

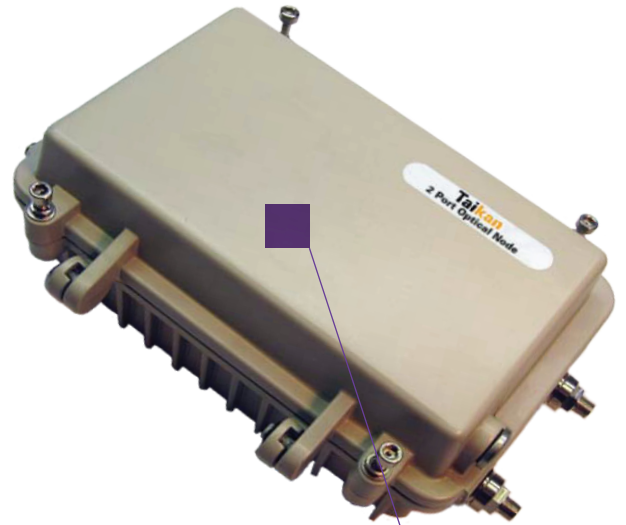
# 2 PORT OPTICAL NODE [ON-x-2-1-x-R-x]

Fiber Products, Optical Nodes

**Taikan**  
ESTD. 1973

## Description

Taikan's 2 Port Optical Node is an ideal platform for delivering video (digital or analog) as well as high-speed data services over advanced hybrid fiber / coax (HFC) network. This unit combines the superior proven technologies of the RF amplifier with the modular design of the fiber components, allowing Taikan's optical node to provide the full complement of functions required by advanced networks.

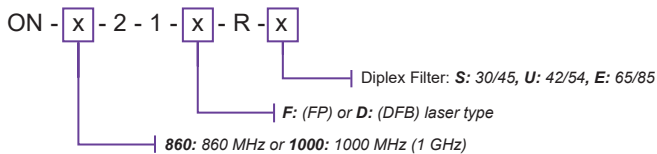


## Features

- Two High Level Output Ports with GaAs Power Double Amplifier Module
- Rugged Weather Resistant Outdoor Diecast Case
- Switchable Power Supply
- Easy Operation with an LED Display to Show the Optical Level
- -20 dB Level for Output Test



## Ordering Information



**FP Advantage:** Economical and ideal for less stringent performance systems.

**DFB Advantage:** Designed for high capacity return(upstream) traffic and analog video carrier transmission.

Model Number	Description	Box Weight	Dimensions (L x W x H)
ON-860-2-1-x-R-x	860 MHz 2 Port Optical Node	2.2 kg / 5 lbs	9.5 x 8.5 x 4.5 in. (24 x 21.5 x 11.5 cm)
ON-1000-2-1-x-R-x	1 GHz 2 Port Optical Node	2.2 kg / 5 lbs	9.5 x 8.5 x 4.5 in. (24 x 21.5 x 11.5 cm)

**Forward(Downstream) Optical Receiver Module**

<b>Optical Wavelength</b>	1000 ~ 1600 nm
<b>Input Optical Reflection Loss</b>	> 45 dB
<b>Photoelectric Module Response</b>	0.85 A/W
<b>Max Optical Input Power</b>	3 mW
<b>Optical Input Test Point</b>	1 ± 0.2 V/mW

**RF Amplifier Characteristics**

<b>Forward(Downstream) Bandwidth (Option)</b>	45-860 (or optional 45-1000) MHz
<b>Frequency Response</b>	0.75 dB
<b>Output Reflection Loss</b>	≥ 15 dB
<b>Output Level</b>	102 dBuV
<b>Distortion: CTB</b>	≥ 65 dB
<b>Distortion: CSO</b>	≥ 62 dB
<b>Test Level</b>	59 Analog Channels +200 MHz Digital   -20 dB

**Return(upstream) Optical Transmission (Optional)**

<b>Bandwidth</b>	5-100 MHz
<b>Diplex Filter (Option)</b>	30/45, 42/54, 65/85 MHz
<b>Optical Output Power Level</b>	1 mW
<b>Wavelength</b>	1310 nm
<b>Optical Connector</b>	SC / APC

**Electrical Characteristics**

<b>Voltage</b>	60 V AC: 30 V - 70 V AC or 220 V AC: 150 V - 265 V
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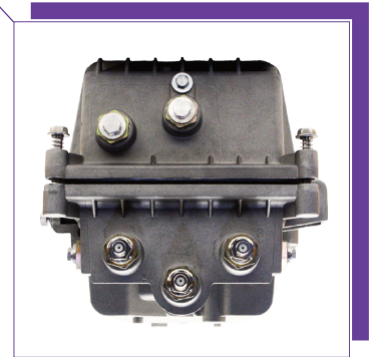
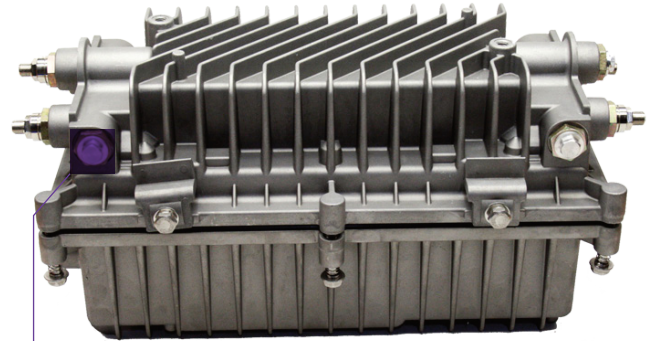
# 860 MHz 4-PORT OPTICAL NODE [ON-860-4-x-x-R-x]

Fiber Products, Optical Nodes

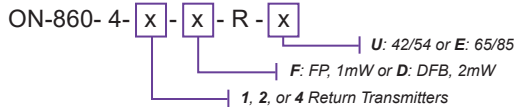
**Taikan**  
ESTD. 1973

## Features

- Four High Level Output Ports with GaAs Power Double Amplifier Module
- 15 A Current Capacity (Steady State) and 25 A Surge Survivability
- Surge Resistant Circuitry Ensures Gain Stage Protection without Fuses or from Failure Causing Devices
- 40-90V AC High-efficiency Switch Mode Power Supply
- Standard Fiber Management Tray Provides Fiber and Connector Storage for Up to 6 Connector Pairs
- Select 1, 2 or 4 Return (Upstream) Path Optical Transmitters
- Local Test Points and LED Indicators on Optical Receivers and Transmitters to Simplify Installation and Maintenance
- The ON-860-4-x-x-R-x Launch Amplifier uses Fixed-value Plug-in Accessories
- Forward (Downstream) Output Test Point and Return(Upstream) Input Test Point for Each Port on the Launch Amplifier Ensures Optimum Design and Alignment



## Ordering Information



**FP Advantage:** Economical and ideal for less stringent performance systems.

**DFB Advantage:** Designed for high capacity return (upstream) traffic and analog video carrier transmission

Model Number	Description	Box Weight	Dimensions (LxWxH)
ON-860-4-x-x-R-x	4 Port Optical Node	10 kgs (22 lbs)	38 x 20 x 19cm (15 x 8 x 7.5in)

## Forward Optical Receiver Module

Optical Wavelength	1000 ~ 1600 nm
Input Optical Reflection Loss	>45 dB
Photoelectric Module Response	0.85 A/W
Max Optical Input Power	3 mW
Optical Input Test Point	1 ± 0.2 V/mW

**RF Amplifier Characteristics**

Forward Bandwidth (option)	54/85-860 MHz	
Frequency Response	0.5 dB	
Noise Figure	< 9.5 dB	
Output Reflection Loss	> 16 dB	
Output Level	103mW/50dB	
Distortion: CTB	< -72 dBc	
Distortion: CSO	< -68 dBc	
Test Level	59 Analog Channels +200 MHz Digital   -20 dB	

**Return Optical Transmission (Optional)**

Bandwidth (option)	5-42/65 MHz	
Optical Output Power Level	FP: 1 mW	DFB: 2 mW
Wavelength	FP: 1310 nm	DFB: 1310 nm
Optical Connector	SC / APC	
Optical Output Test Point	1 ± 0.2 V/mW	

**Electrical Characteristics**

Voltage	40-90 VAC	
Frequency	47-63 Hz	
Power Consumption	70 W typical, 94 W maximum	

**Optical Accessories**

**ON-R**

Receiver Accessory for 4 Port Optical Node



- Converts the received optical signal to broadband RF

**ON-T-x**

Transmitter Accessory for 4 Port Optical Node



- Converts broadband RF signals to optical signals
- Available in a FP or DFB laser option

**ON-ATT-xx**

Attenuator Plug In for 4 Port Optical Node



- Used to adjust the amplifier levels on the 4 port optical node.
- Available in a 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 and 22 dB option.

**ON-EQ-xx**

Equalizer Plug in for For 4 Port Optical Node



- Used to increase the output tilt of the receiver and on the 4 optical node.
- Available in a 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 and 22 dB option.

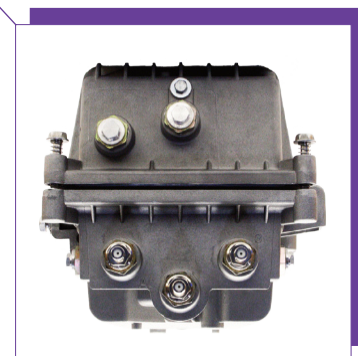
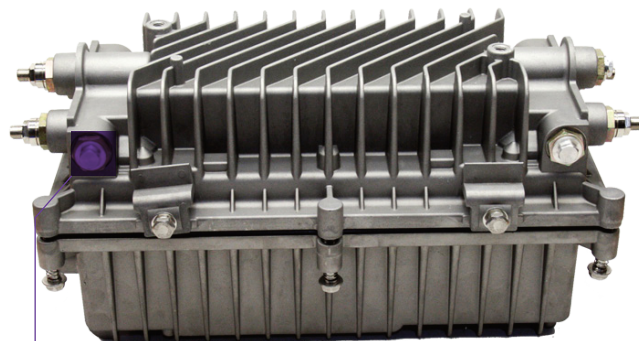
# 1 GHz 4 PORT OPTICAL NODE [ON-1000-x-4-x-D-R-x]

Fiber Products, Optical Nodes

**Taikan**  
ESTD. 1973

## Features

- 4 High Level Output Ports with GaAs Power Double Amplifier Modules
- 25 A Current Capacity (Steady State) and 25 A Surge Survivability
- Surge Resistant Circuitry Ensures Gain Stage Protection without Fuses and Protection from other Failure Causing Device
- 40-90 VAC High Efficacy Switch Mode Power Supply
- Forward (Downstream) Redundancy with Two 1310 / 1550 nm Optical Receivers (Optional)
- Standard Fiber Management Tray Provides Fiber and Connector Storage for up to 6 Connector Pairs
- Select 1, 2, or 4 Return (Upstream) Path CWDM or DWDM Optical Transmitters. Standard Model has 1 Receiver and 1 Return Transmitter
- Local Test Points and LED Indicators on Optical Receivers and Transmitters that Simplify Installation and Maintenance
- Optical Node Uses Fixed Value Plug-in Attenuator and Equalizer Accessories
- Forward (Downstream) Output Test Point and Return (Upstream) Input Test Point for each Port allows for Optimum Design and Alignment



## Ordering Information



**DFB Advantage:** Designed for high capacity return (upstream) traffic and analog video carrier transmission

Model Number	Description	Box Weight	Dimensions (LxWxH)
ON-1000-x-4-x-D-R-x	4 Port Optical Node	10 kg / 22 lbs	48 x 28 x 23 cm (18.9 x 11 x 9.1 in.)

## Forward Path Optical Specifications

Optical Input Wavelength	1310 or 1550 nm
Optical Input Range	-5 to 0 dBm
Optical Return Loss	-55 dB

## Forward Path RF Specifications

ForwardBandwidth (Option)	54/85/105-1000 MHz
Output Level (@ 1002 MHz, -1 dBm Optical Input)	+45 dBmV
Frequency Response	+/- 1 dB
Return Loss, Min (All RF Ports)	≥ 16 dB
Carrier to Noise Ratio @ -1 dBm	≥ 51 dB
Composite Triple Beat @ -1 dBm	≥ -65 dBc
Composite Second Order @ -1 dBm	≥ -65 dBc
Cross Modulation @ -1 dBm	≥ -65 dBc
Chrominance to Luminance Delay	< 15 nSec
Noise Figure	9 dB

Note: specifications listed above are minimum requirements using 78 NTSC channel (CW) loading from 55 to 550 MHz and digital from 550 to 1000 MHz. Digital loading is -6 dB below

## Return Optical Performance

Wavelength (Options)	1470 to 1570 nm
Band Pass (Options)	5-42/65/85 MHz
Output Power	1 mW
C/N (2 NTSC Channel Loading)	> 48 dB
Optical Return Loss	-55 dB
Connector	SC/APC

## Return RF Performance

Band Pass (Options)	5-42/65/85 MHz
Input Level (Max for 50% Total OMI)	-47 dBmV/Hz
Frequency Response	+/- 1 dB

## General Specifications

Temperature Rating	-30 to 50 °C (-20 to 122 °F)
Humidity Rating	Up to 95% (Non-condensing)

## Power Supply

External AC Adapter	45 V to 90 V	(50-60 Hz)
Power Consumption	< 92 W	DC -6 V +15 V + 24 V

## Optical Accessories

### ON-R

Receiver Accessory for 4 Port Optical Node



- Converts the Received Optical Signal to Broadband RF

### ON-T-x

Transmitter Accessory for 4 Port Optical Node



- Converts Broadband RF Signals to Optical Signals
- Available in a DFB Laser Option

### ON-ATT-xx

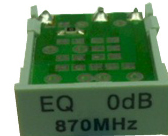
Attenuator Plug In for 4 Port Optical Node



- Used to Adjust the Amplifier Levels on the 4 Port Optical Node.
- Available in a 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 and 22 dB Option.

### ON-EQ-xx

Equalizer Plug in for 4 Port Optical Node



- Used to Increase the Output Tilt of the Receiver and on the 4 Port Optical Node.
- Available in a 2, 4, 6, 8, 10, 12, 14, 16, 18, 20 and 22 dB Option.