

Corning® Optical Network Evolution (ONE™) Solutions Headend-to-GX Interface Box (IFB)



features and benefits |

Wideband frequency support	400-960 and 1,700-2,700 MHz wideband support of licensed services including: LTE 700, CELL, ESMR, PCS, EAWS, WCS, and TDD 2,500 MHz
Pilot frequency support	Support system clock distribution
Pilot mechanism	Internally synthesized 10 MHz reference signal
Seamless service group support	Transfers up to three user configured service groups from two Corning® one optical network evolution (ONE™) solution headend units (i.e., HEU/IHU)
Interface towards DAS	Supports connections to three 8-port wavelength division multiplexing optical central hubs (OCH-8-WDM)
Accessible interfaces	All interfaces to headend and towards DAS (i.e., input/output ports) are located on front panel Status LEDs and power input on front panel
Compact enclosure	19-in, 1U rack-mountable

The IFB is a combiner/splitter interface box that combines RF services from two headend units (HEU/IHU), routes them through optical central hub (OCH) modules and forwards them for distribution to the high-power GX remotes.

The IFB enables comprehensive high-power band coverage in a Corning ONE solution by supporting the deployment of the GX WCS/2.5 GHz TDD (dual-band) remote alongside GX quad-band remote.

The IFB includes an integrated clock module that receives 10 MHz from the headend equipment and generates a pilot signal required for synchronizing the TDD band.

The IFB is designed to support up to three user-configured service groups from two headend units (HEU/IHU) along with the 2,970 MHz pilot signal. The converged RF wideband and pilot signals are split and routed through separate optical modules to the remote-end units.

The compact 1U enclosure is designed for 19-in rack-mountable installation.



IFB | Figure 1

Corning® Optical Network Evolution (ONE™) Solutions Headend-to-GX Interface Box (IFB)



specifications |

RF specifications

RF Parameters	UL	DL
Supported frequency	400-960 MHz 1,700-2,700 MHz	
UL/DL Loss (maximum)	< 9.5 dB	
Return Loss		16 dB
Isolation of Service Group Ports		60 dB
Expected DL Input Level per Band		-14+/-5 dBm
Expected 10 MHz Input Level		0+/-3 dBm
2,970 MHz Pilot Output Level		39+/-2 dBm
Ripple Wideband	2 (dB) p-p maximum	

Pilot frequency specifications

Parameters	Description
Pilot Frequency	2,970 MHz
Pilot Mechanism	Internally synthesized — locked on 10 MHz
Pilot Control	Pilot is disabled under following conditions: <ul style="list-style-type: none">• Synthesizer is unlocked• 10 MHz input signal not detected

Power

Parameters	Description
DC Input Power	-48 VDC (-40 to -58 VDC)
DC Input Connector	Two-pin terminal block connector

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specifications | (continued)

Environmental Specifications

Operating Temperature -5 to +50°C (23 to +122°F)

Storage Temperature 5 to +50°C (23 to +122°F)

Humidity 10% to 95%, noncondensing

RoHS Compliance RoHS 6

MTBF 15 years

Environmental Specifications

Dimensions (enclosure) (H x W x D) 1.73 x 17.51 x 13.74 in (44 x 445 x 349 mm)

Weight <11 lb (5 kg)

Connectors Six 50-Ohm female QMA DL wideband RF input connectors
Six 50-Ohm female QMA UL wideband RF input connectors
One 50-Ohm QMA 10 MHz input reference signal connector
Six 50-Ohm female QMA DL wideband RF output connectors
Six 50-Ohm female QMA UL wideband RF output connectors
Note: All RF ports are terminated by default with 50-Ohm RF load terminations.
Two grounding screws (on side panel)

LEDs Power LED
Alarm LED

Mounting 19-in rack-mountable (1U)

Safety Compliance

UL 60950-1
UL to CAN/CSA 22.2 No.60950, Third Edition
FCC Part 15, subpart B

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ordering information |

IFB

RF Parameters	Description
AK-ONE-HE-GX-INTBOX	GX Accessories ONE Headend to GX Interface Box
ERFCv2-OCH	RF Extender Cable to OCH and GX

Accessories

Parameters	Description
AK-RIU4-OCH-CABLES	Cables Kit, including four QMA/QMA R/A 1000 mm cables for IFB-to-OCH connections
AK-RIU-12-CABLES	Cables Kit, including four RF QMA/QMA R/A cables for IFB-to-OCH connections; L = 1,000 mm

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