



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Request for Quotation

RFQ NUMBER
DJS010274

PAGE
1

ADDRESS CORRESPONDENCE TO ATTENTION OF
JOHN ABBOTT 304-558-2544

RFQ COPY
TYPE NAME/ADDRESS HERE

Lloyd's Electronics
Black Bear Paging & Internet
10057 Emerson Ave.
Parkersburg, WV 26104

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DIVISION OF JUVENILE SERVICES

SECOND FLOOR
1200 QUARRIER STREET
CHARLESTON, WV
25301

304-558-6029 - NOT IN
SERVICE

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
07/29/2009				

BID OPENING DATE: 08/11/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
0001	1	LS		725-74		
TWO-WAY RADIOS, PORTABLE						
OPEN-END CONTRACT TO PROVIDE PORTABLE UHF DIGITAL TWO-WAY RADIOS FOR THE WEST VIRGINIA DIVISION OF JUVENILE SERVICES, PER THE SPECIFICATIONS.						
EXHIBIT 3						
LIFE OF CONTRACT: THIS CONTRACT BECOMES EFFECTIVE ON AND EXTENDS FOR A PERIOD OF ONE (1) YEAR OR UNTIL SUCH "REASONABLE TIME" THEREAFTER AS IS NECESSARY TO OBTAIN A NEW CONTRACT OR RENEW THE ORIGINAL CONTRACT. THE "REASONABLE TIME" PERIOD SHALL NOT EXCEED TWELVE (12) MONTHS. DURING THIS "REASONABLE TIME" THE VENDOR MAY TERMINATE THIS CONTRACT FOR ANY REASON UPON GIVING THE DIRECTOR OF PURCHASING 30 DAYS WRITTEN NOTICE.						
UNLESS SPECIFIC PROVISIONS ARE STIPULATED ELSEWHERE IN THIS CONTRACT DOCUMENT, THE TERMS, CONDITIONS AND PRICING SET HEREIN ARE FIRM FOR THE LIFE OF THE CONTRACT.						
RENEWAL: THIS CONTRACT MAY BE RENEWED UPON THE MUTUAL WRITTEN CONSENT OF THE SPENDING UNIT AND VENDOR, SUBMITTED TO THE DIRECTOR OF PURCHASING THIRTY (30) DAYS PRIOR TO THE EXPIRATION DATE. SUCH RENEWAL SHALL BE IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE ORIGINAL CONTRACT AND SHALL BE LIMITED TO TWO (2) ONE (1) YEAR PERIODS.						

2009 AUG 19 AM 10:34
WV PURCHASING
DIVISION

SEE REVERSE SIDE FOR TERMS AND CONDITIONS			
SIGNATURE	TELEPHONE	DATE	
Cynthia Padgett	304-464-5670	8-18-09	
TITLE	FAX	ADDRESS CHANGES TO BE NOTED ABOVE	
Sales	55-0724815		

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

GENERAL TERMS & CONDITIONS REQUEST FOR QUOTATION (RFQ) AND REQUEST FOR PROPOSAL (RFP)

1. Awards will be made in the best interest of the State of West Virginia.
2. The State may accept or reject in part, or in whole, any bid.
3. All quotations are governed by the *West Virginia Code* and the *Legislative Rules* of the Purchasing Division.
4. Prior to any award, the apparent successful vendor must be properly registered with the Purchasing Division and have paid the required \$125 fee.
5. All services performed or goods delivered under State Purchase Order/Contracts are to be continued for the term of the Purchase Order/Contracts, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise available for these services or goods, this Purchase Order/Contract becomes void and of no effect after June 30.
6. Payment may only be made after the delivery and acceptance of goods or services.
7. Interest may be paid for late payment in accordance with the *West Virginia Code*.
8. Vendor preference will be granted upon written request in accordance with the *West Virginia Code*.
9. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.
10. The Director of Purchasing may cancel any Purchase Order/Contract upon 30 days written notice to the seller.
11. The laws of the State of West Virginia and the *Legislative Rules* of the Purchasing Division shall govern all rights and duties under the Contract, including without limitation the validity of this Purchase Order/Contract.
12. Any reference to automatic renewal is hereby deleted. The Contract may be renewed only upon mutual written agreement of the parties.
13. **BANKRUPTCY:** In the event the vendor/contractor files for bankruptcy protection, the State may deem this contract null and void, and terminate such contract without further order.
14. **HIPAA BUSINESS ASSOCIATE ADDENDUM:** The West Virginia State Government HIPAA Business Associate Addendum (BAA), approved by the Attorney General, and available online at the Purchasing Division's web site (<http://www.state.wv.us/admin/purchase/vrc/hipaa.htm>) is hereby made part of the agreement. Provided that, the Agency meets the definition of a Cover Entity (45 CFR §160.103) and will be disclosing Protected Health Information (45 CFR §160.103) to the vendor.
15. **WEST VIRGINIA ALCOHOL & DRUG-FREE WORKPLACE ACT:** If this Contract constitutes a public improvement construction contract as set forth in Article 1D, Chapter 21 of the West Virginia Code ("The West Virginia Alcohol and Drug-Free Workplace Act"), then the following language shall hereby become part of this Contract: "The contractor and its subcontractors shall implement and maintain a written drug-free workplace policy in compliance with the West Virginia Alcohol and Drug-Free Workplace Act, as set forth in Article 1D, Chapter 21 of the West Virginia Code. The contractor and its subcontractors shall provide a sworn statement in writing, under the penalties of perjury, that they maintain a valid drug-free work place policy in compliance with the West Virginia and Drug-Free Workplace Act. It is understood and agreed that this Contract shall be cancelled by the awarding authority if the Contractor: 1) Fails to implement its drug-free workplace policy; 2) Fails to provide information regarding implementation of the contractor's drug-free workplace policy at the request of the public authority; or 3) Provides to the public authority false information regarding the contractor's drug-free workplace policy."

INSTRUCTIONS TO BIDDERS

1. Use the quotation forms provided by the Purchasing Division.
2. **SPECIFICATIONS:** Items offered must be in compliance with the specifications. Any deviation from the specifications must be clearly indicated by the bidder. Alternates offered by the bidder as **EQUAL** to the specifications must be clearly defined. A bidder offering an alternate should attach complete specifications and literature to the bid. The Purchasing Division may waive minor deviations to specifications.
3. Complete all sections of the quotation form.
4. Unit prices shall prevail in case of discrepancy.
5. All quotations are considered F.O.B. destination unless alternate shipping terms are clearly identified in the quotation.
6. **BID SUBMISSION:** All quotations must be delivered by the bidder to the office listed below prior to the date and time of the bid opening. Failure of the bidder to deliver the quotations on time will result in bid disqualifications: Department of Administration, Purchasing Division, 2019 Washington Street East, P.O. Box 50130, Charleston, WV 25305-0130



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
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DIVISION OF JUVENILE SERVICES

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1200 QUARRIER STREET
CHARLESTON, WV
25301 304-558-6029

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS
07/29/2009				

BID OPENING DATE: 08/11/2009 BID OPENING TIME 01:30PM

LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>CANCELLATION: THE DIRECTOR OF PURCHASING RESERVES THE RIGHT TO CANCEL THIS CONTRACT IMMEDIATELY UPON WRITTEN NOTICE TO THE VENDOR IF THE COMMODITIES AND/OR SERVICES SUPPLIED ARE OF AN INFERIOR QUALITY OR DO NOT CONFORM TO THE SPECIFICATIONS OF THE BID AND CONTRACT HEREIN.</p> <p>OPEN MARKET CLAUSE: THE DIRECTOR OF PURCHASING MAY AUTHORIZE A SPENDING UNIT TO PURCHASE ON THE OPEN MARKET, WITHOUT THE FILING OF A REQUISITION OR COST ESTIMATE, ITEMS SPECIFIED ON THIS CONTRACT FOR IMMEDIATE DELIVERY IN EMERGENCIES DUE TO UNFORESEEN CAUSES (INCLUDING BUT NOT LIMITED TO DELAYS IN TRANSPORTATION OR AN UNANTICIPATED INCREASE IN THE VOLUME OF WORK.)</p> <p>QUANTITIES: QUANTITIES LISTED IN THE REQUISITION ARE APPROXIMATIONS ONLY, BASED ON ESTIMATES SUPPLIED BY THE STATE SPENDING UNIT. IT IS UNDERSTOOD AND AGREED THAT THE CONTRACT SHALL COVER THE QUANTITIES ACTUALLY ORDERED FOR DELIVERY DURING THE TERM OF THE CONTRACT, WHETHER MORE OR LESS THAN THE QUANTITIES SHOWN.</p> <p>ORDERING PROCEDURE: SPENDING UNIT(S) SHALL ISSUE A WRITTEN STATE CONTRACT ORDER (FORM NUMBER WV-39) TO THE VENDOR FOR COMMODITIES COVERED BY THIS CONTRACT. THE ORIGINAL COPY OF THE WV-39 SHALL BE MAILED TO THE VENDOR AS AUTHORIZATION FOR SHIPMENT, A SECOND COPY MAILED TO THE PURCHASING DIVISION, AND A THIRD COPY RETAINED BY THE SPENDING UNIT.</p> <p>BANKRUPTCY: IN THE EVENT THE VENDOR/CONTRACTOR FILES FOR BANKRUPTCY PROTECTION, THE STATE MAY DEEM THE CONTRACT NULL AND VOID, AND TERMINATE SUCH CONTRACT WITHOUT FURTHER ORDER.</p>						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE <i>Crystal Padgett</i>	TELEPHONE	DATE
TITLE	FERN 55-0724815	ADDRESS CHANGES TO BE NOTED ABOVE

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Department of Administration
Purchasing Division
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3

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304-558-2544

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Parkersburg, WV 26104

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07/29/2009						
BID OPENING DATE: 08/11/2009		BID OPENING TIME 01:30PM				
LINE	QUANTITY	UOP	CAT. NO.	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>THE TERMS AND CONDITIONS CONTAINED IN THIS CONTRACT SHALL SUPERSEDE ANY AND ALL SUBSEQUENT TERMS AND CONDITIONS WHICH MAY APPEAR ON ANY ATTACHED PRINTED DOCUMENTS SUCH AS PRICE LISTS, ORDER FORMS, SALES AGREEMENTS OR MAINTENANCE AGREEMENTS, INCLUDING ANY ELECTRONIC MEDIUM SUCH AS CD-ROM.</p> <p>REV. 05/26/2009</p> <p>EXHIBIT 4</p> <p>LOCAL GOVERNMENT BODIES: UNLESS THE VENDOR INDICATES IN THE BID HIS REFUSAL TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO COUNTY, SCHOOL, MUNICIPAL AND OTHER LOCAL GOVERNMENT BODIES, THE BID SHALL EXTEND TO POLITICAL SUBDIVISIONS OF THE STATE OF WEST VIRGINIA. IF THE VENDOR DOES NOT WISH TO EXTEND THE PRICES, TERMS, AND CONDITIONS OF THE BID TO ALL POLITICAL SUBDIVISIONS OF THE STATE, THE VENDOR MUST CLEARLY INDICATE SUCH REFUSAL IN HIS BID. SUCH REFUSAL SHALL NOT PREJUDICE THE AWARD OF THIS CONTRACT IN ANY MANNER.</p> <p>REV. 3/88</p> <p>PURCHASING CARD ACCEPTANCE: THE STATE OF WEST VIRGINIA CURRENTLY UTILIZES A VISA PURCHASING CARD PROGRAM WHICH IS ISSUED THROUGH A BANK. THE SUCCESSFUL VENDOR MUST ACCEPT THE STATE OF WEST VIRGINIA VISA PURCHASING CARD FOR PAYMENT OF ALL ORDERS PLACED BY ANY STATE AGENCY AS A CONDITION OF AWARD.</p> <p>NOTICE</p>						
SEE REVERSE SIDE FOR TERMS AND CONDITIONS						
SIGNATURE <i>Crystal Padgett</i>		TELEPHONE		DATE		
TITLE		FEIN 55-0724815		ADDRESS CHANGES TO BE NOTED ABOVE		

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DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	FREIGHT TERMS		
07/29/2009						
BID OPENING DATE: 08/11/2009		BID OPENING TIME 01:30PM				
LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
<p>A SIGNED BID MUST BE SUBMITTED TO:</p> <p>DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130</p> <p>THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:</p> <p>SEALED BID</p> <p>BUYER: JOHN ABBOTT-----</p> <p>RFQ. NO.: DJS010274-----</p> <p>BID OPENING DATE: 8/11/2009-----</p> <p>BID OPENING TIME: 1:30 PM-----</p> <p>PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: 304-464-4146-----</p> <p>CONTACT PERSON (PLEASE PRINT CLEARLY): CRYSTAL PADGETT-----</p>						
SEE REVERSE SIDE FOR TERMS AND CONDITIONS						
SIGNATURE <i>Crystal Padgett</i>		TELEPHONE		DATE		
TITLE		FAX 55-0724815		ADDRESS CHANGES TO BE NOTED ABOVE		

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SPECIFICATIONS FOR RADIOS & EQUIPMENT

1.	UHF Digital Portable 5 Watt Radio Kenwood <i>NEXEDGE NX-300</i> or equivalent. Must be compatible with Motorola HT-1000 radios and must be narrow band compliant. NXDN Digital Air Interface or equivalent. To include: Emergency call feature, Fleet Sync or equivalent, & voice Scrambler. Antenna, Lithium Ion battery, belt clip & individual charger included.
2.	Temple Transducer with Boom Microphone & PTT. Radio must be able to receive audio through the temples for freedom of hand movement, and must not cover the ears. Headset must feature a noise-canceling Boom Microphone and inline PTT for greater noise reduction and must be adjustable to accommodate the physical needs of various size employees. A remote microphone shall be provided and shall have a spring clip to allow it to be clipped to clothing. The microphone shall be capable of extending a minimum of 24 inches.
3.	All Radios will be equipped with a Standard Speaker Microphone and have Digital I. D. display (alpha numeric) capability along with intelligent power saving functions to prolong battery life and a backlit display with battery status indicator so the user can monitor relative battery power. Also must have minimum of 312 channels and 128 zones. (Max channels per zone 250). Must have operating temperature range of -22 F to + 140 F. All radios will comply with the Applicable MIL-STD & IP standards and have an audio distortion rate of less than 3 percent. Frequency Range to be 320 to 430 MHz
4.	Multi-Unit Charger, Non-Display to operate in a standard 110V US Plug. Must support lithium ion & Ni-cad batteries. Batteries shall be charged to full capacity in four (4) hours or less. The battery shall have the capacity to provide eight (8) hours of operation when utilizing a duty cycle of 5% transmit, 5% receive, and 90% standby. All equipment shall function without unintended interaction and interference to other components.
5.	Multi-Unit Charger -110V US Plug With Display must support lithium ion & Ni-cad batteries. Batteries shall be charged to full capacity in four (4) hours or less. The battery shall have the capacity to provide eight (8) hours of operation when utilizing a duty cycle of 5% transmit, 5% receive, and 90% standby. All equipment shall function without unintended interaction and interference to other components.
6.	High Capacity Lithium Ion Battery must be compatible with Item #1 above
7.	25 Watt Repeater installed in 30" Indoor Cabinet. Must be compatible with <i>NEXEDGE Digital Technology</i> or equivalent.
8.	Fiberglass Antenna will be compatible with Item #7 above.
9.	Cable ½" LDF HELIAX POLY JKT per foot. Must be compatible with <i>Nexedge Digital Technology</i> OR the equivalent.
10.	40 Watt Control Station, including Power Supply, Control Station Mount & Control Station Microphone. Must have the ability to communicate to the States WVIRP radio network increasing regional coverage and multi-agency Interoperability as may be required.
11.	Control Station Antenna must be compatible with Item # 10 above
12.	Replacement Belt Clips compatible with Item #1
13.	UHF Stubby Antenna will be supplied for all radios. Must be compatible with Item # 1 above.
14.	UHF Whip Antennas will be supplied for all radios. Must be compatible with Item # 1 above.

15.	Leather Carrying Case is to be provided with each radio and be Black in color, must be compatible with Item # 1 above.
16.	Installation – Installation shall be bid on an hourly rate, and shall include any and all hardware cabling, surge suppressors, etc. necessary for installation.

Installation of repeater and mobile stations must be bid on an hourly rate, per the example on the bid form. The hourly prices for installation shall include any and all hardware, as per item #16 above. Vendor must supply the hardware packages in the installation of the Repeater, and Control Station. Surge Suppressor and Jumpers will be provided and must be compatible with System Installed.

All vendors bidding on the equipment listed in the specifications are required to submit in writing that the product meets or exceeds the specifications and must also include a product sheet that includes each item listed including the manufacturer, model number and general specifications, within 7 working days upon request

BID FORM

Item #	Description	Estimated Initial Order	Unit Price	Extended Price	Future Unit Price for One (1) Each
1	Digital 5 Watt Radio F4161DS 71 RC	105	\$ 493.94	\$ 51,863.70	\$ 493.94
2	Temple Transducer	50	\$ NO BID		
3	Standard Speaker Microphone HM154SC	20	\$ 55.22	\$ 1,104.40	55.22
4	Multi Unit Charger Non Display BC121N	9	\$ 337.00	\$ 4,044.00	337.00
5	Multi Unit Charger With Display	3	\$ NO BID		
6	High Capacity Lithium Ion battery BP333N	45	\$ 38.91	\$ 1,750.95	38.91
7	25 Watt Repeater in 30" Cabinet FR6000	1	\$ 2,135.39	\$ 2,135.39	2,135.39
8	Fiberglass Antenna 381567 (6.2db Omni)	1	\$ 862.00	\$ 862.00	862.00
9	Cable 1/2" LDF Heliax Poly Jkt per ft LD4-504	100	\$ 2.60	\$ 260.00	2.60/ft.
10	40 Watt Control Station & Accessories	2	\$ NO BID		
11	Control Station Antenna	2	\$ NO BID		
12	Replacement Belt Clip MB94	36	\$ 6.28	\$ 226.08	6.28
13	UHF Stubby Antenna FA-SC134S	6	\$ 8.79	\$ 52.74	8.79
14	UHF Whip Antenna FA-SC574	6	\$ 8.79	\$ 52.74	8.79
15	Leather Carry Case LCF3061S SWINEL	6	\$ 31.38	\$ 188.28	31.38
16	Installation - hourly rate	6 Hours	\$ 85.00/Hr	\$ 510.00	
TOTAL BID				\$	

Lloyd's Electronics has been authorized to MATCH ICOM's GSA Contract Prices.

* Shipping Not Included.



State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

WV PURCHASING ACT SECT. Fax 304-558-4115

Aug 10 2009 02:24pm P001/002

Request for
Quotation

REQ NUMBER

DJS010274

PAGE

1

ADDRESS CORRESPONDENCE TO ATTENTION OF

JOHN ABBOTT

304-558-2544

*709043551 01 304-273-2790

Lloyd's Electronics
Black Bear Paging & Internet
10057 Emerson Ave.
Parkersburg, WV 26104

DIVISION OF JUVENILE SERVICES

SECOND FLOOR
1200 QUARRIER STREET
CHARLESTON, WV
25301 304-558-6029

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS		
08/10/2009						
BID OPENING DATE: 08/19/2009		BID OPENING TIME: 01:30PM				
LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM #01						
THIS ADDENDUM IS ISSUED TO ANSWER VENDOR QUESTIONS, PER THE ATTACHED DOCUMENTATION, AND EXTEND THE BID OPENING DATE FROM 8/11/2009 TO 8/19/2009.						
REVISED BID OPENING DATE: 8/19/2009; 1:30 PM						
0001	1	LS		725-74		
TWO-WAY RADIOS, PORTABLE						
***** THIS IS THE END OF RFQ DJS010274 ***** TOTAL:						
SEE REVERSE SIDE FOR TERMS AND CONDITIONS						
SIGNATURE: Crystal Padgett		TELEPHONE:		DATE:		
TITLE:		FAX: 55-0724815		ADDRESS CHANGES TO BE NOTED ABOVE		

WHEN RESPONDING TO RFQ, INSERT NAME AND ADDRESS IN SPACE ABOVE LABELED 'VENDOR'

WV PURCHASING ACA SECT Fax 304-558-4115

Aug 10 2009 02:24pm P002/002

ADDENDUM NO. 1

Bid Addendum for DJS101274

August 10, 2009

2

1. Question: Item 3 Frequency band of the radios. Please verify. Is it possible you mean 400-470MHz or 450-512MHz, which are the two normal frequencies, ranges for UHF?

Answer: 450-512MHz

2. Question: Item 5 Multi-unit chargers what does "display" refer to? Are simple red and green lights sufficient.

Answer: Display refers to the LCD screen which will give an accurate measurement of the battery status and will display the actual charge time so batteries will not be used when not up to an acceptable capacity. Simple red and green lights are sufficient for non-display charger in Item 4.

3. Question: 40watt Control Station. Is this meant to control the radios contained in this Bid, which will operate on the NXDN platform or be a control station for the WVIRP which is P25 UHF trunked platform.

Answer: Control Station is meant to control the radios in this bid and operate on the NXDN platform. However, all radios in this bid and the control stations must have the ability to communicate with the State's WVIRP radio network.

1. Question: Item 3 The frequency range is listed as 320-430. Is this correct?

Answer: See question 1 above.

2. Question: Item 10 The Control Station listed in Item 10 needs to be compatible with the WVIRP system. Can you verify the frequency bands for this?

Answer: See question 3 above.

3. Question: Item # 13 and 14 seem to contradict each other. Do you wish to have whip or stubby antennas on the portables?

Answer: Request a price for both the type of antennae will be selected when the radio is ordered

4. Question: Do you have a preference for belt clips?

Answer: swivel.



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WV PURCHASING ACA SECT Fax 304-558-4115

Aug 11 2009 11:28am P001/002

Request for Quotation

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1

ADDRESS CORRESPONDENCE TO ATTENTION OF

JOHN ABBOTT
304-558-2544

*709043551 01 304-273-2790

LLOYD HOFF HOLDING CORP.
Dba Lloyd's Electronics
Black Bear Paging & Internet
PO Box 250
Millwood, WV 25262

DIVISION OF JUVENILE SERVICES
SECOND FLOOR
1200 QUARRIER STREET
CHARLESTON, WV
25301 304-558-6029

DATE PRINTED	TERMS OF SALE	SHIP VIA	FOB	FREIGHT TERMS		
08/10/2009						
BID OPENING DATE: 08/19/2009		BID OPENING TIME 01:30PM				
LINE	QUANTITY	UOP	CAT NO	ITEM NUMBER	UNIT PRICE	AMOUNT
ADDENDUM #02						
THIS ADDENDUM IS ISSUED TO CORRECT THE ANSWER TO QUESTION NUMBER 3 OF ADDENDUM NUMBER 1, PER THE ATTACHED DOCUMENTATION.						
0001	1	LS		725-74		
TWO-WAY RADIOS, PORTABLE						
***** THIS IS THE END OF RFQ DJS010274 ***** TOTAL:						
SEE REVERSE SIDE FOR TERMS AND CONDITIONS						
SIGNATURE Crystal Padgett		TELEPHONE		DATE		
TITLE		FBN 55-0724815		ADDRESS CHANGES TO BE NOTED ABOVE		

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ADDENDUM NO. 2

The Division of Juvenile Services has decided after further examination that the previous answer to question 3 was incorrectly answered. The proper response for this question should be as follows.

3. Question: 40watt Control Station. Is this meant to control the radios contained in this Bid, which will operate on the NXDN platform or be a control station for the WVIRP which is P25 UHF trunked platform.

Answer: The Control Station should be capable of communicating on the NXDN platform and on the State's WVIRP Radio Network. The individual radios do not need the capability to communicate on the WVIRP Radio Network.

VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with *West Virginia Code*, §5A-3-37. (Does not apply to construction contracts). *West Virginia Code*, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Resident Vendor Preference, if applicable.

1. Application is made for 2.5% resident vendor preference for the reason checked:
☐ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
☒ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or,
☐ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2. Application is made for 2.5% resident vendor preference for the reason checked:
☒ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3. Application is made for 2.5% resident vendor preference for the reason checked:
☐ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4. Application is made for 5% resident vendor preference for the reason checked:
☒ Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:
☐ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6. Application is made for 3.5% resident vendor preference who is a veteran for the reason checked:
☐ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (*West Virginia Code*, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Lloyds Electronics

Signed: Crystal Padgett

Date: 8-18-09

Title: Northern Sales Manager

*Check any combination of preference consideration(s) indicated above, which you are entitled to receive.

STATE OF WEST VIRGINIA
Purchasing Division**PURCHASING AFFIDAVIT****VENDOR OWING A DEBT TO THE STATE:**

West Virginia Code §5A-3-10a provides that: No contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and the debt owed is an amount greater than one thousand dollars in the aggregate.

PUBLIC IMPROVEMENT CONTRACTS & DRUG-FREE WORKPLACE ACT:

If this is a solicitation for a public improvement construction contract, the vendor, by its signature below, affirms that it has a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code*. The vendor **must** make said affirmation with its bid submission. Further, public improvement construction contract may not be awarded to a vendor who does not have a written plan for a drug-free workplace policy in compliance with Article 1D, Chapter 21 of the *West Virginia Code* and who has not submitted that plan to the appropriate contracting authority in timely fashion. For a vendor who is a subcontractor, compliance with Section 5, Article 1D, Chapter 21 of the *West Virginia Code* may take place before their work on the public improvement is begun.

ANTITRUST:

In submitting a bid to any agency for the state of West Virginia, the bidder offers and agrees that if the bid is accepted the bidder will convey, sell, assign or transfer to the state of West Virginia all rights, title and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the state of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the state of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to the bidder.

I certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership or person or entity submitting a bid for the same materials, supplies, equipment or services and is in all respects fair and without collusion or fraud. I further certify that I am authorized to sign the certification on behalf of the bidder or this bid.

LICENSING:

Vendors must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agencies or political subdivision. Furthermore, the vendor must provide all necessary releases to obtain information to enable the Director or spending unit to verify that the vendor is licensed and in good standing with the above entities.

CONFIDENTIALITY:

The vendor agrees that he or she will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the agency's policies, procedures and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in <http://www.state.wv.us/admin/purchase/privacy/noticeConfidentiality.pdf>.

Under penalty of law for false swearing (*West Virginia Code* §61-5-3), it is hereby certified that the vendor affirms and acknowledges the information in this affidavit and is in compliance with the requirements as stated.

Vendor's Name: Lloyd's ElectronicsAuthorized Signature: Cystal Padgett Date: 8-18-09



VHF AND UHF TRANSCEIVERS

IC-F3161DT
(IDAS digital VHF transceiver with 10-key pad)

IC-F3161T
(VHF transceiver with 10-key pad)

IC-F3161DS
(IDAS digital VHF transceiver without 10-key pad)

IC-F3161S
(VHF transceiver without 10-key pad)

IC-F4161DT
(IDAS digital UHF transceiver with 10-key pad)

IC-F4161T
(UHF transceiver with 10-key pad)

IC-F4161DS
(IDAS digital UHF transceiver without 10-key pad)

IC-F4161S
(UHF transceiver without 10-key pad)



IDAS
COM DIGITAL ADVANCED SYSTEM



LTR™
Conventional
IDAS Digital
IDAS Trunking



- 512 ch / 128 zones
- Conventional/ LTR® mode
- IDAS digital (With UT-126H)
- IDAS Trunking (With UT-126H)
- 2-Tone, 5-Tone CTCSS, DTCSS
- VHF 5W UHF 5W output
- 14 hrs. operating time with BP-232N
- Full dot-matrix LCD

Conventional/LTR™ /IDAS Digital/IDAS Tru Multi-Mode Land Mobile!

* With UT-126H installed. Already installed to the



▲ IC-F3161DT/T

▲ IC-F4161DS/S

VHF TRANSCEIVERS

IC-F3161DT/T

IDAS digital/analog FM with 10-keypad

IC-F3161DS/S

IDAS digital/analog FM without 10-keypad

UHF TRANSCEIVERS

IC-F4161DT/T

IDAS digital/analog FM with 10-keypad

IC-F4161DS/S

IDAS digital/analog FM without 10-keypad

Basic LTR™/conventional mode operation

Both LTR™ trunking and conventional channels are programmable on a radio. Group, selective (DTMF), and phone call are available in LTR™ mode.

IP55 dust-protection and water jet resistance

The IC-F3161/D series meets IP55 requirements for dust-protection and water jet resistance. Its durable construction is backed up by the aluminum die-cast chassis and polycarbonate casing, allowing reliable operation under harsh weather and environmental conditions.

Lithium-ion battery pack

The supplied 2000mAh Li-Ion battery pack, BP-232N, provides 14 hours* of operating time. The optional battery case BP-240 provides a convenient back up and great reassurance in an emergency.

* Typical operation Tx:Rx:Stand-by=5:5:90, power save on

Most popular signalings built-in

The 2-Tone, 5-Tone, CTCSS, DTCS and MDC signaling capabilities are built-in for group communication or selective calling. The radio can decode ten 2-Tone codes or eight 5-Tone codes on a channel. When a matched tone is received, the following actions are programmable for each code.

- Beep sound
- Bell icon
- Answer back call
- Auto TX
- Radio stun/kill/revive
- Scan

MDC 1200 Compatible

The following selective calling and ANI features are available with the built-in MDC signaling.

- PTT ID
- SelCall
- Radio check
- Radio stun/revive
- 500 Aliases
- Status message/request
- Call alert
- Emergency, emergency mic monitoring

Voting mode scanning

The voting mode scanning detects the signal strength level of repeater stations and automatically selects the strongest station, useful for roaming between 2 or more repeater sites. Once you program the voting mode to a memory zone, you can easily start voting mode operation by changing the zone setting.

inking -

IC-F3161/F4161 "D" versions.

Full dot-matrix LCD

Using a large full dot-matrix LCD (32 × 18 mm), the IC-F3161/D series shows upper and lower case characters clearly. The display setting is selectable from 1 line, 12 characters or 2 lines 24 characters via programming. The bottom row shows assigned functions to the [P0] to [P3] buttons.



Enhanced audio

The IC-F3161/D series employs a BTL amplifier that increases the audio output and the built-in audio compander provides clear, low noise communications.

Lone worker function

When the radio is not operated for a preset period, a beep sounds and a button push is required. If no button is pushed within that preset time, an emergency signal automatically transmits and alerts your co-worker or dispatcher to any potential trouble.

Built-in inversion-type voice scrambler

The built-in inversion type voice scrambler* provides secure conversation as standard. When a more secure system is required, the 32 code non-rolling-type voice scrambler UT-109R and 1020 code rolling type UT-110R are available as an option.

* Inversion type voice scrambler is not compatible with UT-109/UT-110 voice scrambler.

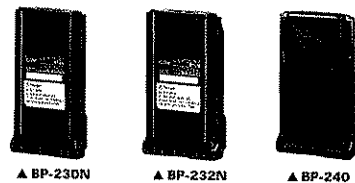
Other features

- 512 memory channel with 128 zones
- 8 DTMF autodial memories
- 2 step reduced power setting
- Power on password
- Busy, repeater lockout functions
- Escalating alarm
- Mode dependent scan
- Surveillance function temporarily turns off the LED backlight and beep sound
- Powerful 5W output both in VHF and UHF
- Flash CPU for future upgrade and more...

OPTIONS

Some options may not be available in some countries. Please ask your dealer for details.

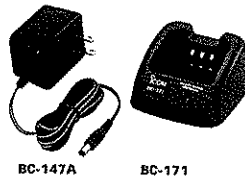
BATTERY PACKS AND CASE



Battery packs	Type and capacity	Operating time*	Output power
BP-230N	Li-Ion 7.4V/980mAh	7.35 hours	5W
BP-232N	Li-Ion 7.4V/2000mAh	14 hours	5W
BP-240	AAA (LR03) batteries × 6	—	1W

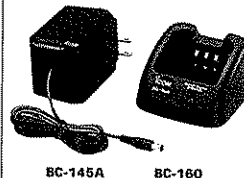
* Operating time is approximate time (at 20°C). Tx: Rx: standby=5:5:90. Power save on.

REGULAR CHARGER



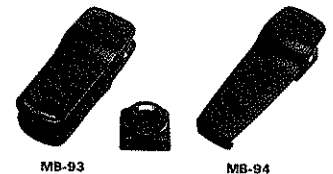
BC-171 DESKTOP CHARGER + BC-147A AC ADAPTER
Charges the BP-232N in 10 hours. (approx.).

RAPID CHARGER



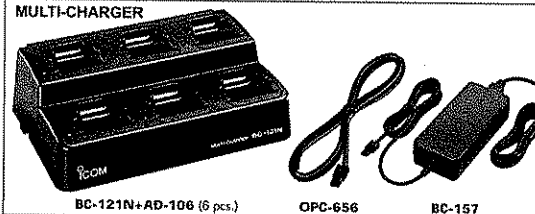
BC-160 DESKTOP CHARGER + BC-145A AC ADAPTER
Charges the BP-232N in 3 hrs. (approx.).
BC-119N + AD-106 + BC-145A is also available.

BELT CLIPS



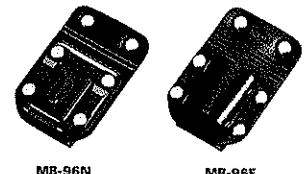
MB-93 : Swivel type. A fast and easy way to remove the transceiver from your belt.
MB-94 : Alligator type. Same as supplied.

MULTI-CHARGER



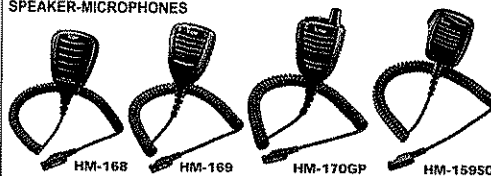
BC-121N MULTI-CHARGER + AD-106 CHARGER ADAPTER + BC-157 AC ADAPTER
Rapidly charges up to 6 battery packs (Six AD-106s are required).
Charging time: 3 hours (approx.) when BP-232N is attached.
OPC-656 DC POWER CABLE : For use with the BC-121N. (12-20V DC required).

LEATHER BELT HANGERS



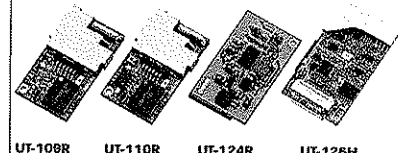
MB-96N: Swivel type belt hanger. Swivel joint of the MB-93 supplied.
MB-96F: Fixed type belt hanger. For use with MB-94.

SPEAKER-MICROPHONES



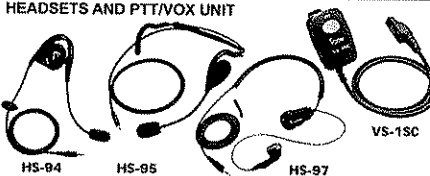
HM-168 : Compact type speaker-microphone. Equivalent to IPX7.
HM-169 : Rugged type speaker-microphone. Equivalent to IP57.
HM-170GP : GPS speaker-microphone. Equivalent to IP57.
HM-159SC : Full size durable speaker microphone with revolving clip.
HM-131SC : Compact type speaker microphone.

INTERNAL UNITS



UT-109R: Non-rolling type voice scrambler.
UT-110R: Rolling type voice scrambler.
UT-124R: Man down unit. Automatically sends an emergency signal when the transceiver is left in a horizontal position for a preset time.
UT-126H: Digital unit. Provides IDAS digital capability.

HEADSETS AND PTT/VOX UNIT



HS-94: Earhook headset with flexible boom microphone.
HS-95: Behind-the-head headset with flexible boom microphone.
HS-97: Throat microphone fits around your neck and picks up speech vibration.
VS-1SC: PTT/VOX unit. Required when using these headsets.

EARPHONE



SP-13: EARPHONE.
AD-52: EARPHONE ADAPTER
Provides clear audio even in noisy environments.

OSTUBBY ANTENNAS

- FA-SC56VS : 150-162MHz
- FA-SC57VS : 160-174MHz
- FA-SC73US : 450-490MHz

CUT ANTENNAS

- FA-SC61VC : 136-174MHz
 - FA-SC61UC : 380-520MHz
- Cut the antenna element to tune to a specific center frequency.

ANTENNAS

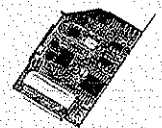
- FA-SC25V : 136-150MHz
- FA-SC55V : 150-174MHz
- FA-SC25U : 400-430MHz
- FA-SC57U : 430-470MHz
- FA-SC72U : 470-520MHz

IDAS system digital mode ready

DIGITAL

The IDAS (Icom Digital Advanced System) is Icom's digital conventional and trunking system using the NXDN™ common air interface. It has useful calling features including selective calling, status message, radio stun/kill/revive, etc.

The IC-F3161 series provides 2 optional slots: one optional slot for the UT-126H digital unit and one for an additional option board. See the IDAS brochure for details.



VHF AND UHF TRANSCEIVERS IC-F3161T/S/DT/DS • IC-F4161T/S/DT/DS

SPECIFICATIONS

GENERAL

- Frequency range :
IC-F3161T/S 136–174MHz
IC-F4161T/S 400–470MHz
450–512MHz
- Number of channels : 512 channels/128 zones
- Channel spacing : 12.5kHz/25kHz, 15kHz/30kHz,
6.25kHz (option)
- PLL channel step : 2.5kHz, 3.125kHz
- Antenna impedance : 50Ω
- Usable temperature range : –30°C to +60°C; –22°F to +140°F
- Power supply requirement : 7.2V DC
- Current drain (at 7.2V DC; approx.):
Transmit VHF/UHF 1.5A/1.8A (at 5W/5W)
Receive stand-by 100mA
150mA (With UT-126H)
rated output 600mA
- Dimensions (with BP-232N): 53 (W) × 136 (H) × 38.9 (D) mm;
(projections are not included) 2³/₃₂ (W) × 5¹¹/₃₂ (H) × 1¹⁷/₃₂ (D) in
- Weight (approx.) : 338g; 11.9oz (with BP-232N)

TRANSMITTER

- Output power : 5W (VHF), 5W (UHF)
- Max. frequency deviation : ±5kHz (Wide)
±2.5kHz (Narrow)
- Frequency error : ±1.0ppm
- Spurious emissions : 75dB typ.
- Adjacent channel power : 80dB typ. (Wide), 70dB typ. (Narrow)
- FM Hum and Noise : 46dB typ. (Wide), 40dB typ. (Narrow)
- Audio harmonic distortion : 3% typ. (AF 1kHz, 40% deviation)
- Modulation limiting : 60–100% of max. deviation
- External microphone connector :
9-pin multi connector/ 2.2kΩ

Measurements made in accordance with EIA-152C/204D, TIA-603 for analog.
All stated specifications are subject to change without notice or obligation.

Icom, Icom Inc. and the Icom logo are registered trademarks of Icom Incorporated (Japan) in the United States, the United Kingdom, Germany, France, Spain, Russia and/or other countries. NXDN is a trademark of Icom Incorporated and Kenwood Corporation. LTR is a trademark of E.F. Johnson Company. All other trademarks are the properties of their respective holders.

RECEIVER

- Intermediate frequency : 46.35MHz/450kHz (1st/2nd)
- Sensitivity FM (W, N) : 0.25μV typ. (at 12dB SINAD)
Digital : 0.20μV typ. (at 5% BER)
- Squelch sensitivity : 0.25μV typ. (at threshold)
- Adjacent channel selectivity : 75dB typ. (Wide), 68dB typ. (Narrow)
- Spurious response : 70dB min.
- Intermodulation : 74dB typ.
- Hum and noise ratio : 46dB typ. (Wide), 40dB typ. (Narrow)
- Audio output power : 500mW typ.
(at 5% distortion with an 8Ω load)
- External speaker connector: 9-pin multi connector/ 8Ω

Applicable U.S. Military Specifications & IP Rating

Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and Ingress Protection standards.

Standard	MIL 810F	
	Method	Procedure
Low Pressure	500.4	I, II
High Temperature	501.4	I, II
Low Temperature	502.4-3	I, II
Temperature Shock	503.4	I
Solar Radiation	505.4	I
Rain Blowing/Drip	506.4	I, III
Humidity	507.4	I
Salt Fog	509.4	—
Dust Blowing	510.4	—
Vibration	514.5	I
Shock	516.5	I, IV

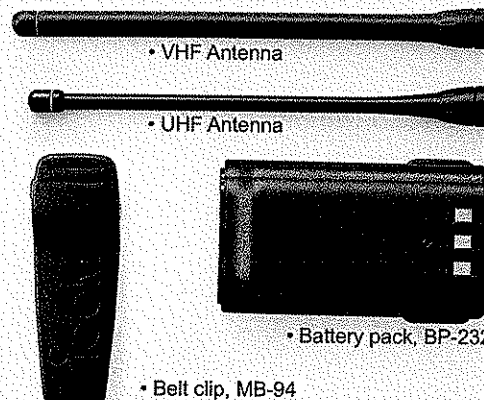
Also meets equivalent MIL-STD-810-C, -D and -E.

Ingress Protection Standard

Dust & Water	IP65 (Dust-protection and water jet resistance)
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SUPPLIED ACCESSORIES

(May differ according to version)



Icom Inc. 1-1-32, Kami-minami, Hirano-ku, Osaka 547-0003, Japan Phone: +81 (06) 6793 5302 Fax: +81 (06) 6793 0013 URL: <http://www.icom.co.jp/world/index.html>

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URL: <http://www.icomuk.co.uk>

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Asia Icom Inc.

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Fax: +886 (02) 2559 1874
E-mail: sales@asia-icom.com
URL: <http://www.asia-icom.com>

Beijing Icom Ltd.

10C07, Long Silver Mansion, No.88, Yong Ding
Road, Haidian District, Beijing, 100039, China
Phone: +86 (010) 5889 5391/5392/5393
Fax: +86 (010) 5889 5395
E-mail: bjicom@bjicom.com
URL: <http://www.bjicom.com>

Your local distributor/dealer:



VHF AND UHF REPEATER

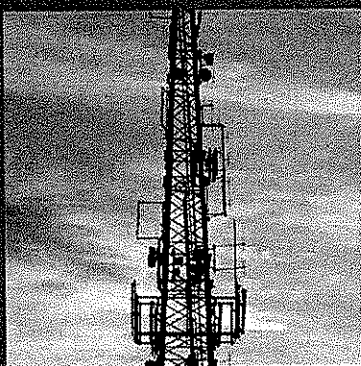
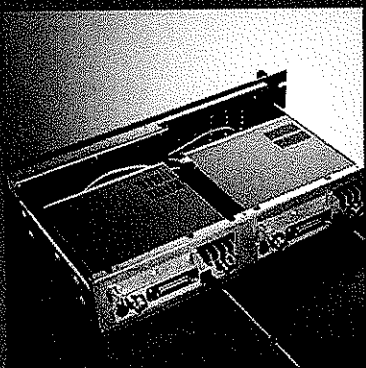
IC-FR5000

VHF REPEATER

IC-FR6000

UHF REPEATER

iDAS
COM DIGITAL ADVANCED SYSTEM



**Dual mode
Double
Channels**



iDAS digital/
analog FM

iDAS Trunking
(With UC-FR5000)

Two RF modules
in one unit (option)

50W output
25W full duty

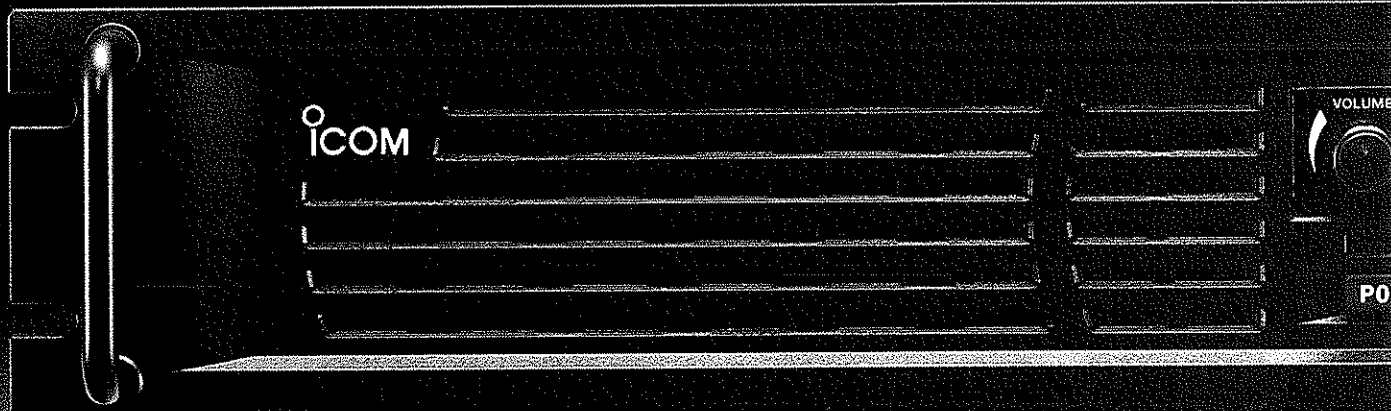
5-Tone, DTMF
CTCSS, DTCSS

2U height
rackmount

32ch memory,
dot-matrix LCD



Value, Performance and



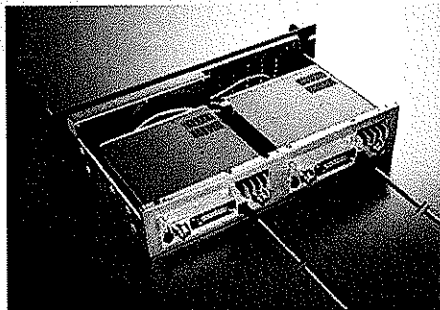
19-inch rack mount, 2U height low profile design

The IC-FR5000 series uses only 2U height. This low profile configuration allows you to stack multiple units in an industry standard 19-inch rack and provides great space efficiency.

Two RF modules in one unit

The IC-FR5000 series has an internal space for installing another RF unit. Two RF modules* can be installed and can be programmed and operated independently. LEDs on the front panel show both channel conditions.

* Optional UR-FR5000/UR-FR6000 required.



Two RF units can be installed inside. (Left side is an option.)

50W output at 50% duty cycle, 25W 100% duty cycle operation

Employing a high stability ± 0.5 ppm oscillator and high performance power amplifier, the IC-FR5000 series provides a reliable 100% duty cycle operation at 25W output. When operated at the high power setting of 50W, the repeater operates with a 50% duty cycle.

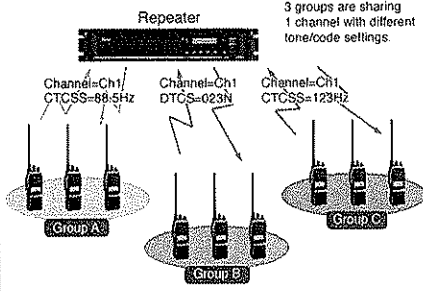
32 channel capacity and 5 programmable buttons

The 12-digit dot-matrix display, 5 programmable buttons, 32 memory channels and internal speaker allow you to use the repeater as a simple base station or to check repeater activity.

Multiple CTCSS, DTCS tone and RAN code decode

The IC-FR5000 series decodes multiple CTCSS and DTCS as well as digital RAN (Radio Access Number) codes on a per channel basis (up to 16 tones/codes) and downlinks the received signal with a specified tone/code. This function is useful for sharing a channel with multiple groups and provides quiet stand-by while using other groups.

Multiple-table



D-SUB 25-pin accessory connector

The IC-FR5000 series has a programmable D-SUB 25-pin accessory connector for connecting various trunking controllers or external remote control devices. Also, modulation/demodulation signals can be input/output from the D-SUB connector.

Superior receiver performance

The IC-FR5000 series has class leading receiver performance of selectivity and intermodulation rejection. It improves the quality of the repeater service even under congested band conditions.

Voice scrambler

The built-in inversion type* voice scrambler provides secure conversation as standard. When a more secure system is required, the 32 code non-rolling type voice scrambler UT-109R* and 1020 code rolling type UT-110R* are available as an option. In IDAS digital mode, a 15-bit encryption key provides over 32,000 scrambling codes.

* These voice scramblers (inversion type, UT-109R and UT-110R) are available with analog mode only.

Built-in audio compander*

The built-in audio compander improves the signal to noise ratio and provide clear audio. * Analog mode only.

Other features

- PTT priority setting (Local Mic., external PTT or repeater operation)
- 5-Tone and DTMF encoder/decoder*
- CW ID transmitter
- Analog wide/narrow (12.5/25kHz) channel spacing programmable*
- Wide frequency range: VHF 136-174MHz, UHF: 400-470 or 450-520MHz
- Normal and priority scan
- Convenient key assign stickers supplied
- Quick and easy programming from a PC
- Beat cancel capability
- Low voltage alert*
- * For analog mode only

Flexibility: All Standard



VHF Repeater

IC-FR5000

UHF Repeater

IC-FR6000

IDAS

ICOM DIGITAL ADVANCED SYSTEM

The IC-FR5000 series is ready for IDAS digital and IDAS trunking.



Flexible migration path from analog to digital

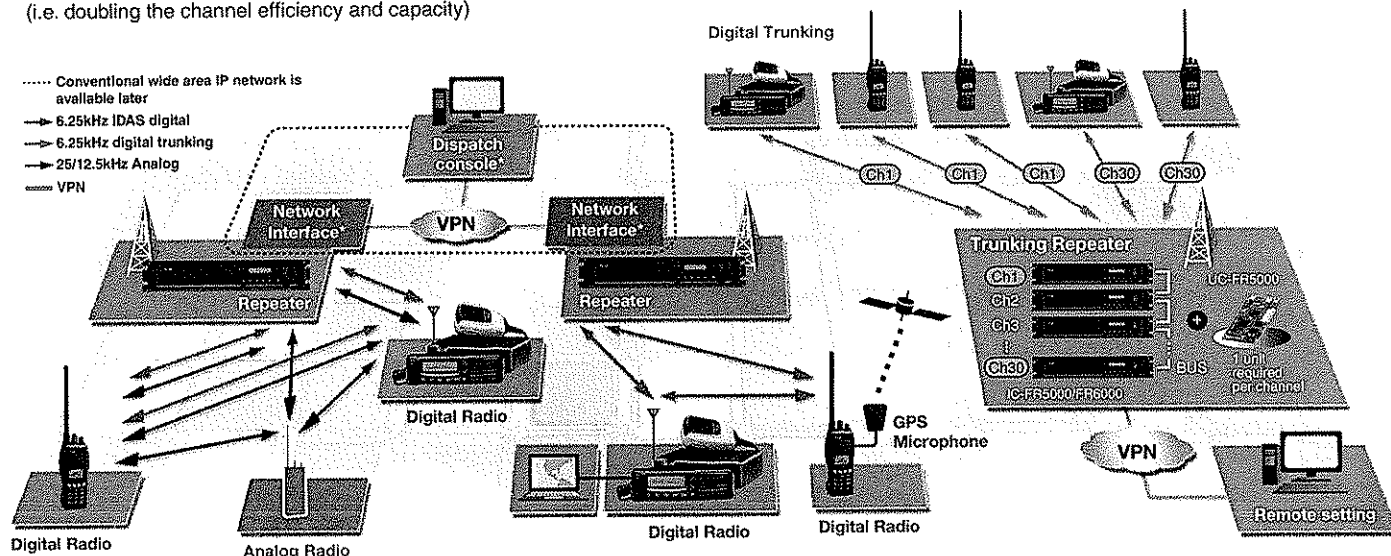
The IC-FR5000 series can receive both analog and digital mode signals on a single channel. You can partially introduce IDAS digital radios, while still maintaining the existing analog radios in the system.



Double your channel capacity

The IDAS system utilizes 6.25kHz narrow channel spacing, which within a 12.5kHz channel, you can create two offset channels. (i.e. doubling the channel efficiency and capacity)

- Conventional wide area IP network is available later
- 6.25kHz IDAS digital
- 6.25kHz digital trunking
- 25/12.5kHz Analog
- VPN



Flexible application possibilities

Being digital, integration and convergence with IP technology as well as multiple data applications will be possible to enhance the basic system.



Improved audio quality and coverage

Enjoy noise free audio over a greater comparable area than analog FM. The IDAS radio uses the AMBE+2™ codec the latest evolution in vocoding technology.

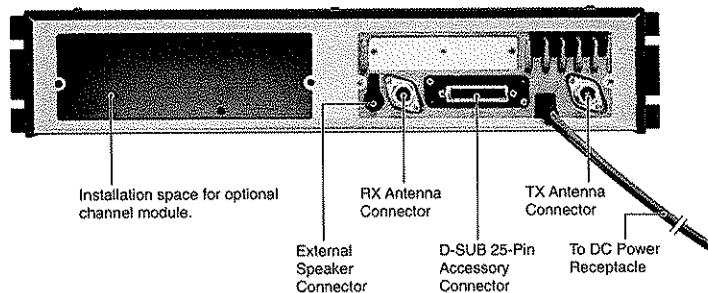


IDAS trunking with optional UC-FR5000

The optional UC-FR5000 offers single site digital trunking capability for effective channel management. Its distributed system (similar to the analog LTR™ trunking) does not require a dedicated control channel. Up to 30 channels (RF units) per site can be set up.

The above is a system image only. Actual release timing and system capabilities are still to be decided.

REAR VIEW



Offers an integrated system

Take advantage of Icom's integrated system design for a total digital system. The IC-F3161D and IC-F5061D series are designed for the IDAS compatible terminal components with the following digital features.

- IDAS conventional • IDAS trunking
- Selective call, group call and talk group ID
- Status call/request • Radio check
- Radio stun/kill/revive • Data call
- Digital voice scrambler
- Emergency call
- Call alert • Call log



IC-F5061D series



IC-F3161D series

SPECIFICATIONS

GENERAL

- Frequency coverage
IC-FR5000 : 136-174MHz,
IC-FR6000 : 400-470, 450-520MHz
- Number of channels : Max. 32 channels
- Channel spacing : 6.25/12.5/25kHz
7.5/15.0/30kHz
- PLL channel step : 2.5, 3.125kHz
- Frequency stability : ± 0.5 ppm
- Operating temperature range : -30°C to $+60^{\circ}\text{C}$
 -22°F to $+140^{\circ}\text{F}$
- Power supply voltage : 13.6V DC
- Current drain (at 13.6V DC):
TX : 50W
RX : Max. audio 1.9A
Stand-by : 500mA
400mA (FAN, LCD backlight off)
- Antenna impedance : 50 Ω (Type-N \times 2)
- Dimensions (W \times H \times D) : 483 \times 88 \times 260 mm
19 $\frac{1}{2}$ \times 3 $\frac{1}{2}$ \times 10 $\frac{1}{4}$ in
- Weight : 5.6kg ; 12.3lb (approx.)

TRANSMITTER

- Output power : 50W (adjustable to 5W)
25W at 100% duty cycle
- Max. frequency deviation : $\pm 5.0/2.5$ kHz (wide/narrow)
- Spurious emissions : 80dB typ.
- Adjacent channel power : 73/67dB typ. (wide/narrow)
- FM hum and noise : 50/45dB typ. (wide/narrow)
- Audio harmonic distortion : 1% typ. (40% deviation)
- Microphone impedance : 600 Ω (8-pin modular)

Supplied Accessories

- DC power cable
- Handle kits
- Key assign stickers

Measurements made in accordance with TIA-603 (for Analog FM). All stated specifications are subject to change without notice or obligation.

RECEIVER

- Sensitivity FM (W/N) : 0.30 μ V typ. (at 12dB SINAD)
Digital : 0.25 μ V typ. (at 5% BER)
- Spurious response : 90dB typ.
- Intermodulation rejection : 78dB typ.
- Hum and noise ratio : 50/45dB typ. (wide/narrow)
- Audio output power : 4.0W typ. at 5% distortion with a 4 Ω load
- External speaker connector : 2-conductor 3.5 (d) mm
($\frac{1}{8}$ "/4 Ω)

Applicable U.S. Military Specifications

Icom makes rugged products that have been tested to and passed the following MIL-STD requirements and strict environmental standards.

Standard	MIL-STD-883C	
	Method	Procedure
High Temperature	501.4	I, II
Low Temperature	502.4	I, II
Dust	510.4	I
Vibration	514.5	I
Shock	516.5	I

Also meets equivalent MIL-STD-883C, -D and -E.

OPTIONS

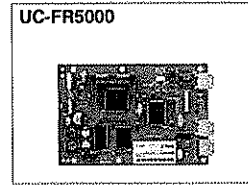
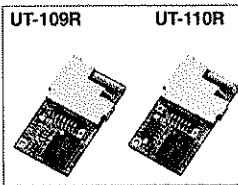
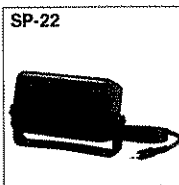
- **HM-152 HAND MICROPHONE**
Regular hand microphone.
- **SM-25 DESKTOP MICROPHONE**
Equipped with a monitor switch.
- **SP-22 EXTERNAL SPEAKER**
Compact and easy-to-install.

- **UT-109R VOICE SCRAMBLER UNIT***
Provides operating security. Up to 32 non-rolling scrambling codes are available. (Analog mode only)
- **UT-110R VOICE SCRAMBLER UNIT***
Up to 1020 rolling scrambling codes are available. (Analog mode only)

* UT-109R/UT-110R voice scramblers are not compatible with Inversion type voice scrambler.

- **UR-FR5000 VHF CHANNEL MODULE**
136-174MHz, 50W
- **UR-FR6000 UHF CHANNEL MODULE**
400-470MHz, 450-520MHz, 50W

- **UC-FR5000 IDAS TRUNKING BOARD**
Provides IDAS digital trunking capability. The IDAS trunking system can have up to 30 channels per site. One UC-FR5000 is required per channel. Most of the UC-FR5000 settings can be configured from a web browser.



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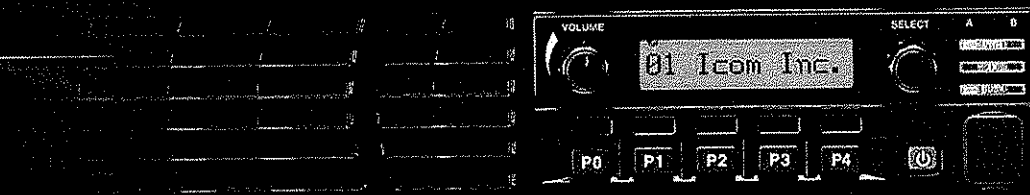
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Your local distributor/dealer:

ICOM

IDAS
ICOM DIGITAL ADVANCED SYSTEM

ICOM DIGITAL
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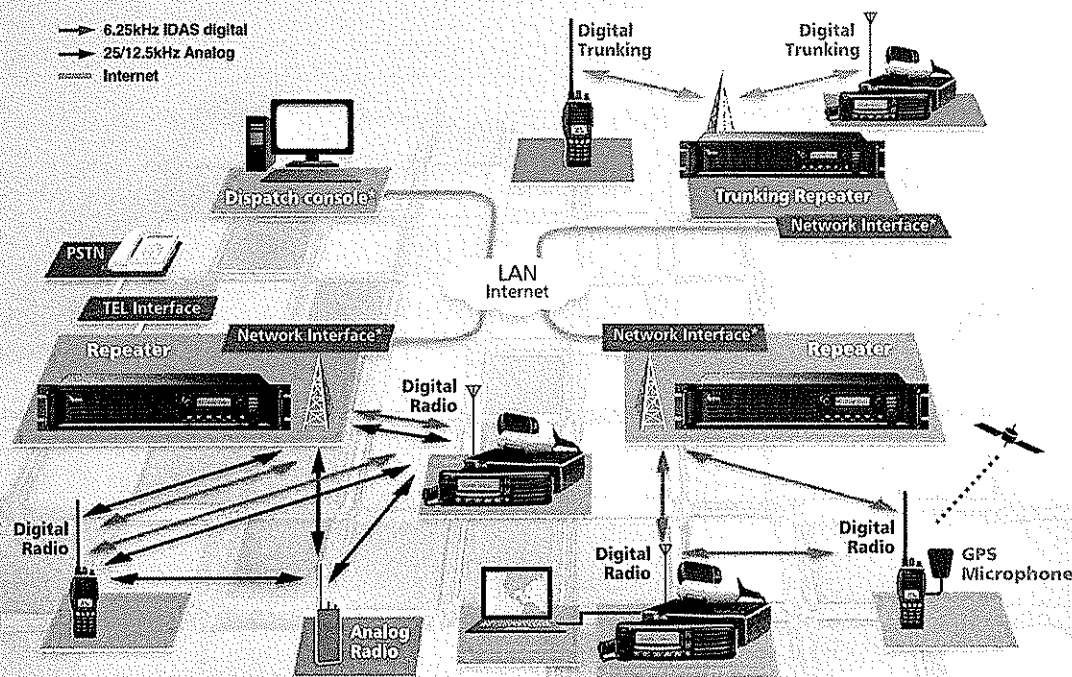


IDAS

ICOM DIGITAL ADVANCED SYSTEM

The IDAS system bridges the gap between analog and digital

IDAS is Icom's digital land mobile radio system using the NXDN™ common air interface. It has useful calling features including selective calling, status message, radio stun/kill/revive and GPS position reporting, etc. The IDAS system is ideal for business and industry users who are thinking to migrate to a digital system and hence to future mandated narrow channel spacing.



Five initial benefits of the IDAS system

Offers a flexible migration path from analog to digital

No need to replace an entire radio system. All products are dual mode (Analog/digital), so they have compatibility with current analog FM systems.

Double your channel capacity

The IDAS radios utilize 6.25kHz narrow channel spacing, which within a 12.5kHz channel, you can create two offset 6.25kHz channels. (i.e. doubling the channel efficiency and capacity.) You can use these channels, for example, in a one for voice and one for data communication configuration.

Improved communication security

The digital encryption adds extra security over analog voice scrambling.

Flexible application possibilities

Being digital, integration and convergence with IP technology as well as multiple data applications are possible.

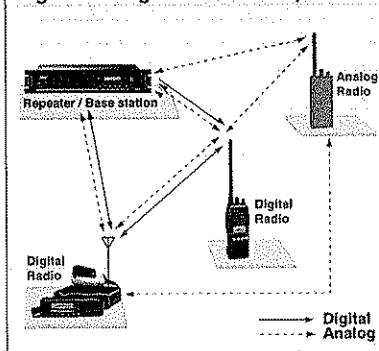
Improved audio quality

The IDAS system occupies only 6.25kHz spacing per channel. With the improved sensitivity of narrow band communications, increased communication coverage than comparable analog FM mode using 12.5kHz/25kHz channel spacing can be achieved. The IDAS radio uses the AMBE + 2™ codec providing clear audio and simultaneous data communication.

Digital/analog mixed mode operation

The IDAS radio can receive both analog mode and digital mode signals on a single channel. You can partially introduce the IDAS radios, while using the existing analog radios in a system. The IDAS system allows you to scale migration to narrow band digital at your own pace and need, while running your existing analog system. It is a cost efficient way to obtain the next generation in two way radio technology, while protecting your current system investment.

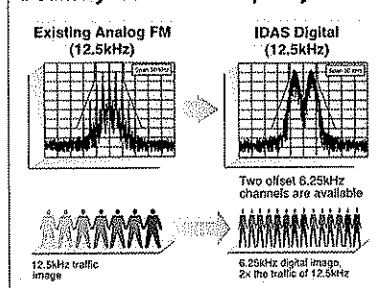
Digital/analog mixed mode operation



Double your channel capacity

The IDAS system doubles the capacity of the current 12.5kHz channel allocation. Icom allows you to meet any narrow banding requirements today, and provides a solution to any future spectrum deficiency now.

Double your channel capacity



Peer-to-peer communication with FDMA

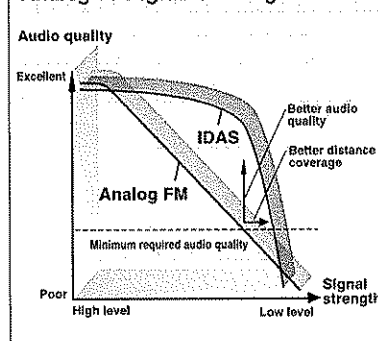
The FDMA enables "peer to peer" communication between subscriber units in

narrow band mode. It ensures communication with no reduction in channel capacity, even if a repeater site is not available, or goes down.

Improved audio quality and distance

Better sensitivity and a lower noise floor at the narrower bandwidth plus the latest in vocoding technology mean you have crystal clear audio over a greater coverage area than analog FM as the narrower signal travels further at the same output power.

Analog vs Digital Coverage

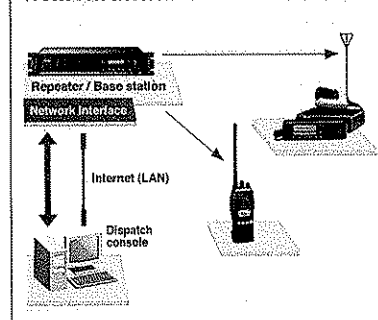


Network interface*

The IDAS repeater has a network interface*¹ and can be connected to a LAN or the Internet via Ethernet cable. Communication range is vastly extended by the Internet connection and eliminates the need for expensive leased lines. When connected to a PC via a LAN or the Internet, you can remotely maintain the repeater configuration from your PC.

*¹ Option (Available in the future)

Network interface



Digital trunking*

The repeater will also have digital trunking capability in the near future. This will allow you further effective channel management by sharing a minimum of channels with a large number of users.

Secure communication

When secure communication is required, the IDAS system provides a digital voice scrambler using a 15-bit key (about 32,000 keys) for encryption as standard. This is added security to the digital modulation/demodulation.

Selective call, group call and talk group ID

The IDAS system allows you to call individual or group users. The radio automatically sends its own ID number when holding the PTT button. The IDAS radio memorizes up to 500 of both individual/group ID numbers and alias names in the table. The alias name or individual/group ID is displayed on the LCD while receiving a message allowing you to identify who is calling.

Emergency call functions

When the emergency button is pushed, the emergency signal will be automatically sent to the dispatcher or another radio. The man down*² and the lone worker functions are available for automated emergency calls. (in digital and analog modes) The remote radio monitor function allows the dispatcher to turn on the PTT button from a remote location and transmit anything the microphone hears for a preprogrammed time period.

*² Optional UT-124R required.

Status message

You can set up to 100 conditions such as "on duty", "at lunch" or "in route" and send your status to another unit or the dispatch. Also, you can request another unit to send their status and receive it.

GPS position reporting

When used with the GPS speaker microphone, HM-170GP for the handheld radio or an external GPS receiver for the mobile radio, the IDAS radio can send the current position information to another unit or the dispatcher. Simultaneous status message and GPS data can also be sent. When connected to a PC installed with a mapping software application, the dispatcher will know the real-time activity of the fleet members.

Data communication

The IDAS radio allows you 4800bps*³ data communication. You can send a data

message without an external data modem. Future third party data applications will provide further features.

*³ Error correction, control data, etc, will reduce number of bits available for actual data communication.

Radio stun, kill and revive

The radio stun and kill functions disable a lost or stolen radio over the air, eliminating security threats from undesired listeners. When the radio receives the stun command, all functions will be locked out until the revive command is received. The radio can also send radio stun, kill and revive commands.

RAN (Radio Access Number) for digital code squelch

The RAN code is the digital equivalent of CTCSS for accessing an IDAS repeater or digital code squelch function.

Other features

- Radio check function allows you to verify if another radio is within the communication range
- Call log displays the received call history
- Call alert function allows you to send a beep sound instead of a voice call.

* Some features are planned and released in the future.

VHF Digital Repeater

IC-FR5000

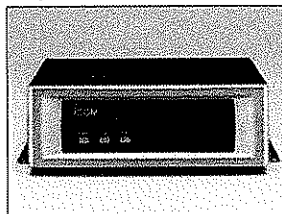
UHF Digital Repeater

IC-FR6000

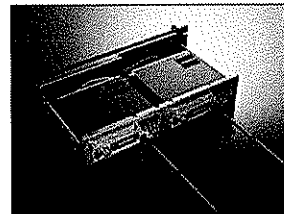
Features

- 19-inch rack mount design, 2U height low profile design
- 12-digit dot-matrix display and 32 memory channels
- Multiple CTCSS, DTCSS tone and digital RAN code decode
- Normal and priority scan setting
- 50W output power at 50% duty operation, 25W at 100% duty operation
- Two RF modules can be installed in a unit for a "2Ch in 1box configuration" (Optional UR-FR5000/UR-FR6000 required)
- 5-Tone and DTMF encoder/decoder (For analog FM mode)
- Accessory connector (D-sub 25-pin) for connecting analog trunking controllers or other external devices
- Audio compander
- Built-in inversion type voice scrambler and optional UT-109R/ UT-110R for higher security (For analog FM mode)
- CW ID transmitter

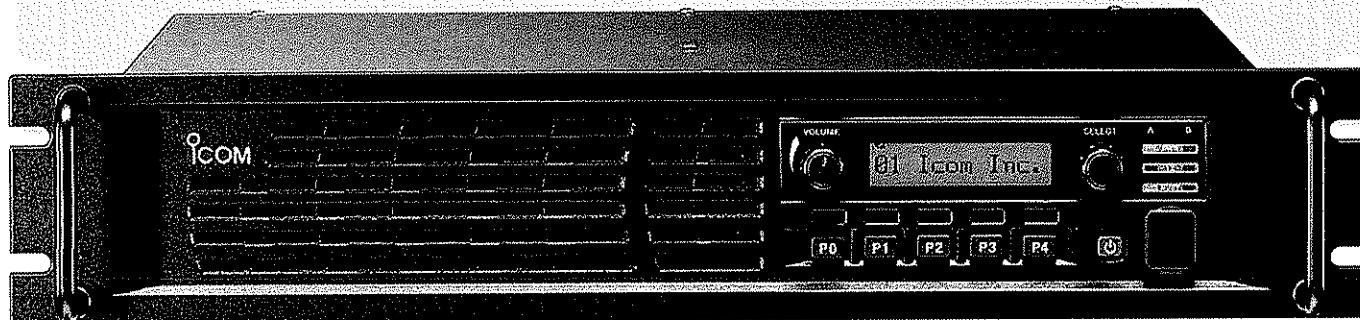
Options

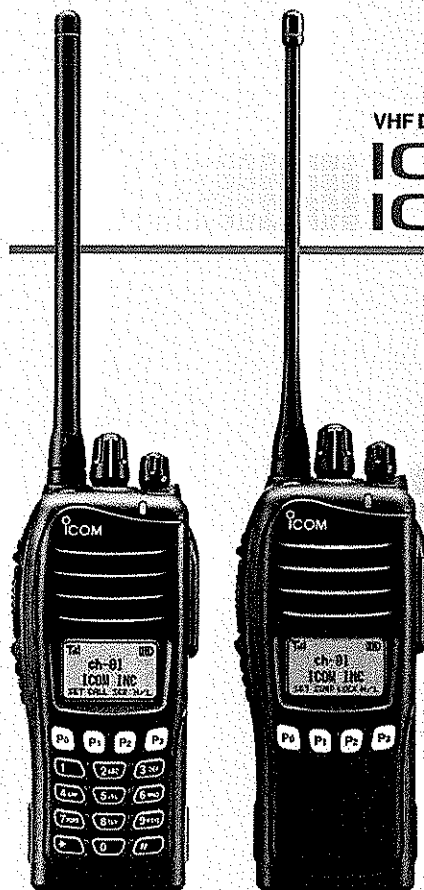


UR-FR5000 (VHF) / UR-FR6000 (UHF)
Channel module units



Two RF units can be installed in the unit.
(Left side is an option.)





T Series
(10-Keypad Version)

S Series
(Simple Keypad Version)

VHF Digital Transceivers

IC-F3161DT
IC-F3161DS

UHF Digital Transceivers

IC-F4161DT
IC-F4161DS

Features

- Compatibility with NXDN™ protocol and abundant digital functions
- 512 memory channels with 128 zones
- Dot matrix, multi-function LCD
- Large capacity Lithium-Ion battery pack
- Dust-protection and waterjet resistance equivalent to IP55
- MIL-STD rugged construction
- 5W RF output power
- VOX for hands-free operation with optional headsets
- Voting mode scanning
- Escalating alarm
- Loud speaker audio with BTL amplifier and audio compander
- Built-in 2-Tone / 5-Tone / CTCSS / DTCS signaling (For analog FM mode)
- Basic LTR™ mode operation (For analog FM mode)
- MDC 1200 compatible (For analog FM mode)
- Built-in inversion type voice scrambler and optional UT-109R / UT-110R for higher security (For analog FM mode)

Options



HM-170GP
GPS speaker-microphone.
Equivalent to IP57.



HS-95
Behind-the-head headset
with flexible boom microphone.



VS-1SC
PTT/VOX unit. Required
when using the headset.



UT-124R
Man down unit. Automatically
sends an emergency
signal when the transceiver
is left in a horizontal position
for a preset time.

VHF Digital Transceiver

IC-F5061D

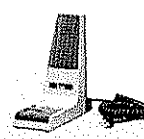
UHF Digital Transceiver

IC-F6061D

Features

- Compatibility with NXDN™ protocol and abundant digital functions
- 512 memory channels with 128 zones
- Large dot matrix display and multi-function LCD
- Detachable front panel with optional RMK-3 and separation cable
- D-Sub accessory connector and ignition sensing line
- 50W (VHF), 45W (UHF) RF output power
- IP54 dust-protection and splash resistance (Controller only)
- MIL-STD rugged construction
- Voting mode scanning
- Front mounted loud speaker and audio compander
- Built-in 2-Tone / 5-Tone / CTCSS / DTCS signaling (For analog FM mode)
- Built-in basic LTR™ mode operation (For analog FM mode)
- MDC 1200 compatible (For analog FM mode)
- Built-in inversion type voice scrambler and optional UT-109R / UT-110R for higher security (For analog FM mode)
- 8 DTMF autodialing memories and ANI function (For analog FM mode)
- Escalating alarm

Options



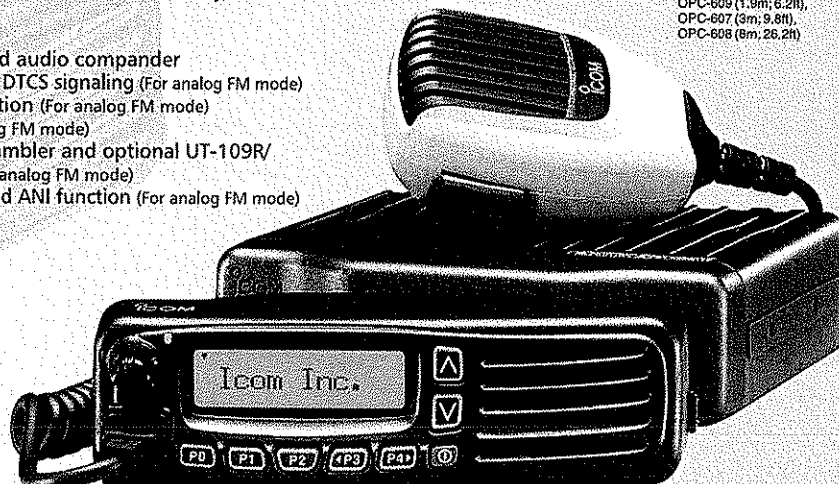
SM-25
Desktop microphone



RMK-3
Separation kit



OPC-607/OPC-608/OPC-609
Separation cables:
OPC-609 (1.9m; 6.2ft),
OPC-607 (3m; 9.8ft),
OPC-608 (8m; 26.2ft)



Specifications

VHF Digital Transceivers

IC-F3161DT IC-F4161DT
IC-F3161DS IC-F4161DS

GENERAL

- Frequency range : 136-174MHz
400-470MHz
450-512MHz
- Number of channels : Max. 512 Ch./128 zones
- Channel spacing : 25.0/12.5/6.25kHz,
30.0/15.0/7.5kHz
- Antenna impedance : 50Ω
- Power supply requirements : 7.2V DC (nominal)
- Current drain (at 7.2V DC; approx.):
Tx High (5W) 1.5A/1.8A (VHF/UHF)
Rx AF max. 600mA
Stand-by 100mA
(With UT-232H) 150mA/140mA (VHF/UHF)
- Operating Temp. range : -30°C to +60°C
; -22°F to +140°F
- Dimensions (WxHxD)
(projections not included) : 53x136x38.5 mm
; 2¹/₂x5¹/₂x1¹/₂ in
(with BP-232N)
- Weight (with BP-232N) : 340g; 12.0oz (approx.)

TRANSMITTER

- Output power : 5.0W (VHF/UHF)
- Frequency error : ±1.0ppm
- Spurious emissions : 75dB typ.
- FM hum and noise : 46/40dB typ. (Wide/Narrow)
- Audio harmonic distortion : 3% typ. (40% deviation)
- External MIC connector : 9-pin multi connector/2.2kΩ

RECEIVER

- Intermediate frequencies : 46.35MHz/450kHz (1st/2nd)
- Sensitivity FM (W, N) : 0.25μV typ. (at 12dB SINAD)
Digital : 0.20μV typ. (at 5% BER)
- Spurious response : 70dB min. (Wide/narrow)
- Intermodulation : 74dB typ. (Wide/narrow)
- Audio output power : 0.5W typical at 5% distortion
with an 8Ω load
- External SP connector : 9-pin multi connector/8Ω

All stated specifications are subject to change without notice or obligation.
Measurements made in accordance with TIA-603 (Analog FM).

UHF Digital Transceivers

IC-F4161DT IC-F4161DS

VHF Digital Transceiver

IC-F5061D

UHF Digital Transceiver

IC-F6061D

GENERAL

- Frequency coverage : 136-174MHz
400-470MHz
450-512MHz
- Number of channels : Max. 512 Ch./128 zones
- Channel spacing : 25.0/12.5/6.25kHz,
30.0/15.0/7.5kHz
- Antenna impedance : 50Ω (SO-239)
- Power supply requirements : 13.6V DC
- Current drain (approx.):
Tx 50W/45W 14.0A
Rx Max. audio 1.2A
Standby 300mA
- Operating Temp. range : -30°C to +60°C
; -22°F to +140°F
- Dimensions (WxHxD) : 160x45x150 mm
; 6¹/₈x1⁷/₈x5⁹/₃₂ in
- Weight : 1310g; 2.9lb (approx.)

TRANSMITTER

- Output power : 50W (VHF), 45W (UHF)
- Frequency error : ±1.0ppm
- Spurious emissions : 75dB typ.
- FM hum and noise : 46/40dB typ. (Wide/Narrow)
- Audio harmonic distortion : 3% typ. (40% deviation)

RECEIVER

- Intermediate frequencies : 46.35MHz/450kHz (1st/2nd)
- Sensitivity FM (W, N) : 0.25μV typ. (at 12dB SINAD)
Digital : 0.20μV typ. (at 5% BER)
- Spurious response : 90dB typ. (Wide/narrow)
- Intermodulation : 77dB typ. (Wide/narrow)
- Audio output power : 4.0W typ. at 5% distortion
with a 4Ω load

VHF Digital Repeater

IC-FR5000

UHF Digital Repeater

IC-FR6000

GENERAL

- Frequency coverage : 136-174MHz
400-470MHz
450-520MHz
- Number of channels : Max. 32 channels
- Channel spacing : 25.0/12.5/6.25kHz,
30.0/15.0/7.5kHz
- Antenna impedance : 50Ω (Type-N x 2)
- Power supply requirements : 13.6V DC
- Current drain (approx.):
Tx 50W 15.0A
Rx Max. audio 1.9A
Standby 500mA
400mA (FAN off)
- Operating Temp. range : -30°C to +60°C
; -22°F to +140°F
- Dimensions (WxHxD) : 483x88x260 mm
; 19¹/₂x3¹/₂x10¹/₄ in
- Weight : 5.6kg; 12.3lb (approx.)

TRANSMITTER

- Output power : 50W (adjustable to 5W)
- Frequency error : ±0.5ppm
- Spurious emissions : 80dB typ.
- FM hum and noise : 50/45dB typ. (Wide/Narrow)
- Audio harmonic distortion : 1% typ. (40% deviation)

RECEIVER

- Intermediate frequencies : 46.35MHz/450kHz (1st/2nd)
- Sensitivity FM (W, N) : 0.30μV typ. (at 12dB SINAD)
Digital : 0.25μV typ. (at 5% BER)
- Spurious response : 90dB typ. (Wide/Narrow)
- Intermodulation : 78dB typ. (Wide/Narrow)
- Audio output power : 4.0W typ. at 5% distortion
with a 4Ω load

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