trombone for Two", with J. J. Johnson and Kai Winding

# PERCY FAITH'S IP RECORDS

. akai . Aiiii a	
Amour, Amour, Amour	Columbia CL 643
Continental Music	Columbia CL 525
Delicado	Columbia CL 681
House of Flowers	Columbia CL 640
Kismet	Columbia CL 550
Music for Her	Columbia CL 705
Music from Hollywood	Columbia CL 577
Music until Midnight, w	rith Mitch Miller
	Columbia CL 551
Romantic Music	Columbia CL 526

instruments usually associated with the classics.

Of course, listening at home is not always just for pleasure. I like nothing better than having friends in to listen with me. but at the same time I'm searching for new trends and new sounds. I've conditioned myself to work on one kind of arrangement, while listening to something of a completely different nature, Since I like company while I'm working, very often while guests are listening to one sort of music, my mind is at work in a totally different

The piano was the instrument I gravitated to as a child in Toronto. We still have a piano, of course, and on occasion I use it to work out ideas, taping them as I go along, and listening to the playbacks in a more calm restrospect.

Often I'm asked just what changes the new developments in hi-fi recording and reproduction have made in my arranging Concluded on page 55

How good will your new tape recorder be?

One of the answers lies in the quality of the magnetic recording head-a basic and important part of all recorders. The better the head, the better the performance you can expect. A Shure magnetic recording head insures a unit constructed to close tolerances . . . precision specifications . . . optimum performance of your recorder.

An outstanding example is the "Micro-Gap," a new, high quality magnetic recording head specifically designed for use in professional studio and fine quality home tape recorders. It provides excellent response over an extremely wide frequency range ... long operating life at maximum efficiency. For home recordings of professional stature, or for precision data recording equipment, the "Micro-Gap" cannot be excelled.

The "Micro-Gap" is the latest of the Shure family of fine-quality magnetic recording heads. When a tape recorder manufacturer announces a model equipped with any of them, you can be assured of the high quality of the tape recorder . . . for the choice of a Shure head is proof that the manufacturer is giving you the

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Pioneers in Magnetic Recording Since 1939

SHURE BROTHERS, Inc. 225 West Huron Street, Chicago 10, Illinois

# THE MUSIC IN MY HOME

Continued from page 54

style or techniques. The strange thing is that I feel they have made absolutely no changes in my thinking. I've always written for the full orchestral range, and was one of the first in Canada to use a "live" studio. In my arranging, I write to the microphones and to the studio. I feel that many arrangements I wrote twenty years ago are perfectly suited to hi-fi recording: They didn't sound that way then, because they just couldn't on the equipment we used at that time. Actually I'm grateful to hi-fi, because I think that what I am trying to do in music can finally get through to record listeners, and that my music has been more fully appreciated since hi-fi came along.

# WILLIAM WALTON

Continued from page 25

composer, and, for the most part, has written one work in each of the big forms, taking his time about it. The works duly appear, and are peculiarly his own, owing no stylistic debt to anyone past or present, nor to any of the "isms" or schools of thought of the day. In mood, sentiment, and to a large extent in idiom, Walton is of the 19th rather than of the 20th Century, but if the permanent, rather than merely ephemeral values are to be considered (and in the judgment of serious music they must be), this is not necessarily detrimental. It is indeed this very romantic spirit that makes him so successful in writing string concerti, a genre in which, by the very lack of romantic sentiment, most contemporary composers are ill at ease.

Even more affinitive is Walton's gift to the operatic medium, although strangely enough it was only a year ago that he finally made his debut in this most romantic of forms with his "Troilus and Cressida", first performed in London at Covent Garden, premiered this fall in San Francisco with Elisabeth Schwarzkopf in the leading role, and heard this same winter at the New York City Center. The two main technical and aesthetic schools of thought of the 20th Century, atonalism and neoclassicism, have not been deeply influential in England, nor has that country produced a Carl Orff to conduct an individual reform of music's materials. The Vaughan Williams Fourth (F Minor) Symphony is the nearest English music has come to a real organic modernism, and that, strangely enough, evolved from a pre-occupation of its author with Medieval spirit and materials rather than from reaction against 19th Century tradition.

For the most part, English music is a kind of semi-dissonant romanticism, sometimes leaning toward impressionism, sometimes in a more linear contrapuntal direction. Thus, Walton's "Troilus". In sentiment and in general manner this appears to be a continuation of the grand line of Concluded on page 56

# ROCIN

PRINTED CIRCUIT AUDIO AMPLIFIERS

# HIGH FIDELITY Magazine says

# Mark 30C Audio Control Center

distortion has been reduced almost to the vanishing point . . . Strictly a top-quality control unit worthy of the very finest associated equipment, and well suited to the needs of the high fidelity perfectionist,"—HIGH FIDELITY Magazine



Feedback type preamplifier with extreme flexibility of control and input-output facilities, functionally designed for ease and simplicity of operation. Separate Turnover and Rolloff controls. Exact compensation for all recording curves, rigidly controlled in production. Feedback-type bass and treble controls. Rumble filter and loudness compensation front-panel controlled. Facilities for two phono inputs. Adjustable pickup load. Tape output jack. I.M. distortion virtually unmeasurable. Extremely low hum and noise level. Highly styled, legible front panel; maroon and gold cabinet. For use as remote control unit-self adjusting feature for cabinet installation. Size: 3½" x 10¾" x 6". \$88.50



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# WILLIAM WALTON

Continued from page 55

# **WALTON ON RECORDS**

Belshazzar's Feast Noble baritane, chair, Philharmanic Pramenade Orchestra, Bault conducting 12" West, 5248

Concerto for Violin and Orchestra Helfetz,

Concerto for Violin and Orchestra Helfetz, Philharmonic Orchestra, Walton conducting 12" Vict. LM-1121

Concerto for Viola Primrose, Rayal Philharmonic Orchestra, Sargent conducting 12" Col. 4ML-4905

Coronation Marches; Overture; Wise Virgin Philharmonic Orchestra, Walton conducting 10" Angel 30000

Fasade Phila Papa Orchestra Hisbara conducting

Facade Phila. Paps Orchestra, Hilsberg conducting 10" Cal, AAL-17 Sitwell, Chamber Orchestra, Prausnitz canducting 10" Cal. ML-2047

Philharmania Orchestra, Lambert canducting 12" Cal. 3MH-4793 Landan Philharmanic Orchestra, Irving conducting
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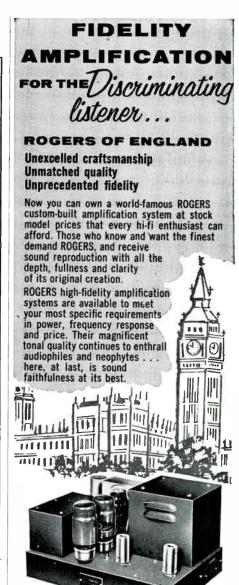
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opera form as heard in the works of Strauss, though in actual musical style it resembles Strauss not at all. The story line of the work is well distributed across the scenes and acts of Christopher Hassall's libretto, and the music has many sections of great power and beauty. A sense of detail and intimacy are preserved to a remarkable degree, both in the vocal writing and in the orchestration, despite the grand, overall dimensions of the work. This is particularly in evidence in the third act, where Walton has composed some of the most beautiful music of his career.

The recorded excerpts of the opera, released by Angel, give a brilliant impression, for they present all the most sumptuous sections, omitting certain parts of the opera which are quite definitely weak. The original cast, also, with Elisabeth Schwarzkopf and Richard Lewis under Walton's own direction, do real justice to the vocal aspect of the piece, which the City Center singers certainly did not.

Despite the shortcomings of the New York performance, however, and despite some differences of opinion among the literati, the general concensus of opinion upon the Rialto seems to be that "Willie" has written a real, big-time opus, and that it will become a standard repertoire piece.



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# COMPOSING WITH TAPE

Continued from page 23

have an entire roll of tape for each sound on each instrument, and the composer could snip off whatever length of whatever tone he wished, and join it to whatever tone he wished to have follow. Chords could be obtained by sound montage recording one tape on top of another.

This was a mere idea on my part, and I never did anything about it; but John Cage and Earl Brown, who were present while I was theorizing comfortably and lazily, did begin actual experiments. They found an owner of equipment who allowed them to do this work, and they spent the incredible amount of time it takes to produce even the shortest piece of music. But they both soon found that they did not wish to deal with familiar orchestral sounds. They became fascinated by those sounds which are obtainable only by recording on tape - that is, only on tape are such sounds malleable. Noise-sounds of various sorts, some recorded at Times Square on New Year's Eve, some snipped from sound-effect records, the sound of a flystep magnified countless times, anything bizarre — these became the basic materials, and in developments in Europe as well it soon became evident that strange sound, hitherto not known in music, is also the sort preferred by Musique Concrèters. Almost never, in the music as it actually exists, does one hear a "normal" tone sound.

By 1951, results of these efforts in Europe had piled up enormously. Following the Paris Radio, the stations in Cologne, Hamburg, and Brussels established special research studios for tape composers. In 1952 Irving Fine brought tape music to this Country, and performed some of it at Brandeis University. By that time it had attracted real composers in France, such as Messiaen, Boulez and Jolivet, and the music became more genuinely music in their hands. They still, however, found it hard to digest the idea of being able, through tape, to use every conceivable sound with no technical difficulties, and to

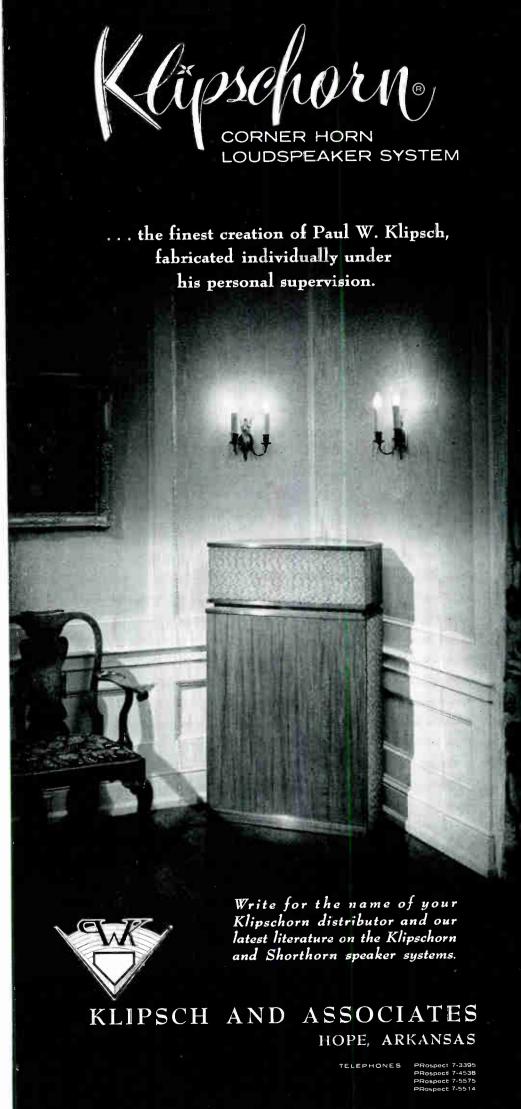
create suitable forms for it.

In this Country, Cage started in May, 1952, and the now well-known team of Otto Luening and Vladimir Ussachevsky in September of the same year. But so slow is the production of creative tape that it was some time after this before their results were heard, and the first New York program was presented by Boulez, using French examples, on a tour here in 1953. Later, when the work of Luening and Ussachevsky was heard, it was agreed almost unanimously that their form was better and the music clearer than that even of Messiaen's famous Timbres-Durées.

Luening, who plays flute as well as being a composer, had access to sound equipment at Columbia University where he is a professor; and it occurred to him

Continued on page 58

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# COMPOSING WITH TAPE

Continued from page 57

one day that it would be amusing to compose a piece in which he would play flute parts, recording them on tape, and then to reduce the speed so that besides the normal soprano of the flute, he would have levels of tone in the ranges of alto, tenor and bass, all produced on the flute in the first place. So he played all the parts himself, arranged so that when they were reduced in speed they would be right rhythmically to be superimposed on a four-part chamber work. He then found that his composerfriend Ussachevsky, also of Columbia University, and its Music Department's sound technician, had been making similar experiments with his own piano-playing; but these also included such additional ideas as starting the piano tone in the middle so there is no impact of hammer on string, or reversing the tone so that it starts at the end and leads toward the beginning, making the hammer impact at the end of the recorded tone, and adding or subtracting overtones from a tone so as to obtain an entirely new character. He even invented and used a device for repeating tones by instant re-recording, so that he was able to make of them an ostinato figure.

These two men then began pooling their ideas and resources and, under the name of "Tapesicord Music", they sign both names to their products. In 1955 The Louisville Symphony has issued a record of their Concerto for Solo Tapesicord with Symphonic Accompaniment, a very musical work with only a minimum of strange sound, in which the problem of co-ordinating the rhythm of the ever-moving tape with an actual body of players was successfully met. Later work by these composers, commissioned for the Los Angeles Philharmonic for tapesicord and orchestra is still more mature, and one feels that perhaps for the first time the experiment is over

and real music is forthcoming.

Edgard Varèse, born in France but living in New York, started work on his Deserts in 1952, and completed it in 1954. On December 2nd of the latter year, it received its first performance in Paris, calling forth what one critic called "a collision of enthusiasm against indignation", and another "un scandale". During the summer of 1955 it had its first performance in the U. S. at Bennington College. A two-track tape, with each track played over its own set of loudspeakers, was used in combination with an instrumental ensemble of brasses, woodwinds, and percussions. By experiment, the speakers were located in such a way as to produce a stereophonic effect.

Varèse says: "Deserts was conceived for two different media: instrumental sounds, and real sounds (recorded and processed) that musical instruments are unable to produce. After planning the work as a whole, I wrote the instrumental score,

Continued on page 59

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# **COMPOSING WITH TAPE**

Continued from page 58

always keeping in mind its relation to the organized sound sequences on tape to be interpolated at three different points in the score. I have always looked upon the industrial world as a rich source of beautiful sounds, an unexplored mine of music in the matrix. So I went to various factories in search of certain sounds I needed for Deserts, and recorded them. These noises were the raw materials out of which (after being processed by electronic means) the interpolations of organized sound were composed."

Deserts is musically in the early modernistic style which made Varèse famous in the '20's. The tape adds variety, but does not disturb the form. The live orchestra and the tape sections do not overlap, but lead from one to the other with great fulness. Vararèse's style has always been a matter of controversy; but if it be accepted in the first place, then one must place Deserts as the most integrated musically of the known tape works.

American engineers have complained that this whole new world of tape experiment in musical composition is beneath notice, because they all had made such experiments for fun in the sound studios, and thought nothing of it. The answer, of course, is simple. They are not composers, and applied nothing of creative form and content to their experiments. Neither did the earlier men in France who started Musique Concrète. But real compositional ingenuity and expressivity may be found in the recent offerings. I predict the advent of a more conservative school, which will use taped orchestral sounds, with greater attention to musical values in handling the

# **EQUIPMENT REPORTS**

Continued from page 42

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Continued on page 60

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# **EQUIPMENT REPORTS**

Continued from page 59

has been relegated to the discard. Size frequently controls the choice of speakers. If you only have space for a small enclosure, a big one is simply ruled out. On the other hand, manufacturers of small enclosures offer them as being competitive in performance with big ones, and companies making big enclosures claim they are superior to little ones.

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# SHE SINGS TO CONQUER

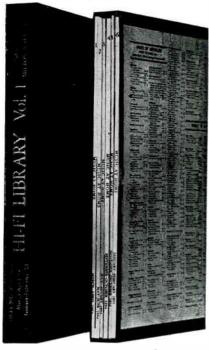
Continued from page 21

Callas, it will happen in New York City.
Credit for bringing Mme. Callas to America belongs to Chicago's fledgling Lyric Theatre. In 1951, two young and ambitious Chicagoans, Carol Fox and Lawrence V. Kelly, decided that Chicago would, and could, support an opera company of its own. With this in mind, they set their sights for a 1954 season. To make people sit up, take notice, and buy tickets, they needed something spectacular. In opera, spectacular is just another word for Maria Meneghini-Callas. Who else?

This time it was general manager Carol Fox who went to Verona to get the coveted Callas signature. She got it for a number of reasons: Maria was ready to be heard in America, she liked the idea of being top star with a new company, apparently she found a will-power akin to her own in that of Miss Fox, and it goes without saying that she appreciated the financial arrangement. It was artistically stimulating. More money than anybody else.

What Lyric Theatre shelled out, it got back, for the 1954 season was a resounding success, with Callas starring in "Norma", "Lucia", and "La Traviata". What surprised Lyric Theatre was the unlooked-for, unselfish cooperation of its star. A born perfectionist, Maria worked long, strenuous hours to make each production a brilliant one. She considered the Maestro the

Continued on page 61



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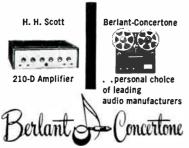
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# SHE SINGS TO CONQUER

Continued from page 60

boss, she did whatever he suggested, and she always appeared one or two hours ahead of time for every rehearsal.

On one occasion, a rehearsal for the opening night "Norma", Maria arrived while the stage manager was blocking the scene for the chorus which would join her in the Casta Diva, one of the most beautiful and taxing soprano arias in opera. Maria, of course, knew her part. She had come early to check on the chorus. The chorus was having trouble with timing. Aware that this could ruin her big opening night aria, she walked on stage, joined the chorus and, without flinching, sang the Casta Diva straight through nine times. When she had finished, the Maestro was perspiring, the chorus was exhausted, but Callas was happy. All difficulties had been ironed out

The same season, unsatisfied with the way she had sung three notes on one occasion, she practiced all the following day until those three troublesome notes were under control. It is not recorded what her neighbors thought. But, even Callas, singing three notes all day long, might have proved unnerving.

Although she will not admit it, Maria does her own research for the costumes she wears in each opera. This requires hours of study because everything, from shoes to coiffure, must be accurate to the opera's exact date in history. This is her own steadfast rule. She also owns the costumes.

Even the elements bow to the iron will of Callas. At dress rehearsal of "Lucia di Lammermoor" in Chicago, she was discovered snooping around backstage. No one questioned her; everybody was too fascinated in watching her. Maria was opening and closing doors one after another. Frequently, she would lick her finger and raise her hand in the air. This was all being done to test air currents. That night, before her entrance for the Mad Scene, she checked to make certain each door was the way she had left it at rehearsal. Then she made her entrance. A draft of air from backstage caught the filmy material of her skirt, and Maria entered on a veritable billow of clouds. She brought the house down before she had sung a note.

Wanting things her own way is not temperament. She has each production at heart, and expects everyone else to feel the same. In fact, she is so concerned about her own responsibilities that she often displays a quality she is not even aware of having. Maria is sometimes naïve. After each performance in Chicago, she was up at daybreak to phone one of the managers of Lyric Theatre. "What did you think of the opera last night? Was I all right?" Said Lawrence Kelly: "She never called at 11 or 12. It was always 5 or 6."

Perhaps it is only due to curiosity, but Mme. Callas attends every opera perform-Concluded on page 62



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# SHE SINGS TO CONQUER

Continued from page 61

ance she does not sing. Beautifully gowned, she manages to time her arrival somewhere near the middle of the soprano's first-act aria.

She is particularly fond of flashing three favorite pieces of jewelry. They are a black pearl weighing 2 pounds, a 14 carat diamond, and a larger diamond that shines forth like the headlight of a locomotive.

Intermission usually finds her holding court in the foyer, her natural magnetism attracting everyone. Unlike an empress, however, she will dash the entire length of the lobby to plant a kiss on the cheek of an old friend.

Friends mean a lot to Maria. Two of her best friends in music are soprano Elisabeth Schwarzkopf and Tullio Serafin. She gives all credit for her success to the Maestro.

Last November when Mme. Callas returned to Chicago for her second season, there were many who expected trouble. Because of previous commitments, La Scala's Renata Tebaldi was scheduled to sing during the same week as Callas. The much publicized feud between them proved only to be a bomb that sputtered but did not burst. Rehearsals and dates were purposely arranged so that Callas never met Tebaldi.

Highlight of the 1955 Chicago season, which also presented Callas in "I Puritani" and "Il Trovatore", was her debut in "Madame Butterfly". For the part of Cio-Cio-San, Maria was coached three weeks by one of the most famous Butterflies of all time, Hizi Koyke. This was arranged by the management after Maria had informed them that her busy schedule did not permit time for a visit to Japan. There was no need to worry, for her "Butterfly" proved to be such an overwhelming success that an extra performance was arranged. All tickets were sold in 98 minutes.

How does Mme. Callas look upon herself? The same way she did during an earlier visit to the United States. Approached by one of the big talent agencies in this country, she was told of the many advantages she would gain by signing with them. All went well until, of necessity, the conversation turned to artistic reimbursement. True to character, Maria informed them that she wanted more money than anybody else. This proved to be somewhat embarrassing to the executives who tried to explain that she was, after all, a comparatively unknown singer. Certainly she could not expect as much money as world-famous artists. Maria was adamant. In desperation, someone finally asked her why she thought she was entitled to the most money.

"Because I deserve it," she replied emphatically. "There's never been anybody like me. I'm a phenomenon."

And so she is. That point is not debatable. Maria Meneghini-Callas is a phenomenon. There are few of us who would want her any other way.

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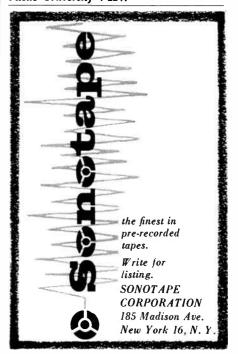
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