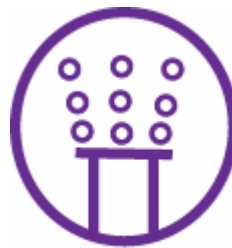


Taikan Company Inc

Networking the world

1310 Optical Transmitter

User Manual



Fiber

Please read this manual thoroughly before use.
Retain this manual for future reference.

TAIKAN OPTICAL TRANSMITTER OWNERS MANUAL

This manual is intended for use by purchasers of OT860-1310-XX and their qualified technicians. This document is the property of Taikan Corporation (Taikan) and embodies proprietary subject matter. All design, manufacture, reproduction, use and sale rights regarding the same are expressly reserved. This manual may not be reproduced without written consent from Taikan. All copyright, patent and trade secrets for this manual, and product are expressly reserved by Taikan.

SAFETY PRECAUTIONS

Taikan Company strongly advises you to read and understand all safety instructions prior to installing or operating the OT860-1310-XX

1. Read instructions

All the safety and operating instructions should be read before the product is operated

2. Retain instructions

The safety and operating instructions should be retained for future reference.

3. Heed warnings

All warnings on the product and in the operating instructions should be adhered to.

4. Follow instructions

All operating and use instructions should be followed.

5. Cleaning

Unplug the product from the power outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth. For the optical connector it is recommended that you use RIFOCS CO., Ltd's 945/946.

6. Ventilation

Do not block or cover openings . These are provided for ventilation and protection from overheating. The maximum operating temperature is 122 °F

7. Power Sources

This product should be operated only from the type of power sources indicated on the marking label.

8. Grounding or Polarization

This product may be equipped with a polarized AC line plug (a plug having one blade wider than the other or a different shape). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug into the outlet, try reversing the plug. Contact your electrician to replace the obsolete outlet if this still does not work. Do not compromise the safety purpose of the polarized plug.

9. Lightning

For added protection during a lightning storm or when the equipment is left unattended or unused for long periods, unplug it from the power outlet and disconnect the cables between the equipment and the fiber subsystem. These precautions will prevent damage to the equipment that could be caused by lightning strikes or power line surges.

10. Servicing

Do not attempt to service this equipment yourself as opening or removing the cover may expose you to dangerous voltage or other hazards, refer all servicing to Taikan Company. A Taikan representative can be reached at support@taikan.com

11. Optical Output Safety, General.

1310nm Optical Transmitter units may emit harmful laser radiation when the product is powered on or when the case is opened.

Table of Contents

1. Introduction

I. Product Features & Benefits	6
II. 1310 Transmitters from Taikan	6
III. Specifications	6

2. Installation

I. Unpacking the Unit	7
II. Static Sensitivity	7
III. Power Supply Condition	7
IV. Placement of the Transmitter	7
V. Electric Connection	8
VI. RF Connection	8
VII. Optical Connection	8

3. Operation

I. Front Panel	9
II. Rear Panel	9
III. Startup & Troubleshooting	9
IV. Procedure Return Procedure	10

4. Warranty	11
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I. Product Features & Benefits

- Transmits NTSC, PAL, digital or compressed digital information for CATV and/or telephony applications
- Optically isolated distributed AM feedback laser
- 47-860MHz RF input bandwidth
- Up to 77 NTSC channels
- Front panel RF test point
- Low RF drive levels required due to built in RF amplifier
- Microprocessor controlled diagnostic testing and front panel remote readout
- Industry standard status monitoring interface RS-232

II. 1310 Transmitters from Taikan

Model Number	Description
OT860-1310-2*	1310 CATV Optical Transmitter, Power 2mW
OT860-1310-4	1310 CATV Optical Transmitter, Power 4mW
OT860-1310-6	1310 CATV Optical Transmitter, Power 6mW
OT860-1310-8	1310 CATV Optical Transmitter, Power 8mW
OT860-1310-10	1310 CATV Optical Transmitter, Power 10mW
OT860-1310-12*	1310 CATV Optical Transmitter, Power 12mW
OT860-1310-14*	1310 CATV Optical Transmitter, Power 14mW
OT860-1310-16*	1310 CATV Optical Transmitter, Power 16mW
OT860-1310-18*	1310 CATV Optical Transmitter, Power 18mW
OT860-1310-20*	1310 CATV Optical Transmitter, Power 20mW
OT860-1310-22*	1310 CATV Optical Transmitter, Power 22mW
OT860-1310-24*	1310 CATV Optical Transmitter, Power 24mW

*note: products marked with an asterisk can be manufactured and are not necessarily in stock

Section 1: Introduction cont.

III. Specifications

Optical Features		Units
Optical wavelength	1310	nm
Optical output power	See table below	mW
Optical Return Loss	≥ 60	dB
Optic connector type	SC/APC or FC/APC	
RF Features		
RF Bandwidth	47-860	MHz
RF Input Level	20	dBmV
RF Flatness	$\leq \pm 0.75$	dB
RF Return Loss	> 16	dB
RF Input Impedance	75	ohm
Connector Type	F type	
Link Performance		
CNR	≥ 52	dB
CTB	≤ -70	dB
CSO	≤ 63	dB

note: Specifications subject to change without notice

Section 2 Installation

I. Unpacking the Unit

Carefully open the package and adhere to all safety guidelines outlined in the safety section. Check the packaging material for the following components.

- 1310nm optic transmitter
- User Manual
- Test Report
- Power Cord

WARNING

It is highly recommended that the cover be left on the optical connector until you are ready to install the transmitter into the headend rack. Not complying could “pollute” the connector thereby compromising the transmission quality. The side effects include:

- Decrease in analog signal transmission quality
- Increased incorrect data rate for the digital signal
- Decrease in optical power
- Optical receiver’s optic power is compromised
- Pollution of the other optical components

Please notify your Taikan representative (support@taikan.com) if any of the items appear lost or damaged.

II. Static sensitivity

When opening or operating the product, please comply with standard static protection procedure, such as using a grounding metal wrist belt, grounding worktop & grounding conductor.

Adhering to these guidelines will minimize the risk of damaging the product.

III. Power supply condition

The transmitter is powered by AC or steady voltage DC.

AC Input	94-245 VAC, 50-60 Hz
DC Input	36-60 VDC, floating
Power consumption	Maximum 50 W

IV. Placement of the transmitter

The transmitter is designed to fit in an EIA standard 19-inch (480 mm) equipment rack.

When placing the unit inside the rack, it is recommended to leave one open slot (approximately 1 3/4”) between each unit. Doing so allows for cooling. From the front of the rack, cover any open slots with a blank plate to minimize the risk of dust entering the rack.

It is recommended that the transmitter be placed in an environment that maintains a temperature of approximately 25° C (77°F)

Section 2 Installation Cont.

V. Electric Connection

The transmitter should have good grounding with a resistance $<4\Omega$. According to the international standard, the 220 V plug in adopts tri-wire rule, while the middle wire is the grounding wire.

The transmitter's power supply has overflow protection. It can work with a 110~254 VAC electric network, while the microprocessor monitors the output DC voltage.

WARNING

Prior to connecting the circuit, use the electric wire (#20 AWG or $>$) to connect the grounding screw on the bottom to the grounding frame. When using the DC input power supply, the equipment chassis must be grounded.

VI. RF Connection

Connect the RF cable & the connector on the transmitters rear panel. The RF Connector is a F type plug with a resistance of 75Ω .

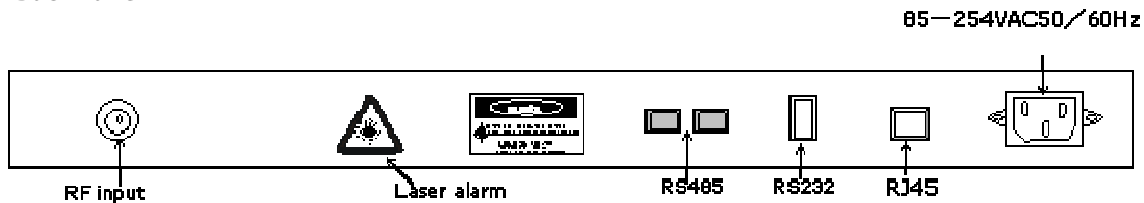
VII. Optical Connection

Connect the output fiber optic jumper to the proper input connector socket. The connector types are FC/ APC, E-2000, pigtail or SC/APC.

Front Panel



Back Panel



The working status indicator (LED on the front panel) displays the following conditions:

Color	Status/Action Required
Green	The laser is working properly
Red	The laser is not turned on. Turn the key switch to the on position to change the light.
Flashing Red	There is something wrong with the transmitter and it needs to be serviced. Contact Taikan at support@taikan.com for assistance or if you need to return it for repair.

Follow these steps to operate the transmitter:

1. Plug in the power cord and turn on the laser from the front switch.
2. Wait approximately 10 seconds before the laser turns from Red to Green, indicating that the laser is functioning properly. You will know the transmitter is working since the model number will be displayed on the screen.
3. The following items will be displayed on the screen when you toggle through with the 'Status' button on the front panel:
 - Model Number
 - Power (mW)- Displays the optical output power in dBm
 - Temp (°C): Displays the laser temperature in °C
 - Bias (mA): Displays the laser bias temperature in °C
 - Cooling/Heating (mA): Displays the amount of current that the Thermoelectric Cooler requires to maintain the laser temperature at a nominal 25°C
 - Reads +5V
 - Reads+24V
 - Reads -5V

Potential Troubleshooting

1. If the product is damaged, the transmitter has a built in micro-processor that will automatically shut down the laser and display the potential error on the front panel.
2. If the display shows "Interlock" and the LED indicator is flashing red, it means that the remote point on the back panel is loose
3. If the RF input level is too high, shut off the power and restart the transmitter.

Section 3: Operation cont.

Product Return Procedure

Follow these steps if you need to return the product for repair:

1.) Contact a Taikan representative at support@taikan.com to obtain a Return Authorization Number.

2.) When sending back the product for repair please include the following information:

- Return Authorization Number
- Model Number
- Serial Number
- Reason for the return.

3.) Prior to repairing the device, we will inform you about the test results and any additional repair charges that may apply (in the event the damage was caused by improper handling/care). Once we have received your confirmation we will proceed with the repair.

4.) The repair period will depend on the severity of the problem

5.) The product will still be under warranty after it is returned. The repair component is good 90 days after you have received the product.

Section 4: Warranty Information

Standard Taikan Product Warranty

Taikan Company Inc. provides a Limited 1 Year Warranty ("Warranty") to original purchaser on its product against manufacture defect and workmanship under normal use and service. Taikan Company Inc. will during the Warranty period, repair, or replace the product to correct defects in material and workmanship. (please note fiber products carry a limited 3 year warranty) 1 year parts and 2 years labor.

This Warranty shall not apply to a product which has been altered in any way so as to affect its stability or durability, nor which has been subject to misuse or negligence. This Warranty does not cover a product which has been damaged by severe weather conditions such as extreme wind, ice, storms, lightning, or other natural weather conditions over which Taikan Company Inc. has no control.

Claimants under this Warranty shall present their claim along with the defective unit to Taikan Company Inc. Immediately. Non compliance with any part of this claim procedure may invalidate this Warranty in whole or part.

This Warranty is expressly in lieu of all other agreements and warranties, expressed or implied. Taikan Company Inc. does not authorize any person to assume for it the obligations contained in this warranty and neither assumes nor authorizes any person to assume for it the obligations contained in this warranty and neither assumes nor authorizes any representative or other person to assume for it any other liabilities in connection with the product delivered or provided.

In no event shall Taikan Company Inc. be liable for any loss of profits, loss of use, interruption of business, or indirect, consequential damages of any kind. Taikan Company Inc. will not be liable for damages in any amount greater than the purchase price of the product.

Taikan Company, Inc

support@taikan.com

www.taikan.com

1-800-255-0247

Specifications are subject to change without notice