

***QUALITY CABLE & ELECTRONICS, INC.***

**INDOOR FIBER OPTIC RECEIVER**

# **USER'S MANUAL**

## **CAUTION**

These servicing instructions are for the use of qualified personnel only. To reduce the risk of electrical shock, please do not perform any servicing excluding the instruction in the installation manual unless you are qualified to do so. Please refer all servicing to qualified service personnel.

## **INDOOR FIBER OPTIC RECEIVER**

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**Before you begin using this product, please familiarize yourself with this user's manual.**

If you need assistance, please contact us.

Please do not open the unit and verify any circuit by yourself, and it is recommended to make some simple checks before calling service. If repair is necessary, please contact us.

Before shipping the equipment for repair, please follow the steps as below:

- Ø Pack well the unit.
- Ø Enclose a note describing the exact problem with the unit.

# INDOOR FIBER OPTIC RECEIVER

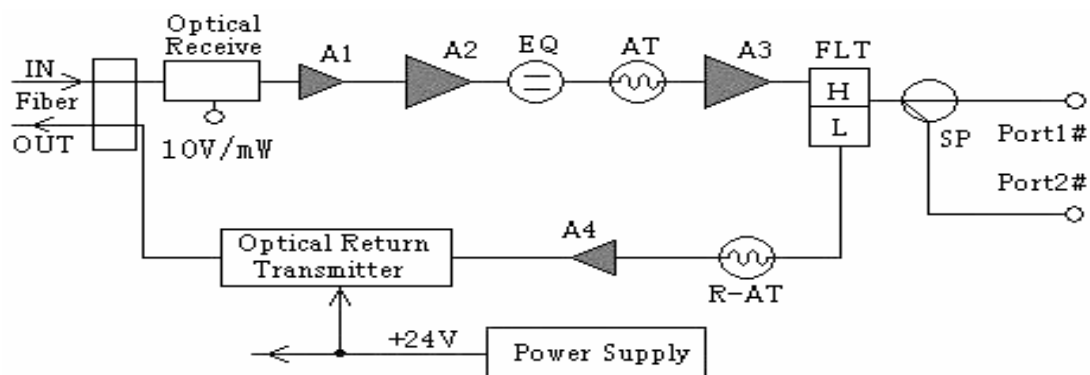
## INTRODUCTION

The Indoor Fiber Optic Receiver is a stand alone AM optical receiver which may be mounted in a 19" rack. Located at either a headend or a remote site, the unit is a versatile, cost effective alternative to devices with bulkier environmentally sealed and ruggedized housings.

Once the low distortion, low noise photodiode recovers the RF signals from the 1310 or 1550 optical carrier, they are amplified and delivered to the receiver's RF output. LEDs on the receiver's front panel indicate the presence of Optical Power. LEDs on the receiver's front panel indicate the presence of Optical Power. If the input optical power is above -8dBm, the light lits green, otherwise, it lits red. On the front panel, there are 10V/mw test points which helps trouble shooting.



## BLOCK DIAGRAM



# INDOOR FIBER OPTIC RECEIVER

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## SPECIFICATIONS

### *Forward Path, Optical*

Optical Input Range	-8dBm to +2dBm, 0dBm nominal
Optical Wavelength	1290nm to 1600nm
Optical Return Loss	>45dB
Fiber Connector	SC/APC, FC/APC

### *Return Path, Optical*

Optical Output Power	Choice of 1mW or 2mW
Optical Wavelength	1310nm $\pm$ 10nm
Optical Power	-5dBm to +2dBm
Fiber Connector	SC/APC, FC/APC

### *Forward Path, RF*

Bandwidth	45MHz to 750MHz/ 862MHz
Output Level (@ 0dBm)	105 $\pm$ 1dB $\mu$ V (main output level) 93 $\pm$ 1 dB $\mu$ V (branch output level)
RF impedance	75 $\Omega$
Flatness	$\pm$ 0.75dB
Distortions	CTB $\leq$ -68dBc @ 0dBm optical input CSO $\leq$ -66dBc @ 0dBm optical input C/N $\geq$ 51 PAL @ 0dBm optical input (Carrier Loading 77 NTSC / 59 PAL Channels to 550MHz)
Output Return Loss	$\geq$ 14dB

### *Return Path, RF*

Bandwidth	5 - 200MHz
RF input power	$\geq$ 90 dB $\mu$ V
Flatness	$\pm$ 1dB
Return Loss	$\geq$ 14dB

### *General*

Power	220Vac/110Vac
RF Connector	F
Dimensions (W x D x H)	482mm x 235mm x 44mm
Weight	3 Kg
Operating Temperature	0°C to +50°C

## IMPORTANT

1. Please do not attempt to look into the optical connector with power applied, eye damage may result.
2. It is prohibited to touch the laser without any anti-static tool.
3. The optical input power should be only from -6 to +2dBm. The receiver may work when input power is lower than -6dBm, but CNR will be largely deteriorated; when the input power is higher than 2dBm, CTB and CSO will be deteriorated and may even cause the damage of the optical receiving module.
4. Clean the end of the connector with a lint free tissue moistened with alcohol before you insert the connector into the receptacle of the SC/APC adapter.
5. This machine should be grounded before operation. The grounded resistance should be <4 $\Omega$
6. Please carefully bend the fiber.

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## **INSTALLATION AND ADJUSTMENT**

### **1. Power Connection**

Under normal circumstances, after the power is connected. Status light lits red.

### **2. Fiber Connection**

Cut off the power and take down the bolt in Fiber Input Port then perform the following steps:

- Carefully remove the protective cap from the SC/APC connector.
- Clean the end of the connector with a lint free tissue moistened with alcohol.
- Insert the connector into the receptacle of the SC/APC adapter.
- Power on, the status light in front panel lits green when the input power is above -8dBm. Otherwise, it lits red.

### **3. Test points**

On the front panel there are two points for the use of testing input power by a multimeter.

### **4. Cable Connection**

Connect the cables accordingly.

**Important: all the input or output ports (not including the test ports) not in use should be connected to 75Ω resistance.**

### **5. Optical Power Monitoring**

Status light shows when the input optical power is lower than -8dBm. In this case, you should check the optical link, the SC/APC connector and the output optical power of the transmitter.

### **6. Technical Support**

Any technical questions or operation problems please resort to the supplier.