Source: UK, FRG

Title :   A Possible Approach to Obtaining a Test Pattern
          Generator

The desirability of a Test Pattern Generator was discussed
briefly at the Ipswich meeting in January 1986. Now it is
opportune and necessary to consider this further, otherwise such
a device is unlikely to be available during the development and
testing stages of the hardware which is currently under
construction in several countries.

Since the potential number of sales of these testers is very
small, the cost of them will depend very heavily on the
development cost and the number of firm orders.

To attempt to minimise development costs an approach has been
investigated based on an IBM PC/AT computer or equivalent. This
would be configured with a Winchester disc holding files of test
sequences. Unfortunately, the Disc Operating System does not
allow real-time reading of the disc at the required rate so the
chosen sequence would be downloaded in RAM. A minimum of
5Mbytes of RAM is envisaged and this would be provided by
standard expansion cards available on the open market.

A custom designed card would be needed to access the RAM and
present the data correctly framed and line encoded at 1.544 or
2.048Mbit/s to an ouput port.

Whilst it is envisaged that each user would have the option of
being able to load suitable test data generated by himself, to
serve the original intention of providing a reference test for
decoders, then one set of data would have to be generated and
made available to all. Test sequences could be synthetic or
derived from real pictures such as the current simulation
sequences.

A significant advantage of this approach is that new test
sequences can be distributed on floppy discs and incorporated
easily when modifications and enhancements are agreed to the
codec specification.

To be useful, a test sequence must last a reasonably long
time. An obvious way to do this is to repeat a short sequence.
However it is not yet certain that it is possible to generate
coded data which can be repeated to form valid data since for
inter-picture coding it implies that the coding loop and the
picture memory must reach exactly the same state at the end of
the sequence of the data as at the start. One way around this
would be to encode the complete picture in intra mode at the
start of each repeated section and then allow the normal
predominantly inter mode for the remainder.

End