Introduction

When I first started using a telescope I spent many hours observing in the open air. During the winter months it only took about half an hour before the cold started to penetrate the layers of clothing I had
on. On one occasion my eyebrow froze to the eye­piece!

Condensation on the telescope and optics was also a problem from time to time. The telescope was permanently mounted, which meant that it had to be uncovered and re-covered before and after each observing session. Accessories had to be taken from the house to the telescope and returned again afterwards. All these pre- and post-observing activities took quite a time, time that could be better used observing.

**Design Philosophy**

Building an observatory was the obvious answer, as it would provide protection while observing, as well as space for keeping all the accessories. The design needed to be simple and easy to construct. I am not a craftsman but can at least manage to use a few simple tools: a hammer, saw, drill and adjustable spanner were the main tools I needed.

The size of the observatory was determined by the size of the telescope it had to accommodate. I had already constructed a 297 mm (11\(\frac{1}{2}\) in) reflector, which was the instrument to be housed in the observatory. Allowing for a small storage area and space for two or three observers I decided that a 3 m (9 ft 10 in) observatory would be needed.

After considering several different outline profiles for my observatory I decided to make it square (plan view). Circular observatories are more pleasing aesthetically but square ones are easier to construct and furnish, and the corners make good storage areas.

A major design consideration was that the observatory had to be demountable so that if I moved house it could be dismantled and reassembled in another location. The walls were therefore framed up in timber panels and bolted together. The flat corner roof areas were also in timber. Right from the beginning, I wanted to incorporate a fibreglass dome as it would look good, be light in weight, extremely strong, easy to operate and need very little maintenance. I realised that the dome would have to be made in panels and bolted together. This, then, gave me the basis for the development of the design.