

Trex/ Tampere

14 September 2012

THE BATTLE OF OPTICS





Problem space

Compatibility	Wondering why standard compliant optics (SFP/XFP) are blocked or functionally limited?
Limited options	No „special optics“ for your networking systems? (CWDM XFP, Tunable DWDM XFP, DWDM SFP+, DWDM/CWDM in X2/XENPAK...)
High costs	You want to deploy more routing/switching gear, but not much budget left for optics? You hold multiple spares for multiple vendors
No time for interop-tests	You waste time taking care of interoperability for various optics in your networking platforms?

Solution ... working code / live demo ;-)

Universal Config-Tool flexBoxV2

Your Transceiver

Article # SFP-MM-0005
 Serial # F78085C
 Compatibility generic SFP to (to be configured)

Hardware

Medium Multimode
 Wavelength RX: 850 nm
 TX: 850 nm
 Reach 550 m
 Bandwidth 1250 Mbps
 Protocol Gigabit Ethernet, Gigabit Fibre Channel
 Temperature 0 - 70 °C
 Monitoring n/a

Possible Configurations

Your System	Article#/Compatibility	Cost
3COM	3CSFP91	10
Alcatel	SFP-GIG-SX	10
Allied Telesyn	AT-SPSX	10
Brocade Foundry	E1MG-SX	10
Cisco Systems	GLC-SX-MM	10
D-LINK	DEM-311GT	10
Enterasys	MGBIC-LC01	10
Extreme	10051	10
flexOptix	SFP-MM-0005	10
HP Networking	J4858C	10
Huawei	SFP-GE-SX-MM850	10
Microsens	[MS100200D]	10
Netgear	AGM731F	10
Nortel	AA1419013	10

More Information

Following system models do support Cisco GLC-SX-MM. Please remind of minimum requirements regarding *[firmware-version]*

Catalyst Express 500:

- WS-CE500-24LC
- WS-CE500-24PC
- WS-CE500G-12TC

Cisco ME 2400:

- ME-2400-24TS-A [12 2(25)EX]
- ME-2400-24TS-D [12 2(25)EX]

Cisco ME 3400:

- ME-3400-24TS-A [12 2(25)EX]
- ME-3400-24TS-D [12 2(25)EX]
- ME-3400G-12CS-A [12 2(25)SEG 1]
- ME-3400G-12CS-D [12 2(25)SEG 1]
- ME-3400G-2CS-A [12 2(35)SE 1]
- ME-3400-24FS-A [12 2(40)SE]

Configuration History

- 04-Nov-10 generic SFP to (to be configu
- 04-Nov-10 generic SFP to (to be configu
- 04-Nov-10 generic SFP to (to be configu
- 04-Nov-10 generic SFP to (to be configu

Classify Transceiver

Credits: 99983106

Feedback

Online Status

SFP+ XFP GBIC



The flexBox is a universal programmer for MSA-compliant SFP, SFP+ & XFP. <https://flexbox.reconfigure.me>



Architecture...

how is all that *built*?

- 50% specs** Tons of MSA specs, Kilos of MIC/EPROM specs, I²C Master/Slave protocols, USB driver design, distributed web applications
- 40% Software** C#, C, JavaScript, Adobe Flash, RubyOnRails, MySQL ... and few more ;-)
- 10% Hardware** board design, transceiver „internals“, ...

100% flexBox ;-)

How does this Voodoo work?



EEPROM/MIC

```

... ..g..d
....FLEXOPTIX
....SFP plus
-CWDM-10 .ú..
....S99N340002
091105 h².€
    
```

Offset (h)	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
00000000	03	04	07	20	00	00	00	00	00	00	01	67	00	0A	64	
00000010	00	00	00	00	46	4C	45	58	4F	50	54	49	58	20	20	20
00000020	20	20	20	20	00	00	00	00	53	46	50	20	70	6C	75	73
00000030	2D	43	57	44	4D	2D	31	30	20	20	20	20	05	FA	00	B7
00000040	00	1A	00	00	53	39	39	4E	33	34	30	30	30	32	20	20
00000050	20	20	20	20	30	39	31	31	30	35	20	20	68	B2	01	A3
00000060	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A
00000070	68	69	65	72	20	63	68	65	63	6B	73	75	6D	6D	65	20
00000080	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A	2A
00000090	69	63	68	20	62	69	6E	20	65	69	6E	20	53	46	50	20
000000A0	70	6C	75	73	20	6D	69	74	20	31	30	2C	33	20	47	62
000000B0	70	73	20	6D	69	74	20	65	69	6E	65	72	20	43	57	44
000000C0	4D	2D	57	65	6C	6C	65	6E	6C	E4	6E	67	65	20	76	6F
000000D0	6E	20	31	35	33	30	6E	6D	20	20	20	20	20	20	20	20
000000E0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
000000F0	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
00000100	43	2C	BA	8B	E1	7F	D4	59	AA	E4	26	01	0A	E5	08	34

```

*****
here checksum
*****
I am a SFP plus
with 10,3 Gbps
and a CWDM
wavelength of
1530nm

C, °<a.4c.k|.e4f
    
```

So – now you can deploy

tunable
DWDM
10G XFP
(80km)

10G
C/DWDM
XFP & SFP+

SFP+ ER
(40km)

1GBE SFP
(200km
/41dB)

.... on pretty much any platform!

flexOptix

The Transceiver Specialists.

Fearghas McKay

fm@flexoptix.net

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