

THE USER GUIDE

OTI310S-I-XX^(V4.0)

SATELLITE MID-FREQUENCY AND CABLE
TV LASER TRANSMITTER



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I OVER VIEW

I.1 OVER VIEW

OTI310S-I-XX SATELLITE MID-FREQUENCY AND CABLE TV LASER TRANSMITTER IS WORKING WHEN THE BANDWIDTH IS 40~860MHZ OR 950~2600MHZ. IT CAN BE WORKING AT 950~2600MHZ THE SATELLITE MID-FREQUENCY OPTICAL TRANSMITTER INDEPENDENTLY. AND IT WILL CONVERT TO THE ELECTRICAL SIGNALS FROM THE ALL L-BAND SATELLITE SIGNALS WHICH IS ACCEPTED FROM CATV AND SATELLITE ANTENNA TUNERS LNB, TO MAKE TRANSMISSION FULL TRANSPARENT, HIGH QUALITY AND LONG DISTANCE. IT REFLECTS THE HIGH TECHNOLOGY OF CATV AND SATELLITE L-BAND OPTICAL FIBER LINK PRODUCT. THIS IS A SOLUTION FOR NETWORK OPERATORS TO CUT COSTS. THE TRANSMITTER'S HEIGHT IS 1U, WHICH MAKES IT INSTALLED ON A 19" STANDARD RACK. ITS MAIN DEVICES USE JDUS, FUJITSU, MITSUBISHI SERIAL LASERS WHICH CONTAIN THERMOELECTRIC COOLER WITH LOW NOISE AND NARROW BAND. OWING TO USE INTERNATIONAL BRAND WITH MY COMPANY SYSTEM OPTIMIZED CONTROL TECHNOLOGY AND SNMP NETWORK CONTROL TECHNOLOGY, THE WHOLE TECHNOLOGY FUNCTION INDEX MEETS THE STANDARD OF SAME IMPORTED EQUIPMENT, TO PROVIDE HIGH-QUALITY LONG DISTANCE SIGNAL TRANSPORTATION OF IMAGES, FIGURE AND COMPRESSED FIGURE.

I.2.1) HIGH QUALITY: ORIGINAL SYSTEM OPTIMAL CONTROL TECHNOLOGY, RF PREDISTORTION TECHNIQUES MAKE SYSTEM GETTING LARGEST CTB, CSO AND SBS INDEXES WHEN GUARANTEEING EXCELLENT PERFORMANCE.

I.2.2) FLEXIBILITY: LASER CAN TRANSFER IF SIGNAL FROM ONE SATELLITE TO FOUR SATELLITES INDEPENDENTLY OR ADD A CATV SIGNAL.

I.2.3) RELIABILITY: THE 19" 1U STANDARD RACK, BUILT-IN HIGH-PERFORMANCE DRAW-OUT POWER SUPPLY, IT CAN WORK AT 85 ± 265VAC, CHASSIS COOLING CAN BE AUTOMATIC CONTROL BY TEMPERATURE.

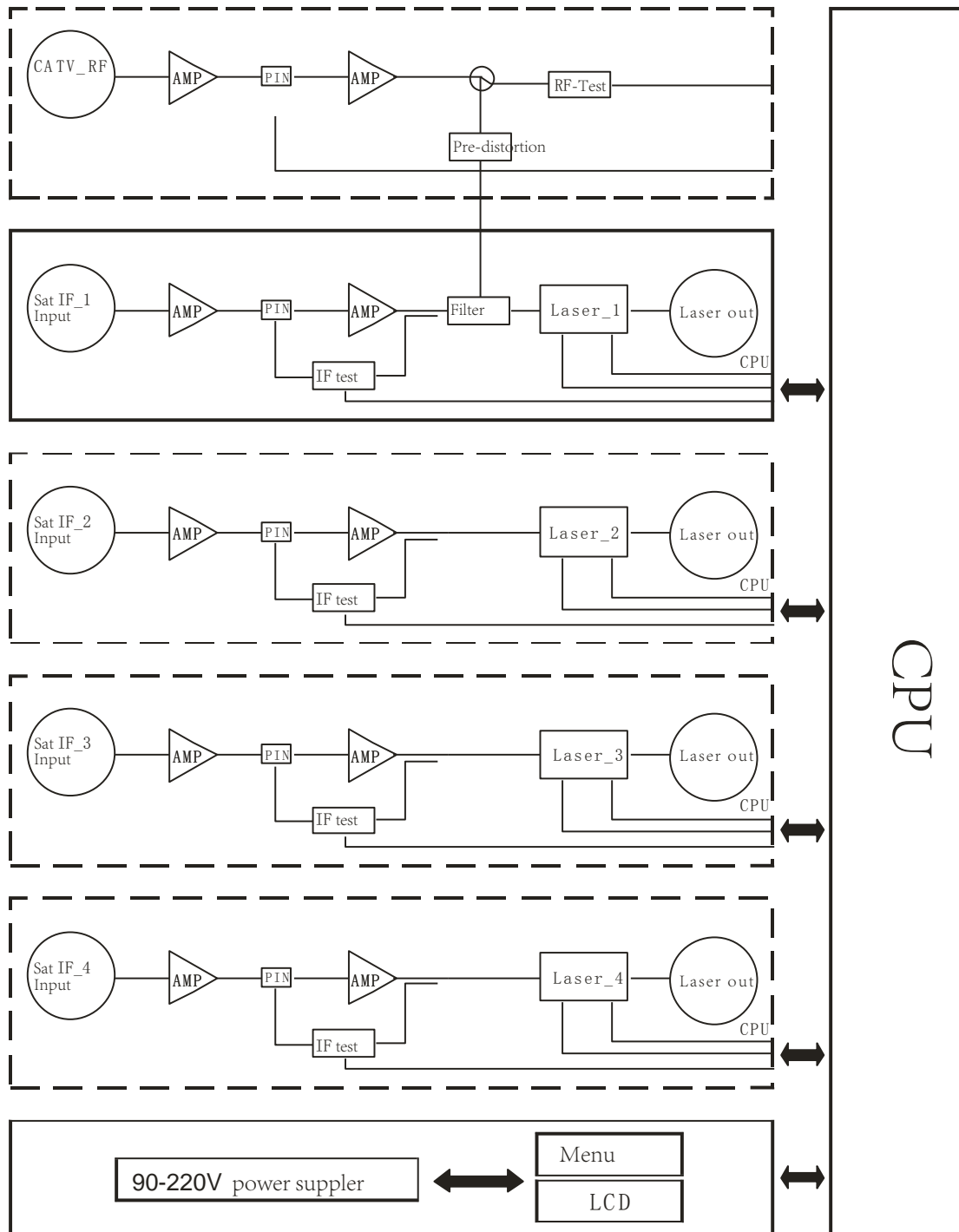
I.2.4) INTUITION: THE MACHINE EQUIPPED WITH MICROPROCESSOR MONITORS THE WORKING STATE OF THE LASER AND RF LEVEL, THE PANEL LCD WINDOW DISPLAYS THE OPERATING PARAMETERS.

I.2.5) NETWORK TYPE: SELECT ALL-PIECE STATUS MONITORING TRANSPONDER GUARANTEES TO MEET THE NATIONAL STANDARD AND BE COMPATIBLE WITH THE SCTE HMS STANDARD, IT ENABLES NETWORK MANAGEMENT TO MONITOR CAPABILITIES.

I.2.6) PLUG IS DRAW-OUT TYPE: SWITCHING POWER SUPPLY IS DRAW-OUT TYPE WITH ALUMINUM PROFILE STRUCTURE, IT HELPS GREATLY TO COOLING AND REPLACEMENT. BESIDES IT CAN MAKE DUAL SUPPLY COLD-HEAT BACKUP.

2 PRODUCT STRUCTURE DIAGRAM

2.1 ELECTRICAL BLOCK DIAGRAM



2.1.1 TRANSMITTER FRONT PANEL DIAGRAM



1、IF PANEL

LCD DISPLAYER

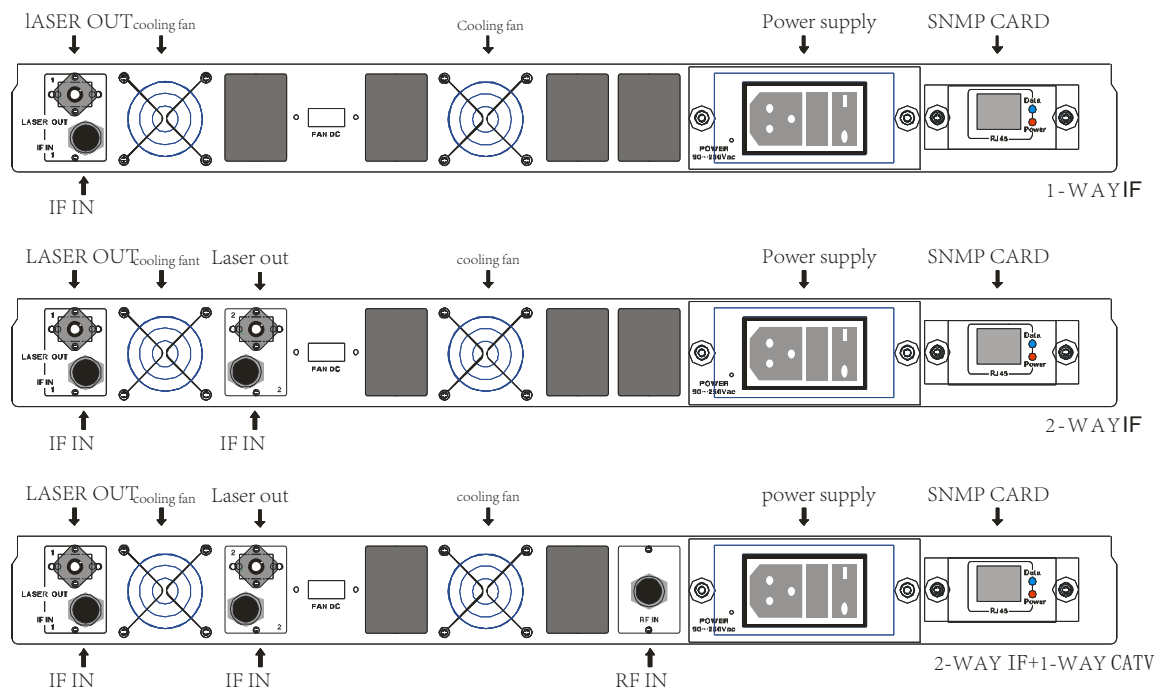


2、CATV+IF ANEL

LCD DISPLAYER

RF TESTING PORT

2.2.2 TRANSMITTER BACK PANEL DIAGRAM



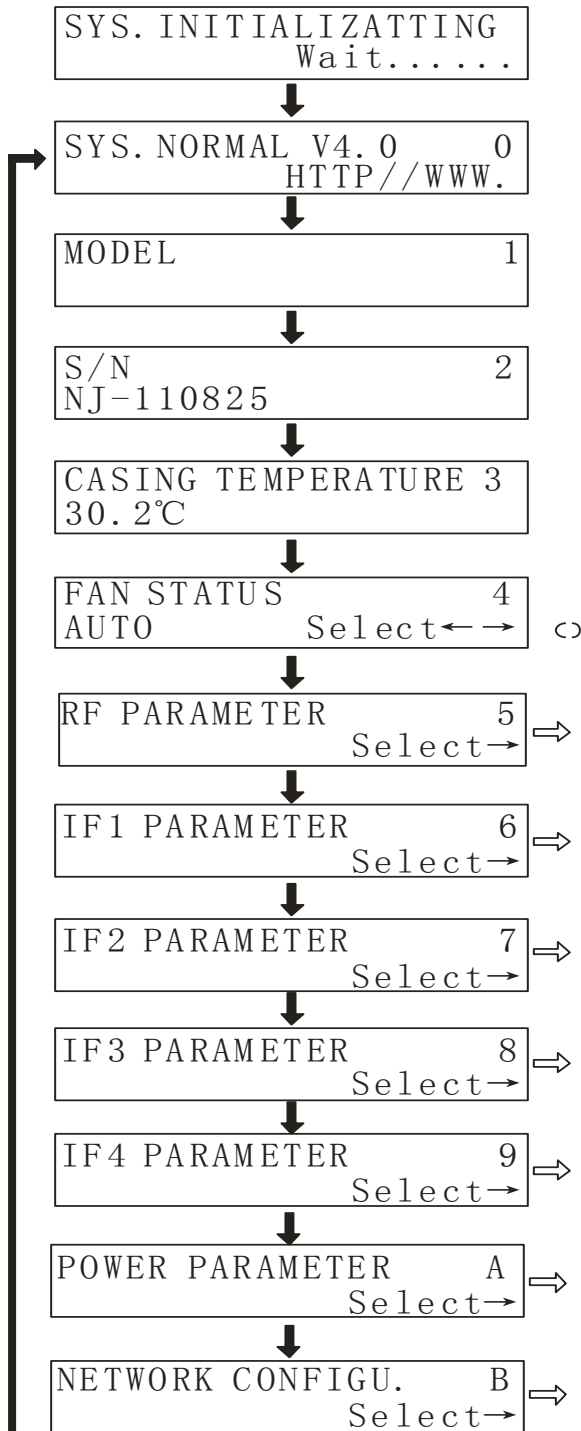
3 MODULES MAIN TECHNICAL INDEXES

SERIAL NUMBER	PROJECT	UNIT	PARAMETER	REMARK
1	LASER MODEL			SEE THE SPECIFICATION
2	OPTICAL WAVELENGTH	NM	1310; 1550±10;	IF IT IS FROM THE WAVELENGTH, PLEASE MARKING BEFORE ORDER
3	SMSR	DB	E45	SMSR
4	EQUIVALENT INTENSITY NOISE	DB/HZ	D-145	RIN (20~2700MHZ)
5	OPTICAL MODULATION MODES		DIRECT MODULATION	
6	OPTICAL OUTPUT POWER	DBM		SEE THE SPECIFICATION
7				
8	OPTICAL CONNECTOR FORM		FC/APC, SC/APC OPTIONALLY	PLEASE MARKING BEFORE ORDER
CATV				
1	FREQUENCY RANGE	MHZ	45~865	
2	CARRIER TO NOISE RATIO	DB	E51.0	ACCORDING TO GY/T 143-2000 6.2.3.5
3	FLATNESS	DB	±0.75	ACCORDING TO GY/T 143-2000 6.2.4
4	RF INPUT SIGNAL LEVEL	DBUV	75~85	AGC AUTOMATIC CONTROL
5	C/CTB	DB	E65.0	ACCORDING TO GY/T 143-2000 6.2.5
6	C/CSO	DB	E65.0	ACCORDING TO GY/T 143-2000 6.2.5
7	RF INPUT IMPEDANCE	OHM	75	
8	RF INPUT REFLECTION LOSS	DB	>16	ACCORDING TO GB/T 11381.1 4.2.2.2.5
IF				
1	FREQUENCY RANGE	MHZ	950~2700	
2	IMPORT IF POWER	DBM	-40~-20	THE TOTAL INPUT POWER
3	FLATNESS	DB	±1.0	
4	IMD	DB	-40DBC	THE TOTAL INPUT POWER D-20 DBM
5	INPUT IMPEDANCE	OHM	75	

6	INPUT REFLECTION LOSS	DB	>12	
GENERAL PARAMETERS				
15	POWER SUPPLY(TWO HOTPLUG POWER)	V	90~265 MAINS	-48VDC OPTIONAL
16	POWER CONSUMPTION	W	D50	SINGLE POWER SOURCE
17	OPERATING TEMPERATURE	°C	0~50	AUTOMATIC CHASSIS CONTROLS TEMPERATURE
18	STORAGE TEMPERATURE	°C	-20~85	
19	WORKING RELATIVE HUMIDITY	%	20%~85%	
20	SIZE	3	193x113x1.753	(W) x (D) x (H)
21	NETWORK MANAGEMENT INTERFACE		RJ45	SUPPORT BROWSER AND SNMP

4 OPERATION INSTRUCTIONS

4.0) BOOT SHOW: PLEASE PUT THE PLUG IN THE OUTLET WITH 15AC220V, AND THE LCD PANEL WILL SHOW "SYS_INITIALIZATTING WAIT", AFTER SYSTEM INITIALIZATION, THE LCD PANEL WILL SHOW AS FIGURE (I) IN PAGE "0". WHEN THE SHOW IN THE LCD PANEL STAYS IN THE INITIAL IMAGE AND ONLY THE " " FLICKERS, WHEN THE "TEMP" LIGHT IS RED, IT MEANS THERE ARE SOME PROBLEMS IN THE PROCESS OF INITIALIZATION, COMMONLY TEMPERATURE IS



PICTURE (I)

DIFFERENT FROM RATING. (NOTE: LCD BACKLIGHT HAS PROTECTION FUNCTION, IF YOU DID NOT CLICK BUTTONS, THE LCD BACKLIGHT WILL GO OUT, YOU SHOULD JUST CLICK "▲, ▼" TO AWAKEN IT.)

4.1) PRODUCT TYPE: FIGURE (I) "1".

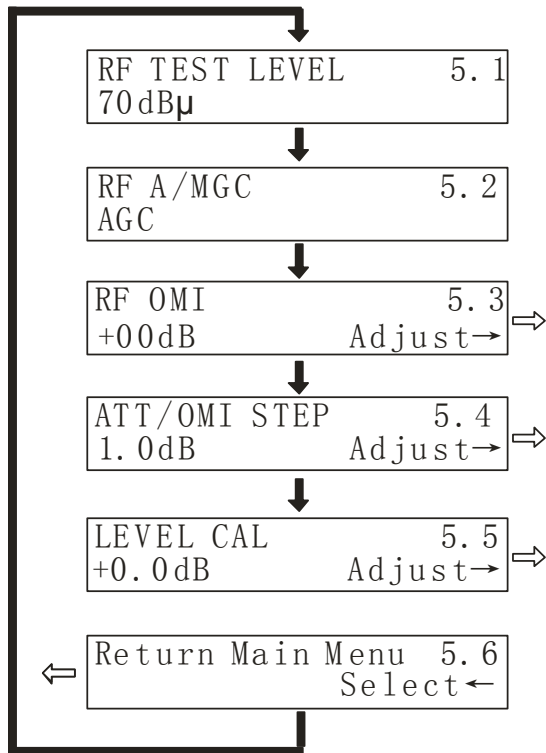
4.2) PRODUCT SERIAL NUMBER: FIGURE (I) "2".

4.3) CHASSIS TEMPERATURE: FIGURE (I) "3".

4.4) FAN STATUS: FIGURE (I) "5". THE FAN, A TOTAL OF THREE KINDS OF WORKING STATE CAN BE ADOPTED. IN THE CURRENT PAGE, CLICK THE " " KEY TO CHANGE THE WORKING STATE, WHILE IN THE "AUTO" STATE, WHEN THE DEVICE INTERNAL TEMPERATURE IS HIGHER THAN 35 °C, THE SCM WILL AUTOMATICALLY OPEN THE CHASSIS FAN TO COOL, AND IT WILL NOT CLOSE UNTIL THE TEMPERATURE DROPPED TO 30 °C.

4.5) RF PARAMETER CONFIGURATION: FIGURE(I)"5". IN THE CURRENT PAGE, CLICK THE " " KEY TO QUERIES AND CONFIGURE THE RF PARAMETERS. WHEN THE EQUIPMENT DOESN'T HAVE THE FUNCTION OF CATV, THE PAGE IS NOT VALID, AND THE LCD PANEL WILL SHOW "NO EQUIPMENT", AT THE SAME TIME, THE LIGHT OF "RF, RF_AGC, RF_MGC" ON THE LEFT LCE GOES OUT.

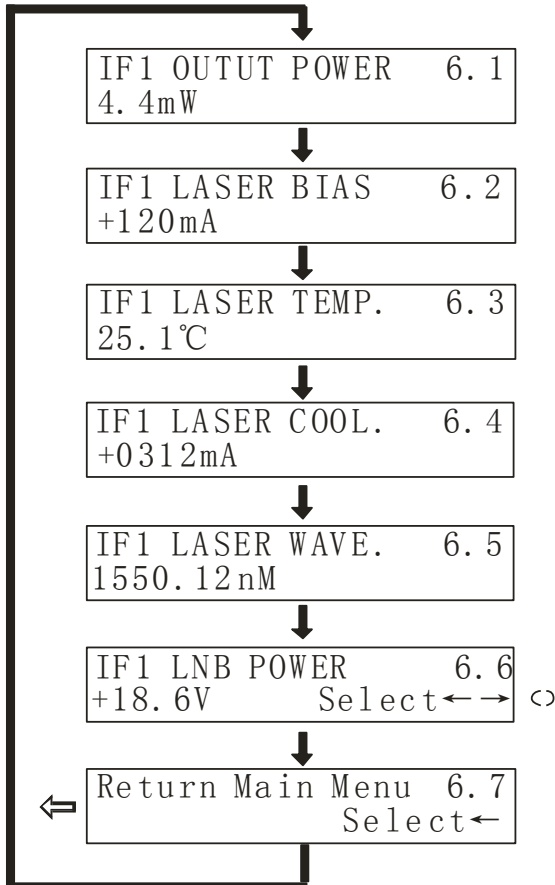
4.5.1) RF TEST LEVEL: INSTRUCTING FOR M PANEL RF_TEST LEVEL IN REAL TIME. AS FIGURE (2).



PICTURE (2)

ST" LEVEL, WHEN IT IS DIFFERENT FROM THE INDEX.

4.5.6) BACK TO FRONT MENU:FIGURE (2) IN PAGE "5.6". IN THE CURRENT PAGE, CLICK THE "☰" KEY TO RETURN TO THE FORMER MENU.



PICTURE (3)

4.5.2) CHANGE OF RF AGC/MGC: .IN THE CURRENT PAGE, CLICK THE "☰" KEY TO CHANGE THE AGC AND MGC. AS FIGURE (2).

4.5.3) SETTING MODULATION DEGREE OF RF OMI: IF MODULATION DEGREE OF RF IS TOO HIGH,THE CSO/CTB WILL BE DEGRADED, INSTEAD TOO LOW MODULATION DEGREE WILL MAKE CNR DEGRADED, SO THE CONTRADICTION CONTROLS THE RANGE OF MODULATION DEGREE, YOU SHOULD SET IT DEPENDING ON THE CIRCUMSTANCES. THE DEGREE IS +0.0DB AT THE FACTORY. IN THE CURRENT PAGE, CLICK THE "☰" KEY TO SET THE RF MODULATION DEGREE. AS FIGURE (2).

4.5.4) THE NUMBER OF RF STEPPING ATTENUATION: WHEN THE AGC IS OMI, AND THE MGC IS ATT, THE NUMBER OF STEPPING ATTENUATION CAN BE SET IN THE PRESENT PAGE, IN ORDER TO ADJUST OMI AND ATT BETTER.

4.5.5) CORRECTING FORM PANEL "RF TEST" LEVEL : PLEASE CORRECT THE "RF TEST

4.6) THE WORKING PARAMETER OF IF_I: FIGURE (1) IN THE PAGE "7". IN THE CURRENT PAGE, CLICK THE "☰" KEY TO QUERIES AND SET THE IF_I CHANNEL PARAMETER.

4.6.1) IF_I CHANNEL OPTICAL OUTPUT POWER: FIGURE (3) IN THE PAGE "6.1"

4.6.2) IF_I CHANNEL LASER DEVIATION: FIGURE (3) IN THE PAGE "6.2". LASER DIODE HAS A RATED CURRENT, WHEN OPERATING CURRENT IS MORE THAN 130% OF THE RATED CURRENT, THE LIFE OF LASER IS AFFECTED, MORE SERIOUS, THE LASER WILL BE DAMAGED. SO WHEN DETECTED OPERATING CURRENT IS MORE THAN 130% OF THE RATED CURRENT, THE HARDWARE CIRCUIT IN THE EQUIPMENT HAS LIMITED THE RANGE.

4.6.3) IF_I CHANNEL LASER TEMPERATURE:

FIGURE (3) IN THE PAGE "6.3". LASERS WORK PROPERLY AT 20℃ = 30℃ TEMPERATURE RANGE . LCD DISPLAYS THE ACTUAL TEMPERATURE OF LASER, SUCH AS "25.5 ℃".

4.6.4) IF_1 CHANNEL LASER COOLING CURRENT: FIGURE (3) IN THE PAGE "6.4". IN ORDER TO ENSURE THE INTERNAL TEMPERATURE OF LASER RANGE FROM 20 °C TO 30 °C, WE SHOULD PROVIDE THERMOELECTRIC COOLING DEVICE A CERTAIN AMOUNT OF OPERATING CURRENT.

4.6.5) IF_1 CHANNEL RF INPUT AND OUTPUT DC VOLTAGE:

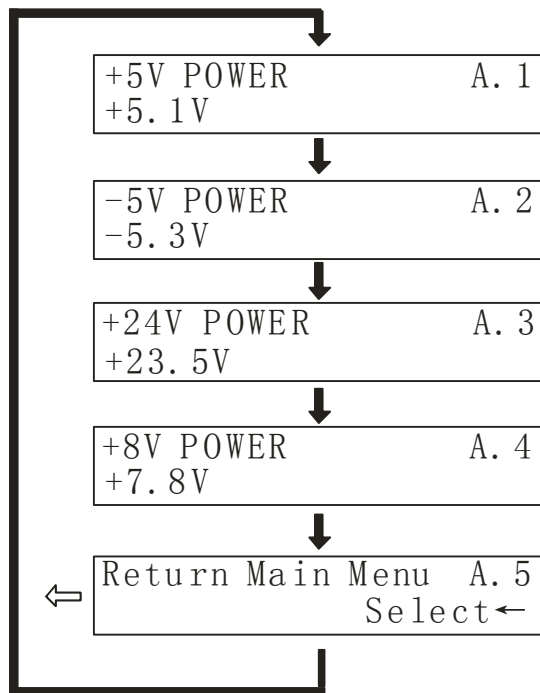
FIGURE (3) IN THE PAGE "6.5". IN THE CURRENT PAGE, CLICK THE "☰" KEY TO CHANGE OUTPUT SERVING VOLTAGE, TO MAKE LNB WORKING AT HORIZONTALITY AND VERTICALITY. 18V IS HORIZONTAL POLARIZATION (H), AND 13V IS VERTICAL POLARIZATION (V).

4.7) IF_2 PARAMETER: THE SAME AS IF_1.

4.8) IF_3 PARAMETER: THE SAME AS IF_1

4.9) IF_4 PARAMETER: THE SAME AS IF_1

TO BE SURE, IF THERE ARE NOT IF_2,3,4, THE LCD PANEL WILL SHOW "NO EQUIPMENT", AT THE SAME TIME, LED IN THE RIGHT OF LCD GOES OUT. THE RIGHT IF_1,2,3,4 LIGHT WILL BE ON WHEN THE CHANNELS ARE PRESENT. IF THE LIGHT IS RED, IT MEANS IF MID-FREQUENCY IS NOT INPUT OR THE POWER IS NOT UP TO STANDARD. AND IF THE LIGHT IS GREEN, IS MEANS IF MID-FREQUENCY IS NORMAL.



PICTURE (4)

THE CIRCUIT, WHEN DETECTING POWER IS IN THE NORMAL RANGE, THE LCD DISPLAYS NORMAL VALUE OF EVERY POWER.

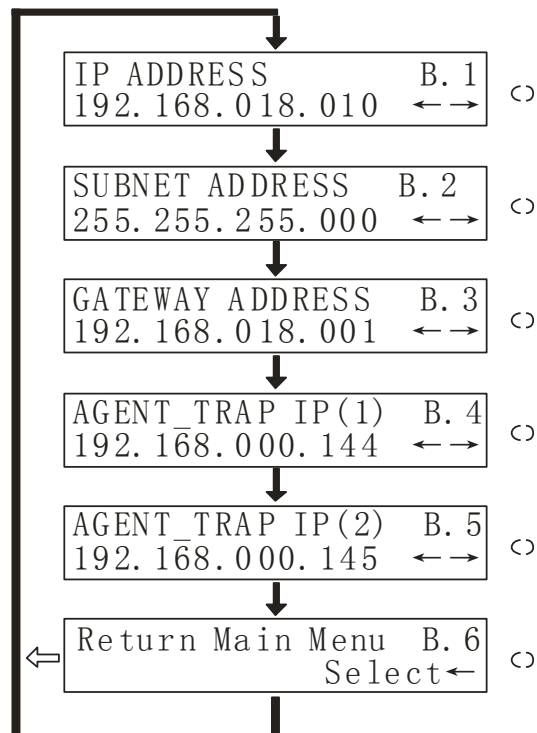
4.B) SETTING IP ADDRESS:

FIGURE (I) PAGE "3". IN THE CURRENT PAGE CLICK THE BUTTON "▼" TO SEARCH AND CONFIGURATION NET (IF YOU DIDN'T PURCHASE THE N

4.A) QUERY THE PARAMETERS OF POWER:

FIGURE (I) IN PAGE "2". IN THE CURRENT PAGE CLICK THE BUTTON "<" TO QUERY THE PARAMETERS OF POWER. AS SHOWN IN FIGURE (3):

THE SUPPLY VOLTAGE TESTING THE CIRCUIT (+5V, -5V, +24V, +8V): LASER IS A MORE EXPANSIVE DEVICE, IN ORDER TO ENSURE IT CAN OPERATE SAFELY AND RELIABLY, THE NORMAL CIRCUIT SUPPLIED BY POWER IS A PREREQUISITE. SO THE ADDITIONAL MICROPROCESSOR IN THE MACHINE MONITORS



PICTURE (5)

NETWORK TRANSPONDERS, YOU CAN SKIP THIS STEP)

IN THE LAN, THIS MACHINE SHOULD BE ASSIGNED AN IP ADDRESS AND RELATED INFORMATION. CLICK "▼" TO ENTER "NETWORK CONFIG. A" AND CLICK "▲" TO ENTER IN FIGURE (4) THE FLOWCHART SHOWN IN PAGE 3.1.

4.B.1) SETTING IP ADDRESS:

PRESS KEY "▲" TO ENTER THE FIRST IN PARAGRAPH I OF IP ADDRESS, CLICK "▲" THE NUMBER INCREASES, CLICK "▼" NUMBER DECREASES, AFTER THE NUMBER IS SELECTED WELL, PRESS "<>" KEY TO ENTER THE SECOND SETTING, AND SO ON. IF THERE IS ONLY ONE PARAGRAPH, THE FRONT FIGURES ARE 0.

4.B.2) MASK:

CLICK "▼" TO ENTER THE FOLLOWING SEQUENCE FLOW CHART ON PAGE A.2, GENERAL EQUIPMENT HAS BEEN SET "255.255.255.000" IN THE FACTORY, SO ADJUSTMENT IS UNNECESSARY.

4.B.3) DEFAULT GATEWAY: SETTING METHOD IBID.

4.B.4) THE PREFERRED DNS SETTINGS: SETTING METHOD IBID.

4.B.5) ALTERNATE DNS SETTINGS: SETTING METHOD IBID.

7 NETWORK MANAGEMENT APPLICATIONS

HFC NETWORK MANAGEMENT SYSTEM, HAS ALWAYS BEEN A DIFFICULTY THAT CONCERNED BY USERS AND MANUFACTURERS. IMPORTED EQUIPMENT IS GENERALLY CLAIMED WITH A NETWORK MANAGEMENT SYSTEM WHICH IS BASED ON INDUSTRY STANDARD RS232 OR RJ45 INTERFACE. IN ORDER TO ACHIEVE THE NETWORK MANAGEMENT, THE USERS NEED TO PURCHASE HIGH-COST PRIVATE NETWORK MANAGEMENT SOFTWARE. AND EACH MANUFACTURER'S SOFTWARE IS NOT COMPATIBLE WITH EACH OTHER. TO ACHIEVE NETWORK MANAGEMENT IS VERY DIFFICULT. AT PRESENT THERE ARE NO NEWS REPORTS ABOUT AVAILABLE NETWORK MANAGEMENT IN DOMESTIC SYSTEM. IF ADOPT THE SNMP, THE USERS ALSO NEED TO PURCHASE SPECIALIZED NETWORK MANAGEMENT SOFTWARE AND THERE ARE INCOMPATIBLE ISSUES BETWEEN MANUFACTURERS. MANY DOMESTIC MANUFACTURERS ALSO CLAIM THAT THEIR EQUIPMENTS HAVE A NETWORK MANAGEMENT SYSTEM OR ARE COMPATIBLE WITH THE AM COMPANY NETWORK MANAGEMENT SYSTEM. BUT THE DEVICE'S RJ45 OR RS232 INTERFACE IS BASICALLY VACANT AND CANNOT ACHIEVE THE NETWORK MANAGEMENT FUNCTIONS.

OUR COMPANY IS THE WELL-KNOWN MANUFACTURERS IN THE CABLE BROADBAND OPTICAL TRANSMISSION SYSTEM. WE HAVE BEEN CONCERNED ABOUT HOW TO USE THE MOST ECONOMICAL AND MOST CONVENIENT WAY TO ACHIEVE THE NETWORK MANAGEMENT IN THE CABLE BROADBAND NETWORKS. NOW THE ESV6.0 NETWORK MANAGEMENT SYSTEM LAUNCHED BY OUR COMPANY IS A NEW NETWORK MANAGEMENT CONCEPTS BASED ON THE SNMP / TCP / IP PROTOCOL.

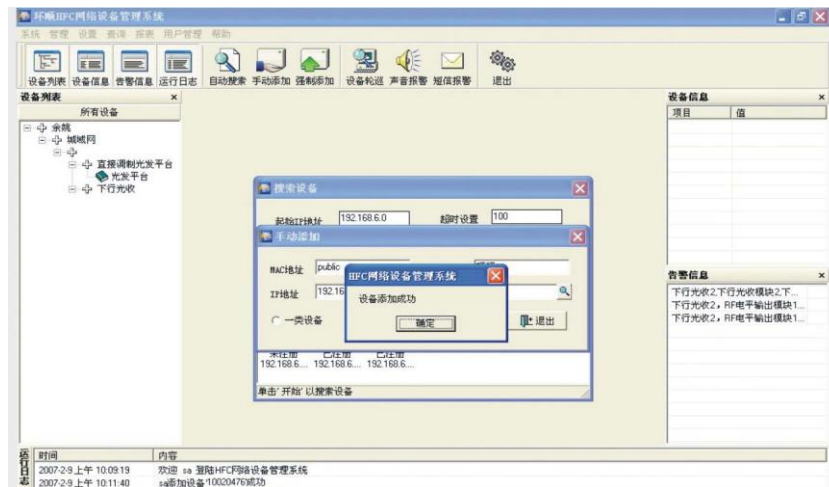
7.1) INTERFACE OF INTEGRATED WORK OF THE MONITOR SERVER

AFTER PLUGGING THE OPTIONAL TRANSPONDER, THE MACHINE HAS THE FUNCTION OF NETWORK MANAGEMENT, JUST NEED TO CONNECT THE RJ45 INTERFACE SIGNALS TO THE LAN, AND CONNECT TO THE MAIN SERVER FROM ANY OF THE LAN ETHERNET PORT., THEN SET UP IP ADDRESSES, ACCORDING TO THE METHOD IN 4.A ETC. SO WE CAN MONITOR THE MACHINE'S RUNNING CONDITION

ONS AT REAL TIME WHEN THE NETWORK MANAGEMENT SYSTEM IS RUNNING.



7.2) SEARCH INTERFACE OF THE EQUIPMENT



8 THE NOTES ABOUT OPTICAL CONNECTION

8. 1) BEFORE YOU CONNECT THEM, CAREFULLY CLEANING ALL THE FIBER OPTIC CONNECTORS AND CONNECTORS

CLEANING GUIDE:

8.1.1) FIBER OPTIC JUMPER

- ✧ REMOVAL THE DUST CAP OF FIBER OPTIC CONNECTOR, PAY ATTENTION TO CONFIRM THE OPTICAL CONNECTOR IS A APC SURFACE;
- ✧ THE TIPS OF CLEANING FIBER OPTIC CONNECTOR IS TO USE A DEDICATED AND DRY CLOTH WITHOUT VELVETEEN (THE COMPANY 5KIMWIPES ®'S FINE CLOTH); IN ADDITION, PREFERABLY ADOPT SPECIAL MICROSCOPE (AT 100 TIMES, 200 TIMES) TO CHECK THE CLEANLINESS OF FIBER OPTIC CONNECTOR SURFACE OR BLEMISH.

- ✧ PAY ATTENTION TO MAINTAINING THE FIBER OPTIC CONNECTORS IS CLEAN;
- ✧ FIBER OPTIC CONNECTORS (FLANGE) IS CLEAN;
- ✧ YOU CAN USE A DEDICATED COMPRESSED GAS TO CLEAN THE SURFACE OF FIBER OPTIC CONNECTOR;
- ✧ YOU CAN REMOVE THE DUST WHICH IS LESS THAN 0.2 MICRONS, BETTER WITHOUT RESIDUE;
- ✧ HOLD THE TANK OF COMPRESSED AIR FROM THE CONNECTOR ABOUT 6 INCHES, ALIGNMENT FLANGE, AND PRESS THE NOZZLE SWITCH SHORTLY TIMES, SO YOU CAN CLEAN THE CONNECTOR COMPLETELY;
- ✧ IF THERE IS NO DEDICATED COMPRESSED AIR, THE 2.5 MM COTTON SWAB FOR CLEANING CAN ALSO BE USED TO CLEAN THE OPTICAL TRANSMITTER CONNECTORS, OR REMOVE THE FLANGE AND CLEAN THE OTHER SIDE OF THE OPTICAL FIBER JUMPER CONNECTOR DIRECTLY ;

NOTE: WHEN HANDLING FIBER OPTIC CONNECTORS MUST BE VERY CAREFUL TO AVOID DAMAGE.

8.1.2) USING THE OPTICAL FIBER JUMPER TO CONNECT THE OUTPUT OF OPTICAL TRANSMITTER TO THE OPTICAL POWER METER;

8.1.3) USING THE OPTICAL POWER METER TO CHECK THE OUTPUT OF THE TRANSMITTER OPTICAL POWER IS WITHIN NORMAL LIMITS;

9 OTHER NOTES

9.1) THE MACHINE SHOULD HAVE A GOOD GROUNDING, GROUNDING RESISTANCE SHOULD BE SMALLER THAN 4Ω. ACCORDING TO INTERNATIONAL STANDARDS, 220VAC LINE ADOPT THREE-WIRE SYSTEM, THE MIDLINE IS GROUNDING WIRE.

9.2) THE MACHINE SHOULD BE SET UP IN AN ANTI-HOT, ANTI-COLD, ANTI-WET ENVIRONMENT, SO AS TO AVOID EXCESSIVE TEMPERATURE AND HUMIDITY AFFECT THE USE LIFE OF MACHINE.

9.3) THE MACHINE ADOPTS HIGH-PERFORMANCE, HIGHLY RELIABLE SWITCHING POWER SUPPLY WITH CONSTANT VOLTAGE AND OVER-CURRENT PROTECTION. IN THE RIGHT OF SWITCHING POWER SUPPLY, THERE IS 1A IMPORTED FUSE THAT CAN BE WORK AT 85VAC ~ 265VAC ELECTRICAL LINE.

9.4) TO ENSURE THE OPTICAL RETURN LOSS ≤ 45DB, THIS MACHINE'S OPTICAL CONNECTORS ADOPT FC / APC, OTHER MODELS (SUCH AS FC / PC) COULD NOT BE PICKED. THE CONNECTOR SHOULD BE INSTALLED TO KEEP CLEAN. YOU SHOULD USE ETHANOL AND DEFATTED COTTON WOOL TO WIPE AFTER PLUG REPEATEDLY.

9.5) ONCE THE LASER TRANSMITTER ENTER THE WORK STATE, BECAUSE THE LIGHT SIGNAL INPUT(PUMP LIGHT INPUT) IS QUITE HIGH LIGHT OUTPUT FOR PUMP LIGHT, THE EYE CANNOT LOOK DIRECTLY AT THE LIGHT INPUT FROM THE BACK PANEL OF THE MACHINE IN ORDER TO AVOID THE LASER BEAM BURNING THE HUMAN EYE RETINA.

10 THE SCOPE OF THE PRODUCT WARRANTY

THE COMPANY'S QUALITY ASSURANCE SYSTEM INCLUDES EQUIPMENT TESTING AND INSPECTION OF OPERATIONAL PROCEDURES TO ENSURE THE RELIABILITY OF PRODUCT QUALITY. PRIOR TO THE PRODUCT EXPORTING FROM THE COMPANY, WE ADOPT ALL POSSIBLE MEASURES TO MAKE THE ELECTRICAL, OPTICAL, MECHANICAL AND OTHER INDICATORS OF PRODUCTS REACHED THE STANDARDS PROMULGATED. THE COMPANY REQUIRES THE USER TO MONITOR ON-SITE INSPECTION AND ASSEMBLY; THE TESTING PERSONNEL SHOULD CARRY OUT RELATED OPERATIONS IN STRICT ACCORDANCE

NCE WITH THE PREVENTIVE MEASURES FORMULATED WHEN THEY OPERATE AND TEST OPTICAL STATIC SENSITIVE DEVICES.

10.1) WARRANTY RULES

FOR USERS' FIRST-HAND PRODUCTS, THE COMPANY REPAIRS THEM IN THE AREA OF MATERIALS AND MANUFACTURING PROCESSES FREE IN A YEAR SINCE USERS PICK UP THEM.

USING THIS PRODUCT, PLEASE FOLLOW THE REQUIREMENTS ON THE INSTRUCTIONS STRICTLY, DO NOT ARBITRARILY CHANGE. IN THE WARRANTY PERIOD, THE USER CAN NOT BREAK THE SEAL, AND THE INTERNAL CIRCUITRY CANNOT BE CHANGED. IF THE PRODUCT FAILS TO REACH THE QUALITY REQUIREMENTS OR EXPERIENCE PROBLEMS TO BE SOLVED, PLEASE RETURN THE PRODUCTS TO THE COMPANY, WHICH WILL HANDLE ACCORDING TO THE WARRANTY PROVISIONS.

IN THE WARRANTY PERIOD, USERS HAVE THE RIGHT TO REPAIR OR REPLACE THE DEFECTIVE PRODUCT CONFIRMED BY THE COMPANY. HOWEVER, THE ABOVE PROVISION IS CONSIDERED INVALIDLY TO CHANGE OWNERSHIP, OR THE IRREGULARITIES CAUSED BY USE, STORAGE, TRANSPORT, ASSEMBLY OR ACCIDENTS.

10.2) ASSURANCE FOR SPECIFIC PRODUCT AND GUIDE TO REPAIR

ALL PRODUCTS ARE PRODUCED ACCORDING TO HIGH-QUALITY STANDARDS TO ENSURE THAT AVOID THE FAILURES IN TECHNOLOGY, MATERIALS AND EXTERNAL FRAMEWORK, ETC. IF REQUESTS MAINTENANCE OR RETURN FAULTY EQUIPMENT, THE USER SHOULD RAISE WITHIN 30 DAYS ON RECEIPT OF GOODS OR IN THE WARRANTY PERIOD, PLEASE FOLLOW THE FOLLOWING PRINCIPLES:

10.2.1) YOU SHALL RETURN THEM AFTER YOU RECEIVE THE RECYCLING SINGLE ISSUED BY THE COMPANY'S SALES DEPARTMENT. WHEN YOU APPLY RETURN, PLEASE ATTACH THE DEVICE MODEL, SERIAL NUMBER AND RETURN REASONS, AND REQUESTED PREPAY RETURN SHIPPING. IF YOU DO NOT PAY THE FREIGHT IN ADVANCE NOR RECYCLING SINGLE, THE COMPANY WILL NOT RECEIVE.

10.2.2) BEFORE THE REPAIR, THE COMPANY WILL INFORM THE USER ABOUT THE EQUIPMENT TEST RESULTS AND MAINTENANCE COSTS (GENERALLY ABOUT THE FAILURE CAUSED BY THE USERS OR ISSUES WHICH DO NOT MEET THE WARRANTY CONDITIONS). IF THE RETURNED FACILITIES FULLY MEET THE QUALITY REQUIREMENTS AND DON'T NEED TO REPAIR, OR THE USER DOES NOT REQUIRE REPAIRS OUTSIDE OF WARRANTY SERVICE, USERS HAVE TO PAY THE BASIC FEE. ONLY WHEN THE USER ACKNOWLEDGES ALL THE COSTS OF MAINTENANCE, THE COMPANY WILL CARRY OUT REPAIRS. SIMILARLY, ONLY WITH THE USER'S CONSENT, THE COMPANY WILL BE ABLE TO REPLACE EQUIPMENT PARTS (SUCH AS CONNECTORS), WHICH IS VERY NECESSARY TO THE COMPANY'S TESTING AND REPAIR.