



## FIBER OPTIC CASSETTE ASSEMBLY PERFORMANCE

ECN: 05176	REV: 07	DATE: 1/18/2011	SHT: 1 of 2	DOC #: OR-71800061C
DWN. BY: CR	CHK BY: RJG	DATE: 1/21/2011	APP BY: AM	DATE: 1/24/2011

### 1.0 SCOPE

This document contains the minimum optical performance requirements for applicable Singlemode and Multimode Cassette Assemblies. The detail specification may override the requirements specified in this document.

### 2.0 STANDARDS REFERENCED

This document makes specific reference to the following standards:

<b>TIA-455-107:</b>	Fiber Optic test Procedure for Return Loss, Singlemode and Multimode
<b>TIA-526-7:</b>	Fiber Optic test Procedure for Attenuation, Singlemode
<b>TIA-526-14-A:</b>	Fiber Optic test Procedure for Attenuation, Multimode
<b>TIA-568-C.3:</b>	Optical Fiber Cabling Components Standard, Singlemode and Multimode
<b>TIA/EIA-604-XX:</b>	Optical Connector(s) Intermateability Standards

### 3.0 OPTICAL REQUIREMENTS

Performance tier levels are defined in **Tables 1a, 1b, and 1c** for singlemode cassettes and in **Tables 2a and 2b** for multimode cassettes, by input and output connector type. In cases where multiple tier levels are defined, the cassette shall be in accordance with Tier 1, unless explicitly indicated otherwise in the detail specification.

#### 3.1 SINGLEMODE CASSETTES

- 3.1.1 INSERTION LOSS:** Values for each fiber will not exceed values specified in the appropriate table (**Table 1a, 1b, or 1c**) when tested in accordance with TIA-526-7 and TIA-568-C.3. Insertion loss values and test wavelengths will appear on a data card provided with each cassette.
- 3.1.2 RETURN LOSS:** Values for each fiber will be no less than values specified in the appropriate table (**Table 1a, 1b, or 1c**) when tested in accordance with latest publication of TIA-455-107 and with TIA-568-C.3.
- 3.1.3 INTERMATEABILITY:** Will be in accordance with latest publications of TIA Standards specified in **Table 3**. For singlemode cassette MTP<sup>†</sup>/MPO(APC) ports with Type B ("key-up to key-up") adapter keying, internal MTP<sup>†</sup>/MPO(APC) connector will be reverse angled to function with Ortronics<sup>®</sup> standard trunk cables.

#### 3.2 MULTIMODE CASSETTES

- 3.2.1 INSERTION LOSS:** Values for each fiber will not exceed values specified in the appropriate table (**Table 2a or 2b**) when tested in accordance with TIA-526-14-A and TIA-568-C.3. Insertion loss values and test wavelengths will appear on a data card provided with each cassette.
- 3.2.2 RETURN LOSS:** Values for each fiber will be no less than values specified in the appropriate table (**Table 2a or 2b**) when tested in accordance with latest publication of TIA-455-107 and with TIA-568-C.3.
- 3.2.3 INTERMATEABILITY:** Will be in accordance with latest publications of TIA Standards specified in **Table 3**.

<sup>†</sup>MTP is a registered trademark of US Conec Ltd.

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ECN: 05112

REV: 07

DATE: 1/18/2011

SHT: 2 of 2

DOC #: OR-71800061C

**Table 1a**

<b>SINGLEMODE "UPC" CASSETTES – MTP®/MPO(APC)→LC/SC(UPC)</b>		
TIER	INSERTION LOSS (dB)*	RETURN LOSS (dB)**
1	1.05	52.0
2	0.60	52.0

**Table 1b**

<b>SINGLEMODE "APC" CASSETTES – MTP®/MPO(APC)→LC/SC(APC)</b>		
TIER	INSERTION LOSS (dB)*	RETURN LOSS (dB)**
1	1.15	54.6
2	0.60	54.6

**Table 1c**

<b>SINGLEMODE "APC" CASSETTES – MTP®/MPO(APC)→MTP®/MPO(APC)</b>		
TIER	INSERTION LOSS (dB)*	RETURN LOSS (dB)**
1	1.50	52.0
2	0.70	52.0

**Table 2a**

<b>MULTIMODE CASSETTES – MTP®/MPO(PC)→LC/SC(PC)</b>		
TIER	INSERTION LOSS (dB)*	RETURN LOSS (dB)**
1	1.25	19.0
2	0.75	19.0
3	0.50	19.0
4	0.35	24.5

**Table 2b**

<b>MULTIMODE CASSETTES – MTP®/MPO(PC)→MTP®/MPO(PC)</b>		
TIER	INSERTION LOSS (dB)*	RETURN LOSS (dB)**
1	1.50	17.0
2	1.00	17.0
3	0.70	17.0
4	0.50	27.0

(\*) MAXIMUM VALUES      (\*\*) MINIMUM VALUES

**Table 3**

<b>INTERMATEABILITY STANDARD</b>	
TIA SPECIFICATION	CONNECTOR TYPE
604-5	MTP®/MPO
604-3	SC
604-10	LC