



# Trivia N2 - User Manual



## 1. Foreword

This manual is applicable to *Trivia N2* field optical receiver. Mainly expatiate the product's function characteristics, technique parameters, installation and debugging. For insuring the equipment can be successfully installed and safely work, please carefully read the manual before using it, and proceed it strictly according to the prescriptive operation steps of manual for installation and debugging, in order to preventing equipment or operator to unnecessary damage or harm. If there is question, please contact us.

## 2. Product Summary

*Trivia N2* field optical receiver adopts high-performance optical receiving module, front-class adopting Philips low-noise microwave tube amplifier and output-class adopting a power doubler (or push-pull) module amplifier. It is not only performance excellent, but also performance to price rate high, fit for using at middle or small CATV network.

## 3. Performance Character

Adopt high-performance optical receiver module, signal photoelectric transition efficiency high.

Adopt power doubler (or push-pull) output module.

Built-in plug-pull equalizer, attenuator and output brancher component, 8-class optical power display.

Strict anti-thunder system, and high-reliability switch power.

## 4. Performance Parameter

### 4.1 Link path test condition

Special elucidation: Equipments technique parameter the manual given is according to the test method of GY/T143-2000 CATV system amplitude modulation laser transmitter and receiver enter the net technique condition and measure method, and gained under its prescriptive test condition.

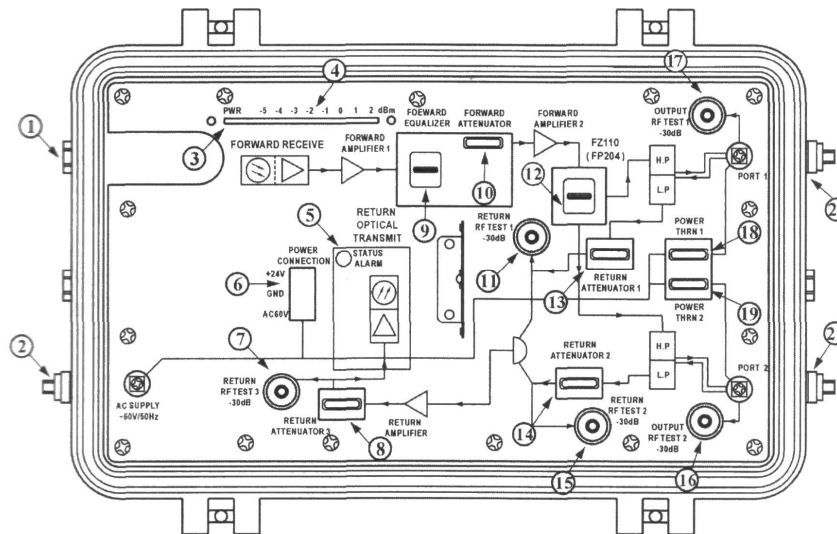
Test condition: Test link path is formed of standard fiber and standard optical receiver. Under the condition of prescriptive link loss, set 59 PAL-D imitate TV channels signal at 550MHz, transmit digital modulated signal at the range of 550MHz-750(862) MHz, level of digital modulated signal (8MHz band width) is lower 10dB than of imitate signal carrier wave, when optical receiver input optical power being - 1dBm, measure C/CTB, C/CSO, C/N.

### 4.2 Function Parameter

Items	Unit	Technique parameter
<b>Forward Optical Parameter</b>		
Input Optical Power	dBm	-5~+2
Suggested work range	dBm	-3~+1
Optical Return Loss	dB	>45
Optical Fiber Connector		SC/APC, (FC/APC optional)
Operating Fiber Type		Single mode
C/N	dB	≥51
C/CTB	dB	≥65
C/CSO	dB	≥60
Frequency Range	MHz	45~862

Flatness in Band	dB	±0.5(45~550MHz), ±0.75(550~750MHz)
Suggested Output Level	dBμV	≥100 (Input OdB)
Return Loss	dB	≥16(45~550MHz), ≥14(550~750MHz)
Output Impedance	Ω	75
<b>Reverse Transmission Function Parameter</b>		
Wavelength	nm	1310±10
Output Optical Power	dBm	1~5
RF Frequency Band	MHz	5~65 (or specified by user)
Flatness	dB	±1
RF Input Level	dBμV	90~95
Optical Fiber Connector		SC/APC, (FC/APC optional)
Output Impedance	Ω	75
<b>General Response</b>		
Power Voltage (50Hz)	V	A:~(130~265)V B:~(35-75)V
Power Consumption	VA	20
Dimension	mm	325x220x135

**5. Structure Drawing**



- |                            |                                |                             |
|----------------------------|--------------------------------|-----------------------------|
| 1. Optical Cable Input     | 2. AC Voltage Input            | 3. Power Supply LED         |
| 4. Optical Power LED       | 5. Return Optical Transmit LED | 6. Main Board Connector     |
| 7. Reverse RF Test Port    | 8. Reverse ATT                 | 9. Forward EQ(1)            |
| 10. Forward ATT            | 11. Reverse RF Test Port(1)    | 12. Output Splitter         |
| 13. Reverse ATT            | 14. Reverse Fix ATT            | 15. Reverse RF Test Port(2) |
| 16. RF Output Test Port(2) | 17. RF Output Test Port(1)     | 18. Power Pass Plug(1)      |
| 19. Power Pass Plug(2)     | 20. RF Output(1)               | 21. RF Output(2)            |

**6. Optional Component and Accessory**

Optional Component: water-repellent tail-cable. Water-repellent tail-cable is an optical cable connection feedback cable with special water-repellent connector, fit for various field optical receiver optical signal feedback.

It effectively improves optical cable connector water-repellent performance, and insures equipment reliable work. We advise users can choose to use this optional component insure equipment reliable work.

Accessory: plug-pull output brancher

Plug-pull output brancher has 2 types of FZ-110 and FP-204. Users can accord engineering actual need, use it neatly.

## 7. Installation instruction.

### 7.1 Unpack and examine

Insure the package not is defaced. If have any damnification or water mark, please contact local franchiser or conveyancer.

After unpacking, check equipments and accessories according to package list. Any question, please contact local franchiser or our company.

If you think equipment has been damaged, please don't electrify avoid worse damage. Please contact local franchiser or our company.

### 7.2 Instrument and tools

Optical power meter

Digital multimeter

Inner six-angle spanner

Cross screwdriver

Active spanner

Some waterless alcohol and nosocomial degrease cotton

### 7.3 Installation steps

- Before installation, read *USER'S MANUAL* carefully and install and debug strictly according to operation steps stated in *USER'S MANUAL*. Caution: If not operate according to the user's manual to cause equipment contrived damage and other any results, our company will not answer for it and stop guaranteeing to free maintain.
- Open upper cover with an active spanner, and then screw off fiber cable connection.
- Insert water-repellent tail-cable fiber active connector to fiber cable input, then connect the tail-cable water-repellent active and screw tightly. Between water-repellent connector and shell paste a water-repellent tape. At last finish fuse-connect water-repellent and signal fiber cable and do airproof to fiber cable connection box.
- Take off anti-dirt cap of fiber active connector; clean here with degrease alcohol cotton and airing. Then test input optical power with an optical power meter. After affirming input optical power is normal (optical power range is +3~-7dB), insert fiber active connector into fiber pan, aim at a gap to lightly screw tightly, (caution: avoid the fiber active connector with laser to aim at the human body or eye result in harm the body), then circle odd fiber cable to fiber disc.
- Connect reliably shell and earth, and connect RF cable to RF output, then connect in a fake load with a 75 Q resistance in spare output and pull out over-current protection plug-in of this output.
- Test input voltage with a digital multimeter. Affirm input voltage in normal range, and then turn on power.
- Examine power LED and optical power LED being on or off, and test +24V voltage with a multimeter.
- Close the shell and screw tightly. Installation is finished.

### 7.4 Cautions

- During connecting optical signal, avoid the fiber active connector with laser to aim at the human body or eye result in harm the body.
- When fiber not in use, anti-dirt cap should be on avoid pollution.
- Before connect optical signal, affirm input optical power in range of +3~-7dBm, avoid damage laser.
- Before use, ground well!
- It is need to use a manostat in voltage unstable zone.
- Then finish installation, close shell and screw well, and screw all water-repellent connector.
- If there are any problems about installation or work, maintain by technicians. If they can't resolve them, please contact local franchiser or our company Technique Department.

## 8. Debug

### 8.1 Instruments and Tools

Optical power meter

Digital multimeter

Field intension meter

Pure alcohol and nosocomial degrease cotton

Test cable

### 8.2 Debug

Take off anti-dirt cap of fiber active connector, clean here with degrease alcohol cotton and airing. Then test input optical power with an optical power meter. After affirming input optical power is normal (optical power range is +1 ~ +3dB). then connect input fiber active connector to optical receiver module. Examine voltage whether according to equipment require.

Pull out all over-current protection plug-in, and then turn on power. Connect all output need test to field intension meter with test cables and connect in a fake load with a 75 ohm resistance in spare output.

Through changing fixed equalizers in various value and fixed attenuator in various value make RF output level in test to design index. lrough the same way to debug other output to design index. Connect RF cable, and connect in a fake load with a 75 ohm resistance in spare output. According to actual state, insert various output over-current protection plug-in. It is an end of debugging.