

# POPULAR

# HIFI

Lesson  
FM Tuner

MHz



## Tuners - what do you really want?

## Build our special 35 watt amplifier

## Enclose your speakers - with your room!



**Reviews: SME, Pioneer  
Quad, Naim  
Yamaha, Sansui**

## separation sensitivity & selectivity

channel selectivity. Highly selective tuners will have a ratio greater than 10 dB for the first and greater than 70 dB for the second. Selectivity of this order is useful when you want to tune a weak station at a close frequency to a strong station with the least interference.

On the other hand, excessive selectivity can add undue distortion to music peaks. The designer thus needs to compromise between the two factors. In the majority of average reception areas adjacent and alternate channel selectivity ratios of 6 dB and 60 dB are adequate.

### Capture Ratio

One attribute of FM which has no AM parallel is capture effect. When two signals are present on the same frequency or close in frequency the wanted signal in the AM case needs to be many times stronger than the unwanted signal to avoid background whistles and interference. In the FM case the wanted signal needs to be only slightly stronger than the unwanted one to 'capture' the response. The unwanted signal is then virtually inaudible.

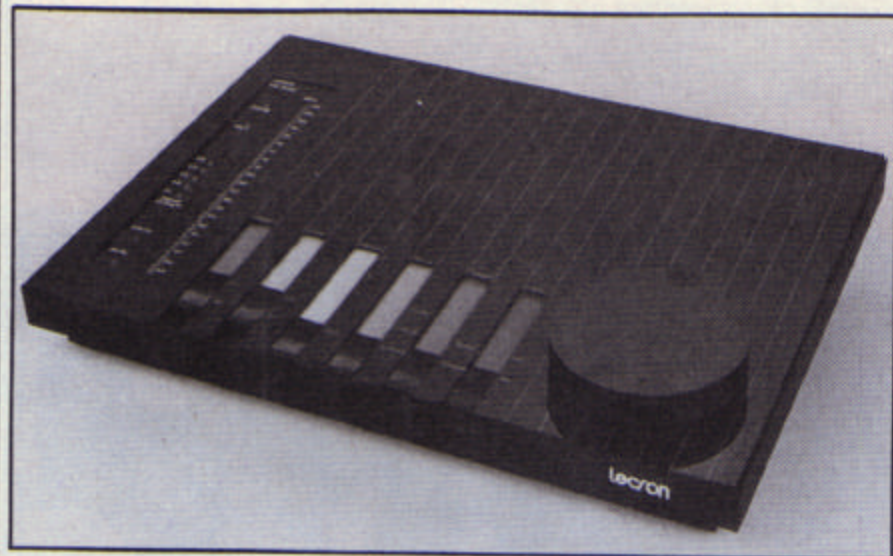
Capture ratio is a measure of how much stronger the wanted signal needs to be relative to the unwanted one to secure the capture of the former. The dB ratio this time works the other way round. That is, the smaller the dB number the better the capture ratio. Expensive tuners have a capture ratio of 1 dB or less, while less exacting designs may have a ratio of about 3 or 4 dB.

### Frequency Response and Stereo Separation

A tuner of small dB number capture ratio should be sought in areas where there are hills and large buildings, for in such areas a form of distortion called multipath distortion can be troublesome as the result of reflected signals. A tuner with a good capture ratio captures the direct signal and responds very little to the signals reflected from the hills and buildings, thereby minimising multipath distortion. A good capture ratio also generally means that the tuner has the least response to AM interference.

Frequency response in the audio section from applied modulated aerial

# LECSON FM 1



*Lecson FM 1, high style plus high performance.*

**I**t goes without saying that an individual company like Lecson will make a tuner which matches their amplifier in looks, as well as in performance. As you can see from our front cover this month, the visual match is assured. The same colour bars appear again, on control sliders for the various tuner functions. A green one turns it all on, while the blue ones select one of the four pre-set stations or manual tuning and also the mute switch. A yellow slider selects mono or stereo and has a blend position in the middle, to offer a compromise between the lower noise of mono and the channel separation in stereo. Since noise is mostly high frequency in nature, blend controls offer a signal which is stereo at lower frequencies, gradually becoming mono at higher frequencies.

An unusual feature is the variable de-emphasis switch — the orange one. The idea is that a Dolby-encoded transmission will use a different pre-emphasis. Although from an electrical point of view, such transmissions are not compatible with all those non-Dolby receivers — in other words, almost every one ever made — in subjective terms, there is not a great difference between a Dolby transmission with the different 25 micro-second pre-emphasis and a conventional one with 50 micro-seconds. It seems unlikely that Dolby will be used in the UK at least for quite a while, although some tests have been carried out.

To get the very best from Dolby-encoded transmissions, you need a pair of decoders and you also then need to change the de-emphasis to 25 micro-seconds. Various Dolby units are

available separately and when you add one to the unit for receiving Dolby programmes, you just move this switch to its 25 micro-second position. All you need then is a few more Dolby experimental transmissions, but it seems that the inertia of those bodies responsible would rival a tank... so you just leave that switch in the 'normal' position.

On the back of the tuner there is an adjustable output control which will enable you to match to almost any amplifier — a feature which is expected at this price, although not all the competition actually includes it.

Specifications are as impressive as the looks, which means that this really is the best tuner for owners of the Lecson amplifiers, although the styling might not match other makes too well. For 30 dB quieting, the required signal strength is 1.2 micro-volts, which is quite good, although not exceptional. Along the same lines is the signal-to-noise ratio of 70 dB in mono, which again is as expected from a good tuner. Taken along with the other parameters, this is clearly a tuner that will give excellent results in strong and medium signal strength areas in the UK. It will also give a good account of itself in weak areas, and abroad in more congested bands, especially with its capture ratio of 1.2 dB — another very good parameter.

This is the tuner to match the Lecson amplifier that has been promised for quite some time now. Styling is typically striking and makes a radical change from the glittering chrome of oriental units. Definitely a combination for the home that needs the best in style with performance.

# Lecson's lovely Lynette

*Speakers have an inevitable tendency to look alike, with most designs being a simple box. Lecson have come up with a variation on the theme that looks good as well as sounding good. Bob Monrow reports.*



**L**ecson have always been in the forefront when it comes to winning awards from the Design Centre. They have produced novel housings and control fascias for their excellent amplifiers and monitor speakers and the new LB1 Lynette is no exception.

Most speaker boxes are square. To get a decent stereo image from such a pair of rectangular enclosures it is normally necessary to angle them in towards the listener. Square boxes also are liable to suffer from coloration as the internal parallel surfaces form a resonator for some frequencies — especially in the mid range, to which the ear is most sensitive.

Lecson have approached this age old hi-fi problem with a stunningly simple solution and I'm surprised that no one has thought of it before. They've simply angled the surface of the box which carries the drive units inwards, so that the boxes can be stood flush with the wall, but the drive cones will be radiating in towards the listener.

## Looks good

Not only is this a good idea from a hi-fi point of view for the reasons outlined above, but it looks good too. Something which Lecson do seem to care about a great deal, which is more that can be said for some of the other British hi-fi manufacturers.

However, visual aspects may do a lot for the image of a speaker and please the marketing manager but what we are really interested in is how the things actually sound.

Quite simply (again) I think Lecson have got it just right. For the asking price of around £180 they are pitched in

alongside formidable competition and they put up a very fair battle.

Two drive units are employed, a 6 in bass/midrange driver and a plastic dome tweeter. I am often suspicious of such arrangements as careful crossover design is required to ensure there are no nasties around the changeover frequency which can lead to subjective dips and peaks in the midrange response. The bass driver is loaded via two ports, packed with straws, which provide a resistive load on the motions of the cone. Two ports have been tried before in other speaker designs without a great deal of success, but this time Lecson seem to have got their sums right and all the aspects of their design flow together quite nicely.

Since the cabinets are angled they come supplied in matched pairs, each being a mirror image of the other, with respect to the angle of the front and the position of the drive units. A stepped foam front is stuck to the cabinet by means of a few strips of Velcro ribbon, and this was the only thing about these units I didn't like. Try and take the front grilles off and the strips tend to come away as well as the adhesive holding them to the baffle gives way. Still quite irrelevant from the listeners point of view even though it may annoy the kids of the house who love to rip things to pieces.

## Against the wall

Measuring 31 x 20 x 27 x 59 cms the LB1's are a decent size for any living room and will neither dwarf the aspidistra or be able to hide in the shadow of the sofa.

Unlike many speakers of this size and

price I found they sounded best when flush up against a wall or near a corner. The angled front seemed to play a part in this, giving the stereo spread a deep and spacious nature, especially on classical and orchestral music. Rock and light material had a solid foundation, with the sound appearing to come from behind the boxes.

The all important mid-range — where the human voice lies — was only very slightly coloured, with a curious nasality that was highly elusive. Sometimes I could hear it and at other times not at all. I put this down to the various recordings I was using for the listening tests, but in the end came to the conclusion there was some tonal wobbling in the midrange but of a not unpleasant nature.

## Nice

Conventionally reviewers start from the top, as it were, covering the treble performance, then the midrange, then the bass. I prefer to try and get them in all at once. This does not always work though, so back to square one.

Thus, the LB1's have a sweet top end, but not so sweet as to leave a sugary feel in the ears, maybe more like saccharine... Mid range, as previously stated is full of mystical promise and could certainly not be described as forward or brassy, more words of which we reviewers are so fond. Restrained doesn't even fit here. How about nice, a very under-used word. Bass is tight and deep and every bit as good as anything the similarly priced competition can offer.

All these cliches balance out nicely to a recommendation to go and buy the things. What more can be said!