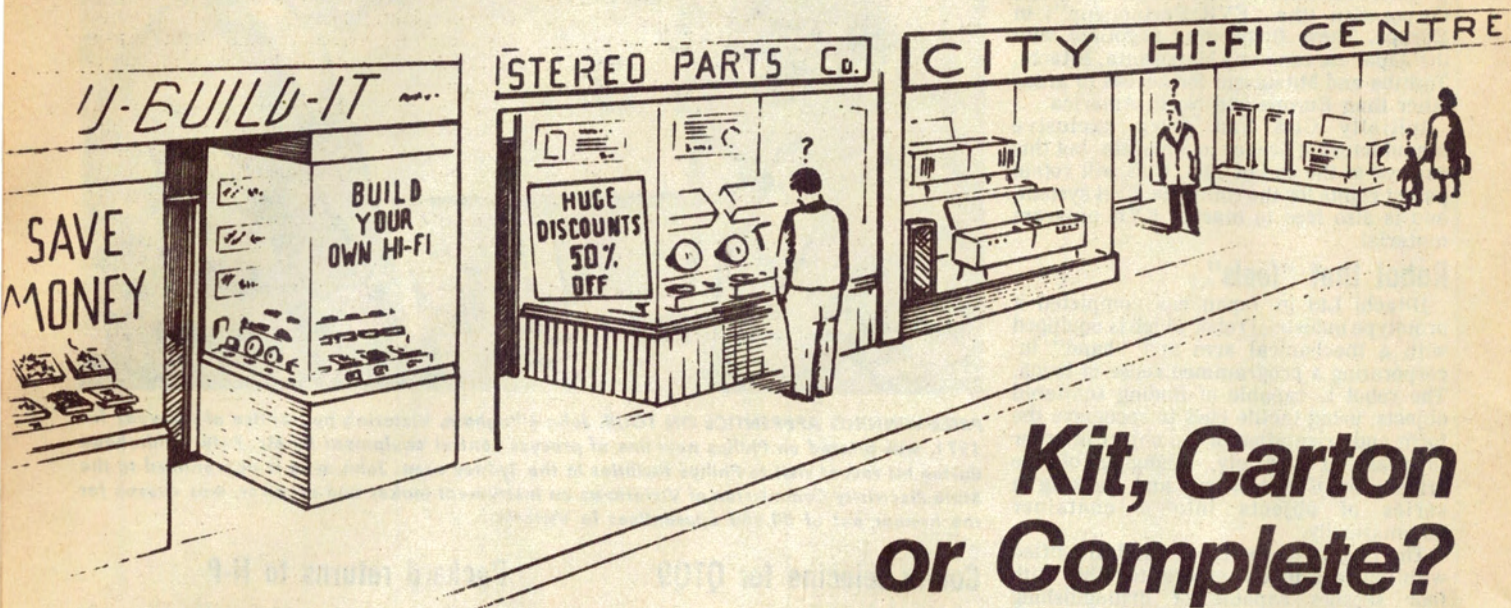


How to buy a hi-fi system



Kit, Carton or Complete?

You can acquire a hi-fi system in a variety of ways: You can build it from a boxfull of bits; you can buy the units from clearance or discount houses and string them together yourself; or you can buy the whole outfit from a regular hi-fi dealer. The best approach varies with the individual for reasons which the article explains.

by NEVILLE WILLIAMS

Let's say that you've decided to invest in a high quality sound reproducing system for your home. You will have worked out roughly how much you are prepared to spend, where the system will be placed in the home and the role it will play in everyday family life.

What is said in this article may support or it may challenge those ideas; it really doesn't matter which. Our whole purpose is to assist people who are not fully acquainted with high fidelity equipment to reach wise decisions before they actually commit themselves.

Broadly speaking, there are three main approaches to acquiring high fidelity equipment:

BUILD IT YOURSELF: Build the amplifier from basic components; build the loud-speaker enclosures from raw materials or assembly kits, adding and wiring the loudspeakers, crossover networks, &c; build the record player cabinet, install the motor, arm and cartridge, and wire up. Connect everything together as necessary.

BUY & ASSEMBLE MAJOR COMPONENTS: Buy a standard commercial amplifier in carton; buy complete loud-speaker systems; buy ready-built record player, radio tuner, tape deck, &c. Set them up on shelves, interconnect them as necessary.

BUY A COMPLETE SYSTEM: Arrange with one supplier to provide a complete system, selected on the basis of a showroom demonstration. The supplier installs and tests the system and provides back-up service. You pay the bill and enjoy the result, hopefully with a minimum of worry.

Let's look at each of these propositions in turn, to discover how they meet the needs and capabilities of different individuals.

The urge to build one's own amplifier system is as old as the subject itself. Through the years there has always been a group of people who have preferred home-made units to the commercial product. At some stages the home-made product has been technically ahead of what has been commonly available over the counter. Often there has been a clear price advantage. Always there has been the satisfaction of having built it oneself.

Home construction of high fidelity equipment reached something of a peak on all three counts during the late fifties and early sixties. Electronics magazines were full of amplifier circuits, plans for high fidelity loudspeaker systems, advertisements for kits, and so on. It was during this period that the word "Playmaster" became virtually synonymous in this country with high-quality do-it-yourself hi-fi, as featured in

"Electronics Australia" magazine.

This period also saw the beginning of a boom, around the world, in the commercial manufacture of high fidelity components. This has culminated in the current flood of keenly competitive high fidelity components — sufficient to tempt many a would-be homebuilder away from the workbench.

The boom in commercial amplifier production has coincided with the swing away from valves and toward solid state (i.e. towards transistors and integrated circuits). This trend, together with the use of printed wiring boards and other modern techniques has made it possible to produce, relatively easily and relatively cheaply, amplifiers which are far more complex than their earlier valve counterparts.

Once a design has been finalised and prototypes produced, it is now possible to reproduce them on a mass-production basis using largely unskilled labour, automatic machines and automated testing procedures. Complex circuitry and extended user facilities do not add overmuch to production-problems.

As matters have transpired, this approach has put the home constructor at a disadvantage, if he has any idea of competing with the more sophisticated commercial products. Those who seek to develop complex equipment for ultimate home construction face a major task in evolving the original design, and in reducing it to easy-to-follow instructions and diagrams for a magazine or a brochure. Similarly, those who market the necessary components face a major task in collecting the numerous individual items and providing metalwork and decorative items to an acceptable standard.

The smaller and more scattered the anticipated market, the larger do these

problems loom. For these reasons, they are much more serious in Australia than they are, for example, in Britain and America.

These problems aside, when the plans and the parts are finally to hand, the home-builder faces a considerable task in sorting everything out, avoiding errors in selecting and positioning components, and following through the various assembly steps.

If everything works out as it should, he will finish up with an amplifier which will perform as intended. He will have the satisfaction of having built the unit himself and of having saved some money in the process.

But what if the amplifier doesn't work for one reason or another?

If the constructor is versed in electronic theory and practice, he won't worry overmuch. He will analyse the problem and rectify the fault without too much delay.

On the other hand, if he has been following a plan blindly and ends up with a complex amplifier which does not work, or does not work properly, he has a real problem on his hands. The overall complexity, and the inaccessibility of components soldered to printed wiring boards are a major deterrent for the amateur troubleshooter; equally, they will also slow up a professional who is called in to service a piece of equipment that he has never seen before.

In short, the construction of a modern, complex high fidelity amplifier is primarily a project for experienced homebuilders — people who are familiar with components, techniques and the theoretical background of what they are undertaking. Less experienced enthusiasts should get involved only if they can count on ready assistance from someone with the necessary background.

In saying this, it must be acknowledged that project kits are marketed by certain companies who specialise in the field. The kits are traditionally complete down to the last nut and bolt and are accompanied by books which detail every single step in the construction. Theoretically, they can be put together by someone having no previous experience whatever, and there is a back-up service for anyone who gets into difficulty.

Kits like this are fine in their home markets — England and America for example. However, before becoming involved here, it is wise to make sure that the kits and instructions are appropriate for Australia and that back-up assistance is available, should it be necessary.

Home construction of loudspeaker systems is a quite different matter. It is largely an exercise in cabinet fitting, requiring no more than ordinary handyman skills. The constructor's obligation primarily is to follow instructions about materials, dimensions, rigidity, sealing, &c. And, of course, the recommended loudspeakers must be used if the anticipated results are to be achieved.

The least demanding approach to a home-made loudspeaker system is to work from a pre-cut cabinet kit, as recommended by a reputable hi-fi dealer. A good kit will go together with a minimum of additional work and should closely approximate the commercially finished product. Modern materials and the trend to oiled finishes fortunately pose much less of a problem for the handyman than the full-gloss finish that was favoured a few years ago. The han-

dyman who builds up a loudspeaker kit is likely to save quite a few dollars, as compared with the finished item.

An even greater saving may be possible for the handyman who can work from raw materials, particularly if the materials can be obtained as "seconds" or off-cuts. While the system will sound well if the instructions are followed, the finish will depend almost entirely on the skills of the handyman.

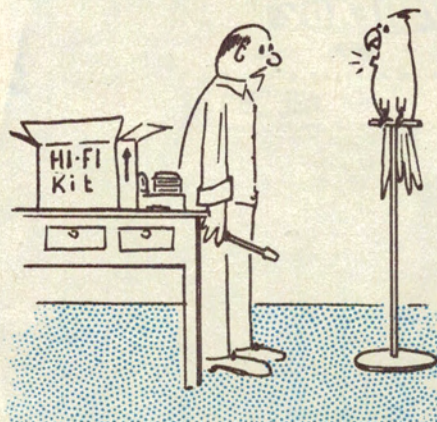
Mounting of the motor and pickup is another area where the handyman can substitute effort for outlay. Greater care is necessary, however, because a motor and pickup mechanism is more subtly prone to damage through inadvertent mishandling than loudspeakers and associated components. It is wise to talk this over with the hi-fi dealer before making any decisions to "roll your own".

So much then for the home construction of hi-fi equipment. What about the idea of buying the major components from different sources and wiring them together in the home?

This approach follows a fairly common pattern:

The enthusiast avidly reads advertisements and reviews; talks to salesmen in hi-fi shops; listens to equipment wherever he can. He gradually narrows his selection to two or three possible amplifiers, loudspeaker systems, pickups, motors, &c. This done, he seeks out the best "deal" for the items, collectively or singly, from hi-fi dealers, clearance houses, discount houses — in fact, from anybody who will sell!

Ultimately, all the items are collected, taken home and connected together. The enthusiast relaxes, hopefully a happy man.



Funny! I could've sworn that I had R16 a moment ago!

This approach may well pay off in terms of the total expenditure. It is a fairly obvious course to follow for the enthusiast who has adequate knowledge, limited funds but no time or incentive to build his own. He will be able to recognise the quality product which is being sold off, perhaps because it lacks the embellishment of the latest model. He will be able to separate the genuine bargain from the dressed-up "cheapie".

No less important, he will be able to anticipate and avoid possible problems of compatibility; he will be able to interconnect the equipments as necessary, and cope with any problems that might arise.

On the contrary, the enthusiast who lacks

the necessary technical knowledge or guidance is well advised to avoid the bargain hunting approach, and with good reason.

Problems of compatibility can arise between items which may, individually, be of acceptable quality.

Certain cartridges may not easily fit into certain pickup headshells. Some pickup arms may not associate easily with certain turntables, because of height or mounting position.

Cartridges which are sensitive to magnetic fields may give trouble with players having a somewhat greater hum field than others. Because of magnetic attraction, some cartridges are best not used with steel turntables.

Cartridges which happen to produce above average peak output should not be used with amplifiers having below average tolerance to input signal.

Particularly sensitive loudspeakers may emphasise the noise and hum content in an amplifier, whereas the same amplifier could be acceptable with loudspeakers of lower sensitivity.

Again, an amplifier somewhat lacking in power output and sensitivity might sound normal with sensitive loudspeakers but disappointing with insensitive types.

And so on. Problems like this can be very serious indeed for the non-expert. Without understanding the reasons, he knows only that the equipment, assembled at considerable cost, is not satisfactory.

He may blame the amplifier but the vendor is likely to insist that the amplifier is above reproach. Is it not a standard model which has been made and sold by the thousand? The trouble must have to do with the cartridge or the loudspeakers!

Most likely, much the same reaction will be had from the other suppliers:

Nothing to do with the cartridge; it's an amplifier or loudspeaker problem!

Nothing to do with the loudspeakers; it's a cartridge or amplifier problem!

Taking a charitable view, the individual suppliers may be quite sincere in their statement, because they will not necessarily know that there is some basic incompatibility between their unit and another item that they know virtually nothing about. And, even if they offer a substitute unit to demonstrate their good faith and the quality of their merchandise, it will not correct the situation if the basic incompatibility remains.

Taking a less charitable view, vendors of individual packaged components may simply not be willing to extend themselves to help a customer in trouble. They are concerned with only a portion of the overall system and, in a "deal" situation, their profit margin from that portion may leave nothing for after-sales service.

Is this an unduly black picture? Some may think it is — particularly those who have bought hi-fi equipment this way, put it together without any bother, and saved themselves quite a few dollars in the process!

The basic purpose of these remarks is not to rule out "carton" deals but simply to stress that, when the customer walks out of the various shops with his purchase, he is very much "on his own." If he can cope with problems that might arise, he has nothing to

worry about. If he can't, the dollars saved might easily be offset by having to seek professional assistance.

In some respects, there is a close parallel between carton buying on the local market and bringing items back from overseas.

With the increase in overseas travel, many more people have had the opportunity of shopping in duty-free areas adjacent to Australia, notably Singapore, Hong Kong and Fiji. The emphasis in such buying tends to be on tape recording and replay equipment, though other items can be bought to advantage by dint of more diligent searching and bargaining.

The would-be enthusiast, keen to shop for hi-fi equipment overseas, should be careful to do two things beforehand:

1. Identify the kind of equipment that he wants, before leaving Australia, noting in his pocket diary the figure he would have to pay locally for each item. Once overseas, the pressures of travel, bargaining and currency conversion are great enough, without having to rely on memory for the Australian price levels.

2. Before leaving Australia, obtain a traveller's guide sheet of current customs and tariff regulations; study them and seek clarification where necessary from a customs officer at the point of departure. This done, sit down and work out what you can or cannot bring in duty-free. If you anticipate having to pay duty, work out the price level at which you will have to buy the various items to come out sufficiently "in front" to justify the time and trouble involved — not forgetting packaging, freight or excess baggage charges and the collection formalities at this end.

By and large, the customs regulations are biased in favour of small, portable tape and record playing equipment. They are biased against larger, more expensive items of the non-portable variety, particularly if they get into the "radiogram" area, combining a radio tuner with record or tape playing facilities.

These are mainly financial considerations, which must be the subject of decision by the individual concerned, having in mind what he wants, what he can buy overseas, how easy or otherwise it will be to despatch and collect, and the likely obligations in regard to customs duty and sales tax.

Technically, matters of compatibility must be considered, as outlined earlier. The overseas buyer must also make quite certain that the products are intended for, or adaptable to, operation from Australian power mains at 240VAC, 50Hz. Both figures are important, particularly in respect to the speed of turntable or tape recorder motors which are usually dependent on the mains frequency.

The wise buyer will favour brands — and preferably models — which are marketed in Australia. Spare parts and service information can be a problem for models which have not been released through the Australian distributor.

One final point: Understandably, local distributors are not amenable to supporting guarantees or rectifying faults gratis in equipment which has not passed through their own distribution network. Therefore unless the item carries a manufacturer's guarantee which is unconditionally valid and binding on the Australian distributor,

NEW SELF-CONTAINED DOLBY UNIT



One of the latest developments in the improvement of high fidelity sound reproduction is the Dolby noise reduction system. But up till now, the advantages of the Dolby system have only been available in a few relatively expensive reel-to-reel and cassette tape recorders.

The audio enthusiast who already possesses a high-quality tape recorder can now have the advantages of the Dolby system without purchasing a completely new machine. Pictured above is the Marlux DS100

Dolby adaptor which can be used with any stereo tape recorder or cassette deck having high level (100mV to 1V) inputs and outputs.

Using Dolby "B" circuitry, the adaptor reduces hiss and other high frequency noise by as much as 20dB. Recommended retail price is \$189 and the unit will be available from retail outlets throughout Australia. Australian distributors are International Dynamics (Agencies) Pty Ltd, 23 Elma Rd, North Cheltenham, Vic.

don't expect free service if something goes wrong shortly after purchase.

Service may be available but at a price!

At this point it may be appropriate to summarise what has been said and to draw an important conclusion:

IF you do not have the expertise to build your own hi-fi equipment and . . .

IF you lack the background to cope with the possible problems of buying or importing separate carton items . . .

THEN you would be wise to put yourself into the hands of a reputable hi-fi retailer or a specialist adviser in a reputable department store. Buy the complete system from the one source unless there is a very strong reason for doing otherwise.

Not by any means does this imply that hi-fi dealers as a class are particularly virtuous or altruistic, or that they know all the answers in the technical sense.

To be entirely realistic, they are in business to make a profit; they are salesmen rather than technicians; they have strong personal and business allegiance to certain types of equipment; they have the ability to be "impartial" to their own advantage!

But . . . and it is a very big but . . .

Reputable and established hi-fi dealers want to stay in business. They have to rely heavily on good customer relationships, and word-of-mouth recommendations.

If a customer has a problem, it is in the dealer's interest to put it right.

Technically, any one dealer is not likely to know all the problems of compatibility of the type mentioned earlier in this chapter.

But dealers certainly will know the combinations of their equipment which ARE compatible and which DO work well.

They will know what combinations make sense, economically. They are well placed to advise how the intended outlay should be apportioned between the various items.

No less important, a dealer is likely to know the reliability record of the items

which he handles. A particular item may give superb results on test but this is small comfort if the failure rate in service is inordinately high.

Akin to this is the cost of service and, in the case of pickup cartridges, the cost and possible inconvenience of providing replacement styli.

So then, our advice to those without a substantial technical background — and therefore to the majority of would-be hi-fi enthusiasts is simply this: Select a dealer who seems qualified to advise, who can offer suitable equipment at a suitable price, and who can offer effective back-up service. Buy all your equipment from that dealer, or a sufficient proportion of it to ensure that he will put his reputation on the line.

How best to select such a dealer is, of course, the hard question. One way of answering it is to suggest how not to react:

Don't make up your mind on Friday night to buy a hi-fi system, then race in on Saturday morning and make an instant decision.

The best plan is to make haste slowly.

Listen to as many hi-fi systems as you can manage, both to confirm your own requirements and to become familiar with what is or is not within range of your pocket.

Watch the advertisements and read up on hi-fi literature, without necessarily getting bogged down in theory that is beyond you.

But, most of all, talk to people who own hi-fi equipment and ask where they bought it. Was their supplier helpful? Did he install the equipment properly? Has he provided back-up service?

Beware of dealers who rate a "no" answer.

Be favourably disposed towards those who are credited with giving the customer a "fair go".

The chances are that, if you reach a decision based on inquiry first and then on your own observation, you won't go far wrong. ☺