

## 34600 FXBT ESCON® Converter



As traditional IBM® System users embrace new E-business strategies, they are faced with managing current system resources while transforming their IT infrastructures. The combination of changing system technology and channel architectures presents many new connectivity and migration challenges for today's IT management. While the benefits of adopting new technologies are becoming increasingly clear, the process must be carefully planned and gradually implemented.

The Optica Technologies' 34600 FXBT ESCON Converter helps to facilitate and manage this transition process by providing attachment of legacy bus/tag peripherals to an ESCON FX (CBY, CVC) fiber optic channel, directly, or through an Enterprise Systems Connection Director (ESCD). The 34600 FXBT Converter operates by converting the peripheral's electrical interface signals into light pulses for transmission to the fiber optic channel and provides protocol conversion between the parallel and serial data formats.

The Optica Technologies' 34600 Converter helps protect the significant financial investment that has been made in application software and bus/tag peripheral devices. At the same time, users installing fiber optic channels receive the physical benefits of greatly extended channel cabling distances, improved data security and the elimination of bus/tag cable bulk.

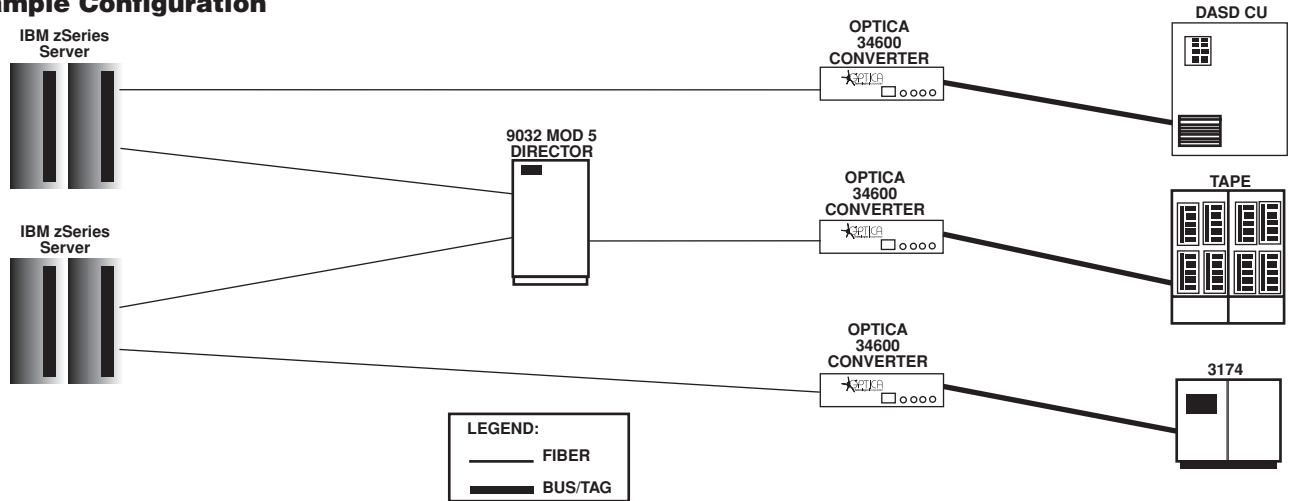
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### Highlights

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- **Fully IBM 9034 Compatible – Designed Under Technical Information Disclosure Agreement (TIDA) with IBM Corporation**
- **Provides ESCON FX (CBY, CVC) to Bus/Tag Conversion at Rated Speeds**
- **Protects Investment in Legacy Application Software and Bus/Tag Peripherals**
- **Supports Up To 8 Bus/Tag Peripheral Controllers on an ESCON FX Fiber Optic Channel – One Converter Per Channel**
- **Enhances Configuration Flexibility by Extending Channel Cabling Distances**
- **Standalone or Rack-Mountable (Up to 8 Converters per Standard 19" Equipment Rack)**
- **Fully Field-Installable, Configurable and Maintainable**
- **Ethernet/Telnet Port for Remote Diagnostics and Upgrades**
- **Provides Status Information Through Diagnostic LED's and Display Window**
- **Reliable Second Generation Design Based on Proven Technology**
- **International Compliance for Safety and Emissions**
- **One Year Unit Exchange Warranty**

## Sample Configuration



34600 FXBT ESCON Converter Specifications	
<b>Dimensions</b>	Height x Width x Length (1.97" x 7.516" x 11.97") (5.00cm x 19.09cm x 30.40cm)
<b>Shipping Weight</b>	8.2 lb 3.72 Kilograms
<b>Mounting</b>	Between shelf Rack-Mount ears available
<b>Input Voltage Range</b>	90 to 264VAC 120 to 370VDC
<b>Input Frequency Range</b>	47Hz to 440Hz
<b>Power Consumption</b>	0.192 Amps @ 95 V A/C (19.0 Watts) 0.150 Amps @ 134 V A/C (19.8 Watts)
<b>Power Connector</b>	IEC 320 Standard, NEMA 5-15-P / 5-15-R
<b>Ethernet Connector</b>	RJ-45
<b>Fiber Optic Connector</b>	MTRJ @50 or 62.5 Micron with 125 micron cladding
<b>Parallel Connectors</b>	78 Pin Female D-Shell Connector (Requires 78-Pin Male to Bus/Tag Y Cable, Optica Technologies' P/N 149510)

## Important notes regarding suggested devices for attachment to the 34600 Converter:

The following list of suggested attachable devices is based on our knowledge of and adherence to product design specifications, extensive laboratory testing, and field experience with earlier converter models. Optica Technologies does not guarantee the successful operation of all devices listed with the 34600 Converter.

Conversely, the following may not constitute an exhaustive list of devices that can be used successfully with the 34600 Converter. Optica Technologies will update the list as field information becomes available. If you have questions regarding the compatibility of a device that is not listed here, please contact Optica Technologies field support.

## Attachment Support List for Converter Block Channels (CVC)

### Supported Devices

DEVICE	CONTROL UNIT	DATA TRANSFER MODE	MAXIMUM FIBER DISTANCE	NOTES
<b>DASD</b>				
3380	3880-3, 13, 23, Airlines RPQ	DS	900 m / 2953 ft	2, 8, 14
3380	3990-1, 2, 3, Castle Airlines RPQ	DS	1200 m / 3937 ft	2, 14
3380-CJ2		DS	1200 m / 3937 ft	2, 14
3390	3990-2, 3, 6	DS	1200 m / 3937 ft	2, 14
9345-B12, B21	9341-A01	DS	1200 m / 3937 ft	2, 14
9345-B11, B12	9343-C02, C04	DS	1200 m / 3937 ft	2, 14
<b>Magnetic Tape Devices</b>				
2440		DCI	3000 m / 9843 ft	
3420-3, 5, 7	3803-1	DCI	3000 m / 9843 ft	
3420-4, 6, 7	3803-2	DCI	3000 m / 9843 ft	
3420-8	3803-2	DCI	2900 m / 9514 ft	2, 3, 14
3422		DCI	3000 m / 9843 ft	
3480	3480	HST, DS	3000 m / 9843 ft	
3490	3490-A01, A02, D31, D32	HST, DS	3000 m / 9843 ft	
3490	3490E-A10, A20, D41, D42, C10, C11, C22, C1A, C2A	HST, DS	3000 m / 9843 ft	
PS/2		DCI, DS	3000 m / 9843 ft	13
<b>Display Controllers and Workstations</b>				
	3174-X1L	DCI, HST, DS	3000 m / 9843 ft	7
	3274 A, B, D	DCI	3000 m / 9843 ft	7
5081, 5085, 5086, 5083, 3251, 3255	5088	HST, DS	3000 m / 9843 ft	
6091, 6095, 5081, 5085, 5086, 5083	6098	HST, DS	3000 m / 9843 ft	
<b>Teleprocessing Devices</b>				
3172		DCI, DS	3000 m / 9843 ft	
3720, 3725		DCI	3000 m / 9843 ft	
3745		DCI, DS	3000 m / 9843 ft	9, 16
8232		DCI, DS	3000 m / 9843 ft	
<b>Printers</b>				
IP 3300				
IP 4000				
3160				
3200		DCI, DS	3000 m / 9843 ft	
3262-5		DCI	3000 m / 9843 ft	
3800-1		DCI	3000 m / 9843 ft	
3800-3, 6, 8		HST, DS	3000 m / 9843 ft	
3820-1		DCI	3000 m / 9843 ft	
3825, 3827, 3831, 3835		HST, DS	3000 m / 9843 ft	
3828, 3829, 3900		DCI, DS	3000 m / 9843 ft	
4245, 4248, 6262		DCI	3000 m / 9843 ft	

## Attachment Support List for Converter Block Channels (CVC) - Con't

### Supported Devices

DEVICE	CONTROL UNIT	DATA TRANSFER MODE	MAXIMUM FIBER DISTANCE	NOTES
<b>Channel-To-Channel Adapters</b>				
3088		HST, DS	3000 m / 9843 ft	4, 10
ES / 9000-9221		DS	3000 m / 9843 ft	
MCCU Feature #6200				
RISC System 6000		DCI, DS	3000 m / 9843 ft	11
PS / 2		DCI, HST, DS	3000 m / 9843 ft	12
<b>ESCON Directors</b>				
9032, 9033				5, 6
<b>ESCON Channel Extenders</b>				
9036				5
9729				5
2029				5
<b>Other</b>				
3814				5
3848 CRYPTO		DCI, DS	3000 m / 9843 ft	
3890, 3890-XP		DCI	3000 m / 9843 ft	
3897 / 3898		DCI, DS	3000 m / 9843 ft	
3995-131 / 111		DCI, DS	3000 m / 9843 ft	
3995-132 / 112		DCI, DS	3000 m / 9843 ft	
3955-151 / 111		DCI, DS	3000 m / 9843 ft	
3995-153 / 113		DCI, DS	3000 m / 9843 ft	
4753		DCI, DS	3000 m / 9843 ft	
7006 (RS / 6000)				
9393				
9394				
<b>Non-IBM OEM Devices</b>				
<b>Memorex</b>				
5100,5400,5481, 5490, 5499 (Tape)				
1510 (PRT)				
1174, 2381, 3261, 3288, 1374, 2274				
<b>Xerox</b>				
4569, 4669 (PRT)				
4430				
<b>EMC</b>				
5230, 5700-47M12, 5700-18M02 (DASD)				
<b>StorageTek (STK)</b>				
4080, 4480-M20, 4490-M30, 5000-050				

## Attachment Support List for Converter Byte Channels (CBY)

### Supported Devices

DEVICE	CONTROL UNIT	DATA TRANSFER MODE	MAXIMUM FIBER DISTANCE	NOTES
<b>Teleprocessing Devices</b>				
3720			3000 m / 9843 ft	5
3725			3000 m / 9843 ft	5
3745			3000 m / 9843 ft	5, 9, 16
<b>ESCON Directors</b>				
9032, 9033				5, 6
<b>ESCON Channel Extenders</b>				
9036				5
9729				5
2029				5
<b>Other</b>				
3814				5

## DEVICE ATTACHMENT CAPABILITY NOTES

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### Data Transfer modes are defined as follows:

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**DS:** Data – Streaming

**HST:** High Speed Transfer  
(DCI Alternate Tag Mode)

**DCI:** Direct Current Interlocked  
(Single Tag Mode)

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1. Distances stated are when using 62.5 / 125 micron fiber optic cable. A maximum fiber optic cable distance of 2000 meters (6562 feet) is possible when using 50 / 125 micron fiber, except when attaching 3880 and / or 3990 DASD control units or when a ESCON Director (ESCD) is in the path. These distances do not include 122 meters (400 feet) of parallel bus and tag cables.

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2. Subtract 200 meters for every ESCON Director in the path.

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3. OEMI bus and tag cable distance between the 34600 and the 3803-2 with the 3420-8 tape control unit attached is limited to 25.9 meters (85 feet). A 3803-2 with RPQ #870021 Cable Length Offset Interlock (CLOI) is not supported by the 34600. RPQ #870021 must be removed for the 3803-2 to operate with a 34600.

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4. The maximum channel to channel (CTC) fiber optic cable distance can be increased to 6000 meters by using 34600's and a 62.5 / 125 micron fiber (4000 meters when using a 50 / 125 micron fiber) on each 3088 port involved in the configuration.

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5. Data transfer mode and maximum data rate depend on the I/O device(s) attached.

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6. The 34600 requires a dedicated connection if connected through an ESCON Director. A maximum of two ESCON Directors can be attached on a 34600 ESCON link.

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7. 3174 and 3274 configured as consoles should be defined as CVC (Block) mode.

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8. The 3880-23 with the Airlines RPQ may experience reduced performance when operating in direct mode at distances greater than 600 meters (1969 feet). There should be no performance impact when operating in record access mode at the maximum fiber distances stated. Direct and record access mode refer to the operation of the 3880-23. Refer to the 3880 documentation for a description of direct and record access modes, and for future details on the operation of the 3880.

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9. 3745 units may require field EC level ECA077 or later, or manufacturing EC level A98088 or later. Refer to retain TDR H062985.

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10. 3088 units require EC C22761. Refer to retain TDR H003126.

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11. The RISC system 6000 emulates a 30880 channel to channel control unit.

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12. Support is granted only to PS / 2's with Microchannel to Mainframe Connection (MMC) running with 3088 emulation microcode.

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13. Support is granted only to PS / 2's with Microchannel to Mainframe Connection (MMC) running with 3422 emulation microcode, which supports Optical Media Attach (OMA).

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14. Subtract 40 meters for every 9036 channel extender in the path.

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15. Unless otherwise indicated, the minimum EC level of I/O attached to ESCON converter channel is the same as for the parallel channels. See TIP003 for the attaching system.

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16. When attaching an IBM 3745 Communication Controller to a host through an Optica ESCON Converter it is required to split the Emulation Program (EP) versus the Network Control Program (NCP) traffic on different channel adapters to avoid NCP abends and missing subchannel interrupts with some host applications.

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