

USER MANUAL OF TETRA CHANNEL SELECTIVE RF BDA

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 Website http://www.tspd.com.tw

 ADD:11169 2F,No 141,Fu-Gang St. Taipei ,Taiwan
 TEL:+886-2-28828979
 FAX:+886-2-28829196
 E-mail: sales@tspd.com.tw

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1. HOW TO USE THIS MANUAL

1.1 INTRODUCTION

It is recommended that you read this manual prior to installing and using the TETRA RF BDA. This manual gives you a complete guide for how to mount, operate and maintain the product, the installation & maintenance engineers of Operator and other personnel concerned.

1.2 STRUCTURE

This manual describes the basic product and provides overall and detailed functional descriptions of the BDA. Also, this manual describes how to make survey, install and operate the equipment. The manual is divided into 4 chapters. The overall contents of this manual are as follows:

Chapter 1 - How to Use This Manual

Chapter 2 - Product Description / Operation

Chapter 3 - Safety

Chapter 4 - Site Survey, Installation & Commissioning

1.3 PRIOR TO INSTALLATION

A thorough study of the site conditions and transmission path requirements should be undertaken prior to installing the BDA system. The location of antennas, BDA and cable lengths are all important considerations that must be addressed.

The BDA has been designed for simple easy installation requiring no special tools. With just a few site preparation tasks out of the way, installation can be accomplished in several hours.

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2. PRODUCT DESCRIPTION / OPERATION

2.1 INTRODUCTION

This chapter provides an overall description and operation of the BDA system. This system may be used to address Network Coverage Enhancements such as those required by Operators.

The BDA system provides a solution to network coverage problems by allowing a variety of possible operating configurations in frequency Channel covered. In addition, the system can be deployed easily with less investment cost. The BDA can be installed indoor and/or outdoor; it can be mounted in tower, wall, and floor to satisfy the requirements of different applications.

2.2 BDA SYSTEM FEATURES

Some of the BDA system features are listed below.

- Aluminum-alloy casing with IP65 protection has high resistance to dust, water and corrosion
- Channel-selective function can amplify only the signals transmitted by the customized 2 channels
- Adopting filter with highly selectivity and low insertion loss eliminates interference between uplink and downlink
- USB port provides a link to a laptop for local test or IP Based NMS (Network Management System) that can remotely supervise BDA's working status and download operational parameters to the BDA via Ethernet

2.3 EQUIPMENT DESCRIPTION

The TETRA RF BDA is designed to provide a more cost-effective solution than adding a new Base Transceiver Station (BTS) to improve signal coverage and communication quality in TETRA system. And its easy installation and maintenance can help carrier get fast return.



Figure 2 - 1 Typical BDA

The BDA is an aluminum-alloy casing enclosure that houses all the components shown in Figure 2-3 (Block Diagram). It is working as a relay between the BTS and mobiles. It receives the low-power signal from BTS via the Donor Antenna, linearly amplify the signal and then retransmit it via the Coverage Antenna to the poor coverage area. And the mobile signal is also amplified and retransmitted to the BTS via the opposite direction.







3. SAFETY

3.1 INTRODUCTION

The purpose of this chapter is to give emphasis on the safety on which we divided into four categories, namely:

- Personal safety
- Safety of fellow workers
- Safety of the public
- Safety of equipment and tools

Working on heights or elevated structures is potentially hazardous for person whether directly or indirectly involved in the work. Having a safety guidelines or procedure can minimize or eliminate these hazards. With this, we considered the below mentioned requirements before actual implementation, they are as follows:

- Thorough planning
- Strict supervision
- Personal fitness of workers
- Right tools and safety gadgets

3.2 GENERAL

3.2.1 COMMENCEMENT OF WORK

In majority, work on Tower site will be on the property not owned by the Operators; mostly it is located in vacant lot near residential areas or building rooftops. With this, it is necessary for the team that will be involved in the project to conduct a survey to make a detailed planning prior to actual work commencement.

3.2.2 SUPERVISION

Strict supervision by the Project Team Leader / Supervisor is always a must particularly for those who will climb the tower or will work in heights. It is the responsibility of the Team Leader/Supervisor to make sure that all safety measures are taken prior and during work activity.

Persons involved in climbing tower must be aware that once climbing has commenced, there are changes like wind velocity. Working on tower and high level requires a level of physical fitness and working on this must be voluntary.

Factors to be considered that may stop the workers or not proceed in climbing towers:

- Tower construction is not completed
- Tower is not earthed
- Wet paint
- Rain
- Risk of lightning
- High winds
- Poor visibility

If personnel are already working on tower, they must be alert for any sudden change in weather conditions. If sudden change in weather is encountered, personnel working must stop and descend immediately.

4. SITE SURVEY, INSTALLATION & COMMISSIONING

4.1 INTRODUCTION

Every successful installation is attributable to a right planning and right planning cannot be done without actual site survey. Hence, we will discuss in this chapter the basic site survey procedure, installation and commissioning guidelines in implementing a BDA system. The step-by-step guidelines and procedure will allow installation personnel to provide efficient, safe, fast and reliable BDA system installation.

4.2 SITE SURVEY

4.2.1 PREPARATION

Tools / equipment needed in a Site Survey:

- Yagi Antennas
- Test Mobile
- Safety Belt
- Binocular
- Meter Tape
- Spectrum Analyzer
- Signal Generator
- Extension Cord
- Laptop with Local Test Program
- Data Cables (to connect BDA with PC)
- RF Cable
- Jumper cables
- Connectors and Adapters
- Pole / Pipe
- Attenuators
- Multimeter

The objective of the site survey is to gather data that will be the basis of right planning and successful implementation. A sample survey form is attached (Figure 4-1) in the next page, which will provide uniformity in reporting, and you may add other data that you might think is helpful.

Table 4-1 Site Survey Form (Sample)

GENERAL

BTS Frequency	
Channel No.	
Service Type	Outdoor
Obstruction	Exist?

INSTALLATION SITE

BTS Name (picture)			
BTS Signal Level / Ch. No.	1#	2#	3#
BDA position			
Coordinate	S:	E:	
Tower (picture)	Туре	Height	
Donor Antenna	Туре	Position	
Donor Signal	Ch. No.	Level at	
Coverage Antenna	Туре	Number	
		Position	
Cable Length	1/2":	7/8":	
Power Type			
Grounding	Exist?		
Coverage area (picture)			

REMARKS

4.2.2 PROCEDURES

- 1. At the installation site, use the GPS to measure the coordinate of the installation site, and record the detailed address of the site.
- 2. Install the Yagi Antenna at the specific tower height.
- 3. Connect Yagi Antenna to the Spectrum Analyzer via jumper cable.
- 4. Rotate the Yagi Antenna 360 degree within the horizontal plane and read the RSL on the Spectrum Analyzer. Record the RSL, frequency (channel no.), and antenna orientation when the RSL reading is higher than -65dBm and it is the most dominating channel (6dB higher).
- 5. Check the height of tower (or building) and take photos if the Donor Antenna and Coverage Antenna are desired to install on a building.
- 6. Measure the distance between the BDA and Donor Antenna, and the distance between BDA and Coverage Antenna.
- Determine the BDA installation position, power supply position, lightning-proof grounding board position. Take photos.
- 8. Check the direction of coverage area and take photos.
- 9. Submit the survey report to the operator then confirm which channel no. and antenna orientation in the report will be adopted.

4.3 INSTALLATION

This section will discuss the proper and easiest way to implement and install the BDA system. Right planning and tools will be the benchmark in every successful installation.

4.3.1 PREPARATION

Tools and Equipment needed:

- Antennas (the type and quantity are based on the design)
- Site Master
- Extension cord
- RF Cable
- Jumper cables
- Connectors and Adapters
- Pole/Pipe
- Safety Belt
- Binocular
- Meter Tape
- Adjustable wrench
- Electric Drill
- Rope
- Pulley

4.3.2 PROCEDURES

1. At the installation site, install the BDA as per specified plan and site layout. The BDA can be wall-mounted or pole-mounted using the brackets as shown below.



Figure 4-1 BDA Mounting Bracket

- 2. Connect the BDA to the grounding board.
- 3. Install the Donor Antenna and Coverage Antenna as per the specified plan and site layout.
- 4. Use Site Master to measure the VSWR of the RF cables from the Donor Antenna and Coverage Antenna. The value should be less than 1.5; Otherwise, check the connectors and the installation of the cable.
- 5. Connect the power supply to the BDA.
- 6. Start commissioning the BDA (see <u>Section 4.4.2</u>).

4.4 COMMISSIONING

This section guides you to put the BDA system into active service.

4.4.1 PREPARATION

Tools and Equipment needed:

- Spectrum Analyzer
- Test Mobile
- Laptop with Local Test Program
- USB cable (to connect BDA to laptop)
- Attenuators

4.4.2 PROCEDURES

- 1. Connect the RF cable from Donor Antenna to the spectrum analyzer and check if the Donor Antenna is receiving the correct frequency; And then measure the signal level of the said frequency (RSL). Adjust the antenna to make the readings approach the recorded value on the survey report. Record all readings.
- 2. Turn ON the BDA.

4.4.4 LOCAL SET UP-USB

Connect your laptop to the BDA via the USB cable and follow below steps (parameters listed below are filled mandatory, remained are defaulted or user defined):

- a. To install NMS software and USB drivers, the name of the USB cable driver is USB_Drivers_for_EC21&EC25
- b. Startup the Test Program (NMS), fill the Username with "Admin", the password with "123456", and then
 Login. From the later pop-up dialog click the **Config Data** tab and choose the **COM Parameters**.

Username Admin	
Password ••••••	
Login	

NMS															-	σ×
Base Data Co	nfig Data Site Poll Lo	g Manager	ment Tools He	dp.												
	Protocol Parameters			1												
	System Parameters															
	COM Parameters						1	10	0	1						
	Telephone Number		rpeater Info	Monitor Info	Alarm Info	Alarm Enable	🕼 RF Para.	RF Status	Q Misc Status							
4 🏫 Site	Email Address		ameter Nar	ne	Local Value	Remote	a Value	Unit	Date Time	Status						
ASG	Office															
4 📃 SZ																
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Operating Site		N	lo. Message1	ype Content										T	ime	
Site ID		1	Informatio	n Login system										20	022/7/13 10:29	±07
Device Type																
NMS Modem N	io.															
Repeater Mode	em No.															
Commu. Mode																
Operator: 🤱	Admin Port:	4	Today	2022/7/13									AL	arm Count: 🎈	0 9 0 1	Q Clear
							_				 					

From the pop-up dialog, configure the **Com Parameters**, tick this check box and select **RS232**, then click the **Config** button, choose the correct Com port from your PC(select the COM Port with the NAME **Quectel USB NAME Port**), set **Baudrate** to **9600**, and set the **Timeout** to **180**. Then click the start button from tool bar.



c. Right click the Site List, and choose New / Area to create a new area.

MMS														-	o ×
Base Data Config	Data Site Poll Log Mana	agement Tools H	lelp												
0	۵ 🖬 🍪	. 🕐 🕑													
	Q 0 0	Repeater Info	Monitor Info	Alarm Info 🛛 🛃	Alarm Enable	🕼 RF Para.	RF Status	Q Misc Status							
🖌 🏫 Site List		Parameter Na	me	Local Value	Remote	Value	Unit	Date Time	Status						
M1	New +	Area		0	0			2022/7/13 10:10:14	None						
ASC	CSD Connect	BTS		0	0			2022/7/13 10:10:14	None						
* E SZ	CSD Disconnect	Site	er	ATLS33E4-3	ATLS33E	E4-3		2022/7/13 10:10:14	None						
~ 0	Get MOID	Product SN						2022/7/13 10:10:14	None						
	out mole	Actual Channel	el Counts	0	0			2022/7/13 10:10:14	None						
	Export MOID	Longitude					•	2022/7/13 10:10:14	None						
	Import MOID	Latitude					•	2022/7/13 10:10:14	None						
	Delete	FW Version		ATEJA4d220628V	2.0 ATEJA4d	d220628V2.0		2022/7/13 10:10:14	None						
Ouncilies Sta		in Insuiry No. Massane	نې set Ture Content								Al V	Multi	S Invert	Clear me	Espot
Operating Site	0	2 Informati	on Open the resid CC	M10 port of current	and all a								100	22/7/13 10-20	59
Site ID	0-255	2 Information	on Upen the serial CC	JM10 port of succe	Isstully								20	22/7/13 10:30	59
Device Type NMS Modern No. Repeater Modern N Area Address Commu. Mode	Wideband Repeater	1 Information	on Login system										20	22/7/13 10:29	07
Operator: 🔔 Adm	nin Port: 🐇 🖸	OM10 Today:	2022/7/13									A	arm Count: 🎈	0 9 0 1	Q Clear

From the pop-up dialog, click the Create Button. Fill any number with 2 digits in the Area Code, and input the Area Name, click OK to save.

Area Infor	mation		
Keywords.	•	Q Search	🕂 Create 📝 Edit
Code	PID	Name	Date
65	0	M1 Singapore	4/3/2022 3:20:56 pm
88	0	ASG Office	4/3/2022 3:21:12 pm
1	0	SZ	2022/5/5 10:08:02
		Area Code Area Name	

d. Right click the created area name from Site List, and choose New/Site to create a new Repeater.



From the pop-up dialog, configure the new site (repeater) properties as below: select **Protocol 2G** for **Protocol Type**, choose the correct **Main Equipment Type** according to your actual repeater type, fill any number with 8 digits in the **Site ID**, and "**255**" in the **Sub ID**, then click **OK** to save settings.

Create New Site	×
Protocol Type	Protocol 2G v
Main Equipment Type	1. Wideband Repeater v
Sub Equipment Type	~
Area	SZ
Site Id	0
Sub Id	255
Site Name	DEMO
Sub Site Count	0 ~
~ (DK Cancel

e. After above steps, right click created the Repeater name from Site List, then select Local RS232 for
 Communicate Mode, choose the correct COM Port for Serial Port(select the COM Port with the NAME
 Quectel USB Name Port), and then click OK.

🧼 NMS									
Base Data	Base Data Config Data Site Poll Log Manageme								
Site	ASG Office								
	CSD Disconnect								
	Get MOID								
	Export MOID								
	Import MOID								
	Delete								
	Properties								
	#1								
Site Properties		×							
Site Id [Decimal]	0								
Sub Id [Decimal]	255								
IP Address									
Port	0								
NMS Modem Number									
Kepeater Modem Number	DEMO								
Area Address									
Device Type	1. Wideband Repeater	~							
Communicate Mode	0.Local RS232	~							
Serial Port	COM10	~							
Factory		~							
[V OK								

f. Right click the **Repeater name** from **Site List**, and select **Get MOID**.



MMS																		o ×
Base Data Config Data	Site Poll	Log Mana	igement Tools Help															
0)	1	。 😮 🙂															
	Q	0 0	Repeater Info	Monitor Info	Alarm Info	Alarm Enabl	RF Para	RF Status	Q Misc Status									
Cite List				· · · · ·		-		11-2	Data Tara	C								1
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4 💽 SZ			Medel Number		0					None								
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			Actual Channel Cau	-	0			_		None								
			Actual Channel Cou	nts	0					None								
			Latitude		E1					None								
					0			_		Nene								
			PW Version		10					rvone								
			🔘 Inquiry 🐧	, Set				Prompt	oid list successfully 適定					IA 🐦	Multi	Invert	Ceer	Espot
Operating Site		0	No. MessageType	Content		_	_				-	-				Time		
(1) (0)		-	12 Receive	-01010000000	FF0600001020	004030000F2D2-										2022	/7/13 10:35:41	^
Site ID 0	0-255		11 Send	~01010000000	FF0600800102F	F04030000DC75-										2022	/7/13 10:35:41	
Device Type	mdeband	Repeater	10 Receive	~01010000000	FF0500001020	03109000404040	A050A060A070/	A0B0A0C0A0D0A	0F0A120A140AD00	4D104D204D304B0	00481048204	8304A304A6	04A704AA044E50~			2022	/7/13 10:35:41	
NMS Modern No.			9 Send	~01010000000	FF0500800102F	F050900040472C	4~									2022	/7/13 10:35:41	
Repeater Modern No.			8 Receive	~01010000000	FF0400001020	03509000403120	4130440044104	50045104530454	045504560401050	20503050405050506	60508054005	42054805490	5800AFD04030A2	4DA~		2022	/7/13 10:35:41	
Area Address			7 Send	~010100000000	FF0400800102F	F0509000403DCF	iC~									2022	/7/13 10:35:41	
Commu. Mode	KS232		6 Receive	~01010000000	FF0300001020	03509000402010	2020206020002	0D02100211021	2021302140228020	1030203060300030	0D031003110	31203130314	032803100411043	FFA~		2022	/7/13 10:35:41	
			5 Send	~01010000000	EE0300800102E	E0509000402405	5~									2022	/7/13 10:35:41	
Operator: 🔔 Admin		Port: 🚸 🖸	DM10 Today: 2022	2/7/13											A	larm Count: 🎈	Q 💡 Q 📢	Q Clear

When Get MOID successfully, there will be display as below Prompt: Get moid list successfully

- g. After Get MOID, the parameters of BDA/Repeater are open as below:
- a) To query the BDA/Repeater Info, first choose the **Repeater Info** page; click the **All** and then the **Inquiry** button.

MMS						-
Base Data Config Data Site Poll Log Man	agement Tools Help					
0 🖉 🐸 🚨	20					
Q 0 0	Repeater Info	📕 Monitor Info 🛛 🔬 Alarm Info 🛛 🛃 Alarm	Enable 😧 RF Para. 🔕	RF Status Q Misc Status		
🔺 🕋 Site List	Persmeter Name	Local Value	Remote Value Un	nit Date Time	Status	
4 SZ	Manufacturer	19	19	2023/6/28 9:19:26	Success	
LOCAL SETUP(0+255)	Device Type	1	1	2023/6/28 9:19:26	Success	
* 1- demo_lor(1-0)	Model Number	GSPR-400-40W90	GSPR-400-40W90	2023/6/28 9:19:26	Success	
	Product SN	2307201	2307201	2023/6/28 9:19:26	Success	
	Actual Channel Cou	unts 1	1	2023/6/28 9:19:26	Success	
	Longitude	E1	E1 -	2023/6/28 9:19:26	Success	
	Latitude	N1 ATESA 14/2104070/2 1	N1	2023/6/20 9:19:20	Success	
	W Version	ALE341021040792.1	ATESA1021040792.1	2023/0/20 3:19:20	Success	
Counting Sta	i i inquiry de	, ser				✓ Al ♥ Multi ♥ Invert ♥ Clear ● Export
Operating Site	No. Messagetype	Content	4020001170400475250522	02420202024205729200000000	0000170500222220272220210000000000000000	000117070045210000000000000000000000000000000000
Site ID 0-255	16 Send	~01010000000FF0300800102FF04020000	4030000170400000000000	000000000000000000000000000000000000000	000170500000000000000000000000000000000	000170700000000000000000000000000000000
Device Type Wideband Repeater	15 Receive	~01010000000FF07000001020004030001	96AD~			2023/6/28 9:19:17
NMS Modern No.	14 Send	~01010000000FF0700800102FF04030000	191A~			2023/6/28 9:19:17
Repeater Modern No.	13 Receive	~01010000000FF06000001020015090005	05D304D404D504D604D704	4F404F504800AE8C7~		2023/6/28 9:19:17
Area Address	12 Send	~01010000000FF0600800102FF050900050	15989F~			2023/6/28 9:19:17
Commu. Mode hococ	11 Receive	~01010000000FF05000001020035090005	04010AFD04030A040A050A	060A070A0B0A0C0A0D0A0F0A12	0A140AC004C104C204C304C404C504C604C704D004D104D2046	393~ 2023/6/28 9:19:17
	10 Send	~01010000000EE0500800102EE050900056	MARE7~			2023/6/28.9-19-17
Operator: 🔔 Admin Port: 🚸 🕻	COM4 Today: 2023	3/6/28				Alarm Count: 🌻 0 💡 0 💡 0 Clear
📫 O 🥐 🔚 🏐 📘	8					^ 19月日 ↓ 4 よう 英 2013/6/28 □

NMS														-	σ
ase Data Config Dat	ta Site Poll Log M	lanageme	ent Tools Help												
		3	Reneater Info	Monitor Info	Alarm Info 🛃 Alarm	n Enable 🔯 RF Para.	RF Status Q	lisc Status							
Site List			Parameter Name		Local Value	Remote Value	Date Time	Chatus							
4 🔝 SZ		হা	Site ID		0	0	2023/6/28 9:20:19	Success							
LOCAL S	ETUP(0-255)		Equipment Number		255	255	2023/6/28 9:20:19	Success							
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		1	Control Center Phon	ie No. 2	13530921579	13530921579	2023/6/28 9:20:19	Success							
		2	Control Center Phon	ie No. 3			2023/6/28 9:20:19	Success							
		2	Control Center Phon	ie No. 4			2023/6/28 9:20:19	Success					-		
		2	Control Center Phon	ie No. 5			2023/6/28 9:20:19	Success							
		\mathbf{V}	Report Phone No.(SI	M Card No. of NM	13530921579	13530921579	2023/6/28 9:20:19	Success					-		
		1	Monitor IP Address		47.106.8.20	47.106.8.20	2023/6/28 9:20:19	Success							
			Monitor IP Port		20750	20750	2023/6/28 9:20:19	Success							
		2	Remote Communica	tion Mode	UDP	UDP	2023/6/28 9:20:19	Success							
		1	Report Date		1970-01-01 00:01:43	1970-01-01 00:01:43	2023/6/28 9:20:19	Success							
			🌖 Inquiry 🛛 🐇	Set							V All	Multi	Invert 💞	of Clear	
rating Site	9	No.	MessageType	Content									Time	e	
	0.255	19	Receive	~01010000000FF	0400000102000701010	0000000040201FF17110	1283836313335333039	3231353739000000	000000171201313335333039323	1353739000000000000000	000017130100	000000000000	000000(202?	3/6/28 9:20:19	9
Type	Wideband Report	18	Send	~01010000000FF	0400800102FF07010100	00000000402010017110	100000000000000000000000000000000000000	000000000000000000000000000000000000000	0000001712010000000000000000	000000000000000000000000000000000000000	000017130100	000000000000	.0000000 202?	3/6/28 9:20:19	1
e type Modern No.	wideballu Repeau	17	Receive	~01010000000FF	0300000102000402001	30403000117040047535	0522D3430302D34305	739300000000000000	17050032333037323031000000	000000000000000000000000000000000000000	406000117070	045310000000	0000000 2023	3/6/28 9:19:26	5
ter Modern No.		16	Send	~01010000000FF	0300800102FF0402000	0403000017040000000	000000000000000000000000000000000000000	000000000000000000000000000000000000000	170500000000000000000000000000000000000	000000000000000000000000000000000000000	060000170700	000000000000	.0000000 202?	3/6/28 9:19:26	ś
Address		15	Receive	~01010000000FF	0700000102000403000	196AD~							2023	3/6/28 9:19:17	1
nu. Mode	R\$232	14	Send	~01010000000FF	0700800102FF04030000	0991A-							202?	3/6/28 9:19:17	1
		13	Receive	-01010000000FF	0600000102001509000	505D304D404D504D604	D704F404F504800AE8	27~					2023	3/6/28 9:19:17	1
		12	Send	~010100000000	0600800102880509000	S05989E						1	2027	3/6/28.9-19-17	1
ator: 🐍 <u>Admin</u>	Port:	<u>COM4</u>	Today: 2023,	/6/28								Al	arm Count: 🎈	0 9 0	0
			2 1/									~ 6	104 8	× M 🕺	20周

b) To query the Monitor Info, choose the **Monitor Info** page; click the **All** and then the **Inquiry** button.

To set the Monitor Info, tick the **Site ID**, **Monitor IP(The default IP address of the cloud NMS is 47.106.8.20)**, and double click the **Local Value** of them, then fill in the correct Value, finally click the **Set** button.

c) To query the Alarm Info, choose the Alarm Info page; click the All and then the Inquiry button.

Nata Config Dat	ta Site Poll Log Mar	nagement														
			Tools Help													
	🏐 🖪 🏅	6 (?														
	Q 0 0		epeater Info 💻	Monitor Info	Alarm Info	🕑 Alarm Enable 🛛 🕼 RF Para	a. 🔕 RF Status 🔍 N	lisc Status								
Site List		Par	ameter Name		ocal Value	Remote Value	Date Time	Status								
SZ		V Ma	ster Power Failure	e N	lormal	Normal	2023/2/21 11:46:16	Success								
LOCAL S	ETUP(0-255)	Pos	ver Module Alarn	n N	formal	Normal	2023/2/21 11:46:16	Success								
FIBER OF	PTIC BDA_MU(1-0)	V 00	er Temp. Alarm	N	lormal	Normal	2023/2/21 11:46:16	Success								
		VUL	PA Failure	N	formal	Normal	2023/2/21 11:46:16	Success								
		V DL	PA Failure	N	formal	Normal	2023/2/21 11:46:16	Success								
		🗹 Bar	nd1/ CH1 DL Ove	r I/P Alarm N	formal	Normal	2023/2/21 11:46:16	Success								
		✓ Bar	nd1/ CH1 DL Low	/ I/P Alarm N	formal	Normal	2023/2/21 11:46:16	Success								
		🗹 Bar	nd1/ CH1 DL Ove	r O/P Alarm	formal	Normal	2023/2/21 11:46:16	Success								
		🖌 Bar	nd1/ CH1 DL Low	O/P Alarm N	formal	Normal	2023/2/21 11:46:16	Success								_
		🖌 Bar	nd1/ CH1 DL PA V	VSWR Alarm N	lormal	Normal	2023/2/21 11:46:16	Success								
		🖌 Bar	nd1/ CH1 UL Ove	r O/P Alarm N	formal	Normal	2023/2/21 11:46:16	Success								
		V Do	or Open Alarm	A	Jarm	Alarm	2023/2/21 11:46:16	Success								
			i Inquiry	, Set								All	Multi	V Invert	Clear	
ş Site	0	No.	Inquiry 💰	s Set								Ali 🖌	Multi	Invert Tim	e Clear	
g Site	Q 0233	No. 22	Inquiny MessageType Receive	5 Set Content 01010000000FF06	0000010200	0401030004029300040503000	40C030004100300041005	00041103000	1203000413030004	14030004150300042	5030191A9~	Ali 🖌	Multi	Virvert Tim 202	e 3/2/21 11:46:1	16
g Site	0-255 Wideband Reporter	No. 22 21	Inquiry MessageType Receive Send	Set Contant -010100000000FF06 -010100000000FF06	0000010200 00900102FF	0491030004029300040603000 5491030004029300040603000	M0C030004700300041003	00041103000-000410000000000	1203000413030004	14030004 15030004	803019149~ 103005468-	ali 🗸	Multi	Vinvert Tim 202 202	e 3/2/21 11:46: 3/2/22 11:46:	16
Site re em No.	0-255 Wideband Repeater	No. 22 21 20	MessageType Receive Send Receive	5 Set Content -01010000000FF06 -01010000000FF06 -01010000000FF06	0000010200 009001020F 0000010200	0401030004020300040503000 400103000402030004053000 40010300000551182	40CC300040D0300041003	00041103000	1203000413030004	14030004 150300042 14030004 150300042	3030191A9~ 03003468~	ali 🖌	Multi	✔ Invert Tim 202 202 202	Clear e 3/2/21 11:46: 3/2/21 11:46:3 3/2/21 11:46:3	16
g Site pe fern No. Modern No.	Q 0-255 Wideband Repeater	No. 22 21 20 19	MessageType Receive Send Receive Send	, Set -0101000000FF06 -0101000000FF06 -01010000000FF05 -01010000000FF05	0000010200 00800102FF 00000102FF	94/115/004/201004/66/1000 94/115/004/201004/66/1000 94/20119001100051120	40C030004/D0300041003 40C030004/D0300041003	60041103000	H1203000413030004 1203000413030004	14030004 150300042 14030004 150300042	8030191A9~ 003005F68~	₩ Ali	Multi	✔ Invert Tim 202 202 202 202	Clear e 3/2/21 11:46: 3/2/21 11:46: 3/2/21 11:46: 3/2/21 11:46: 3/2/21 11:46:	16
g Site pe lem No. Modem No.	© 0-253 Wideband Repeater	No. 22 21 20 19 18	y Inquiry MessageType Receive Send Receive	. Set 	0000010200 00800102FF 0000010200 00900102FF	04/11/2004/2/2014/04/2/2014/04/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2/2014/2014	40CC3300040D0300041003 40CC330004DD0300041003 ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	00041103000-00041103000-0000000000000000	11203000413030004 1203000413030004 30000000001712010	14030004150300041 14030004150300042	8030191A9~ 003005F68~ 000000000000000000000000000000000000	✓ All 000171301000	Multi 000000000000000000000000000000000000	Invert Tim 2022 2022 2020 2020 2020 2020 2020 20	Clear e 3/2/21 11:46:1 3/2/21 11:46:0 3/2/21 11:46:0 3/2/21 11:46:0	16 16 05 03 03
g Site pe 4em No. Modem No. ress Mode	© -255 Wideband Repeater R5232	No. 22 21 20 19 18 17	MesageType Receive Send Receive Send Receive	Set Content -01010000000FF06 -01010000000FF05 -01010000000FF05 -01010000000FF04 -01010000000FF04 -01010000000FF04	0000010200 00800102FF 00000102FF 0000010200 00800102FF		MICC33004470330041003 44CC330004670330041003 10100000000000000000000000000	00041103000 00041103000	11 22300041 3030004 122350041 3030004 30000000007 17 20 10	1403000415030004 1403000415030004 00000000000000000000000000000000	8030191A9~ 003005F68~ 000000000000000000000000000000000000	▲II 000171301000 000171301000	Multi	Invert Tim 202 202 202 202 0000000 202 0000000 202	e 3/2/21 11/46:1 3/2/21 11/46:2 3/2/21 11/46:3 3/2/21 11/46:3 3/2/21 11/46:3	16 16 05 03 03 03
g Site pe dem No. Modem No. ress Mode	© 0-255 Wideband Repeater R5232	No. 22 21 20 19 18 17 16	Inquiry Message Type Receive Send Receive Send Receive Send Receive Send Receive	Set Content -01010000000FF06 -01010000000FF0 -01010000000FF0 -01010000000FF4 -01010000000FF4 -01010000000FF4 -01010000000FF4	0000010200 00900102FF 0000010200 00900102FF 0000010200 00900102FF 0000010200	AMP 103004 AC0 3000 AK-0100 AC0 103004 C0 3000 AK-0100 AC0 103004 C0 3000 AK-0100 AK-0100000000000000000000000000000000000	40/03/004/02/0004/10/0 40/03/004/02/0004/10/0 7 10/00000000000000000000000000000	00041103000-00041103000-0000000000000000	11 2/30004 1 3030004 1 2030004 1 3030004 1 300000000 1 7 1 20 1 0000000000 1 7 1 20 1	1403000415030004 1403000415030004 00000000000000000000000000000000	0030191A9~ 003005F68~ 	✓ All 000171301000 000171301000 060001170700	Multi 000000000000000000000000000000000000	Invert Tim 202 202 202 000000 202 20 202 20	Clear e 3/2/211146:1 3/2/211146:1 3/2/211146:0 3/2/211146:0 3/2/211146:0 3/2/211146:0	16 16 05 03 03 03
g Site pe 4em No. Modern No. ress	© 0-255 Wideband Repeater R5232	No. 22 20 19 18 17 16 15	Inquiry MessageType Receive Send Receive Send Receive Send Receive Send	Set Content -01010000000FF05 -01010000000FF05 -01010000000FF05 -01010000000FF03 -01010000000FF03 -01010000000FF03 -01010000000FF03	0000010200 00800102FF 0000010200 00800102FF 0000010200 00800102FF 00000102FF	9401103000482030004603000 30011500048203000460300 300115000480301 30011501010000000000000000000000000	40C530048D0300941003 40C530048D0300041003 10190000000000000000000000000000000	000411030000000000000000000000000000000	11 20300041 3030004 20300041 3030004 30000000000001 71 20 10 000001 70 20 00023 33 50	14/3000415/30004 4/2/300415010042 000000000000000000000000000000000	00019140- 0000548- 000000000000000000000000000000000000	000171301000 000171301000 06001171301000 060001170700	00000000000000000000000000000000000000	✔ Invert Tim 202 202 202 0000000 (202 0000000 (202 0000000 (202 0000000 (202)	Clear 3/2/21 11:46:1 3/2/21 11:46: 3/2/21 11:46: 3/21 11:46: 3/21 11:46: 3/21 11:46: 3/21	16 16 05 03 03 14 14

d) To query the Alarm Enable status, choose the **Alarm Enable** page; click the **All** and then the **Inquiry** button.

NMS													-	σ×
Base Data Config Data Site Poll Log Man	agement Too	ls Help												
S 🖉 🗳 🖬 🎜	?	٢												
Q 0	Repeate	er Info 💻 Mor	nitor Info 🔺 🗛	Alarm Info	🛃 Alarm Enable	🕼 RF Para.	🔊 RF Status 🛛 🔍	Misc Status						
🔺 🍲 Site List	Paramete	er Name	L	ocal Value	Remote	Value	Date Time	Status						
a SZ	Master P	ower Failure Ena	ible Ei	nable	Enable		2023/2/21 11:46:30	Success						
LOCAL SETUP(0-255)	Power M	lodule Alarm Ena	able E	nable	Enable		2023/2/21 11:46:30	Success						
FIBER OPTIC BDA_MO(1-0)	🗹 Over Ten	np. Alarm Enable	e Ei	nable	Enable		2023/2/21 11:46:30	Success						
	🖌 UL PA Fa	ilure Enable	E	nable	Enable		2023/2/21 11:46:30	Success						
	DL PA Fa	ilure Enable	E	nable	Enable		2023/2/21 11:46:30	Success						
	Band1/ C	CH1 DL Over I/P	Alarm Enable E	nable	Enable		2023/2/21 11:46:30	Success						
	Band1/ C	CH1 DL Low I/P A	Narm Enable E	nable	Enable		2023/2/21 11:46:30	Success						
	Band1/ C	H1 DL Over O/P	Alarm Enable E	nable	Enable		2023/2/21 11:46:30	Success						
	Band1/ C	H1 DL Low O/P	Alarm Enable E	nable	Enable		2023/2/21 11:46:30	Success						
	Band1/ C	H1 DL PA VSWR	R AJarm Enable Er	nable	Enable		2023/2/21 11:46:30	Success						
	Band1/0	H1 UL Over O/P	Alarm Enable	nable	Enable		2023/2/21 11:46:30	Success						
	Door Op	en Alarm Enable	e bi	nable	Enable		2023/2/21 11:46:30	Success						
	inqu	iry Sen	1								V All	Multi V II	nvert	Export
Operating Site	No. Mes	isageType Con	itent										Time	
Site ID 0-255	24 Rece	aive ~01	010000000FF07	0000010200	040102010402020	104060201040	02010400020104100	20104110201	04120201041502010414020	J104150201042802014318~			2023/2/21 11:46:	30 ^
Device Type Wideband Repeater	23 Send	a ~01	010000000FF07	00000102FF	040102000402020	104060200040	C0200040D020004100	20004110200	P41202000413020004140200	004150200042802008E88~			2023/2/21 11:46:	30
NMS Modem No.	24 Nece	enve ~01	010000000000000000000000000000000000000	0000010200	040103000402030	04060300040	C0300040D030004100	2000411030	04120300041303000414030	0041503000426030191A9~			2023/2/21 11:46:	10
Repeater Modern No.	20 D	u ~01	010000000000000000000000000000000000000	00000102FF	040103000402030	00000300040	000000000000000000000000000000000000000	100004110300	PHT203000413030004140300	NOW 100300042003005F6B~			2023/2/21 11:46:	06
Area Address	20 Nece	enve ~01	010000000FF05	0000010200	0A5001197001010	~6341 ccouu							2023/2/21 11:463	03
Commu. Mode RS232	18 Peer	-01	0100000000000000	000001020	070101010000000	40201EE17140	100000000000000000000000000000000000000	00000000000	000000000017120100000	000000000000000000000000000000000000000	00000017130100	000000000000000000000000000000000000000	2023/2/21 11:403	03
	17 C	-01	0100000000000000	0000010200	070101010000000	+0201+F17110	100000000000000000000000000000000000000	000000000000000000000000000000000000000	0000000000171201000000		000000017130100	000000000000000000000000000000000000000	0 2023/2/21 11:403	03
Ocurator 9 Admin Dura 4 d	OM4 T	a 1-01	CONTRACTOR DE LOS	1809081310234		02010617110	ARARARAA KICKICKIKI		ARABARARA (/1/0100000		CRARAMA COLORIDA	Alaca	at 0 0 0	0.0
Operator: 🔉 Komin	United To	saay: 2023/2/21										Alarm Co	une 🖷 V 🧍 D	U Clear
🖬 O 🏈 🔚 🥥 📗	9	т 🌏 Т	W									^ 🖬 🖬 🤇	• 《英国 20	1546 周二 023/2/21 🖣

To disable alarm, we should tick the alarm which alarm need to disable, and then double click Local Value and choose **Disable**, finally, click Set button to save.

🔝 Repeater Info 💻 Monitor Info 🛕	Alarm Info 🛛 🛃 Alarm	Enable 🔬 RF Para.	🔊 RF Status 🔍 Mis	c Status
Parameter Name	Local Value	Remote Value	Date Time	Status
✓ Master Power Failure Enable	Disable v			None
Power Module Alarm Enable	Enable			None
Over Temp. Alarm Enable	Disable			None
UL PA Failure Enable	Enable			None
DL PA Failure Enable	Enable			None
Band1/ CH1 DL Over I/P Alarm Enable	Enable			None
Band1/ CH1 DL Low I/P Alarm Enable	Enable			None
Band1/ CH1 DL Over O/P Alarm Enable	Enable			None
Band1/ CH1 DL Low O/P Alarm Enable	Enable			None
Band1/ CH1 DL PA VSWR Alarm Enable	Enable			None
Door Open Alarm Enable	Enable			None
				· · · ·
🕥 Inquiry 🕹 Set				

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e) To query the RF Parameters, choose the **RF Para** page, for query only click the **All** button and later the **Inquiry** button. For setting the Gain of Downlink and Uplink, double click the Local Value of **DL Attenuation** is the downlink attenuation of BDA, **UL Attenuation** is the uplink attenuation of BDA, set 0 to 30 according needs (Increasing the attenuation will reduce the actual gain of the BDA, which will ultimately reduce the output power of the BDA), then click **Set** button. The PA Switch must be **On**, the PA 2 Switch is for Downlink PA, the PA1 Switch is for Uplink PA;



To set the channel number, **Channel 1~Channel 2** are downlink channel number. **Downlink Frequency=**390+0.025*n, n=channel number, Double click the Local Value of **Channel1~Channel2**, and then input correct channel number according requirements, for example: Channel number of Channel 1 is **0**, it corresponds to 390MHz, tick the **Channel 1**, double click the Local Value of **Channel 1**, and then input **0** for **Channel 1**, finally click **Set** to save. For example: Channel number of Channel 2 is **100**, it corresponds to 392.5MHz, tick the **Channel 2**, double click the Local Value of **Channel 2**, and then input **100** for **Channel 2**, finally click **Set** to save And the uplink frequency is automatically set with the downlink frequency, so you just need to set the downlink channel(frequency).

When setting parameters, you cannot tick all parameters, only the parameters that need to be set can be ticked. Please keep the factory default value for alarm threshold/Limit.

f) To query the RF Status, choose the RF Status page. Click the All button and later the Inquiry button, the RF parameters are mainly shown as below, the DL O/P is the output power of BDA. For adjusting the output power by adjusting the value of DL ATT on the RF Para page. Take note that if you adjust the DL ATT, you need to adjust also the UL ATT. Based on our engineering experience, you can adjust the UL Gain by the following formula:



UL ATT = DL ATT + 3 - 5 dB

4.4.3 LOCAL SET UP-WIFI



System Architecture of Wi-Fi Connection

The local setting is not only to connect directly to the BDA via USB cable, we can also connect to the BDA wirelessly through Wi-Fi, each BDA is a Wi-Fi hotspot, we can connect to the WiFi hotspot of the BDA through your mobile phone or laptop, before connecting, the Wi-Fi external antenna at the bottom of the BDA should be connected.

1. Use your smart phone or laptop to connect to Wi-Fi SSID, the default SSID is the serial number of the BDA, password: 12345678.

🔮 Connect to a Net	work	X
Type the netwo	ork security key	
<u>S</u> ecurity key:	12345678	
	Hide characters	
		OK Cancel

2. Connecting to the SSID of BDA, open Browser, and visit 192.168.0.1, Site ID is 0, Equipment No. is 0 and click Query button to get parameters list.

	Site ID & Equipment Number
	Site ID
	0
	Equipment No
	0
	Cancel Query
S	IAII Query Set Paralst

3. Information Page: Click SelAll Button then click Query, can get some basic information about BDA.

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	⊕ http://1	92.168.0.	1/info.h	tml	~
Q				C	日本
6	Infomation	Network	Alarm	Setting	Realtime
0002	Manufacturer C	ode		19	
0003	Device Type			1	
0004	Model Number			AT7A43	H2
0005	Product SN			Y04202	0077A43H2
0006	Actual Channel	Counts		1	
0007	Longitude			E55	
8000	Latitude			N77	
000A	FW Version			ATEBA	2d200713V2
CirA	vil Query		Set	F	Paraist
Query S	elect Parameter: S	uccess!		1000	
<	>	\equiv	Ĺ	<u>م</u> ()	1
	\triangleleft	0			

4. Network Page: Monitor IP is the IP address of the cloud monitoring platform, BDA can be operated and monitored remotely through the cloud monitoring platform.

		নি 🕫 🗘 🛔			• N T	5:25
		http://	92.168.0.	1/info.h	tml	
Q					С	日
		Infomation	Network	Alarm	Setting	Realtime
0101	Sit	e ID			0	
0102	Eq	uipment Nur	nber		255	
0130	Mo	onitor IP Add	ress		2F6A08	314
0131	Mo	onitor IP Port			20750	
0132	GF	RS Enable			Enabl	
0133	GF	RS access p	oint name	(APN)		
0136	GP	RS user nam	ne			
0137	GP	RS passwor	d			
0150	Re	port Date			197001	01000618
Clr/	All	Query		Set	F	Paralst
Query S	elect P	arameter: 5	uccess!		000	
<		>	Ξ	Ĺ	20	1
		\triangleleft	0			

5. Alarm Page: alarm enable switch and alarm status are in this page.



6. Setting Page: BDA parameters configuration is in setting page.

	ی چې چې چې الب ⁴ ₪ (// http://1	02 169 0 1 /inf) (7) (8) (9) html	5:26
Qŧ	夏索或输入网址	2.106.0.1711	C	
0	Infomation	Network Ala	rm Setting	Realtime
0401	Output Signal S	witch	On	
0402	PA 1 Switch		On	0
0403	PA 2 Switch		On	0
0410	Channel 1		0	
0411	Channel 2		0	
0440	UL Att.		0	
0441	DL Att.		0	
0450	Band1/ CH1 DL	PA VSWR Lim	it 2.5	
0451	PA Temp. Limit		85	
0453	Band1/ CH1 DL	Low I/P Limit	-100	
0454	Band1/ CH1 DL	Over I/P Limit	-10	
0455	Band1/ CH1 DL	Over O/P Limi	t 10	
0456	Band1/ CH1 DL	Over O/P Limi	t 45	
0457	Band1/ CH1 UL	Over O/P Limi	t 35	
CIrAI Query Se	Query lect Parameter: S	Set		Paraist
<	>	\equiv	\Box V	1
	\triangleleft	0		

7. Realtime page: BDA's real time working status is in this page.





4.4.4 REMOTE MONITORING VIA IP CONNECTIVITY(CLOUD NETWOTK MANAGEMENT SYSTEM)

System Architecture of IP Connectivity

The BDA is connected to the Internet by twisted-pair, the Cloud NMS supports IP communication and communicates with the BDAS in the Internet, enabling remote configuration and monitoring of the BDA.

1. To open the browser and input the server's url in the browser address bar, and enter the user name and password to log in

Repeater Network Manageme X + A A (0) 1 (0) 1 (0			- a ×
			к) Ф.
	🚍 Account		
	A Password		
	A Captcha	907T	
	Login		
			1

 To add Site/BDA, click the Equipment Add on the left Menu Bar, fill in Area ID,Site ID,SUB ID and Site Name, the Site ID must be the same as the ID of the BDA itself (which was set by NMS before),and Sub ID must be 255, keep the default values for the other parameters, finally click OK to save.

			Welcome, action! [Log out]
Equipment	'Area ID(Decimal)	1	
Equipment list	"Site ID(Decimal)	10000001	
Uses	"Sub ID(Decimal)	255	
Uner List Uner Add	Sub Device Number	0 *	
Polling	Device Type	1 Wideband Repeater	
Polling List	Sub Davice Type	1.Wideband Repeater •	
Polling Add	IP Address	192.168.1.1	
Logs	Port	20750	
álarn Logr	Repeater Modern	5	
Operation Logs	Site Marrie	<u>.</u>	
Configure	Give Harrie	1	
Protoral Parameter . Shout Ex	Site Address		
	Communicate Mode	5.UDP/RJ45	
	Serial Port		
	Factory		
		OK CANCEL	

3. After adding a Site, it will appear automatically in the Equipment List. Now we can operate setting on the Site: click **Edit** on the right of the corresponding BDA to rewrite the properties, and **Delete** to remove the selected BDA.

ipment ment List ment Add	Device Lis Search by	t Area ID (Area ID	Search by Site	ID Site ID	Search Equipment				
	Area ID	Site ID	Sub ID	IP Address	Port	Repeater Modern Number	Site Name	Status	Operation
List	1	10000001	255	192.168.1.1	20750	5	1		Edit Delate Operation
M6C	.1	1000002	255	192 168 1 1	20750	<i>6</i> ,	1		Edit Delate Operation
igure stal Paraneter] L No									

Click Operation on the right of the corresponding BDA to set the BDA with the following details, Click
 Query Paramater List to get the to get the list of parameters from the BDA.

ment Add	Search b	at y Area ID Area ID	Search by Site	O Site ID	Scarch Equipment				
list	Area ID	Site ID	Sub ID	IP Address	Port	Repeater Modern Number	Site Name	Status	Operation
dć	1	10000001	255	192.168.1.1	20750	5	1	•	Edit Delete Operation
gure									
. Wa									

The process of getting the parameter list is shown in the figure below

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beater N	etwork Mana	gement system			odmin .	
					dulliiii, welc	ome to you! Limit.
dipacat	Desire Occupies Site Name 503 Site ID 133 Sub ID	322	unication Means Waite	-		
aprest, Add	Repeater Info Monitor Info Alarm Enabl	e Alarm Into RF Para RF Status Mis				tor List Inquiry Setting
r El	Parameter Name	Remote Value	•	Date Time	Status	Туре
List						
r 866						
1 mm						
ling						
ling List						
ling fakt						
ling History						
*						
cn. Logs						
m Logs ration Logs						
m Legs ration Logs figure						
n Legs ration Legs figure						
n Logs retion Logs figure total Possaute:						
n Legs ration Logs figure tocal Paraseter o Nom						
n Lers ration Loge digune Local Persenter o Penn						
n Legs Catim Legs digune Accal Parawher D Mena						
a lers catim Logs figure Local Parameter o Rema						
n Logs cation Logs Gigence Local Parameter - D Bana						
n Logs cettin Logs digune horal Parameter Pana						
a. Logo cettina Logo Gigunos Logo I Suranatza: > Pana						
o. Legr cettion Logo digence Legal Personator > Pana						
o. Logo cettien Logo diaguee diaguee o fam						
n. Logr rettien Logr Gigwer Local Personter J fina						
na lege ettisis Lege facest Benevice : Pinna						
na lagr netim Lagr forme Koni Panonter }						

5. To query/set the BDA with the following details: The **BDA Info** page can be inquired of some basic parameters of the BDA.

Device	Operation: Site Name:1 Site ID:10000002 Sub ID:255					
Rep	eater Info Monitor Info Alarm Enable Alarm Info	RF Para RF Status Misc Status 1		Qu	ery Paramater List Inquiry	Setting
	Parameter	Remote Value	Unit	Time	Status	Туре
	Manufacturer	19		2020-06-02 10:58:12	Success	3
	Device Type	0		2020-06-02 10:58:12	Success	3
	Model Number	MR-7-37W100		2020-06-02 10:58:12	Success	2
	Product SN	20051508		2020-06-02 10:58:12	Success	2
	Actual Channel Counts	1		2020-06-02 10:58:12	Success	3
	Longitude	E55	•	2020-06-02 10:58:12	Success	6
	Latitude	N55	•	2020-06-02 10:58:12	Success	7
	Firmware Version	ATEBA1d200513V2.0	0	2020-06-02 10:58:12	Success	2

6. The Monitor Info page can be inquired of and set the monitor parameters of the BDA. For setting, it needs to double click the blank space corresponding to the item under the Remote Value. For example, to modify the Site ID needs to double click the below red marked field, then input the new Site ID and click Setting to save changes.

Devi	ce Operation: Site Name:1 Site ID:10000002 Sub ID:255					
Re	peater Info Monitor Info Alarm Enable Alarm Info RF Para	RF Status Misc Status 2		Qu	ery Paramater List Inquiry	Setting
	Parameter	Remote Value	Unit	Time	Status	Туре
	Site ID	1000002		2020-06-02 13:38:05	Success	5
	Equipment Number	255		2020-06-02 13:38:05	Success	3
	Monitor IP Address	/joc		2020-06-02 13:38:05	Success	9
	Monitor IP Port	20750		2020-06-02 13:38:05	Success	4
	GPRS/APN Enable	1		2020-06-02 13:38:05	Success	11
	GPRS/APN	0		2020-06-02 13:38:05	Success	8
	GPRS/APN Name	0		2020-06-02 13:38:05	Success	8
	GPRS/APN PW	0		2020-06-02 13:38:05	Success	8
	Remote Communication Mode	5		2020-06-02 13:38:05	Success	10
	Report Date	2020/06/02 13:38:04		2020-06-02 13:38:05	Success	23

7. The Alarm Enable page can be inquired of and set alarm enable items. For setting, it needs to double click the corresponding alarm item under the Remote Value, and select Enable or Disable (alarm blocked) in the dropdown menu. Generally the status will be Enable (alarm activated) by default.

Devi	e Operation: Site Name:1 Site ID:10000002 Sub ID:255					
R	peater Info Monitor Info Alarm Enable Alarm Info RF Para RF Status Mit	sc Status 3		Enable All Disable All Query	Paramater List Inquiry	Setting
	Parameter	Remote Value	Unit	Time	Status	Туре
	Over Temp. Alarm Enable	Enable		2020-06-02 13:38:39	Success	11
	PLL Unlock Enable	Enable		2020-06-02 13:38:39	Success	11
	UL LNA Failure Enable	Enable		2020-06-02 13:38:39	Success	11
	DL LNA Failure Enable	Enable		2020-06-02 13:38:39	Success	11
	UL PA Failure Enable	Enable		2020-06-02 13:38:39	Success	11
	DL PA Failure Enable	Enable		2020-06-02 13:38:39	Success	11
	Band1/ CH1 DL Over I/P Alarm Enable	Enable		2020-06-02 13:38:39	Success	11
	Band1/ CH1 DL Low I/P Alarm Enable	Enable		2020-06-02 13:38:39	Success	11
	Band1/ CH1 DL Over O/P Alarm Enable	Enable		2020-06-02 13:38:39	Success	11
	Band1/ CH1 DL Low O/P Alarm Enable	Enable		2020-06-02 13:38:39	Success	11
	Band1/ CH1 DL PA VSWR Alarm Enable	Enable		2020-06-02 13:38:39	Success	11
	Band1/ CH1 UL Over O/P Alarm Enable	Enable		2020-06-02 13:38:39	Success	11
	Door Open Alarm Enable	Enable		2020-06-02 13:38:39	Success	11

8. The **Alarm Info** page can be inquired of the realtime alarm status of the device. Select the inquired alarm item (the box in front of the Parameter indicates whether to select all the alarm parameter list) and click Inquiry to check. Under good running circumstances, it will display Normal; but when certain parameter alarms, it will display Alarm instead.

Device Rep	e Operation: Site Name:1 Site ID:10000002 Sub ID:255 eater Info Monitor Info Alarm Enable Alarm Info RF Para RF Stati	us Misc Status 4		G	uery Paramater List Inquiry	Setting
	Parameter	Remote Value	Unit	Time	Status	Туре
	Over Temp. Alarm	Normal		2020-06-02 13:38:56	Success	12
	PLL Unlock	Normal		2020-06-02 13:38:56	Success	12
	UL LNA Failure	Normal		2020-06-02 13:38:56	Success	12
	DL LNA Failure	Normal		2020-06-02 13:38:56	Success	12
	UL PA Failure	Normal		2020-06-02 13:38:56	Success	12
	DL PA Failure	Normal		2020-06-02 13:38:56	Success	12
	Band1/ CH1 DL Over I/P Alarm	Normal		2020-06-02 13:38:56	Success	12
	Band1/ CH1 DL Low I/P Alarm	Normal		2020-06-02 13:38:56	Success	12
	Band1/ CH1 DL Over O/P Alarm	Normal		2020-06-02 13:38:56	Success	12
	Band1/ CH1 DL Low O/P Alarm	Alarm		2020-06-02 13:38:56	Success	12
	Band1/ CH1 DL PA VSWR Alarm	Normal		2020-06-02 13:38:56	Success	12
	Band1/ CH1 UL Over O/P Alarm	Normal		2020-06-02 13:38:56	Success	12
	Door Open Alarm	Alarm	0	2020-06-02 13:38:56	Success	12

9. The **RF Para** page can be inquired of and set the attenuation and alarm threshold of the BDA.

Devio	e Operation: Site Name:1 Site ID:10000002 Sub ID:255					
Rep	beater Info Monitor Info Alarm Enable Alarm Info RF Para RF St	atus Misc Status 5		Qu	ery Paramater List Inquiry	Setting
	Parameter	Remote Value	Unit	Time	Status	Туре
	Output Signal Switch	ON		2020-06-02 10:53:12	Success	14
	PA 1 Switch	ON		2020-06-02 10:53:12	Success	14
	PA 2 Switch	ON		2020-06-02 10:53:12	Success	14
	Band1/ CH1 UL Att.	0	dB	2020-06-02 10:53:12	Success	16
	Band1/ CH1 DL Att.	0	dB	2020-06-02 10:53:12	Success	16
	Band1/ CH1 DL PA VSWR Limit	2.5		2020-06-02 10:53:12	Success	25
	PA Temp. Limit	85	°C	2020-06-02 10:53:12	Success	17
	Band1/ CH1 DL Low I/P Limit	-100	dBm	2020-06-02 10:53:12	Success	17
	Band1/ CH1 DL Over I/P Limit	-10	dBm	2020-06-02 10:53:12	Success	17
	Band1/ CH1 DL Low O/P Limit	10	dBm	2020-06-02 10:53:12	Success	17
	Band1/ CH1 DL Over O/P Limit	37	dBm	2020-06-02 10:53:12	Success	17
	Band1/ CH1 UL Over O/P Limit	32	dBm	2020-06-02 10:53:12	Success	17

10. The **RF Status** page can be inquired of the real-time status of the BDA, including RF input/output power, etc.

Devic	e Operation: Site Name:1 Site ID:10000002 Sub ID:255					
Rep	Deater Info Monitor Info Alarm Enable Alarm Info RF Para RF St	atus Misc Status 5		Qu	ery Paramater List Inquiry	Setting
	Parameter	Remote Value	Unit	Time	Status	Туре
	Output Signal Switch	ON		2020-06-02 10:53:12	Success	14
	PA 1 Switch	ON		2020-06-02 10:53:12	Success	14
	PA 2 Switch	ON		2020-06-02 10:53:12	Success	14
	Band1/ CH1 UL Att.	0	dB	2020-06-02 10:53:12	Success	16
	Band1/ CH1 DL Att.	0	dB	2020-06-02 10:53:12	Success	16
	Band1/ CH1 DL PA VSWR Limit	2.5		2020-06-02 10:53:12	Success	25
	PA Temp. Limit	85	°C	2020-06-02 10:53:12	Success	17
	Band1/ CH1 DL Low I/P Limit	-100	dBm	2020-06-02 10:53:12	Success	17
	Band1/ CH1 DL Over I/P Limit	-10	dBm	2020-06-02 10:53:12	Success	17
	Band1/ CH1 DL Low O/P Limit	10	dBm	2020-06-02 10:53:12	Success	17
	Band1/ CH1 DL Over O/P Limit	37	dBm	2020-06-02 10:53:12	Success	17
	Band1/ CH1 UL Over O/P Limit	32	dBm	2020-06-02 10:53:12	Success	17

11. User List can be checked and modify the user list.

		Search User					
User Name	Password	Group Id	Sex	Email	Telphone	CreateDate	Operation
Admin	123456	Admain	Male	admin@aaaa.com	222222222	2013-04-02 14:47:49	Edit
kingway0758	111111	Guests	Male	kingway@126.com	13048912378	2018-11-27 10:52:35	Edit Delete
ACTION	123456	Admain	Male	1111111@163.COM	13688989217	2018-11-27 11:26:04	Edit Delete
ACTION1	123456	Guests	Male	1111111@163.COM	13688989217	2018-11-27 11:31:45	Edit Delete
]							

12. User Add can be used to add new user, which involves three permission levels:

First, Admin – Administrator permission, can set and inquiry of the BDA parameters, as well as add/modify other users.

Second, User – User permission, can set and inquiry of the BDA parameters;

Third, Guests – Guest permission, can only read the BDA parameters but unable to set and modify them.

			admin
			cachini i i, vercone to your [Exit]
lquipment quipment List	*User Name		
quipment Add	"Password		
lser	Group ID	Guests	
ser List ser Add	Sex	Guests Users	
ags	*Email	Admin	
larm Logs	Telphone		
onfigure		OK CANCEL	
rotocal			
elp Menu			

13. Alarm List lists out the alarm history.

pipment List pipment Add	Al	arm List. te ID Site ID	Search Start 2	≆/月/日	-: End #	/月/日 [-:-	Search Export		Delete Selected
ier		Status	Area	Site ID	Sub ID	Site Name	Alam Name	Time	Operation
er list		2	0	0	255	1	Door Open Alarm	2020-06-09 11:41:31	Delete
er Add		•	0	0	255	1	Bend1/ CH1 DL Low I/P Alerm	2020-06-09 11:41:31	Delete
olling		9	0	0	255	1	Door Open Alarm	2020-06-09 11.30.48	Delete
lling List		•	0	0	255	1	Band1/ CH1 DL Low UP Alarm	2020-06-09 11:30.48	Delete
illing Add		•	0	0	265	1	Band1/ CH1 DL Low UP Alarm	2020-06-09 10:18:12	Delete
and and a second		•	0	0	255	1	Master Power Fallure	2020-06-09 10:18:12	Delete
342		•	0	0	255	1	Band1/ CH1 DL Low VP Alarm	2020-06-09 10:17:32	Delete
eration Loga		•	0	0	255	1	Master Power Failure	2020-06-09 10:17:32	Delete
unf i aure		•	0	0	255	1	Door Open Alarm	2020-06-09 10:16:53	Delete
unt sonal. En a sonat a a			0	0	255	1	Band1/ CH1 DL Low VP Alarm	2020-06-09 10:16:53	Delete
out Ws		2	0	0	255	1	Door Open Alarm	2020-06-09 10:16:07	Delete
		•	0	0	255	1	Door Open Alarm	2020-06-09 10:07:53	Delete
							Tetal 2016 Benevit 12 BenevityPas	1-12 Page 1/235 🔲 2 3 4 5 (l Herr End

14. **Operation Logs** record the overall operation history to the BDA.

ipment ipment list ipment Add	-	Alarm List: Search by Area ID	Area ID	Search by Site	ID Site ID	Search Record			Delete Selected
a		Area Id	Site Id	Sub Id	Site Name	Parameter	Parameter Value	Time	Operation
list	8	0	0	255	1	Door Open Alarm Enable	1	2020-06-09 11:45:18	Delete
566		0	0	255	1	Band1/ CH1 UL Over O/P Alarm Enable	1	2020-06-09 11:45:18	Delete
ling		0	0	255	1	Band1/ CH1 DL PA VSWR Alarm Enable	1	2020-06-09 11:45:18	Delete
ing List		0	0	255	1	Band1/ CH1 DL Low O/P Alarm Enable	1	2020-06-09 11:45:18	Delete
ing Add	8	0	0	255	1	Band1/ CH1 DL Over O/P Alarm Enable	1	2020-06-09 11:45:18	Delete
ing miniory	8	0	0	255	1	Band1/ CH1 DL Low IIP Alarm Enable	1	2020-06-09 11:45:18	Delete
H	8	0	0	255	1	Band1/ CH1 DL Over I/P Alarm Enable	1	2020-06-09 11:45:18	Delete
n Logs	8	0	0	255	1	DL PA Failure Enable	1	2020-06-09 11:45:18	Delete
Cance -		0	0	255	1	UL PA Failure Enable	1	2020-06-09 11:45:18	Delete
and December 2		0	0	255	1	DL LNA Failure Enable	1	2020-06-09 11:45:18	Delete
d. Ex		0	0	255	1	UL LNA Failure Enable	1	2020-06-09 11:45:18	Delete
	8	0	0	255	1	PLL Unlock Enable	1	2020-06-09 11:45:18	Delete
						1994 1000 Actor	ds 12 Jaerraų/Aga 1−12	rage 1/91 🛄 Z J 4 5 8	Next Zns

15. The default cloud server IP of the BDA is 47.106.8.20, if you need to change the IP address of the monitoring platform, make change on the monitoring info page of NMS through local control.





5. SERVICE AFTER SALE

Your satisfaction is always our priority. To offer the customer a quick and effective technical support, should always come first in our service. Please don't hesitate to contact us in the following ways if you have any questions. We are ready to support you at all times.

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User Manual of TETRA Channel Selective RF BDA (TS7A37H2)

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