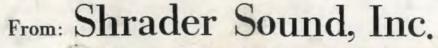
better listening

THROUGH HIGH FIDELITY

SUMMER "HOW TO" ISSUE

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 Your Listening Room—Pg. 10

PLUS... record and tape reviews, answers to your questions, and more



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COMPLETE GUIDE TO STEREO/HI-FI



All the facts you need to know to choose the hest in stereo

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- . Does it differ from stereo?
- . What are components?
- How do I fit components into my decorating plans?
- . Where and how do I buy stereo components?
- · What is FM Stereo?
- . Which components should I buy?
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includes a complete catalog of Scott components . . . explains how easy it is to build your own components with new Scottkits.

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It could be the tone arm—dynamically balanced...counterweight adjusted...tracking even professional cartridges flawlessly for flawless reproduction. It could be the turntable...over sized, heavy, and balanced. It could be the motor...Laboratory Series*...on speed...double-shielded against hum, and free from rumble. It could be the automatic feature...at your service when you want it...foolproof, incomparably gentle to records. It could be any of these...precision components that you would previously have expected to select individually and have mounted together. Now, in the Automatic Turntable, Garrard has combined and integrated them for you. But we don't think any of these are the best thing about a Garrard Automatic Turntable. Most people realize after they own a Garrard, that the most important advantage it offers steins from a 50 year fund of engineering experience and a glorious tradition of craftsmanship...supported by superior manufacturing and quality-controi techniques, and the industry's most comprehensive spare parts and authorized nationwide service network. These practical factors result in the enduring satisfaction which Garrard owners enjoy. Every time you play your Garrard, the pleasure and the pride you will derive from owning this magnificent mechanism will increase. We think

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Jarrard

What's <u>Your</u> Question?

Send them in to: St. Regis Publications, 25 West 45th St., New York 36, N. Y.

Q. I live in a high signal area (Chicago) but still use an outdoor antenna for FM. The reception should be clean as a hound's tooth but it's full of noise. Any ideas?—J. S. B., Chicago, Ill.

A. Several. But do the easiest things first. Check the antenna contacts to make sure they're tight. Then, check the antenna lead for play, rubbing, or bending; be sure it's solid. If noise persists, the tuner may be out of alignment, or you may be picking up ignition noise from street traffic. The former is a job for a good serviceman; the latter calls for shielded lead-in wire. If the hound's tooth gets dirty, take him to a vet.

Q. My preamplifier has no equalization control for 78 rpm discs. What's your recipe for getting the most from a bunch of early jazz records?—H. O. F., Troy, N. Y.

A. Try this. Set equalization at RIAA. Turn up treble until surface noise is just audible. Listen. If the bass comes in strong, turn that control down just a bit.

Q. My high fidelity is very old but the cabinet bears a respected name. Since installing a modern changer, the phonograph volume won't go above a whisper. But the radio (AM and FM) comes through loud and clear. What's my trouble?—F. K., South Bend, Ind.

A. If your "hi-fi" dates back as far as I suspect, it doesn't have a modern preamplifier. And if the phono cartridge is a modern magnetic, it isn't delivering enough voltage for your old hi-fi. You need a high output cartridge (ceramic).

Q. My new stereo cartridge tracks at very light pressure but it jumps grooves if anyone walks across the floor. What'll I do?—B. P. L., New Orleans, La.

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> > ANTHONY LORD, Editor
> > Printed in the
> > United States of America.

A. Several things. First, make sure your tone arm is stable. If you're using a dynamically-balanced arm and it still skips grooves, isolate the player from vibration with a foam-rubber pad or rubber mounts. If it still skips, adjust the arm for more tracking pressure.

Q. Our family practically lives outdoors during the summer. My husband brings our stereo speakers on the patio but the hi-fi doesn't sound as good as it does inside. Why? Can anything be done about it?—S. C. M., Beverly Hills, Calif.

A. You miss the "sound of your Listening room (see "Biggest Component" story, page 10). Outdoors, the sound from your speakers has nothing to reflect against and, relatively speaking, there's some loss of highs and lows. Notice though that the mid-range is sweet and clean-more so perhaps than indoors. One thing you can do is audition speakers that have been made especially for outdoor listening. They are designed to compensate for the lossesand they are weatherproof. You can put them up and leave them. The closest you can come to indoor listening outdoors is by using headphones. Indoors or out, they'll sound just fine.

Q. With all the controls on high fidelity systems I've seen, don't you have to know electronics to operate one properly?—B. F. O. Stamford, Conn.

A. No. High fidelity systems do have more controls than ordinary radios or phonographs because they accomplish more! But each component comes with a booklet that explains exactly what the controls do. They are all simple to operate, and you don't have to know anything about electronic theory.

Q. What are the advantages of the new 4-track 7.5-ips (inches per second) tape reels?—H. A., Phila., Pa.

A. Markedly reduced costs relative to playing time; improved quality; and freedom from the necessity of post- or pre-performance rewinding when playing complete tapes.

Q. I want to start converting to stereo. What's the first thing to do?—S. K., Akron, Ohio.

A. Get yourself a stereo cartridge first thing. Then you can play stereo records although they will still sound monophonic until you get the rest of your stereo machine. You can still play your old records and start collecting stereo records right now.

Over Our Shoulder

When we asserted in our Spring issue that "high fidelity is fun", we expected people to read it ond be stimulated by the thought. But we didn't know TV comedienne Carol Burnett (winner of a Peabody award and a special favorite of ours) was reading over our shoulder. No sooner did "Better Listening" appear in print, than Carol appeared on TV with one of the funniest spoofs on high fidelity that we've ever seen.

Well, if you sat at our typewriter, what would you do? The logical thing in our mind was to contoct CBS and get some shots of the shaw for this summer issue. As you can see from the opposite page—and the overleaf—CBS graciously provided them.

We wish that we could recreate the great good humor and high comedy of "Carol and Company" (meaning mostly Robert Preston). But that's impossible. We can offer the next two pages, however, with the hope that those who saw this comedic tour de force can relive, in memory, some of its mirthful magic.



NEVER UNDERESTIMATE the power of high fidelity. It can be greater than the lure of a young, attractive—albeit, kooky—woman. This in essence is the theme of a comedy segment on the CBS special, "Carol and Company" shown nationally last Spring. The show, starring Carol Burnett and Robert Preston, is happily set to repeat sometime during the

summer, according to well-informed sources at CBS.

The skit was built around a simple situation. Carol was invited by Robert to visit his bachelor quarters. She accepted; she sought romance. But, as it happened, she had a rival—the wildest, most fantastic and elaborate high fidelity system ever seen or heard. Robert loves it. And he wants Carol to love it also.









Audiophile Preston
takes no chances.
Center placement of listener
between speakers
is determined
by built-in
tape measures

Carol shows that her passion is not for sound. She shrieks as steam locomotive sounds move across the room from one speaker to another.

"Just sit here
while I warm up
my preamps",
says Preston.
"Oh, goody",
says Carol
in happy anticipation
of the fun to come.
It never came
—for her.

"No. No. No. No. No. You must never touch the record's grooves", says Preston. Carol doesn't quite understand this but, in a panic, she holds the record by the edges.

In attempting to sway her toward the sonic Nirvana he has found, Robert digs into his fidelitarian bag-of-tricks. Railroad steam engines roar through the living room, rifle shots crack out, and music, played molto fortissimo, knocks Carol out of her stereo seat.

Carol fights back gamely, using a bag-of-tricks of her own. She substitutes a comfy couch for the hard-backed chair. She bats her eyes. She reclines seductively, pours a drink, grabs the guy. But it's all to no avail. Bobert is wedded to widerange, full-frequency sound and the lady's wiles haven't quite the power of a bright, brassy trumpet note, well-reproduced. How can you fight a 30-cycle organ pedal note as it rolls around the living room?

All of the action occurs in the broadest, funniest comedy style; Burnett-Preston might well become the Keystone cops of the high fidelity world. (If we were to criticize the action, there's just one thing we would question. Kook or no, Carol is a most attractive gal. It takes acting of a very high order to show more affection for a wallful of electronics than it does for this comedienne. Maybe they should have used someone less attractive in the spot. And maybe they should strike a medal for Preston for pulling off the stunt.)

... AND IN CHINA THEY PLAY CHOPSTICKS

AMY Records has a great new record. Maybe you've heard it?—"Rhapsody for Knives, Forks, and Spoons", recorded by the Central High Cafeteria Band. The disc company explains that it's "one of the most unique instrumentals on the market" and that it was actually recorded with knives, forks, and spoons.

"Can you imagine the bedlam in a school cafeteria when the kids hear this," AMY asks.

Well, yes. And if it sells, we have an idea for you, AMY. How about a new disc called, "Sonnet for Baby Spoon, Plastic Cup, and Teething Ring". We were fooling around with the tape recorder at home last Sunday and . . .

How to Help a Friend Get Started in Hi-Fi

Take the situation in which a friend hears your music system and wants something like it. He'll probably ask what it cost. And, if yours is an elaborate, top quality system, your friend will probably turn pale at the mention of the figure. It may be as little as \$700 or as much as \$6000 (a friend of ours has such a system). But if this budding hi-fi-man is an average guy, even \$700 can scare him off. You know it's worth it and we know it too. You want to help him. What do you do?

Two for a Starter

Try this. Show him he can get started with only two components—an FM receiver and one speaker system. That's a great "starter set" and it doesn't have to cost an arm and a leg. Figure it out. Some receivers cost as little as \$199.95 and you can buy a very respectable speaker system under \$100. For about \$300, he's iu business.

There's an even less expensive route to get a "starter set". Build the receiver from a kit; there are new ones coming on the market for about \$170—and they're beauties. For the beginning speaker, follow the advice we offered in the last issue. ("Closetful of Mink", page 9). Buy a high fidelity replacement speaker for under \$25. and mount it on a closet door. Now the "starter set" costs less than \$200. Pretty good, huh?

Progress Can Be Slow

Once your friend has a "starter set" he can assemble the rest as budget permits. We would recommend the following building arrangement. Add a second speaker

BETTER LISTENING 7

to the starter set. This permits stereo-FM reception and it enhances mono reception as well. Two speakers always perform considerably better than twice-as-well as one speaker. So for less than \$100. more (less than \$25, more if your friend has strategically placed closets), he can graduate to stereophony.

His next move is the addition of an automatic turntable. Here again, the step up to a radio-phonograph combination is fairly painless. The turntable, with stereo magnetic cartridge, can be bought for under \$75.

Don't Forget Tape

The piece de resistance is a tape deck. It's the garnish, the frosting on the cake, the dessert. And here again, it's a moderate budget move. A good record/playback stereo tape deck can be purchased for under \$200. With the receiver he bought, your friend can now make his own stereo recordings at the

flick of a switch. And he can "singalong with Mike" (the recorder's microphone), as we pointed out in a story of that name in our last issue (page 10). Well, the uses of a tape recorder are so many and so varied that we'll not go into it here.

With the last component in place, your friend now has a music system that he probably couldn't have afforded in a console purchase. He was able to assemble it without straining his budget. And he got the system for much less than it would have cost in a factory-assembled package.

Here's what he spent:

Stereo-FM receiver \$200 Two speaker systems 170 Turntable and cartridge 75 Stereo tape deck 200

TOTAL \$645

Before he hits the \$700 figure he thought inaccessible, he can buy a darned good FM antenna to strengthen those stereo-FM signals he wants to record. What's more, he has enjoyed good high fidelity sound from the very beginning.

The next time a friend asks how he can get a music system like yours, tell him how little a "starter set" costs. One more thing, if you're just starting yourself, let us be your friend. Take the advice we've given above.



If headphones can't convince her, Charlie, kiss her!

(being sound advice for hi-fi bachelors in search of a mate.)

You MARRIED PEOPLE don't have to read this. After all, you have your stereo hi-fi system. You have each other. You have everything. Life swings.

And you probably understand Charlie Bachelor's problems. In his fantasies, he sees life clearly as it should be—with Felicia. They sit side-by-side on the love seat, opposite a battery of loudspeakers. Hand in hand, they listen to the latest stereo version of Rachmaninoff's Second Piano Concerto. Their entwined spirits are wafted literally on wings of sublime song.

But, like we said, that's Charlie's fantasy. In reality, his hi-fi rig consists of a little ole Hastings control amplifier and a pair of Fortescan loudspeakers—the utility models.

But it's good stereo. And it's a start. And someday . . .

The Bongos Roar

The trouble, Charlie tells himself, is only that the system doesn't make Felicia flip. Like the other night when she visited his apartment. The Pepsi was properly chilled. The lights were dimmed to a comfortable softness. And a new Peppy Percussion record was spinning merrily on the turntable. The bongos came roaring through the Fortescans in a way that made Charlie's toes curl. And Felicia tapped a tiny foot in time.

tapped a tiny foot in time.

"That's pretty good," said she,
"-almost as good as the portable
we take on picnics. Charlie, they
don't build players like that any-

"Did I tell you about that fresh guy at the office. Whenever I go to the water-cooler he follows me and —say, Charlie, can you turn that thing down? How's a girl supposed to think?"

Okay. That's Charlie's situation, bachelors. What do you do? There are several possibilities:

- Turn off the stereo and listen to Felicia's stories.
- 2) Steal her gum and angrily turn the stereo up.
- Get her coat and say "I'm sorry, Felicia; I feel another liver attack coming on."
- 4) Turn the volume down and

give her Lesson One in "Advanced Stereo Listening." Begin by drawing diagrams that show the difference between mono and stereo.

The Easy Way

And there's one other possibility which we recommend. It's called the "Stereo Convincer." All you need is a pair of stereo headphones. Here's how it works, Charlie:

 Put on a stereo program from disc, tape or stereo-FM.

- 2) Feed the program into the headphones—not stereophonically but as a combined, or monophonic signal. Let Felicia listen for a while to this combined signal. Less than a minute is enough. (If you've never tried headphone listening, we can tell you that, monophonically, it's like having the full orchestra in the center of your head. Spooky, huh?)
- 3) Here's the clincher. When Felicia hecomes used to the orchestra at mid-skull, switch the program to stereo. The effect is fantastic. To her, it will seem as if the orchestra has been projected outward. She'll feel as if she's sitting at "fifth row, center" in the concert hall. The effect is one of being completely surrounded by music.

Switching from mono to stereo can be done in one of three ways. You can use the balance control on

(Continued on page 16)

Felicia anticipates.





Felicia surprised.

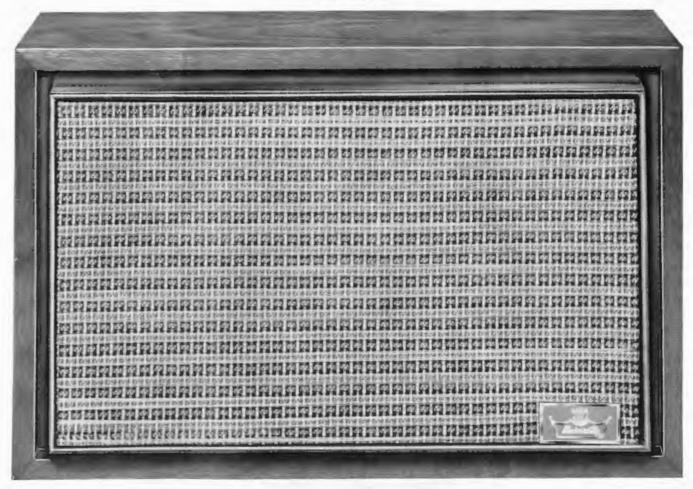
Felicia tickled pink.



looks like this



sounds like this!



Sensational University Mini-Flex with Optimum Q breaks through the small speaker quality barrier!

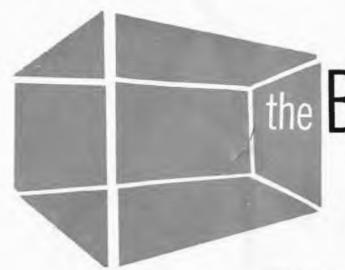
The Mini-Flex, another acoustic breakthrough from University, is the first speaker system of its type designed to fulfill its optimum performance potential—as stated in its printed specifications—without the use of "trick" amplifiers. It is a true 3-way speaker system, providing exciting bass response down to 40 cycles, exceptionally smooth mid-range and crisp, peak-free highs to 20,000 cps! Less than 0.4 of a cubic foot (15"x9"x 5")! A size hitherto considered impossible to produce performance to such specifications!

The reason—Optimum Q, the principle that eliminates the acoustic problems which, up to now, have prevented high fidelity bass performance in an ultra-compact enclosure. Optimum Q—in essence, the most ideal "marriage" of woofer and miniaturized enclosure yet devised, to assure the lowest resonant frequency possible in a sys-

tem of Mini-Flex dimensions. Other factors behind its superb performance include: special mass-loading; unusual viscous-treated "moving seal" suspension; new mid-range speaker and tweeter, each with exclusive "diffractor barriers" for ideal stereo sound dispersion. And, it looks as good as it sounds! Its crafted "cabinet-within-a-cabinet" styling will enhance any room, any home. It may be used on a wall, floor, shelf—on a table (or even under it)! Oiled walnut. Only \$69.95—at your audio dealer. For free 20-page Guide to Stereo High Fidelity, write: Desk BL-5



Effective May 1, 1963, send all equipment for service to our newly located Service Dept., 9500 West Reno, Oklahama City, Okla



the Biggest component of them all!

Since last fall's opening of Philharmonic Hall at New York's Lincoln Center, concert-goers talk less about performances than they do about the sound of the Hall. They speak knowingly of it as sounding "bright", "tubby", "on the dry side", "a trifle sharp", and so forth. This has become an exercise rather like describing vintage wines.

There's a reason for it. Prior to the Hall's opening, we were barraged with news stories about how the Hall was being "tuned", about firing a cannon inside the Hall to check its reverberation, about the sound reflectors that hung above the orchestra like clusters of plywood clouds. When opening night came, there was more speculation about the Hall's acoustics than about whether or not the Kennedys would attend.

Neglected Subject

Was it all ballyhoo? Some of it. Yet, it served a purpose. The news barrage focussed attention on the sonic side of our environment. This is a complex and much-neglected subject. It is neglected, by the way, almost as much in commercial architecture as it is the bome.

To an acoustic engineer, a room is either too "live" or too "dead." This is simply another way of saying that a "dead" room has loads of sound-absorbing materials in it; while a "live" room has sound-reflecting surfaces. You'd think, wouldn't you that the people who make acoustic materials would do a lively traffic in selling their products to hi-fi buffs. They don't. They are too busy selling to offices, supermarkets, train stations, and bowling alleys.

Apropos, the story is told of a zealous acoustic engineer who reduced the sound-level of a bowlingalley. He did his job well-too well, in fact. When he finished, the alley was as quiet as a tomb. No matter how many bowlers were bowling at once, the noise level didn't rise by as much as a fraction of a decibel. As a result, the bowling alley started to lose business. They took down the acoustic material and business picked up again. In this instance, people wanted to hear noise-the more, the better. That, after all, was what they were paying for-the satisfying sound of bowling ball blasting into ten pins.

NEW SINGING GROUP?

Caution. Warning. Danger ahead. There's a pun coming. If puns offend you, skip this item and go on to the next article.

SHE: I hear you went to Philharmonic Hall last night. How were the acoustics?

HE: They must have been there the night before. I heard the Budapest String Quartet.

What about acoustics in the home? Good acoustics are just as important in the home as they are for attracting cash in a bowling alley. A carefully-positioned drapery, judiciously applied acoustic tile, and plastic foam wall-covering (you can buy it in sheets like wallpaper) make a big contribution to serene living. A couple of lively voungsters (we know some intimately) can put a bowling alley to shame for the level of noise they can create. The use of sound-absorbing materials saves wear and tear on the nerves while the youngsters have their fun.

Well, that's the negative aspect; it's a bit like spraying the bouse with perfume if you live near a chemical factory. There is a positive aspect that has to do with enhancing the good sound that comes from your music system.

The Object: Serenity

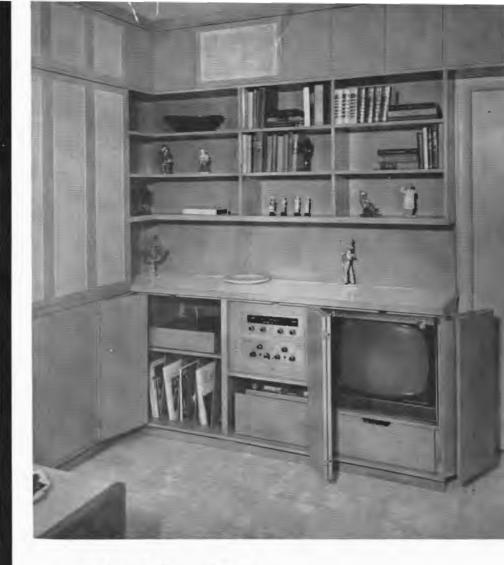
At the outset, you have to recogvize that every room in every house is acoustically different. The difference is a function of the furnishings, the decor (draperies and curtains), the size and proportions of the room, and its ability to absorb or reflect sound. Recording and broadcast engineers know this; they engineer their product to have a hall sound built right into it and, in so doing, they strike an average. That is to say, a recording will sound well in a room of average liveness or deadness. The people who build your high fidelity equipment know this too. They provide bass, treble, and balance controls. You can adjust the quality of the sound to compensate for the special

sound quality of your listening

This is not to say that "problem" rooms do not exist. Take the case of a musician friend of ours-a violinist. His music system is superb. He enjoys listening at rather high-volume levels and, because the system is distortion-free, he can do so in complete comfort. At high volume, the physical experience, or "feel", of the sound is much like one experiences in the concert hall. Our friend's problem is this: his room is too dead. It's not too dead for the high fidelity system-he can adjust volume and quality. But when he tries to match that sound volume with his own playing, he's at a total loss. His violin, after all, has no volume control. The sound generated by the violin is swallowed by the room's furnishings. He found a simple solution for his problem, by the way. He put glass doors on the bookcases that lined one wall. Glass, being highly sound-reflective, livened the room's acoustics considerably. And the glass doors have the virtue of being adjustable. If the sound is too live (when playing the music system, for instance), he simply opens the doors and takes advantage of the absorptive qualities of the open bookcases.

New Way to Listen

The important thing is: acoustics can be controlled-very often with existing room furnishings. But before you can control them, you must he aware of them. So, if you can't get started and do something about the acoustics of your listening room, listen. That's right, just listen. Listen not for the sound that's coming from your music system, but for the sound of the room itself. Listen for what the room does to the reproduced sound. The room is the biggest component of all. And you can tune it, change it, do with it what you will. And remember this: when you decorate a listening room, the most important tool you have is a good pair of ears.



We Like This Installation because . . .

. . . it integrates all home entertainment electronics in one place. There's AM-FM radio, TV, tape recorder, record player, and record storage-all in one neat package.

Many people, in planning an installation, overlook some essentials, such as adequate record-storage space. Not so here. There's space apienty and room for more on the cabinet's top.

We always like to see a tape recorder integrated with the total system. This way, it's always "on-the-ready" at the flip of a switch when a recording opportunity comes along. Maybe it's a TV show featuring fine music. Or it may be a telecast of "history in the making", like a tense blast-off at Cape Canaveral. Or it may be an outstanding stereocast on FM. Whatever, it can be recorded, if the recorder is hooked-up and ready.

Other things worth mentioning are the fold-away doors. They keep dust from the record player and other equipment when it is not in use. And, the appearance is neat. By the way, do you notice the speaker installed in the soffit, just above the bookcases. Little details like this add to the general well-organized appearance of the installation. We like it.

Float How to **High Fidelity Cabinet**

By Michael Kay

IF YOU ARE BORED with how your high fidelity cabinet looks, consider "floating" it against a wall like the unit pictured here. Floating a cabinet has several advantages. First of all, it adds a touch of decorator drama to the listening room. And, while it lends a feeling of lightness to a large cabinet, this furniture treatment is almost unbelievably sturdy. (Note to housewives: dusting or vacuuming beneath the cabinet is no chore at all).

To see a cabinet seven feet or more in length cantilevered out from a wall suggests engineering problems far beyond the scope of the average high fidelitarian. Yet, so simple is the method of hanging the cabinet that anyone capable of using a screwdriver can "do-it-

himself". The entire job should take no more than a half hour. (This does not include the time it takes to saw the legs from your old equipment cabinet).

Here's the procedure. Buy a oneby-ten board at your lumber yard the same length as your cabinetless the thickness of the cabinet's end panels (probably an inch and a half). Cut the board lengthwise with the saw set on a forty-five degree angle. Your lumber yard will be able to do this if you do not own a power saw. This operation gives you a pair of one-by-five's, each with an edge beveled at fortyfive degrees. The bevels naturally match.

Stud Hunt

After deciding where to float your cabinet, locate the two-byfour studs behind the plaster wall by tapping lightly. The stud will be behind the point where the tapping sounds deeper and more solid. Since most studs are located 16-in. apart on their centers, and only one has to be found by the tapping

Mike Kay is ready to "float Cabinet on bevelop board. Note shims sehind board to compensate for Right: With

cabinet floating. the author sits on it to show strength. Don't try this with heavy equipment in cabinet, be



method. The others can be located from the "first" stud with a carpenter's rule (or measuring tape from the sewing basket).

Now screw one length of one-byfive across and flush with the back of the cabinet, bevel down and on the outside. Locate it on the cabinet fairly close to the top. After determining how high the cabinet should hang (usual height: seven to ten inches), screw the other length of one-by-five to the studs, bevel edge up, away from the wall. With the two one-by-five's firmly in place, lift the cabinet (better use two people for this) and hang it on the wall so that the bevels meet and interlock. Be sure and use a bubble level before securing the one-by-five's to prevent hanging the cabinet on a slant.

How Strong Is It?

How secure is a floating cabinet? Can it adequately carry its own weight-not to mention the heft of today's power amplifiers, tape decks, and turntables, plus a sizeable and weighty long play record library? The best way to answer this question for yourself is to sit on the cabinet when it is floating in place. The weight of a grown man can be carried along with most high fidelity component and records. The reasons are easily understood. The overall weight is not on the boards from which the cabinet depends. Most of the weight is thrust horizontally against a broad expanse of wall by the bottom of the cabinet. And the relatively small downward thrust on the one-by-five hanger is widely distributed over its entire length.

One final word. The method of floating the cabinet is so simple that its location in the room can be easily changed as new furnishings and new decorating ideas dictate. You will not have damaged the wall except for a few holes in the plaster. To remedy: fill up these holes with spackle or patching plaster, sand smooth when dry, and touch up with paint. The wall is again as good as new.

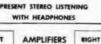
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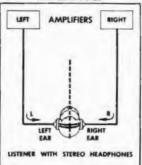
FOR STEREO HEADPHONE LISTENING

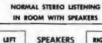
Jensen's exclusive SPACE-PERSPECTIVE network makes it possible for the first time to eliminate the "closed ears" effect of ordinary stereo headphone listening, in which the sounds appear to come only from the left and right, and accurately presents the "open ears" sensations of normal stereo speaker listening in a room, in which the performance is out-in-front as intended with true directional effects. It accomplishes this by accurately shaping the frequency characteristics and time delay of the signals sent to the individual phones so that they correctly portray the sound "build-up" and "shadowing" at the ears due to the obstacle effect of the human head as acoustic waves from the source flow around it. This breakthrough is due to an ingenious circuit development by Bauer of CBS Laboratories, employing the analogue computer, and is based on the acoustic measurements on the human head by Wiener, then at the Psychoacoustic Laboratory, Harvard University.

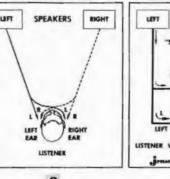
- Ordinary stereo headphone listening confines the left channel sound to the left ear, the right channel sound to the right ear. You have the impression you are in the midst of the musicians, who are partitioned to the left and right of you.
- In "open ears" stereo speaker listening, sound from the left speaker reaches the left ear, and also the right ear a little later in time. The sound pressure at the left ear rises, while that at the right ear falls, due to acoustic "shadow" as the audio frequency is increased. The corresponding thing happens for sound from the right speaker.
- Bauer at CBS Laboratories visualized an inspired answer to the problem-a left-right, right-left "cross-feed" elettrical network that would accurately simulate the "open ears" acoustical situation. Note the resemblance of the electrical paths of 3 to the acoustic paths of 2.
- Bauer's circuit is complex, as would be expected since frequency characteristics and time delay must be precisely shaped. Resistance petworks and potentiameter or volume control "blending" circuits cannot do this
- Here is the performance of the Jensen SPACE-PERSPECTIVE network compared with Wiener's acoustic data. Note how accurately the network produces the desired acoustic result at the ears. (The data is shown only over the frequency range important to stereophonic directional location; HS-1 'phones and network transmit the full frequency range.)

*T. M. Jensen Mig. Co. CC-1 and CFN-1 Licensed by CBS Laboratories Div., Columbia Broadcasting System, Inc.

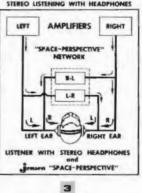


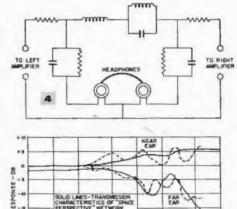






sen "SPACE-PERSPECTIVE







The JENSEN CC-1 STEREO HEADPHONE CONTROL CENTER places at your fingertips complete controls for personal or professional stereo headphone listening . . . plus the exclusive advantage of Jensen's new SPACE-PERSPEC-TIVE. Styled in an oiled walnut case, this attractive and compact unit can be conveniently located wherever you choose to listen; hang it on the wall if you wish. Controls allow you to adjust volume; adjust balance to suit the music and the best hearing conditions for you; select left or right channels or have stereo with choice of left-right reversal; switch from mono to stereo or stereo with SPACE-PERSPECTIVE; switch speaker system on or off. 'Phone jacks for two. Requires as little as 10 watts per channel (20 watt stereo rating) capacity. May be used with one or two 4 to 8-ohm nominal impedance dynamic headphones. Jensen HS-1 'phones are recommended for best results.



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Model CFN-1 SPACE-PERSPECTIVE CROSS-FEED NETWORK only is available for incorporation into your system at lowest cost. It provides the full cross-feed characteristics to simulate speaker listening but without the controls of the CC-1. Consists of network, 'phone jack and terminals for extension phones. Small enclosure can be mounted wherever you choose. \$19.50

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Music for your pleasure



Records and Tapes Reviewed by Edwin S. Bergamini

Use the convenient check-box to remember the records you want.

Czech, Slovak, and Moravian Folk Songs. Moravian Folk Chorus, Monitor MF 389 [M]

"Czech, Slovak, and Moravian Folk Songs" has two or three choice items ("She Walked in the Garden," "If You Love Me") in the twelve selections given on the record. The rest-well, the rest didn't impress us much. The chorus is capable of a lovely sound when they stay in tune (the attractive "By the Field's Path" starts off well, but . . .). The rather too-resonant sound of the voices tends to blast in some of the more powerful numbers.

BRAHMS: Symphony No. 3; "Tragic" Overture. Pittsburgh Symphony (Steinberg) Command CC 11015SD [5]

As estimable Brahms Third Symphony -not of final eloquence or expressiveness-is this by William Steinberg with the Pittsburgh Symphony. The same description fits his reading at Brahms' "Tragic" Overture, which completes the coupling. There's strong competition from Klemperer, Walter, and others. But this is not only the most recent recording of both works; sonically, it leaves the others behind. Here is the near-perfection of balances that finds details carefully revealed in a way to nudge-but by no means shock-the listener. The big sound is here, too, in undistorted climaxes.

BALLET HIGHLIGHTS from French Operas, Detroit Symphony (Paray) Mercury SR 90318 (S) 50318 (M)

The performances in "Ballet Highlights from French Operas" by Paul Paray and the Detroit Symphony seem to pay special attention to the first word in the disc's title. This is most a propos for the ballet music from Gounod's "Faust," the "Mignon" Gavotte (Thomas), and the Bacchanale from Saint-Saens's "Samson and Delilah." But the "Royal Hunt and Storm" from Berlioz's "Trojans" seems too dry and fast-paced by concert-hall standards. And what does such treatment have to do with an over-

ture, the "Phedre" of Massenet? The sound is dark-hued, the stereo largescaled.

BRAHMS: Piano Concerto No. I in D minor. Curzon, London Symphony (Szell) London CS 6329 [S], CM 9329 [M].

Has there ever been a more beautiful performance of the Brahms D minor Piano Concerto than this new London disc? More powerful? Yes, a dozen times. But not since the days of Artur Schnabel have we heard such exquisite gradation of piano sounds in this work. And has the accompaniment ever been shaped and caressed so, in a recording? Some will object to the lack of heroic power here. especially with the soloist. Listen. though, to the lyric strength of this reading in the slow movement, sustained as never before on records. The stereo stage has the strong feeling of depth this work demands; the piano is perfectly centered and (right for this "symphony with piano obbligato") not too promi-

ARE YOU AN **AUDIOPHILE?**

The cartridge firm, Empire Scientific. has a quiz that will test your audio acumen. Well, actually, it tests what you know about hi-fi terms. Well, even that isn't exactly right. You see. it's kind of a joke.

Here's a sample question:

A TWEETER is: 1) a warm-blooded vertebrate that is covered with feathers and flies in the air; 2) a traffic cop; 3) a small loudspeaker designed for the reproduction of high-frequency sounds.

look funny standing on his head. ANSWER: Wouldn't Ed Bergamini

LISZT: Piano Concerto No. 1: Les Preludes. Andre Watts, piano, New York Philh. (Bernstein) Columbia MS 6458 (S) ML

Columbia has understandably favored us with a documentation of the exciting last-minute (as substitute for Glenn Gould) debut of 17-year-old Andre Watts. With the New York Philharmonic Symphony under Bernstein offering vigorous support, he turns in a poetic and properly virtuosic account of the Liszt concerto. But the not-always perfect piano tone and certain disbalances among orchestra sections suggest pressure on the engineers to finish their work with unwonted dispatch-as comparison with the smooth sound of "Les Preludes," overside (done at greater leisure, most likely), shows. It's an excellent rendition,

STRAVINSKY: Petrouchka. GLINKA: Russlan and Ludmilla Overture. Israel Philh. (Maazel) London CS 6339 (S), CM 9339

Suffused with impatient fire, this slashing, sharply-outlined, young man's performance of the Stravinsky partakes not of the stylish detailing we are used to hearing from certain veteran conductors. But Maazel's way with this score makes for exciting listening, except in a few moments where more styling is needed or where his orchestra slips a bit from his control. The Glinka overture is sheer brilliance. We liked the expansive, balanced stereo setting, but found the high strings' sound somehow unbeautiful. Tone controls didn't help. Middles seemed leaner in this disc than highs and lows; perhaps the fault lay there.

BRAHMS: Nineteen Hungarian Dances. Hartford Symphony (Mahler) Decca DL 710058 (S) 10058 (M).

These ever attractive dances are conducted with understanding. Too, they are very well played by an excellent crchestra from one of our smaller centers. Most of us will find old friends here; in this record we were particularly taken with the fast-moving Dance No. 10 in F major. The sound unobtrusively offers a middle-of-the-hall seat. True, it is undistorted, but we doubt this orchestra sounds as colorless as this in the concert

MAHLER: Symphony No. 1. Columbia Symphony (Walter) Columbia MS 6394 (S) ML 5794 (M).

MAHLER: Symphony No. 1. Boston Sym phony (Leinsdorf) RCA Victor LSC 2642 (S) LM 2642 (M).

Both Columbia and RCA Victor favor us with new versions of Mahler's First Symphony. On Victor, it's Erich Leinsdorf and the Boston Symphony; Co-(Continued on the following page)



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lumbia's entry is Bruno Walter and the Columbia Symphony. The two performances leave all competition behind, as do the recordings. Our preference is for Walter, albeit his edge in sophistication and strength is a slight one. RCA Victor's recording is the more "collected" in sound, and as such, a more convincing evocation of the concert hall. Shall we credit RCA's new "Dynagroove" recording process of which this disc is one of several "first releases"? Surely the bottom bass is a shade more persuasive than Columbia's, and the clarity of individual instruments heralds a new standard. But the main problem remains that of suggesting the concert hall. To our ears, Columbia's sound isn't properly reflected from the sides of the recording chamber. The impression persists of a large, shoebox shaped room, with the orchestra located midway along one of the long sides. Would that this performance had been recorded in Symphony Hall, Boston, as was the Leinsdorf.

BACH: Sonatas and Partitas for Unaccompanied Violin, Grumiaux, violin. Philips PHS 2-900 (S). PHM 2-500 (M). Szigefi, violin. Bach Guild BG 627/9 (M).

The exceedingly able violinist Arthur Grumiaux has added to his lustrous list of recordings (of the standard greats in the violin concerto repertory, and of other works as well) the complete sonatas and partitas for unaccompanied violin of Bach. Few can equal the technique he brings to this difficult assignment; his sure intonation is a particular pleasure to the ear. But beautiful sound in itself is no better than a stand-in for real musical substance.

Joseph Szigeti, who has been playing these monumental works of Bach for a generation longer than his colleague. finds in them more to say. Listening beyond his less ingratiating sounds (here one hastens to affirm the thorough adequacy of Szigeti's technique), one hears a communication of great strength and intensity. Rehearing Grumiaux, one is startled to hear how much his attraction depends on sound itself-and how much less significant that actually is. The "mono only" Bach Guild sound for Szigeti is of impeccable clarity: Philips's stereo for Grumiaux is richly resonantand pitched nearly a half tone higher.

BOCCHERINI: La Casa del Diavolo, SACCHINI: Edipo a Colono, VIVALDI: La Tempesta di mare: La Notte. Orchestra San Pietro (Ruotolo) Dacca DL 710062 (S), DL 10062 [M].

The disc's importance lies not in able performances of the Vivaldi nor even for the staunch little overture, "Edipo a Colono." But the first domestic recording of a Boccherini Sinfonia entitled "La Casa del Diavolo" (The Devil's House)

THE PAYOLA QUESTION

The four U. S. "service" bands (Army, Navy, Marine, and Air Force) are now recording for RCA Victor and proceeds (95cents per disc) will go to the National Cultural Foundation. Doesn't a disc jockey who accepts "payola"-for promoting the records-act in the national interest?

is welcome not only for this score's inner strength, but also for its title movement. a fiery finale which has virtually the same musical material as that found in Gluck's "Don Juan" ballet (and later in his "Orfeo"). James Lyon's thoughtjogging jacket notes make provocative reading matter-especially while listening to the music in question.

GREAT MOVIE THEMES, Johnny Puleo and His Harmonica Gang, Audio Fidelity AFSD 5969 (S), AFLP 1969 (M).

Here's a sure-fire hunch of tunes by Johnny Puleo and his Harmonica Gang: his fans should go for. We wish the arrangements offered more variety from number to number, but suggest you start this one off right by dipping into the "Limelight" theme or the lovely straight harmonica solo in "Exodus." The sound of that bass instrument (hear "Colonel Bogey") is awesome, to say the least, Stereo all over the room, of course,

Kirsten Flagstad: Farewell Performance. Wagner program: "Flying Dutchman" Overture, two excerpts from "Die Walkure" Good Friday Spell (Partiful"), Five Wesendonck Songs Prelude and Love Death ("Tristan and Isolde"), Dawn and Siegfried's Rhine Journey, Brunnhilde's Immolation ("Die Gotterdammerung"), Flagstad, Symphony of the Air (McArthur) Orfec-sonic MDST-3-03. three discs [M].

If you know how to sing you can age gracefully doing it. This is vintage Flagstad that we hear in this farewell program, recorded in Carnegie Hall March 20, 1955 (she was 59 at the time) and released in commemoration of the great soprano's passing nearly eight years later. Generally, the voice one remembers from a remarkable career is here. It is a tiny bit thin at the top of the register (and used with proper caution there), but a lovely instrument still. To hear Flagstad caress the phrases of "The Angel" in the Wesendonck Songs is a musical experience not easily forgotten. On the other hand, the glorious "Brunnhilde's Immolation" has been recorded earlier hy her to greater effect, and with far more telling orchestral support.

The orchestral excerpts - perfectly good performances-are monophonic and a remembrance of the event they serve. The engineering, noting the problems posed by concert performance, has been exceptionally well accomplished. An accompanying booklet gives German and English texts, and a souvenir program of the actual concert is included for good

BEETHOVEN: String Quartets op, 95; op. 135. Juilliard String Quartet. RCA Victor LSC 2632 (S). LM 2632 (M).

That most brilliant quartet of our day. the Juilliards, continue their exploration of Beethoven with a pairing of his op. 95 and op. 135 quartets, with a mixed result. Op. 95, attacked with verve, has nonetheless a strong involvement with this score's inner meaning. Regrettably. energy rather than expressivity sets off the more profound op. 135. Wouldn't earlier quartets, such as the six in op. 18. or even the three in op. 59, he more approprinte to this group's temperament at this time? We hope they'll be next on their recording schedule.

HEADPHONE CONVINCER

(Continued from page 8)

the preamp, if it has one. Or you can use the mono/stereo switch, if it has one. If it has neither, use a set of headphones with a mono/ stereo switch. (The Koss Stereophones pictured here have such a switch right on the cable. They're the Model SP-56M at \$24.95).

Still More Benefits

After the wedding, Charlie, Felicia will find other uses for the headphones. Like, she can watch the Late Show on TV without disturbing your slumber. Or she can run the vacuum cleaner and listen to her favorite stereo records at the same time. (Headphones that cup the ear shut out external noise as well as letting you listen without disturbing others.) When the baby comes, Charlie, you can listen to Peppy Percussion without bothering the little fellow-if you can get the headphones away from Felicia. Better vet, buy two pairs.

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complete in three handsome units, occupying a stereo or mono operation, as required. total of only 51/2 feet of shelf space. That means you can have stereo sound of the quality heard new 500-C from its carton, it can flood your in a broadcasting studio control room-without making your living quarters look like one.

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Julian D. Hirsch, the noted high fidelity of the best, most truly musical reproducers available today." Indeed, the 21/2-cubic-foot XP-4A rivals in sound quality the mammoth theatersize loudspeaker systems of only a few years ago. with a six-pound magnet structure are the talk of speaker designers and audio enthusiasts.

Together, the Fisher 500-C and a pair of

Fisher XP-4A's constitute a minimum-space high-fidelity stereo component system that even an electronic engineer would be proud to ownand even a wife would approve. Prices: 500-C, \$389.50, 800-C (virtually identical but with AM-FM), \$449.50. Walnut or mahogany cabinet for either model, \$24.95, XP-4A, in walnut or mahogany, \$199.50†.

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TAPE REVIEWS

Matter of balance: "Madrigal Masterpieces" by the Deller Consort (Vanguard) VTC 1652) are generally excellent performances, plagued with a problem both technical and musical. This is the vocal prominence of the group's director and leading tenor, Alfred Deller, which disturbs both the stereo balance and the musical balance of the voices. It is beyond compensation with controls. The collection offers some great songs: Monteverdi's impassioned "Baci, soavi, e cari" and Tomkins' "When David Heard That Absalom Was Slain," as well as jollier fare like Jannequin's "Le Moys de May," exquisitely done.

Overdue debut: A dozen Handel concertos for organ and orchestra are sturdily performed by Karl Richter, playing the organ of St. Mark's Church in Munich and directing a chamber orchestra. Here is an important tape debut, long over-

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Dept. B, Genoo, Illinois

due. The collection includes the famed F major Concerto, Op. 4, No. 4, and the brilliant B flat major, Op. 4, No. 6. The stereo realistically reproduces the church setting. Generally, the organ sounds are "with" rather than "in back of" the orchestra, which shows the stereo spread of a group very likely placed at the front of the chancel. The two "Twin-Pak" tapes are available separately, but we'd hate to be without either.

Movies, TV, etc.: Arthur Fieldler, RCA Victor's Boston representative in their "Our Man in . . ." series, offers a helping of movie themes, TV commercials, and show tunes on RCA Victor FTC 2108 generous enough to delight fans of Mr. F. and this sort of musical fare (and to fill out the "frivolities corner" of a classicist's serious music tape collection for some time to come!). We thoroughly enjoyed "Mack the Knife" (richly arranged) and the setting of "I've Never Been in Love Before" and "I'll Know" in the "Guys and Dolls" medley. But the bag of tunes from TV commercials is no grab in our book. The stereo's as hrightly brisk as the playing, as urbane as the directing. Was the Boston "Pops" ever not well recorded?

Elegant tailoring: a dozen numbers ("C'est Si Bon", "I wish You Love", etc.) by Michel Legrand and his orchestra in "Rendezvous in Paris" (Bel Canto PT-600-045). They vary from the touching "Melodie D'Amour" to lesser items (a noisy "C'est Magnifique" that we found anything but!). The worthy stereo sound stresses wide separation (note maraccas left and wood-block right in "Melodie D'Amour").

YOUR SHOPPING CHECKLIST

☐ HANDEL: Organ Concertos. Richter. London LCK 80111, 80112.

Orch. (Fiedler) RCA Victor FTC 2108.

"Rendevous In Paris". M. Legrand, orch. Bel Canto FT-600-045.

MADRIGAL MASTERPIECES. The Deller Consort, Vanquard VTC 1652.

THE POWER OF THE PEN

Little girl, 14-year-old set, is enraptured, as most of them are, with TV and popular record artist Richard Chamberlain. When one of her classmates got a signed picture, autographed, "Your friend, Richard Chamberlain," the little girl sat down to write for one of her own. She started the letter: "Dear Richard, You know Sarah Gurney in my class, well . . ."



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