

LAW ENFORCEMENT ASSISTANCE ADMINISTRATION (LEAA)  
POLICE TECHNICAL ASSISTANCE REPORT

SUBJECT Radio Equipment Standards  
REPORT NUMBER 75-119-031 (Revised)  
FOR State of Arkansas Commission on Law Enforcement

Note: These are revised detailed specifications submitted as addenda to the original project report dated March 22, 1976.

NOV 1976

JUL 1976

AC

TRACTOR Public Administration Service  
1776 Massachusetts Avenue, N. W.  
Washington, D. C. 20036

CONSULTANT S. A. Yefsky

TRACT NUMBER J--LEAA-002-76

DATE June 28, 1976

42760

TABLE OF CONTENTS

		<u>Page</u>
Standard Equipment Items		i
Invitation For Bid	Invitation For Bid Form	1
Paragraph 1.0	General Conditions and Instructions to Bidders	A - 1
Paragraph 2.0	Bid Technical Requirements	B - 1
Item 1	Low Band Base Station	1 - 1 R-1
Item 2	High Band Base Station	2 - 1 R-1
Item 3	Second Receiver	3 - 1 R-1
Item 4	High Band Mobile Relay Station	4 - 1 R-1
Item 5	Remote Control Console	5 - 1 R-1
Item 6	Low Band Mobile Radio	6 - 1 R-1
Item 7	High Band Mobile Radio	7 - 1 R-1
Item 8	Low Band Portable Radio/ Single Unit Charger	8 - 1 R-1
Item 8A	Low Band Multi-Unit Portable Battery Charger	8A - 1 R-1
Item 9	High Band Portable Radio/ Single Unit Charger	9 - 1 R-1
Item 9A	High Band Multi-Unit Portable Battery Charger	9A - 1 R-1
Item 10	Low Band Monitor Receiver	10 - 1 R-1
Item 11	High Band Monitor Receiver	11 - 1 R-1
Item 12	Low Band/High Band Monitor Receiver	12 - 1 R-1
Item 13	Magnetic Tape Recorder	13 - 1 R-1
Item 14	Self-Supporting Tower	14 - 1
Item 15	Guy Tower	15 - 1

DETAILED SPECIFICATIONS

ITEM 1

LOW BAND BASE STATION

1 Basic.

The Contractor shall deliver and install as directed by the Purchaser, low band FM base station transmitter/receiver radio communications equipment equivalent to the following:

General Electric:	MASTR II Series
Motorola:	MICOR Series
RCA:	Series 1000

2 Tone Squelch.

None to be furnished.

3 Control Signal.

DC remote control. The Contractor is responsible for furnishing a tone remote control in lieu of DC if DC phone lines are not available, or the distance to the station from the controller requires tone control.

4 Cabinet.

Indoor type, approximate four foot (4') height. Sufficient space shall be available to add a second receiver of the same type furnished, and a receiver multi-coupler.

5 Lightning Protection.

Paragraph 2.7.

DETAILED SPECIFICATIONS

ITEM 2

HIGH BAND BASE STATION

1      Basic.

The Contractor shall deliver and install as directed by the Purchaser, high band FM base station transmitter/receiver radio communications equipment capable of operation in the 150.8 - 174 MHz bands equivalent to the following:

General Electric:	MASTR II Series
Motorola:	MICOR Series
RCA:	Series 1000

2      Tone Squelch.

To be furnished to the Contractor.

3      Control Signal.

DC remote control. The Contractor is responsible for furnishing a tone remote control in lieu of DC if DC phone lines are not available, or the distance to the station from the controller requires tone control.

4      Cabinet.

Indoor type, approximate four foot (4') height. Sufficient space shall be available to add a second receiver of the same type furnished, and a receiver multi-coupler.

DETAILED SPECIFICATIONS

ITEM 3

SECOND RECEIVER

1 Basic.

The Contractor shall include as part of the base station furnished in Item 1 or Item 2 a second receiver and inter-cabling equivalent to the following:

General Electric:	MASTR II Series
Motorola:	MICOR Series
RCA:	Series 1000

2 Channels.

One (1). Frequency to be furnished the Contractor.

3 Tone Squelch.

None to be furnished.

4 Multi-Coupler.

Sinclair, Phelps Dodge, or equal and associated terminal strip.

DETAILED SPECIFICATIONS

ITEM 4

HIGH BAND MOBILE RELAY STATIONS

1 Basic.

The Contractor shall deliver and install all solid-state mobile relay station equipment equivalent to the following:

General Electric:	MASTR II Series
Motorola:	MICOR Series
RCA:	Series 1000

2 Tone Squelch.

To be furnished to the Contractor.

3 Control Signal.

DC remote control. The Contractor is responsible for furnishing a tone remote control in lieu of DC if DC phone lines are not available, or the distance to the station from the controller requires tone control.

4 Cabinet.

Indoor type, approximate four foot (4') height.

5 Lightning Protection.

Paragraph 2.7

DETAILED SPECIFICATIONS

ITEM 5

REMOTE CONTROL CONSOLE

1 Basic.

The Contractor will deliver and install as directed by the Purchaser wire line radio remote control consoles with desk microphone equivalent to the following:

General Electric:	MASTR Controller
Motorola:	Remote Control Console
RCA:	Remote Control Unit

2 Color.

Color to be furnished to the Contractor.

3 Transmit Controls.

Two (2) frequency transmitter minimum.

4 Receive Controls.

Two (2) single receivers minimum.

5 Control Signal.

Compatible with Paragraph 3 of base station.

DETAILED SPECIFICATIONS

ITEM 6

LOW BAND MOBILE RADIO EQUIPMENT

1 Basic.

The Contractor shall deliver and install all solid-state mobile radio equipment equivalent to:

General Electric:	MASTR II Series
Motorola:	MICOR Series
RCA:	ML 1000 Series

2 Channel Capacity.

Four (4) channel minimum. Frequencies will be furnished to the Contractor. Unused channels will be strapped.

3 Power Output.

100 watts minimum.

4 Tone Squelch.

None to be supplied.



5 Transmitter Control Timer.

A timer shall be furnished to limit the transmitter on time, adjustable to one (1) minute.

6 Receiver Channel Monitor.

A minimum two-channel automatic receiver monitor with selectable priority shall be furnished. The priority channel shall be selected by the selector switch. The non-priority channel (No. 1) shall be hard-wired.

7 Power Source.

Twelve (12) volt negative ground vehicle power supply.

OPTION

8 Antenna.

A base loaded antenna equivalent to Antenna Specialists Model ASP-730 series shall be available from the Contractor.

DETAILED SPECIFICATIONS

ITEM 7

HIGH BAND MOBILE RADIO EQUIPMENT

1 Basic.

The Contractor shall deliver and install all solid-state mobile radio equipment equivalent to:

General Electric:	MASTR II Series
Motorola:	MICOR Series
RCA:	ML1000 Series

2 Channel Capacity.

Four (4) channel minimum. Frequencies will be furnished to the Contractor. Unused channels will be strapped.

3 Power Output.

110 watts minimum.

4 Tone Squelch.

To be furnished to the Contractor.

5 Transmitter Control Timer.

A timer shall be furnished to limit the transmitter on time, adjustable to one (1) minute.

6 Receiver Channel Scan.

A minimum two-channel automatic receiver monitor with selectable priority shall be furnished. The priority channel shall be selected by the selector switch. The non-priority channel (No. 1) shall be hard-wired. All other channels will be wired non-scan.

7 Power Source.

Twelve (12) volt negative ground vehicle power supply.

OPTION

8 Antenna.

A 3.0 db gain antenna equivalent to Antenna Specialists Model ASPS 577 series shall be available from the Contractor.

DETAILED SPECIFICATIONS

ITEM 8

LOW BAND PORTABLE RADIO EQUIPMENT

1 Basic.

The Contractor shall furnish and deliver portable radios having hand-held, remote microphone, and vehicular charger operational capability. The units shall be equal to:

General Electric:	PE Series
Motorola:	Handi Com Series
RCA:	Personalfone Series

2 Channels.

Four (4) channels. Frequencies will be furnished to the Contractor. Unused channels will be strapped.

3 Transmitter Power.

1.5 watts minimum.

4 Tone Coded Squelch.

None to be furnished.

5 Battery Power.

Rechargeable nickel cadmium battery. The minimum battery capacity when charged for sixteen (16) hours shall be at

least eight (8) hours of service at 25°C at a duty cycle of 5% transmit, 5% receive, and 90% standby.

6      Carrying Case.

Leather carrying case and cover for belt mounting.

7      Antenna.

Base loaded telescoping.

8      Single Unit Charger

The charger shall be compatible with the unit being charged.

8.1    Capacity.

One (1) minimum radio or rechargeable nickel cadmium battery.

8.2    Charge Cycle.

A maximum of sixteen (16) hours to fully charge the battery and automatically switch to trickle charge.

8.3    Mechanical.

Desk top.

8.4    Power.

120 VAC.

DETAILED SPECIFICATIONS

ITEM 8A

MULTI-UNIT BATTERY CHARGER: LOW BAND PORTABLE

AC DESK TYPE

1 Basic.

The charger will be equivalent to the following:

General Electric:	PE Series
Motorola:	Handi Com Series
RCA:	Personalfone Series

2 Capacity.

Minimum of four (4) Item 8 portables and/or batteries.

3 Charge Cycle.

A maximum of sixteen (16) hours to fully charge the battery and automatically switch to trickle charge.

4 Mechanical.

Desk top.

5 Power.

120 VAC.

DETAILED SPECIFICATIONS

ITEM 9

PORTABLE RADIO EQUIPMENT

1 Basic.

The Contractor shall furnish and deliver portable radios having hand-held, remote microphone, and vehicular charger operational capability. The units shall be equal to:

General Electric:	PE Series
Motorola:	MX Series
RCA:	TACTEC Series

2 Channels.

Four (4) channels. Frequencies will be furnished to the Contractor. Unused channels will be strapped.

3 Transmitter Power.

5.0 watts minimum.

4 Weight.

34 ounces or less.

5 Volume.

36 cubic inches or less.

6 Tone Coded Squelch.

Frequency to be furnished to the Contractor.

7 Battery Power.

Rechargeable nickel cadmium battery, rapid charge capability. The minimum battery capacity when charged for seven (7) hours shall be at least eight (8) hours of service at 25°C at a duty cycle of 5% transmit, 5% receive, and 90% standby.

8 Carrying Case.

Leather carrying case and cover for belt mounting.

9 Antenna.

Helical antenna.

10 Single Unit Charger.

The charger shall be compatible with the unit being charged.

10.1 Capacity.

One (1) minimum radio or rechargeable nickel cadmium battery.

10.2 Charge Cycle.

A maximum of sixteen (16) hours to fully charge the battery and automatically switch to trickle charge.

10.3 Mechanical.

Desk Top.

10.4 Power.

120 VAC.



DETAILED SPECIFICATIONS

ITEM 9A

MULTI-UNIT PORTABLE BATTERY CHARGER

AC DESK TYPE

1 Basic.

The charger will be equivalent to the following:

General Electric:	PE Series
Motorola:	MX Series
RCA:	TACTEC Series

2 Capacity.

Minimum of ten (10) Item 9 portables and/or batteries.

3 Charge Cycle.

A maximum of seven (7) hours to fully charge the battery and automatically switch to trickle charge.

4 Mechanical.

Desk top.

5 Power.

120 VAC.

DETAILED SPECIFICATIONS

ITEM 10

LOW BAND MONITOR RECEIVER

1 Basic.

The Contractor shall furnish and deliver all solid-state low band monitor receiver equipment equivalent to the following:

General Electric:	Monitor Receiver Series
Motorola:	Alert Monitor Series

2 Channels.

One (1) minimum. Frequency in the 40 - 50 MHZ band to be furnished to the Contractor.

3 Tone Squelch.

None to be furnished.

4 Selective Call.

None to be furnished.

5 Mechanical.

Desk top.

6 Power.

120 VAC

7 Antenna.

Wire antenna with connector for attachment to rear of radio receiver.

DETAILED SPECIFICATIONS

ITEM 11

HIGH BAND MONITOR RECEIVER

1 Basic.

The Contractor shall furnish and deliver all solid-state high band monitor receiver equipment equivalent to the following:

General Electric:	Monitor Receiver Series
Motorola:	Alert Monitor Series

2 Channels.

One (1) minimum. Frequency in the 40 - 50 MHz band to be furnished to the Contractor.

3 Tone Squelch.

None to be furnished.

4 Selective Call.

None to be furnished.

5 Mechanical.

Desk top.

6 Power.

120 VAC.

7 Antenna.

Wire antenna with connector for attachment to rear of radio receiver.

DETAILED SPECIFICATIONS

ITEM 12

LOW BAND/HIGH BAND SCANNING MONITOR RECEIVER

1 Basic.

The Contractor shall furnish and deliver all solid-state low band/high band monitor receiver equipment equivalent to the following:

E. F. Johnson "Duo-Scan" Series

Bearcat/Electra "Bearcat III" Series

2 Channels.

Eight (8) minimum capable of sequential operation on any combination of low band and high band frequencies.

3 Monitor Scan.

The unit will be equipped with a scanning capability such that all channels can be scanned in sequence, or any number of channels may be disabled with the remaining active channels scanned.

4 Tone Coded Squelch.

None to be furnished.

DETAILED SPECIFICATIONS

ITEM 13

MAGNETIC TAPE RECORDER

1 Basic.

The Contractor will furnish and install a dual transport tape logging system equivalent to the following:

Dictaphone: Model 4000 Series

Magnasync/Moviola: Model 1700 Series

2 Channels.

\_\_\_\_ ( ) channels minimum.

3 Recording Tape.

The system will be supplied with thirty-five (35) reels of recording tape as recommended by the recorder manufacturer.

4 Time Generator - Reader.

The system will have both time generator and time reader.

5 Tape Eraser.

The system will be supplied with a bulk tape eraser.

6 Head Demagnetizer.

The system will be supplied with a head demagnetizer and cleaning kit.

**END**