



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

V
E
N
D
O
R

*709042444 304-776-4091
ELECTRONIC COMMUNICATIONS WV
408 OLD GOFF MOUNTAIN ROAD

CROSS LANES WV 25313

S
H
I
P
T
O

DIVISION OF JUVENILE SERVICES

SECOND FLOOR
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
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 PM 12:34

WV PURCHASING
DIVISION

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
<i>[Signature]</i>	304-776-4091	8-19-09
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
PRESIDENT	330520004	

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



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

Request for Quotation

RFO NUMBER
DJS010274

PAGE
2

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

V E N D O R	*709042444 304-776-4091
	ELECTRONIC COMMUNICATIONS WV
	408 OLD GOFF MOUNTAIN ROAD
	CROSS LANES WV 25313

S H I P T O	DIVISION OF JUVENILE SERVICES
	SECOND FLOOR
	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
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.						
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.)						
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.						
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.						
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.						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

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



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

3

ADDRESS CORRESPONDENCE TO ATTENTION OF:

JOHN ABBOTT
304-558-2544

*709042444 304-776-4091
ELECTRONIC COMMUNICATIONS WV
408 OLD GOFF MOUNTAIN ROAD

CROSS LANES WV 25313

DIVISION OF JUVENILE SERVICES

SECOND FLOOR
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>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			TELEPHONE		DATE	
TITLE			FEIN		ADDRESS CHANGES TO BE NOTED ABOVE	

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



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

Request for Quotation

RFO NUMBER

DJS010274

PAGE

4

ADDRESS CORRESPONDENCE TO ATTENTION OF:

JOHN ABBOTT
304-558-2544

*709042444 304-776-4091
ELECTRONIC COMMUNICATIONS WV
408 OLD GOFF MOUNTAIN ROAD
CROSS LANES WV 25313

DIVISION OF JUVENILE SERVICES
SECOND FLOOR
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
A SIGNED BID MUST BE SUBMITTED TO: DEPARTMENT OF ADMINISTRATION PURCHASING DIVISION BUILDING 15 2019 WASHINGTON STREET, EAST CHARLESTON, WV 25305-0130						
THE BID SHOULD CONTAIN THIS INFORMATION ON THE FACE OF THE ENVELOPE OR THE BID MAY NOT BE CONSIDERED:						
SEALED BID						
BUYER: JOHN ABBOTT-----						
RFQ. NO.: DJS010274-----						
BID OPENING DATE: 8/11/2009-----						
BID OPENING TIME: 1:30 PM-----						
PLEASE PROVIDE A FAX NUMBER IN CASE IT IS NECESSARY TO CONTACT YOU REGARDING YOUR BID: -----304-776-7092-----						
CONTACT PERSON (PLEASE PRINT CLEARLY): -----Tim Ford or Dustin Osborne-----						

SEE REVERSE SIDE FOR TERMS AND CONDITIONS

SIGNATURE	TELEPHONE	DATE
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE

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



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

5

ADDRESS CORRESPONDENCE TO ATTENTION OF:

JOHN ABBOTT
304-558-2544

*709042444 304-776-4091
ELECTRONIC COMMUNICATIONS WV
408 OLD GOFF MOUNTAIN ROAD

CROSS LANES WV 25313

DIVISION OF JUVENILE SERVICES

SECOND FLOOR
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
***** THIS IS THE END OF RFQ DJS010274 ***** TOTAL:						99,140.70
SEE REVERSE SIDE FOR TERMS AND CONDITIONS						

SIGNATURE	TELEPHONE	DATE
<i>[Signature]</i>	304-776-4091	Aug 19 2009
TITLE	FEIN	ADDRESS CHANGES TO BE NOTED ABOVE
PRESIDENT	550520004	

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

SPECIFICATIONS FOR RADIOS & EQUIPMENT

6

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 zone250). 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

00

Item #	Description	Estimated Initial Order	Unit Price	Extended Price	Future Unit Price for One (1) Each
1	Digital 5 Watt Radio	105	\$ 655.00	\$ 68775.00	655.00
2	Temple Transducer	50	\$ 210.00	s 10500.00	210.00
3	Standard Speaker Microphone	20	\$ 68.00	\$ 1360.00	68.00
4	Multi Unit Charger Non Display	9	\$ 429.00	\$ 3861.00	429.00
5	Multi Unit Charger With Display	3	\$ 610.00	\$ 1830.00	610.00
6	High Capacity Lithium Ion battery	45	\$ 83.50	\$ 3757.00	83.50
7	25 Watt Repeater in 30" Cabinet	1	\$ 2335.00	s 4475.00	2335.00
8	Fiberglass Antenna	1	\$ 110.00	\$ 110.00	110.00
9	Cable 1/2" LDF Heliax Poly Jkt per ft	100	\$ 4.50	s 450.00	4.50
10	40 Watt Control Station & Accessories	2	s 2117.95	s 4235.90	2117.95
11	Control Station Antenna	2	\$ 250.00	\$ 500.00	250.00
12	Replacement Belt Clip	36	\$ 17.80	\$ 640.80	17.80
13	UHF Stubby Antenna	6	\$ 10.00	\$ 60.00	10.00
14	UHF Whip Antenna	6	\$ 10.00	\$ 60.00	10.00
15	Leather Carry Case	6	\$ 31.00	\$ 186.00	31.00
16	Installation - hourly rate	6 Hours	80.00/Hr	s 480.00	
	TOTAL BID			\$ 99140.70	



From: 304 558 4115
State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Page: 1/2
Request for
Quotation

Date: 8/10/2009 1:22:39 PM

REQ NUMBER
DJS010274

PAGE
1

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

*709042444 304-776-4091
ELECTRONIC COMMUNICATIONS WV
408 OLD GOFF MOUNTAIN ROAD
CROSS LANES WV 25313

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

DATE PRINTED	TERMS OF SALE	SHIP VIA	F.O.B.	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		TELEPHONE		DATE		
TITLE		FAX		ADDRESS CHANGES TO BE NOTED ABOVE		

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

This fax was received by GFI FAXmaker fax server. For more information, visit: <http://www.gfi.com>

ADDENDUM NO. 1

2

Bid Addendum for DJS101274

August 10, 2009

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.



From: 304 558 4115
State of West Virginia
Department of Administration
Purchasing Division
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

Page: 1/2
request for
Quotation

Date: 8/11/2009 10:30:48 AM
H-Q NUMBER

DJS010274

PAGE

1

ADDRESS CORRESPONDENCE TO ATTENTION OF

JOHN ABBOTT
304-558-2544

*709042444 304-776-4091
ELECTRONIC COMMUNICATIONS WV
408 OLD GOFF MOUNTAIN ROAD
CROSS LANES WV 25313

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		TELEPHONE		DATE		
TITLE		FIRM		ADDRESS CHANGES TO BE NOTED ABOVE		

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

This fax was received by GFI FAXmaker fax server. For more information, visit: <http://www.gfi.com>

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.



Sales Quotation

Electronic Communications of WV. Inc.

Total Communications Sales and Service

DATE AUGUST 10, 2009

408 Old Goff MT. Rd.
Cross Lanes WV, 25313
Phone 304-776-4091 Fax 304-776-7092
Toll Free in WV. (800) 570-4091

TO Division of Juvenile Services

SHIP
TO

SALESPERSON	JOB	SHIPPING METHOD	SHIPPING TERMS	DELIVERY DATE	PAYMENT TERMS	DUE DATE
Dustin Osborne	Portable Radio	Standard	FOB	15 days ARO	Net 30	Net 30

QTY	ITEM #	DESCRIPTION	LIST PRICE	CONTRACT PRICE	CONTRACT EXTENDED
1	1	NX-300K 5W, 14 Alpha LCD Display, 6 control keys	684.00	475.00	475.00
1	2	KRA-27M UHF Whip Antenna	14.00	9.50	9.00
1	3	Lithium Ion Battery 1950mAh	105.00	68.00	68.00
1	4	KSC-32 Rapid Charger	70.00	45.00	45.00
1	5	KMC-41M Speaker Microphone	96.50	58.00	58.00
				SUB TOTAL	655.00
				TAX	Exempt
				TOTAL	655.00



Sales Quotation

Electronic Communications of WV. Inc.

Total Communications Sales and Service

DATE AUGUST 13, 2009

408 Old Goff MT. Rd.
Cross Lanes WV, 25313
Phone 304-776-4091 Fax 304-776-7092
Toll Free in WV. (800) 570-4091

TO Division of Juvenile Service

SHIP
TO

SALESPERSON	JOB	SHIPPING METHOD	SHIPPING TERMS	DELIVERY DATE	PAYMENT TERMS	DUE DATE
Dustin Osborne	Radio Extras	Standard	FOB	15 days ARO	Net 30	Net 30

QTY	ITEM #	DESCRIPTION	LIST PRICE	CONTRACT PRICE	CONTRACT EXTENDED
50	1	Temple Transducer Speaker Microphone		210.00	10500.00
20	2	Kenwood KMC-41M Speaker Microphone		66.00	1320.00
9	3	Multi Unit Charger KSC-326K		429.00	3861.00
3	4	Multi Unit Charger ACT i60 6 unit charger with iGauge Add on Display		610.00	1830.00
45	5	KNB-48L High Capacity Lithium Ion Battery		83.50	3757.50
36	6	Replacement Belt Clip KBH-8DS		17.80	640.80
6	7	UHF Stubby Antenna KRA-23M		10.00	60.00
6	8	UHF Whip Antenna KRA-27M		10.00	60.00
6	9	Leather Carry Case KLH-148K		31.00	186.00
				SUB TOTAL	
				TAX	Exempt
				TOTAL	

THREAT4™

powered by **Xacore**

Available with Wireless
Sniper/Finger PTT



WATERPROOF TEMPLE TRANSDUCER

SERIES:

x-65000

WARRANTY:

12-months, manufacturers defect

FEATURES:

- Dual Bone Conduction Transducers
- Available with wireless finger/sniper PTT
- No Audio Bleed on Receive
- Waterproof to 1m for 31mins
- Compatible with most ballistic helmets
- Available in right or left shooter
- Can be worn with ear plugs

SPECIFICATIONS:

MICROPHONE

- Mounting: Left or Right
- Type: Electret (Commercial Radios)
- Impedance: 2.2k Ohm
- Sensitivity: -49.3dB at 1000Hz
- Type: Dynamic (Military Radios)
- Impedance: 150 Ohm
- Sensitivity: -70 dBV/Pa +/- 5 dB at 1000Hz

BONE CONDUCTION SPEAKER

- Impedance: DC 8.5+-10hm, AC 38+-0hm
- Sensitivity: 125+-4dB
- Input Power: Rated 0.5W Max 1W
- Ruggedness: 0.5W, 48hrs

PTT

- 2" Body PTT
- Wireless Sniper/
Finger PTT (915MHz) 1:1 pairing

CABLE

- Diameter: 4.5mm

MECHANICAL

- Cable Pull from Temple Pad: 10kgf
- Cable Flex at Temple Pad
(90 degree bending): 5000 cycles min,
300g loading
- Mic Boom Pull: 10kgf
- Mic Boom Flex (90 degree bending):
4000 cycles min, 500g loading

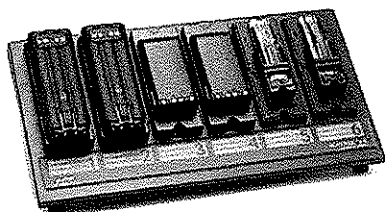
ENVIRONMENTAL

- Storage Temp: -20C to +70C
- Operating Temp: -20C to 55C
- Submersion: Headset: IP67, 1m
31mins (not including body PTT on
wireless version). Wireless/Sniper:
PTT: IP67,
1m 31mins. Non-wireless body
PTT: IP67, 1m 31mins
- Drop: 10 each axis at 5ft w/o failure
- Vibration: 30 mins each axis sweep
14-33Hz @ 2.0mm
- Salt Spray: 24hrs @NaCl 5+-1% PH
- 6.5-7.2 Temp. 33.3-37C
- RoHS

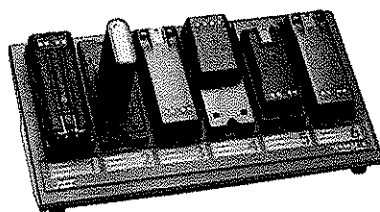
RADIO COMPATIBILITY: NACRE QUIETPRO / MBITR /
PRC / THREAT4 / EDGE WARRIOR / VIC / LVIS / TOCNET /
USB / COMMERCIAL / CUSTOM

www.threat4.com | www.xacore.com

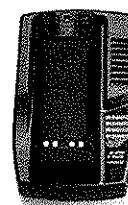
1-888-922-6731



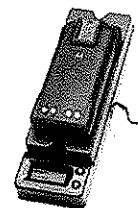
**ACT i65
Maintainer**



**ACT i60
Six-Bay Charger**



**ACT i10
Single Charger**



**ACT
iGAUGE**

iCHARGE™ Technical Overview

Battery Range: Charges 4-10 Cell NiCD & NiMH, 1-63 cell Li-Ion batteries

Charging Technology: Patented Enrev™ technology

U.S. Patents: 4,829, 225, 5,307,000; 5,694,023; other patents pending

Max Charge Current: 2.4 Amps per bay

Termination Method: Proprietary Delta-Y; -Delta Voltage; Timer back-up

Voltage Resolution: 10-20 mV per bit

Control Circuit: Proprietary ACT design

Operating Temperature Range: 10° to 45° C

Maximum Temperature: 48°C

Input Voltage: Unswitched 120/240 VAC, +6/-10%, 50/60 Hz. Removable power cord, user replaceable fuse (i60)

Input Current: requires 1.8A max @ 120vac

Input Power: 220W total system dissipation maximum (all 6 bays loaded @ 6cell NiCD), 751 BTU/hr.

Charging Power: 20W per bay delivered to battery nominal

Discharging Power: 3W per bay maximum

Efficiency: 80%

Accuracy: 30mv battery voltage reading resolution per bay

Discharging Voltage: <=1V per cell

Housing Material: ABS injection molded plastic (i10); Aluminum (i60, i65)

Display: Easy to use Charge (yellow), Complete (green), and Fault (red) LEDs.

Adapter Mount: Simple "blind" plug-in using shrouded guide connector system. Secured with two matching screws.

Adapter Compatibility: Adapter socket to accommodate all listed batteries and capacity gauge (iGAUGE) at all bays

Color: Blue

Dimensions: approximate 8 x 5 x 2" (i10); 18 x 9 x 6.5" (i60, i65)

Weight: 1 lb. (i10); 11.8 lbs. (i60, i65)

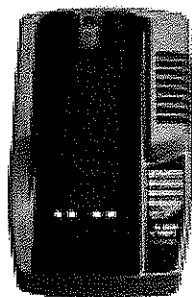
Fan: 80 mm, 29 dba @ 39 cfm (i60, i65). Fan operates only when actively charging any or all bays.

Throughput: Typical: NiCD < 1 hour/bay; NiMH < 1.5 hours / bay; Li-Ion < 2 hours/bay

Approvals: UL, CE

ESD susceptibility: Meets and exceeds EN6100-4-4 a tall user entry points.

Advanced Charger Technology (ACT), the leader in battery charging technology, provides iCHARGE™, the most intelligent battery charging solution on the market today. iCHARGE battery chargers provide the fastest available charger, user-friendly interface, and battery conditioning during every charge. This allows the land mobile radio user to enjoy extended battery life and more reliable battery charging. iCHARGE battery chargers are the only two-way radio battery chargers featuring the superior benefits of the patented Dynamic ElectroWaveform (DEW™) technology. DEW technology utilizes real-time feedback to implement an interactive, intelligent charging waveform that responds dynamically to the unique condition of each battery during the charging process.



Model i10

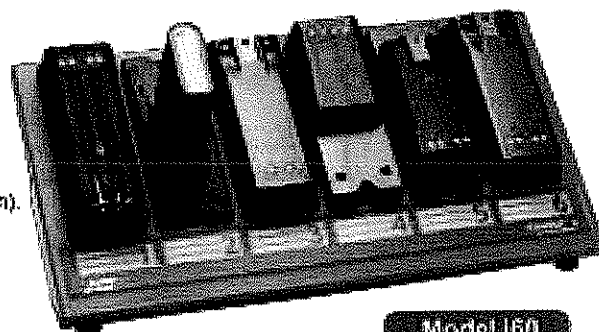


Model i15

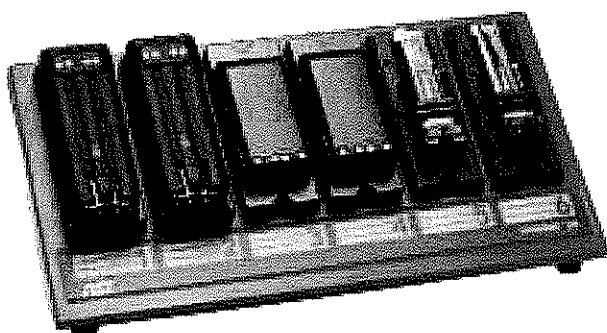
- Tri-chemistry (NiCD, NiMH, Lithium)
- Provides fastest conditioning charge available
- Extends battery life with no memory effect
- Powered by patented DEW™ Technology
- Microprocessor controlled with real-time intelligent charging to meet the unique needs of each battery.
- Simplicity of use, with no complicated charging rules
- Precise termination at full charge, unlike other chargers that charge to 80% and then revert to trickle charging.
- User-friendly interface, Green light = Battery Ready

iCHARGE™ Technical Data:

Charging Method: Patented DEW technology
 US Charging Technology Patents: 4,829,225; 5,307,000; 5,694,023.
 Max Charge Current: 2.4 Amps
 Max Depolarization: 12 Amps
 Battery Range: Chargers 4-10 cell NiCD & NiMH, 1-3 cell Li-ion battery chemistries
 Charge Time: Varies 15-45 minutes (NiCD), 15-60 minutes (NiMH), 60-75 minutes (Li-ion).
 Approvals: UL, CE
 Input Power: 120/240VAC, 60 Hz
 Dimensions: 7 x 5.5 x 2" (Models i10/i15), 18 x 9 x 6.5 (Models i60/i65).
 Unit weight: 3 lbs (Models i10 / i15), 12 lbs (Models i60 / i65).
 Boxed Weight: 4 lbs (Models i10 / i15), 17 lbs (Models i60 / i65)



Model i60

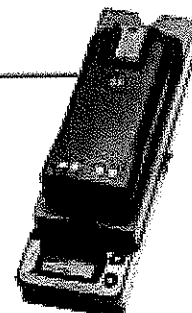


Model i65

With the iCHARGE i65™ Maintainer, batteries receive a complete conditioning charge and can be stored on the charger indefinitely. After charging completely, batteries left on the unit are individually discharged and recharged, one at a time every two weeks. Each battery is fully exercised and conditioned, keeping the batteries in an optimal state and ready at a moment's notice. These features make this unit the perfect charger for any First Response Team.

IGAUGE

The perfect complement to your iCHARGE fleet, the IGAUGE is an intelligent capacity display unit that fits beneath your six-bay iCHARGE adapter. The IGAUGE features a user-friendly LCD, a CAPACITY CHECK mode that will cycle the battery once, charge complete, and provide a readout in mAh on the battery's capacity. The IGAUGE also offers a REACTIVATE mode that automatically deep conditions the battery three cycles to restore lost capacity.



Advanced Charger Technology, Inc. 5500 Oakbrook Pkwy, Ste. 130 Norcross, GA 30093
 Phone 770.263.6337 • Toll Free 800.606.6452 • Fax 770.263.9155 • www.actcharge.com

© 2000 Advanced Charger Technology, Inc. All rights reserved.



Sales Quotation

Electronic Communications of WV. Inc.

Total Communications Sales and Service

DATE AUGUST 13, 2009

408 Old Goff MT. Rd.
Cross Lanes WV, 25313
Phone 304-776-4091 Fax 304-776-7092
Toll Free in WV. (800) 570-4091

TO Division of Juvenile Services

SHIP
TO

SALESPERSON	JOB	SHIPPING METHOD	SHIPPING TERMS	DELIVERY DATE	PAYMENT TERMS	DUE DATE
Dustin Osborne	Repeater	Standard	FOB	15 days ARO	Net 30	Net 30

QTY	ITEM #	DESCRIPTION	LIST PRICE	CONTRACT PRICE	CONTRACT EXTENDED
1	1	NXR851 25W Repeater 450-480		1500.00	1500.00
1	2	Bud Industries MNC-8085 30" Cabinet		410.00	410.00
1	3	EMR Corp Duplexer		425.00	425.00
				SUB TOTAL	2335.00
				TAX	Exempt
				TOTAL	2335.00

KENWOOD

Listen to the Future

NEXEDGE™

NXR-700/800

NEXEDGE™ VHF/UHF Digital & FM Base Units

NXDN™

FleetSync®
by KENWOOD

● GENERAL FEATURES

- 136-154, 146-174 MHz
- 400-430, 450-480, 480-512 MHz
- 5 W Exciter Output
- 40 / 110 / 250 Watt VHF Systems
- 40 / 100 / 250 Watt UHF Systems
- Repeater Operation
- Duplex/Simplex Base Operation
- 30 CH Scanning Base (Conventional)
- Two-Digit LED Display
- LED Status Indicators
- 6 Programmable Function Keys
- 0.3 W Front Panel Speaker
- 3 W External Speaker Audio
- Volume Control
- Microphone Jack
- Program/Modem Interface
- Remote Termination Interface
- Programmable AUX I/O's
- DTMF Front Panel PF Key Control
- DTMF AUX Output Control
- DTMF AUX Input Monitoring
- KPG-109D Windows® FPU
- Flash Firmware Upgrading

● DIGITAL – COMMON

- NXDN™ Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- UID & GID Validation
- NXR Over-the-Air Alias
- KXK-3 OCXO Option (6.25 kHz operation)

● DIGITAL – CONVENTIONAL MODE

- 16 RAN Repeater Controller Built-in
- 1,000 GIDs Per Site
- 1,000 UIDs Per Site
- Mixed FM/Digital Operation
- NXDN™ Scrambler Included

● DIGITAL TRUNKING OPTION

- 3,000 GIDs Per Site
- 3,000 UIDs Per Site
- 30 Channels Per Site
- Transmission Trunked Mode
- Message Trunked Mode
- Call Queuing with Priority
- Call Queue Pre-emption
- Late Entry (UID & GID)
- NXDN™ Scrambled Audio Support
- Cross-Busy
- Fail Soft Mode
- NXDN™ Traffic Channel Sharing
- 2MB Call/Activity Memory
- Compact Flash Memory Expansion

● MULTI-SITE IP NETWORK OPTION

- 16 Site Trunked IP Network
- 60,000 GIDs Per Network
- 60,000 UIDs per Network
- NEXEDGE™ Trunked Features
- Ethernet Network Interface
- IP LAN/WAN Connectivity
- ESN Validation
- Auto-Roaming / Registration

● KPG-110SM SYSTEM MANAGER

- Trunked Sites & IP Network Systems Only
- Windows® 2000/XP/Vista® Compatible
- USB Secure Key Access
- Direct, Dial-Up & IP Connectivity
- Subscriber Privileging
- 127 UID Class Of Service Entries
- 127 GID Class of Service Entries
- 5000 Fleets (UID/GID User Lists)
- Group Call Inter-Site Limits
- Remote Site Programming
- Real-Time Activity Monitoring
- NXR/Network Interface Diagnostics
- Call Logging / Event Download
- Remote System Firmware Updates

● FM MODES – GENERAL

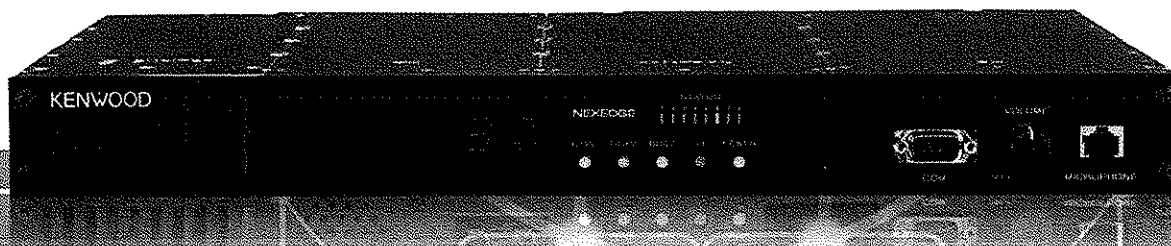
- 25 & 12.5 kHz Channels
- Encryption/ANI Board Control

● FM CONVENTIONAL MODE

- 16 QT/DQT Repeater Control Built-in
- Hang Timer / Time Out Timer / CW ID
- External FM Controller Interface

● FM LTR® TRUNKED MODE

- External LTR® Controller Interface



KenwoodLandMobileRadio
25 Years

Options

- **KXX-3**
OCXO Unit
(Required for
6.25 kHz operation)



- **KMC-9C**
Desktop Microphone



- **KMC-35**
Microphone



- **KES-5**
External Speaker



All accessories and options may not be available in all markets.
Contact an authorized Kenwood dealer for details and complete list of all accessories and options.

Main Specifications

		NXR-700	NXR-800
GENERAL			
Frequency Range	K K2 K3	146-174 MHz 136-154 MHz	450-480 MHz 480-512 MHz (RX) / 477-512 MHz (TX) 400-430 MHz
Channel Spacing	Analog Digital	12.5 / 15 / 25 / 30 kHz 6.25 / 12.5 kHz	12.5 / 25 kHz 6.25 / 12.5 kHz
PLL Channel Step		2.5 / 3.125 / 5 / 6.25 kHz	3.125 / 5 / 6.25 kHz
Frequency Stability	With KXX-3 (for 6.25 kHz)		± 1.5 ppm ± 0.5 ppm
Operating Voltage			13.8 V DC ± 15%
Operating Temperature Range			-22° F to + 140° F (-30° C to +60° C)
Antenna Impedance			50 Ω
Dimensions (W x H x D) Projections not included		19.02 x 1.73 x 13.03 in (483 x 44 x 331 mm)	
Weight (net)			11 lb (5 kg)
FCC ID	K K2 K3	K44371300 K44371301	K44371400 K44371401 (Pending)
IC Certification	K K2 K3	282F-371300 282F-371301	282F-371400 (Pending)
RECEIVER			
Sensitivity	Digital @ 6.25kHz (3% BER) Digital @ 12.5kHz (3% BER) Analog (12 dB SINAD)		0.27 µV 0.33 µV 0.30 µV
Selectivity	Analog @ 25/30 kHz Analog @ 12.5 kHz	93 dB (± 30 kHz) 85 dB (± 12.5 kHz)	87 dB (± 25 kHz) 81 dB (± 12.5 kHz)
FM Hum & Noise	Analog @ 25/30 kHz Analog @ 12.5 kHz		60 dB 55 dB
Intermodulation Distortion			85 dB (± 50 / 100 kHz)
Spurious Response			100 dB
Audio Distortion (Ext. SP)			Less than 2% (at 0.3W)
Audio Output (Ext. SP)			3 W (at 4Ω, less than 5% distortion)
TRANSMITTER			
RF Power Output			5 W to 0.5 W
Spurious & Harmonics			73 dB
FM Hum & Noise	Analog @ 25/30 kHz Analog @ 12.5 kHz		55 dB 50 dB
Audio Distortion			Less than 1% at 1000 Hz
Modulation			16K0F3E, 11K0F3E, 8K30F1E, 8K30F1D, 8K30F7W, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D

Analog measurements made per TIA/EIA 603 and specifications shown are typical.
Kenwood reserves the right to change specifications without prior notice or obligation.

FleetSync® is a registered trademark of Kenwood Corporation.
LTR® is a registered trademark of Transcript International.
AMBE+2™ is a trademark of Digital Voice Systems Inc.

Windows® and Windows 2000/XP/Vista® are registered trademarks of Microsoft Corporation.
NXDN™ is a trademark of Kenwood Corporation and Icom Inc.
NEXEDGE™ is a trademark of Kenwood Corporation.

Listen to the Future

Kenwood has always connected with people through sound. Now we want to expand the world of sound in ways that only Kenwood can, listening to our customers and to the pulse of the coming age as we head toward a future of shared discovery, inspiration and enjoyment.

Kenwood U.S.A. Corporation
Communications Sector Headquarters
3970 Johns Creek Court, Suite 100, Suwanee, GA 30024

Order Administration/Distribution
P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745

Kenwood Electronics Canada Inc.
Canadian Headquarters and Distribution
6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8



Laird Technologies
Web site: www.LairdTech.com

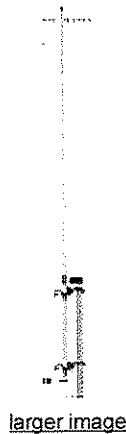
All Categories > Antennas & Reception Solutions > Base Station & Backhaul Antennas > Dispatch Base Station Antennas > UHF Fiberglass Omnidirectional Antenna > Item # FRX450

Item # FRX450 UHF Fiberglass Omnidirectional Antenna

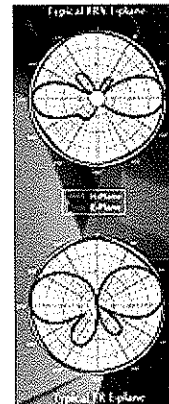
UHF Fiberglass Omnidirectional Antenna

FR Series Fiberglass Omnis

Cushcraft's UHF fiberglass series is best suited to base station and talkaround applications. The versatility in frequency and gain selection combined with a highly reliable solid brass radiator provide exceptional value for superior RF performance. The quality design of the integrated pigtail and N-female connector are excellent weather-proofing features. Mounting hardware is included facilitating installation.



[larger image](#)



[larger image](#)

Specifications

Manufacturer	Cushcraft Corporation
Band	UHF
Series	FR
Frequency	450 to 470 MHz
Gain	5 dBi
Bandwidth	20 MHz
3dB Beamwidth, E Plane	24 °
Height	42.25 in 114.94 cm

Weight	1.14 lbs 0.51 kg
Wind Surface Area	0.212 m ² 0.020 ft ²
VSWR	1.5:1
Polarization	Vertical
Impedance	50 ohms
Pigtail	12 in (30.5 cm) UltraLink
RF Connector	N (Female)
Wind Survival	125 mph 200 kph
Enclosure Material	Fiberglass
Power	150 watts
Mounting Style	Tube end

[Print](#)[Back](#)



Coaxial Cable



PRODUCT SPECIFICATION

LDF4-50A

Standard coaxial cable, 1/2", 50 ohm foam HELIAX (Wideband from 0.5-8800 MHz)

CHARACTERISTICS

Mechanical Specifications

Pressurizable:	No
Weight (lb/ft):	0.15
Weight (kg/m):	0.22
Tensile Strength (lb):	250.00
Tensile Strength (kg):	113.00
Flat PlateCrush Strength (lb/in):	110.00
Flat Plate Crush Strength (kg/mm):	2.00
Minimum Bending Radius (inches):	5.00
Minimum Bend Radius (millimeters):	125.00
Bending Moment (lb-ft):	2.80
Bending Moment (N-m):	3.80
Number of Bends (minimum):	15.00
Number of Bends (typical):	50.00

Electrical Specifications

Cable Impedance (ohms):	50.00
Maximum Frequency (GHz):	8.80
Velocity percentage:	88.00
Peak Power Rating (kW):	40.00
DC Resistance Inner (ohms/1000ft):	0.45
DC Resistance Inner (ohms/1000m):	1.48
DC Resistance Outer (ohms/1000ft):	0.58
DC Resistance Outer (ohms/1000m):	1.90
Cable Test Voltage (VDC):	4000.00
Jacket Spark volts (RMS):	8000.00
Capacitance (pF/ft):	23.10
Capacitance (pF/m):	75.80
Inductance (microH/ft):	0.06
Inductance (microH/m):	0.20
Insulation Resistance (Meg-Ohms):	100000.00

Construction Materials

Dielectric Type:	Low Density Foam Dielectric
Dielectric Material:	Ployethylene Foam
Jacket Color:	Black
Jacket Description:	Polyethelyne

Customer Support Center:

From North America: 1-800-255-1479
International: +1-708-873-2307

www.andrew.com

This Specification Sheet is for reference only and is subject to change without notice.
Copyright © 2002 by Andrew Corporation, Printed in U.S.A. 12/3/2002



Coaxial Cable

PRODUCT SPECIFICATION



LDF4-50A

Standard coaxial cable, 1/2", 50 ohm foam HELIAX (Wideband from 0.5-8800 MHz)

CHARACTERISTICS

Jacket Material:	Polyethylene
Outer Conductor Material:	Corrugated Copper
Inner Conductor Material:	Copper-Clad Aluminum Wire

Dimensions

Diameter Over Jacket (inches):	0.62
Diameter Over Jacket (millimeters):	15.70
Outer Conductor Outside Diameter (inches):	0.55
Outer Conductor Outside Diameter (millimeters):	14.00
Outer Conductor Inside Diameter (inches):	0.53
Outer Conductor Inside Diameter (millimeters):	13.50
Inner Conductor Outside Diameter (inches):	0.19
Inner Conductor Outside Diameter (millimeters):	4.80

General Specifications

Cable Grade:	Standard
NEC Classification Type:	N/A
Nominal Size (inches):	1/2
Short Description:	1/2" 50 ohm HELIAX foam coaxial cable

Available Connectors

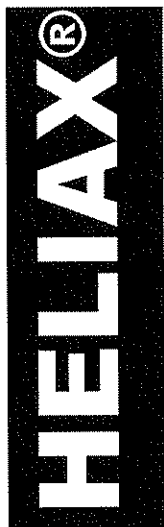
Part Number	Connector Type	Special Characteristics	Inner Contact	Grade
124990-1	7/8 EIA Flange	Right Angle	N/A	Standard
209865	F Flange Female	N/A	Solder	Standard
L44F	F Flange Male	N/A	Solder	Standard
L44J	HN Male	N/A	Solder	Standard
L44M	LC Male	N/A	Solder	Standard
L44NT	TNC Female	N/A	Solder	Standard
L44P	UHF Male	N/A	Solder	Standard
L44R	7/8 EIA Flange	N/A	Solder	Standard
L44U	UHF Female	N/A	Solder	Standard
L4PDF	7-16 DIN Female	N/A	Solder	Plated
L4PDF-A	7-16 DIN Female	N/A	Solder	Plated
L4PDF-BH	7-16 DIN Female	Bulkhead	Solder	Plated
L4PDF-PM	7-16 DIN Female	Panel Mount	Solder	Plated
L4PDF-RC	7-16 DIN Female	Ring Flare	Captivated	Plated
L4PDM	7-16 DIN Male	N/A	Solder	Plated
L4PDM-A	7-16 DIN Male	N/A	Solder	Plated

Customer Support Center:

From North America: 1-800-255-1479
International: +1-708-873-2307

www.andrew.com

This Specification Sheet is for reference only and is subject to change without notice.
Copyright © 2002 by Andrew Corporation, Printed in U.S.A. 12/3/2002



Coaxial Cable

PRODUCT SPECIFICATION



LDF4-50A

Standard coaxial cable, 1/2", 50 ohm foam HELIAX (Wideband from 0.5-8800 MHz)

CHARACTERISTICS

L4PDM-RC	7-16 DIN Male	Ring Flare	Captivated	Plated
L4PDR	7-16 DIN Male	Right Angle	Solder	Plated
L4PDR-C	7-16 DIN Male	Right Angle	Captivated	Plated
L4PNF	N Female	N/A	Solder	Plated
L4PNF-A	N Female	N/A	Solder	Plated
L4PNF-BH	N Female	Bulkhead	Solder	Plated
L4PNF-PM	N Female	Panel Mount	Solder	Plated
L4PNF-RC	N Female	Ring Flare	Captivated	Plated
L4PNM-H	N Male	Hex Head	Solder	Plated
L4PNM-HA	N Male	Hex Head	Solder	Plated
L4PNM-RC	N Male	Ring Flare	Captivated	Plated
L4PNR-H	N Male	Right Angle	Solder	Plated
L4PNR-HC	N Male	Right Angle	Captivated	Plated

Attenuation and Average Power Ratings

Frequency (MHz)	Attenuation (dB/100ft)	Attenuation (dB/100m)	Average Power (kW)
0.5	0.045	0.149	40.00
1	0.064	0.211	36.11
1.5	0.079	0.259	29.46
2	0.091	0.299	25.50
10	0.205	0.672	11.35
20	0.291	0.954	7.99
30	0.357	1.172	6.51
50	0.463	1.520	5.02
88	0.619	2.031	3.76
100	0.661	2.168	3.52
108	0.688	2.256	3.38
150	0.815	2.673	2.85
174	0.880	2.887	2.64
200	0.946	3.103	2.46
300	1.169	3.835	1.99
400	1.360	4.462	1.71
450	1.447	4.748	1.61
500	1.530	5.021	1.52
512	1.550	5.085	1.50
600	1.686	5.533	1.38
700	1.831	6.009	1.27

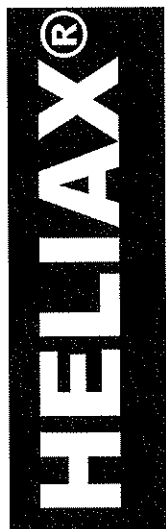
Customer Support Center:

From North America: 1-800-255-1479
International: +1-708-873-2307

www.andrew.com

This Specification Sheet is for reference only and is subject to change without notice.

Copyright © 2002 by Andrew Corporation, Printed in U.S.A. 12/3/2002



Coaxial Cable



PRODUCT SPECIFICATION

LDF4-50A

Standard coaxial cable, 1/2", 50 ohm foam HELIAX (Wideband from 0.5-8800 MHz)

CHARACTERISTICS

Attenuation and Average Power Ratings

Frequency (MHz)	Attenuation (dB/100ft)	Attenuation (dB/100m)	Average Power (kW)
800	1.968	6.456	1.18
824	1.999	6.559	1.16
860	2.046	6.712	1.14
894	2.089	6.855	1.11
960	2.171	7.124	1.07
1000	2.220	7.283	1.05
1250	2.507	8.225	0.93
1500	2.771	9.092	0.84
1640	2.911	9.551	0.80
1700	2.970	9.743	0.78
1800	3.066	10.057	0.76
2000	3.251	10.666	0.72
2100	3.341	10.960	0.70
2200	3.429	11.250	0.68
2300	3.516	11.534	0.66
2500	3.685	12.089	0.63
2700	3.849	12.627	0.60
3000	4.086	13.406	0.57
3300	4.315	14.156	0.54
3400	4.389	14.400	0.53
4000	4.820	15.814	0.48
4900	5.425	17.797	0.43
5000	5.489	18.009	0.42
5200	5.617	18.429	0.41
5300	5.680	18.636	0.41
5600	5.868	19.251	0.40
6000	6.113	20.054	0.38
6100	6.173	20.252	0.38
6600	6.469	21.224	0.36
8000	7.262	23.824	0.32
8800	7.694	25.243	0.30

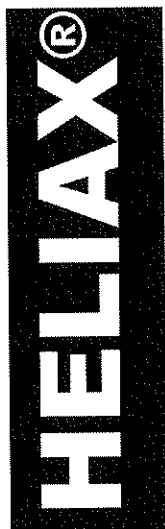
Customer Support Center:

From North America: 1-800-255-1479
International: +1-708-873-2307

www.andrew.com

This Specification Sheet is for reference only and is subject to change without notice.

Copyright © 2002 by Andrew Corporation, Printed in U.S.A. 12/3/2002



Coaxial Cable

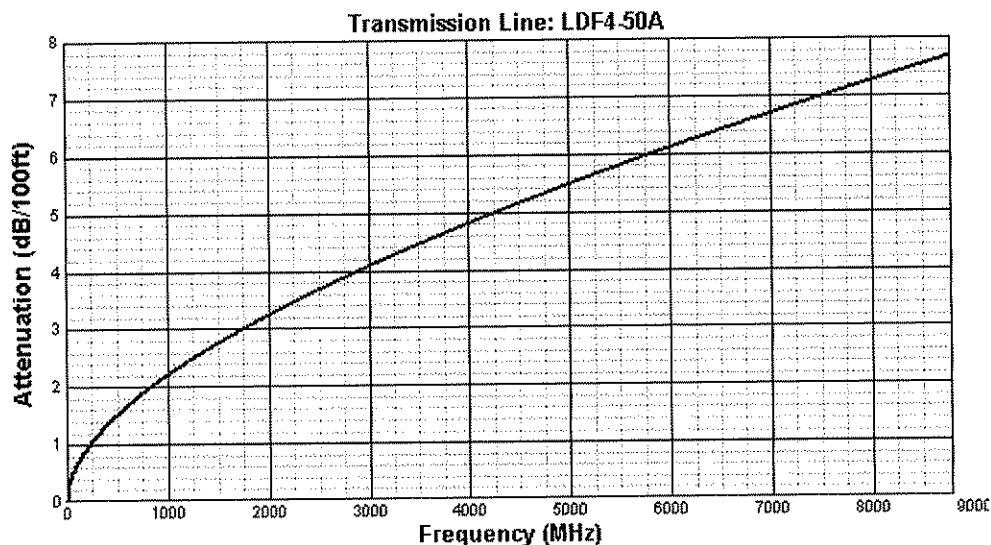


PRODUCT SPECIFICATION

LDF4-50A

Standard coaxial cable, 1/2", 50 ohm foam HELIAX (Wideband from 0.5-8800 MHz)

CHARACTERISTICS



Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F); no solar loading.

Customer Support Center:

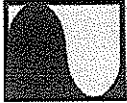
From North America: 1-800-255-1479

International: +1-708-873-2307

www.andrew.com

This Specification Sheet is for reference only and is subject to change without notice.

Copyright © 2002 by Andrew Corporation, Printed in U.S.A. 12/3/2002



Sales Quotation

Electronic Communications of WV. Inc.

Total Communications Sales and Service

DATE AUGUST 13, 2009

408 Old Goff MT. Rd.
Cross Lanes WV, 25313
Phone 304-776-4091 Fax 304-776-7092
Toll Free in WV. (800) 570-4091

TO Division of Juvenile Services

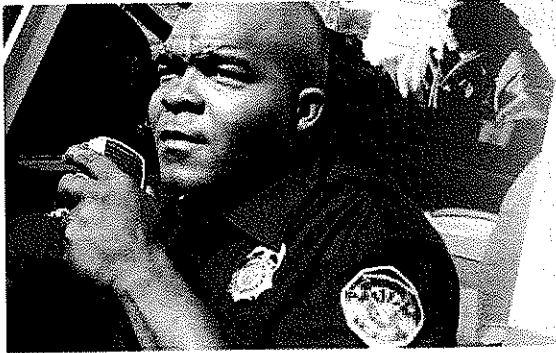
SHIP
TO

SALESPERSON	JOB	SHIPPING METHOD	SHIPPING TERMS	DELIVERY DATE	PAYMENT TERMS	DUE DATE
Dustin Osborne	Base Station	Standard	FOB	15 days ARO	Net 30	Net 30

QTY	ITEM #	DESCRIPTION	LIST PRICE	CONTRACT PRICE	CONTRACT EXTENDED
1	1	TK-5810BK2 Mobile Radio 45 Watt for Control Station		1958.00	1958.00
1	2	20 Amp Power Supply		159.95	159.95
				SUB TOTAL	2117.95
				TAX	Exempt
				TOTAL	2117.95

KENWOOD

Listen to the Future



TK-5710(H)/5810(H)

VHF/UHF FM & Project 25 Digital Mobile Radio



FleetSync®
by KENWOOD

GENERAL FEATURES

- 50W & 110W (136-174 MHz)
- 45W & 100 W (450-520, 400-470 MHz)
- 50 Zones / 512 Channels
- Personality Lists
- Enhanced Kenwood Audio
- Zone/CH Voice Announce
- Emergency Features
- Tactical Group
- Intercom¹
- Public Address
- Time Out Timer
- Busy Channel Lockout
- Ignition Sense²
- Timed Power Off
- DB-25 & 9-Pin Accessory Connectors³
- Transceiver Password
- Date & 12/24 Hour Time Clock
- Windows® Programming & Tuning⁴
- Windows® Firmware Uploading⁴
- Field-Programming & Tuning
- Cloning
- Easy Option Ports (26-pin)⁵
- DB-25 & 9-Pin Accessory Connectors
- MIL-STD 810 C/D/E/F, IP-54
- MIL-STD Noise-Cancel Mic (included)
- MIL-STD 12-Key DTMF Mic Option

MOUNTING CONFIGURATIONS

- Dash Mount
- Single Control Head Remote Mount
- Dual Control Head Remote Mount

FRONT PANELS/CONTROL HEADS

- Backlit Dot Matrix LCD
- 3-Digit Sub-Display
- Function / Status LCD Icons
- Transmit LED
- Busy/Call Alert/Warn LED
- LCD Brightness Control
- Power On/Off Switch
- Rotary Volume Knob
- Rotary Selector Knob
- Backlit Keys
- PF Key Label Inserts
- Microphone Jack
- MIL-STD 810 512.X Driven Rain

KCH-14 Front Panel

- 12-Character Alphanumeric Aliases
- 5 PF Keys
- UP/DOWN Keys
- Built-in Front Speaker

KCH-15 Front Panel

- 14-Character Alphanumeric Aliases
- 11 PF Keys
- UP/DOWN Keys
- External Speaker Required

SCAN TYPES (FM & P25)

- Single Zone/Multi-Zone Scan¹²
- Scan Lists
- Conventional Scan
- Limited Talk Group Scan⁶
- Priority Monitor Scan⁶
- Dual Priority Scan

FM

- QT / DQT
- Operator Selectable Tone
- Two-Tone Decode / Encode⁷
- DTMF Encode / Decode / Stun⁸
- Special Alert Tone Patterns⁹
- Horn Alert Output
- Encryption / ANI Board Control
- Companded Audio

FleetSync® (FM)

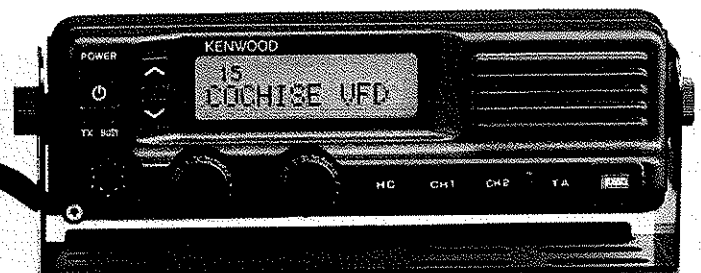
- FleetSync® or FleetSync® II¹⁰
- PTT ID Digital ANI
- Caller ID Display
- Status Messaging
- Emergency & Stun Statuses
- Selective & Group Call
- Text Messaging

MDC-1200¹¹

- P25 Digital Conventional
- Caller ID Display
- Emergency Status
- Radio Check
- Radio Inhibit

P25 DIGITAL

- P25 Digital Conventional
- P25 Digital Trunking Option
- IMBE™ VOCODER
- Talk Group ID Lists
- Individual ID Lists
- Caller ID Display
- RSSI Indicator
- Remote Monitor / Remote Check
- Radio Inhibit
- Encryption Key Delete
- Encryption Key Zeroize (SCM required)¹²
- Encryption Key Retention (SCM required)¹²
- DES 16-Key SCM Option¹²
- AES FIPS 140-2 & DES 16-Key SCM Option¹²
- KPG-94 KVL Key Loader Interface Cable¹³



Options

KMC-9B

Desktop Microphone



KMC-27

Microphone
(MIL-SPEC noise-canceling)



KMC-28

Keypad Microphone
(MIL-SPEC noise-canceling)



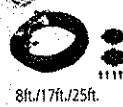
KCT-18

Ignition Sense Cable



KCT-22

Remote Control Cable



KCT-23

DC Power Cable



KES-5

External Speaker (20W)



KCH-14

Basic Remote
Control Head



KCH-15

Full-Featured Remote
Control Head



KRK-5

Single Control Head Remote Kit

KRK-6DH

Dual Control Head Remote Kit



KPG-94

Keyloader Interface Cable



VGS-1

Voice Guide & Storage Unit



All accessories and options may not be available in all markets. Contact an authorized Kenwood dealer for details and complete list of all accessories and options.

Specifications

Model	TK-5710	TK-5710H	TK-5810	TK-5810H
GENERAL				
Frequency Range	136-174 MHz		450-520 MHz	
Type 1			400-470 MHz	
Type 2				
Number of Channels	512		50	
Zones	50		250	
Max. Channels per Zone				
Channel Spacing	12.5 / 15 / 20 / 25 / 30 kHz		12.5 / 25 kHz	
Analog			12.5 kHz	
Digital				
Operating Voltage	13.6V DC \pm 15%	13.4V DC \pm 15%	13.6V DC \pm 15%	13.4V DC \pm 15%
Current Drain			Less than 0.6A	
Standby			Less than 2.3A	
Receive				
Transmit	Less than 12A	Less than 25A	Less than 14A	Less than 28A
Duty Cycle			Transmit: 20%	
Operating Temperature Range			-22 °F to +140 °F (-30 °C to +60 °C)	
Frequency Stability			\pm 2.0 ppm (-22 °F to +140 °F)	
Antenna Impedance			50 Ω	
Dimensions (W x H x D)				
RF Deck only	7.01 x 2.36 x 7.68 in. (178 x 60 x 195 mm)	7.01 x 2.36 x 12.87 in. (178 x 60 x 327 mm)	7.01 x 2.36 x 7.68 in. (178 x 60 x 195 mm)	7.01 x 2.36 x 12.87 in. (178 x 60 x 327 mm)
with KCH-14 or 15	7.05 x 2.36 x 9.09 in. (179 x 60 x 231 mm)	7.05 x 2.36 x 14.29 in. (179 x 60 x 363 mm)	7.05 x 2.36 x 9.09 in. (179 x 60 x 231 mm)	7.05 x 2.36 x 14.29 in. (179 x 60 x 363 mm)
Weight RF Deck only	5.3 lbs. (2.4 kg)	8.6 lbs. (3.9 kg)	5.5 lbs. (2.5 kg)	9.2 lbs. (4.2 kg)
with KCH-14	5.9 lbs. (2.7 kg)	9.2 lbs. (4.2 kg)	6.2 lbs. (2.8 kg)	9.9 lbs. (4.5 kg)
with KCH-15	5.9 lbs. (2.7 kg)	9.2 lbs. (4.2 kg)	6.2 lbs. (2.8 kg)	9.9 lbs. (4.5 kg)
FCC ID				
Type 1	K4435753110	K4435753210	K4439923110	K4439923210
Type 2			K4439923120	K4439923220
IC Certification				
Type 1	282F-35753110			
Type 2			282F-39923120	
RECEIVER (Measurements made per EIA/TIA-204-D)				
Sensitivity			0.25 μ V	
Digital (5% BER)			0.40 μ V	
Digital (1% BER)			0.25 μ V	
Analog 12 dB SINAD				
Selectivity			-63 dB	
Digital				
Analog @ 25/30 kHz	-83 dB / -85 dB		-83 dB / -	
Analog @12.5/15 kHz	-76 dB / -80 dB		-76 dB / -	
Intermodulation Distortion (Digital & Analog)			-80 dB	
Spurious Response (Digital & Analog)			-90 dB	
Audio Distortion			Less than 1.0%	
Digital			Less than 2.0%	
Analog				
Audio Output				
Internal (KCH-14)	@3%		1.5 W at 8 Ω	
	@5%		1.625 W at 8 Ω	
External	@3%		12 W at 4 Ω	
	@5%		13 W at 4 Ω	
TRANSMITTER (Measurements made per EIA/TIA-152-C)				
RF Output Power	50 W to 5 W	110 W to 50 W	45 W to 5 W	100 W to 50 W ^{1,2}
Spurious & Harmonics			80 dB	
FM Hum & Noise				
Analog @ 25 kHz	50 (53) ^{1,2} dB		50 dB	
Analog @12.5 kHz	45 (47) ^{1,2} dB		45 dB	
Microphone Impedance			600 Ω	
Audio Distortion			Less than 2%	
Modulation			16K0F3E, 11K0F3E, 8K10F1E, 8K10F1D 20K0F7D, 11K2F7D, 14K4F1D, 7K20F1D	

Analog measurements made per TIA/EIA 603
Digital measurements made per TIA/EIA 102CAAA

(¹) 148MHz - 168MHz

(²) Type 1: 100W to 50W for 450-500MHz. More than 60W to 50W for 500-520MHz.
Type 2: 100W to 50W for 400-470MHz.

FleetSync® is a registered trademark of Kenwood Corporation.
Windows® is a registered trademark of Microsoft Corporation in the United States and other countries.

iMBE™ is a trademark of Digital Voice Systems Inc.

The P25 Logo is used under license and is a registered trademark of the Project 25 Technology Interest Group.

Kenwood follows a policy of continuous advancement in development.

For this reason specifications may be changed without notice.

Applicable MIL-STD & IP

Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures	MIL 810F Methods/Procedures
Low Pressure	500.1/Procedure I	500.2/Procedure I, II	500.3/Procedure I, II	500.4/Procedure I, II
High Temperature	501.1/Procedure I, II	501.2/Procedure I, II Cat.A1	501.3/Procedure I, II Cat.A1	501.4/Procedure I, II
Low Temperature	502.1/Procedure I	502.2/Procedure I, II Cat.C1	502.3/Procedure I, II Cat.C1	502.4/Procedure I, II
Temperature Shock	503.1/Procedure I	503.2/Procedure I Cat.A1, C1	503.3/Procedure I Cat.A1, C1	503.4/Procedure I, II
Solar Radiation	505.1/Procedure I	505.2/Procedure I	505.3/Procedure I	505.4/Procedure I
Rain	506.1/Procedure I, II	506.2/Procedure I, II	506.3/Procedure I, II	506.4/Procedure I, II
Humidity	507.1/Procedure II	507.2/Procedure II	507.3/Procedure II	507.4
Salt Fog	509.1/Procedure I	509.2/Procedure I	509.3/Procedure I	509.4
Dust	510.1/Procedure I	510.2/Procedure I, II	510.3/Procedure I	510.4/Procedure I, II
Vibration	514.2/Procedure VIII, X	514.3/Procedure I Cat.8, Cat.3	514.4/Procedure I Cat.8, Cat.3	514.5/Procedure I Cat.20, Cat.5
Shock	516.2/Procedure I, II, III, V	516.3/Procedure I, IV, V, VI	516.4/Procedure I, IV, V, VI	516.5/Procedure I, IV, V, VI
International Protection Standard				
Dust & Water Protection	IP54			

Footnotes from Front:

¹ Intercom: Dual Head capable remote mounts only.

² KCT-18 ignition sense cable option required.

³ DB-25 ACC: I/O's for dispatch consoles, desktop remotes, vehicle intercom/PA units, motorcycle PTT/headset kits, PC Laptop I/Data Modems, GPS/AVL Modems; DB-25 (9 Prog. AUX I/O's & 2 Prog. AUX Outputs); 1 Prog Input (on Control Head).

⁴ KPG-95D Software required (Windows 98/NT 2000/Me/XP compatible).

⁵ Easy Option Ports: VGS-1, ANI & Scrambler board ports; only 2 ports can be used simultaneously.

⁶ P25 Trunking option required.

⁷ Two-Tone Decode (4 sets x 4 pairs each); Encode: 32 pairs; Operator Selectable Tone (40 QT.DQT code pairs).

⁸ DTMF Encode: PTT ID, Emergency ANI, Manual Encode (KMC-28), Auto-Dial (9 numbers); DTMF Decode: Primary/secondary ID, Stun (a.k.a. dead beat disable).

⁹ Operates for 2-Tone, DTMF, FleetSync selective calling.

¹⁰ FleetSync & FleetSync II are not compatible.

¹¹ Either MDC-1200 or FleetSync™ can be activated per radio.

¹² Feature/Option added to the TK-5710 Version 2 radios (SN 80600001 or later).

¹³ KPG-94 adapts the Motorola, KVL3000/3000 Plus Key Loader to the TK-5710/5810.

KENWOOD

Kenwood U.S.A. Corporation
Communications Sector Headquarters
3970 Johns Creek Court, Suite 100, Suwanee, GA 30024-1265

Order Administration/Distribution
P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745

Kenwood Electronics Canada Inc.
Canadian Headquarters and Distribution
6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8



ADS#16209 Printed in USA

Laird Technologies
Web site: www.LairdTech.com

All Categories > Antennas & Reception Solutions > Base Station & Backhaul Antennas > Dispatch Base Station Antennas > Fiberglass Omnidirectional Wireless Antennas > Item # FG4500

Item # FG4500 Fiberglass Omnidirectional Wireless Antennas



[larger image](#)

- Includes VHF through 2.4 GHz models
- High performance and reliable collinear J-pole design surrounded by durable high density fiberglass
- Durable gold anodized sleeve and cap will not oxidize
- Custom tuning available
- FedEx/UPS shippable on most models

Specifications

Model	UHF Models
Frequency Range	450 - 470 MHz
Tuned Frequency	460 MHz
Gain	Unity
Length	26 inches
Max. Power	100 watts
Options	4 Inch Wall Mount 9 Inch Standoff (2) Fiberglass Mounting Bracket (2) Stainless Steel U-Bolt Mount (2)

[Print](#) [Back](#)

KENWOOD

Listen to the Future

NEXEDGE™

NX-200/300

NEXEDGE™ VHF/UHF Digital & FM Portable Radios

NXDN®

FleetSync®
(KENWOOD)

● GENERAL FEATURES

- 5 W (136-174 MHz) Models
- 5 W (400-470, 450-520 MHz) Models
- 512 CH-GID / 128 Zones
- 12-Key Keypad Models
- 14 Character Alphanumeric Aliases
- Backlit Dot Matrix LCD
- 3-Digit Sub-Display
- Function/Status LCD Icons
- RSSI Indicator
- Date & 12/24 Hour Time Clock
- Transmit/Busy/Call Alert/Warn LED
- On/Off Volume Knob
- 16-Position Mechanical Selector
- 6 Front PF & Menu Keys
- 2 Side PF Keys
- Emergency/AUX Key
- 500 mW Speaker Audio
- VOX Ready
- Emergency Call Features
- Emergency Man-Down Option
- Lone Worker
- Multi-Language Display
- Programmable TX/RX Indication (On/Off)
- Special Alert Tone Patterns
- Time Out Timer
- Busy Channel Lockout
- LCD Battery Status Indicator
- Low Battery Alert
- Battery Saver
- Weather-sealed ACC Connector
- MIL-Spec Speaker Mic Options
- KMC-38GPS Speaker Mic Option
- KPG-111D Windows® FPU
- Flash Firmware Upgrading
- Front Panel Test & Tune
- Cloning
- MIL-STD-810 C/D/E/F
- MIL-STD "Driven-Rain"
- IP-54/55 Water & Dust Intrusion
- Easy Option Port
- PC Serial Interface
- SDM Manual Input¹
- Transparent Data Mode¹
- Intrinsically Safe Option
- VGS-1 Voice Guide/ Voice & GPS Data Storage Option

● DIGITAL – COMMON

- NXDN® Digital Air Interface
- AMBE+2™ VOCODER
- 6.25 & 12.5 kHz Channels
- Over-the-Air Alias
- Paging Call
- Emergency Call
- All Group Call
- Status Messaging¹
- Remote Stun/Kill¹
- Remote Check¹

- Short & Long Data Messages¹
- GPS Location with Voice¹
- NXDN® Scrambler Included (Conventional: per CH)

● DIGITAL – CONVENTIONAL MODE

- 64 Radio Access Numbers (RAN)
- DTMF (Encode/Decode)
- Individual & Group Selective Call
- Mixed FM/Digital Operation

● DIGITAL – TRUNKING MODE

- Individual Private Call
- Group Call
- Broadcast Call
- Transmission Trunked Mode²
- Message Trunked Mode²
- Call Queuing with Priority²
- Call Queue Pre-emption²
- Late Entry (UID & GID)³
- 4 Priority Monitor ID's²
- Remote Group Add¹
- Failsoft Mode
- Multi-Site IP Network Compatible

● SCAN

- Single Zone / Multi-Zone / List Scan
- Dual Priority Scan (Conventional)

● FM MODES – GENERAL

- 25 & 12.5 kHz Channels
- FleetSync®/II
- DTMF Encode / Decode
- Companded Audio
- Voice Inversion Scrambler
- Encryption/ANI Board Control

● FM CONVENTIONAL ZONES

- QT / DQT
- Two-Tone Decode
- Single/Two-Tone Encode
- Call Key 1-6
- Operator Selectable Tone

● FM LTR® TRUNKED ZONES

- Kenwood LTR® Features

● FleetSync®/II (FM)

- PTT ID Digital ANI
- Selective Call & Group Call
- Status Messaging¹
- Emergency Status
- Caller ID Display
- Short Text Messages¹
- Power On/Off Status Messages¹
- Send/Display GPS (KMC-38GPS)¹
- PTT ID & Emergency GPS Reporting¹
- Status Message Block GPS Reporting¹



Options

■ **KNB-47L**
Li-Ion Battery
(1950mAh)

■ **KNB-48L**
Li-Ion Battery
(2550mAh)

■ **KNB-50NC**
Ni-MH Battery
(2000mAh) Intrinsically Safe

■ **KSC-32**
Tri-Chemistry Rapid
Rate Charger

■ **KSC-326**
Rapid Rate Six Unit Charger
for Ni-Cd/Ni-MH/Li-Ion

■ **KMC-41M**
MIL-STD & IP 54/55
Speaker Microphone

■ **KMC-38GPS**
GPS Speaker
Microphone

■ **KHS-11**
Heavy Duty Earphone

■ **KEP-1**
Heavy Duty Earphone

■ **KRA-22/23**
VHF/UHF Helical Antenna

■ **KRA-26/27**
VHF/UHF Whip Antenna

■ **KRA-16/17**
VHF/UHF Stubby Antenna

■ **KRA-25**
VHF High Gain Antenna

■ **KRA-28**
VHF Broad
Band Antenna

■ **VGS-1**
Voice Guide
& Storage Unit

■ **KBH-11**
Belt Clip (2.5")

All accessories and options may not be available in all markets.
Contact an authorized Kenwood dealer for details and complete list of all accessories and options.

Main Specifications

		NX-200	NX-300
GENERAL			
Frequency Range	Type 1 Type 2	136-174 MHz	450-520 MHz 400-470 MHz
Number of Channels		512	
Zones		128	
Max. Channels per Zone		250	
Channel Spacing	Analog Digital	12.5 / 15 / 25 / 30 kHz 6.25 / 12.5 kHz	12.5 / 25 kHz 6.25 / 12.5 kHz
Operating Voltage		7.5V DC \pm 20%	
Battery Life (with KNB-48L)	5-5-90 10-10-80	Approx. 14.5 hours Approx. 9.0 hours	
Operating Temperature Range		-22° F to +140° F (-30° C to +60° C)	
Frequency Stability		\pm 2.0 ppm	\pm 1.0 ppm
Antenna Impedance		50 Ω	
Dimensions (W x H x D) Projections not included			
	Radio only with KNB-47L with KNB-48L	2.28 x 5.02 x 1.63 in (58 x 127.5 x 41.3 mm) 2.28 x 5.02 x 1.63 in (58 x 127.5 x 41.3 mm) 2.28 x 5.02 x 1.91 in (58 x 127.5 x 48.5 mm)	
Weight (net)	Radio only with KNB-47L with KNB-48L	8.82 oz (250 g) 13.23 oz (375 g) 14.29 oz (405 g)	
FCC ID	Type 1 Type 2	ALH378400 ALH378500	ALH378500 ALH378501
IC Certification	Type 1 Type 2	282D-378400 282D-378501	282D-378500 282D-378501

		NX-200	NX-300
RECEIVER			
Sensitivity	Digital @ 6.25kHz (3% BER) Digital @ 12.5kHz (3% BER) Analog (12 dB SINAD)	0.20 μ V 0.25 μ V 0.25 μ V	
Selectivity	Analog @ 25 kHz Analog @ 12.5 kHz	72 dB 65 dB	
Intermodulation Distortion	Analog	70 dB (\pm 50, 100 kHz)	
Spurious Response	Analog	70 dB	
Audio Distortion		Less than 3%	
Audio Output		500 mW / 8 Ω	
TRANSMITTER			
RF Power Output		5 W / 1 W	
Spurious Response		70 dB	
FM Hum & Noise	Analog @ 25 kHz Analog @ 12.5 kHz	45 dB 40 dB	
Audio Distortion		Less than 3%	
Modulation		16K0F3E, 11K0F3E, 8K30F1E, 8K30F1D, 8K30F7V, 4K00F1E, 4K00F1D, 4K00F7W, 4K00F2D	

Analog measurements made per TIA/EIA 603 and specifications shown are typical.
Kenwood reserves the right to change specifications without prior notice or obligation.

FleetSync™ is a registered trademark of Kenwood Corporation.
iTR™ is a registered trademark of Transcript International.
AMBE+2™ is a trademark of Digital Voice Systems Inc.
Windows™ is a registered trademark of Microsoft Corporation.
NXDN™ is a trademark of Kenwood Corporation and Icom Inc.
NEXEDGE™ is a trademark of Kenwood Corporation.

Applicable MIL-STD & IP

MIL Standard	MIL 810C Methods/Procedures	MIL 810D Methods/Procedures	MIL 810E Methods/Procedures	MIL 810F Methods/Procedures
Low Pressure	500.1/Procedure I	500.2/Procedure I, II	500.3/Procedure I, II	500.4/Procedure I, II
High Temperature	501.1/Procedure I, II	501.2/Procedure I, II	501.3/Procedure I, II	501.4/Procedure I, II
Low Temperature	502.1/Procedure I	502.2/Procedure I, II	502.3/Procedure I, II	502.4/Procedure I, II
Temperature Shock	503.1/Procedure I	503.2/Procedure I	503.3/Procedure I	503.4/Procedure I, II
Solar Radiation	505.1/Procedure I	505.2/Procedure I	505.3/Procedure I	505.4/Procedure I
Rain	506.1/Procedure I, II	506.2/Procedure I, II	506.3/Procedure I, II	506.4/Procedure I, III
Humidity	507.1/Procedure I, II	507.2/Procedure I, III	507.3/Procedure II, III	507.4
Salt Fog	509.1/Procedure I	509.2/Procedure I	509.3/Procedure I	509.4
Dust	510.1/Procedure I	510.2/Procedure I	510.3/Procedure I	510.4/Procedure I, III
Vibration	514.2/Procedure VIII, X	514.3/Procedure I	514.4/Procedure I	514.5/Procedure I
Shock	516.2/Procedure I, II, V	516.3/Procedure I, IV	516.4/Procedure I, IV	516.5/Procedure I, IV
International Protection Standard				
Dust & Water Protection	IP54/55			

footnotes from Front:

¹ Requires NX subscriber unit PC Serial Interface compatible software application (e.g. Kenwood AVL & Dispatch Messaging software) or hardware (e.g. console).

² These trunked features are primarily system programming and operational dependent. Priority Monitor also requires NX subscriber settings.

Listen to the Future

Kenwood has always connected with people through sound. Now we want to expand the world of sound in ways that only Kenwood can, listening to our customers and to the pulse of the coming age as we head toward a future of shared discovery, inspiration and enjoyment.

Kenwood U.S.A. Corporation
Communications Sector Headquarters
3970 Johns Creek Court, Suite 100, Suwanee, GA 30024

Order Administration/Distribution
P.O. BOX 22745, 2201 East Dominguez St., Long Beach, CA 90801-5745

Kenwood Electronics Canada Inc.
Canadian Headquarters and Distribution
6070 Kestrel Road, Mississauga, Ontario, Canada L5T 1S8


www.kenwoodusa.com



ADS#11309 Printed in USA

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: Elec. COMMUNICATIONS OF WV, INC

Signed: [Signature]

Date: August 11 2009

Title: PRESIDENT

*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: Electronic Communications of West Virginia Inc.
Authorized Signature: [Signature] Date: Aug. 11 2009