

# Channel Performance of 10GPLUS Datasheet

head office

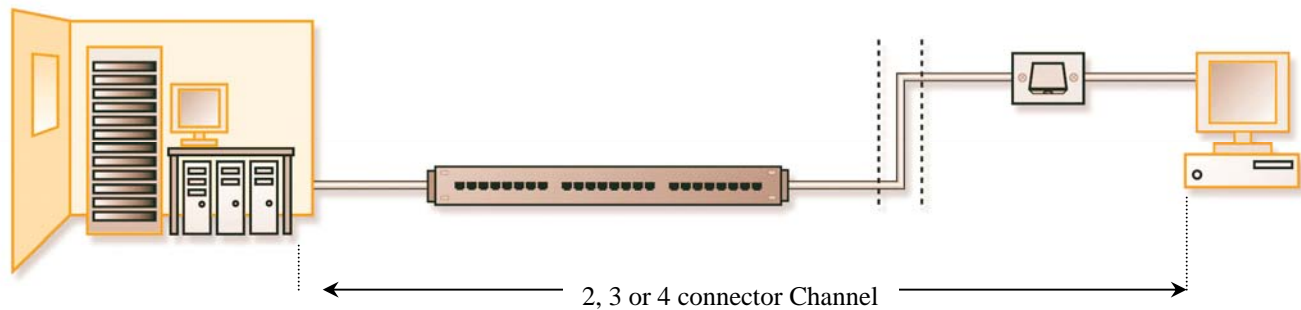
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The Brand-Rex 10GPLUS product set is a premium quality, high performance, future proof, cabling system. 10GPLUS is classified as an Augmented Category 6 & Class EA product set which is fully backward compatible to Cat6 (Class E) & Cat5e (Class D) solutions. It is a product set which is designed to be compliant with the new IEC Class EA and TIA 568B.2-10 standards, when they are published, and which is ready for the soon to be released new application from IEEE, 10GBASE-T.

**Figure 1: The Channel**



The Cabling system is available in screened and unshielded solutions, screened products are more robust against electromagnetic noise and have improved alien crosstalk performance. The systems are also available with intelligent infrastructure management systems (IIMS). The components of the systems are shown in table 1:

**Table 1: 10GPLUS Cabling System Components**

System	Cables	Jacks	Panel Type	Panels	Patchcords
Screened (NVP 74%)	AC6S/FTP # & AC6F/FTP #	AC6JAKF #	Modular	MMCPNLX24SIJM-B	AC6PCS #
			IIMS	SPA6PNLF24OK2	SPA6PCS #
System	Cables	Jacks	Panel Type	Panels	Patchcords
UTP (NVP 67%)	AC6U #	AC6JAKU #	Modular Jack	MMCPNLX24SIJM-B	AC6PCU #
			patchcord management and clips	AC6ACCCM2 & AC6CLP	
			IIMS	SPA6PNLU24O12	SPA6PCU #

The performance of the installed cabling system can be assessed on site using the field testers shown in table 2:

**Table 2: Field test equipment**

Hardware	Adaptors	Set Up
Fluke Networks DTX-1800	Channel adaptors DTX-CHA001	TIA Aug Cat6 Ch
		ISO/IEC 11801 ClassEA Ch
	Permanent Link Adaptor PM06 <sup>2</sup>	TIA Aug Cat6 PL
		-

Note 1: Field test equipment s/ware & h/ware versions and set ups are liable to amendment and change by the original equipment manufacturers – always consult the original equipment manufacturer for latest updates.

Note2: Permanent Link measurement of ClassEA systems is currently under study

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**Table 3: Channel Performance**

Characteristic	Gauranteed headroom to Class E	Typical headroom to Class EA
Return loss (dB)	3	4
Insertion Loss (dB/100m)	6%	2%
NEXT (dB)	6	6
PSNEXT (dB)	7.5	7
ACR (dB/100m)	9	6
PSACR (dB/100m)	10	7
ELFEXT (dB)	8	9
PSELFEXT (dB)	9	10
Propogation delay (ns/100m)	36	36
Skew (ns/100m)	20	20

Frequency (MHz)	1	4	10	16	100	250	300	400	500
Class EA Standard	19.0	19.0	19.0	18.0	12.0	8.0	8.0	8.0	8.0
Typical	23.0	23.0	23.0	22.0	16.0	12.0	12.0	12.0	12.0
Class EA Standard	4.0	4.1	6.4	8.1	20.8	33.8	37.3	43.6	49.3
Typical	2.1	4.0	6.3	7.9	20.4	33.1	36.6	42.8	48.4
Class EA Standard	65.0	63.0	56.6	53.2	39.9	33.1	31.7	29.6	27.9
Typical	78.8	69.3	62.9	59.7	46.6	40.0	38.6	36.5	34.9
Class EA Standard	62.0	60.5	54.0	50.6	37.1	30.2	28.8	26.6	24.8
Typical	77.7	67.9	61.3	57.9	44.2	37.2	35.8	33.6	31.8
Informative only	61.0	58.9	50.2	45.1	19.2	-0.7	-5.5	-14.0	-21.4
Typical	76.6	65.3	56.7	51.7	26.3	6.8	2.1	-6.3	-13.5
Informative only	58.0	56.5	47.6	42.5	16.3	-3.6	-8.5	-17.1	-24.5
Typical	75.6	63.9	55.0	49.9	23.9	4.1	-0.8	-9.2	-16.5
Class EA Standard	63.3	51.2	43.3	39.2	23.3	15.3	13.7	11.2	9.3
Typical	72.0	60.0	52.0	47.9	32.0	24.0	22.5	20.0	18.0
Class EA Standard	60.3	48.2	40.3	36.2	20.3	12.3	10.7	8.2	6.3
Typical	70.0	58.0	50.0	45.9	30.0	22.0	20.5	18.0	16.0
Class EA Standard	580	562	555	553	548	546	546	546	546
Typical	544	526	519	517	512	510	510	510	510
Class EA Standard	50.0								
Typical	30.0								

Unscreened UTP Systems		
PSANEXT (dB)	NA	3
PSAELFEXT (dB)	NA	5

Screened Systems		
PSANEXT (dB)	NA	10
PSAELFEXT (dB)	NA	10

Frequency (MHz)	1	4	10	16	100	250	300	400	500
Class EA Standard	67.0	67.0	67.0	67.0	60.0	54.0	52.8	51.0	49.5
Typical	83.0	77.0	73.0	71.0	63.0	57.0	55.8	54.0	52.5
Class EA Standard	67.0	65.0	57.0	52.9	37.0	29.0	27.5	25.0	23.0
Typical	82.0	70.0	62.0	57.9	42.0	34.0	32.5	30.0	28.0

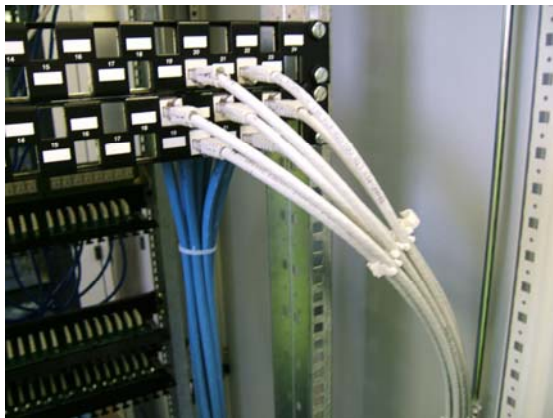
  

Frequency (MHz)	1	4	10	16	100	250	300	400	500
Class EA Standard	67.0	67.0	67.0	67.0	60.0	54.0	52.8	51.0	49.5
Typical	90.0	84.0	80.0	78.0	70.0	64.0	62.8	61.0	59.5
Class EA Standard	67.0	65.0	57.0	52.9	37.0	29.0	27.5	25.0	23.0
Typical	87.0	75.0	67.0	62.9	47.0	39.0	37.5	35.0	33.0

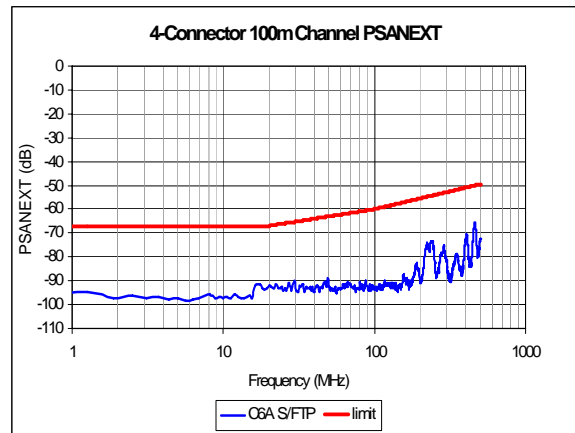
Class EA standard = FPDAM 1.1 to ISO/IEC 11801:2002

Note: The figures shown in table 2 apply across the full swept frequency range, 1 to 500MHz.

**Figure 2: Alien Crosstalk Test Measurement**



**Figure 3: Chart showing typical PSANEXT**



The information contained in this document is valid and correct at the time of issue. However, we reserve the right to modify details without notice in the light of subsequent Standard / Specification changes and ongoing technical developments