

Choosing the correct SFP for your applications

Let's say from the beginning that all SFP's are not made equally and while seeming insignificant there are important points we should be aware of when and where the lower cost types of SFP's should be used.

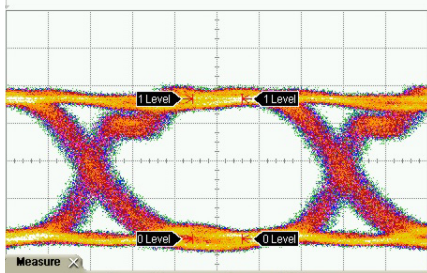
The major concern with any transmission path, whether it is Electrical or Optical is system margin. Even with the best re-clocking and filtering throughout the journey of your SDI signal, the SDI signal will eventually gain too much jitter and noise, which will compromise your signal.

With good system design, we should preserve the quality throughout the signal path by using quality components.

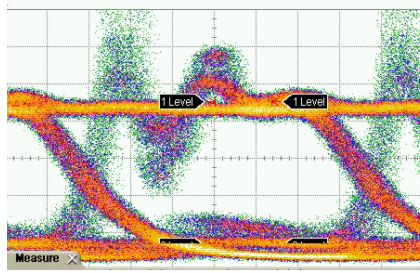
What to look for

- SFP's that have been tested for Pathological signals (SDI check field)
- Has a wide system margin
- Test data for each individual SFP
- Using a good TX and RX design
- Look out for the SMPTE approved code on the SFP, e.g. M-PC-ABCD-1310

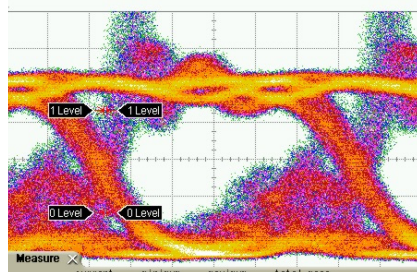
The three diagrams below illustrates the difference between a typical Norwia SFP, a good low cost/ short haul SFP and the last SFP, which is not intended for use.



Norwia NV30-T1310-T1310-10 SFP



Short Haul – Lower cost



Not recommended for use



Think of the Eye pattern as being a balloon, the bigger the balloon the more open the eye pattern, as the balloon decreases in size it will eventually not be able to support itself and will collapse, similar to the SDI signal being compromised.

Lower cost SFP

Pros

- Lower cost when budget is a concern

Cons

- Lower system margins (increased jitter and potential bit errors)

Norwia NV30-T1310-T1310-10 SFP

Pros

- Virtual Zero bit errors over entire distance.
- Same SFP can be used for different application, (short to longer haul)
- Wide system margin. (better noise and jitter characteristics)
- Better optical and electrical stability
- Better for higher bit rates

