

ISN-1-16933

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UNITED STATES GOVERNMENT

memorandum

PO-AAP-779

DATE: May 31, 1979
REPLY TO ATTN OF: Joseph A. Vasile
Regional Telecom Tech (RTT)
SUBJECT: PARAGUAY NATIONAL NARCOTICS DIVISION (DNN)
TELECOMMUNICATIONS STUDY
TO: James L. Bramble, SAIC

I. BACKGROUND

1. The National Narcotics Division proposes establishing a national intelligence and operations headquarters in Asunción and regional headquarters in three locations as follows:

<u>CITY</u>	<u>PROVINCE</u>
Mariscal Estegarribia	Chaco
Pedro Juan Caballero	Amambay
Puerto Presidente Stroessner	Alto Parana

2. The FY-79 Project Agreement provides for technical support of the DNN with telecommunications equipment and vehicles for transmission of intelligence between the central and regional headquarters and for tactical operations between base locations and mobile units.
3. USG funds available within the FY-79 Project Agreement are limited to \$100,000 for telecom equipment, vehicles and radio technician training. After allowing \$39,000 for vehicle procurement and maintenance and \$4,000 for radio technician training, the balance of \$57 is available for telecommunication equipment and services.

II. TELECOMMUNICATIONS TECHNICAL FEASIBILITIES

1. Intelligence Network

a) An independent means of reliable transmission of intelligence between the Central DNN and Regional Headquarters is recommended. This can be provided by HF-SSB



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OPTIONAL FORM NO. 10
(REV. 7-78)
GSA FPMR (41 CFR) 101-11.6
5010-112

Transceivers, one at each site, connected to H.F. dipole antennas mounted on two towers of 15 meters height. Estimated cost of equipment for four units is \$11,000. Cost of towers, estimated at \$4,000, and construction to be borne by GOP by project agreement. This system would permit long-range communication with vehicles equipped with HF-SSB mobile transceivers.

b) An alternative is a Telex teletype service between Asunción and the three regional headquarters. Rental fees average \$175 per month per installation. A one-time installation fee of \$500 is also charged. This system would provide reliable unattended point-to-point communications but would, of course, preclude long-range communications with mobile units as feasible under (a) preceding. Estimated cost per year, 4 stations = \$8,400.

c) Lease of point-to-point teletype channels from Entelco and USG procurement of teletype equipment is technically feasible but not considered because of \$500-\$1,000 approximate lease costs monthly per channel, and \$45,000 teletype machine and privacy devices for the system.

2. Short-Range Operations Communications

a) A VHF/FM base station transceiver is required at each of the four locations. Their purpose would be to provide communications with vehicles on narcotics operations within the area. Four units estimated cost = \$11,000.

b) Five US procured vehicles are programmed, each requiring a mobile VHF/FM transceiver to communicate with base stations in (a) preceding and with hand-held transceivers carried by agents in operations. Estimated cost = \$10,000.

c) 14 Handie-Talkie VHF/FM transceivers for distribution to operations personnel at the four locations, 2 each to regions and 8 to Asunción, \$17,000.

d) To extend the operating range of VHF operations in the Asunción and Caacupé areas, a repeater is proposed at each location. Estimated cost of 2 units = \$11,000.

e) DNN has four vehicles in service in Asunción. Four mobile VHF/FM units available in country may be modified for use in these vehicles.

3. Long-Range Mobile Communications

These are feasible by installation of HF-SSB mobile transceivers in one vehicle at each headquarters, a total of four. Estimated cost = \$10,000.

III. RECOMMENDATIONS

1. Short-Range

a) Telecom commodity support for FY-79 be limited to provide equipment for VHF/FM communications described in II, 2, for short-range operations communications. In addition to the \$49,000 estimated cost of the proposed units, approximately \$8,000 would be expended for VHF/FM gain antennas, coaxial cable, accessories and spare parts, for a total of \$57,000. This would just leave \$4,000 for radio technician training.

b) If Telex service is available and funding for this service could be obtained, either from the USG or GOP, its implementation is also recommended.

2. Long-Range

a) Assuming favorable evaluation of DNN performance and continuation of the project, HF-SSB base station and mobile equipment may be procured in 1980. Estimated cost with accessories = \$30,000.

b) Test equipment for a repair shop and for field testing and repairs are recommended. Estimated cost = \$8,000.

IV. CONCURRENCES

1. The recommendations were discussed in a meeting between the DCM, Mark Dion, James Bramble, DEA and Joseph Vasile, RTT. The recommendation of a 2-phase program as proposed was accepted.
2. The 2-phase proposal was also discussed with Comisario Inspector Inosencio Montiel, Director, DNN, who approved the program. GOP funding of towers would have to be included in the GOP budget of the next calendar year, however.

V. DRAFT PA/C's

1. Two Draft PA/C's are attached for procurement of proposed commodities for FY-79 and FY-80. Frequencies for VHF and H.F. equipment are being requested by DNN and must be inserted in Channel Assignment spaces of PA/C's when available.

<u>Item #</u>	<u>Qty</u>	<u>DESCRIPTION</u>	<u>Est. Cost</u>
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1	4	VHF/FM Transceiver, Base Station, 90 watts output, 150-170 MHZ, 4-cyl, Power Source 220v AC, 50 HZ or 12v DC, with crystals on following operating frequencies:	\$ 8,000
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<u>Channel</u>	<u>Transmit</u>	<u>Receive</u>
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1
2
3
4

Motorola C63 RTB 1193M

2	1	VHF/FM Repeater, Fixed Station, 90 watts output, to operate on 220v AC, 50 HZ. Unit to include Duplexer and operate on following frequencies:	5,500
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Transmit _____

Receive _____

3	1	Same as Item #2, except to operate on following frequencies:	5,500
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Transmit _____

Receive _____

4	5	VHF/FM Transceiver, Mobile, 4CH, 12v negative ground, trunk mount to include control head, microphone, speaker, control cables and hardware. Crystal elements in- stalled on operating frequencies as in Item #1.	6,500
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Motorola T73 BBA 1900K

5	14	Hand-held transceiver, VHF/FM, 5 watt, 4 CH with crystal elements installed on operating frequencies as in Item #1. To be provided with external microphone and earphone.	15,000
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Motorola H33 FFN 1170

FY-79

<u>Item #</u>	<u>Qty</u>	<u>DESCRIPTION</u>	<u>Est. Cost</u>
6	6	Antenna, Colinear array, 5.25 DB gain with mounting clamps and terminated in UHF female connector. Motorola TD 6073	\$ 1,500
7	6	Antenna, VHF, 3 DB gain, magnetic mount Motorola ST-900	200
8	2 rolls	Transmission Line, RG8/U 500 ft/roll	250
9	20	UHF Coaxial connectors, male	50
10	1	Power supply output 6-12v DC, 30 amps input 220v AC Motorola T-1012A	950
11	1	Transformer, step-down, 220/110v Motorola ST-1104	100
12	2	Wattmeter, thru line, with carrying case, with VHF elements for 10 watts & 100 watts	400
13	1	Termaline RF load resistor, 1 KW, with overload switch	500
14	2	AC/DC VOM with test leads, carrying case and spare batteries Motorola T-1009a	200
15	1 lot	Spare parts PAC for MOCOM, Motorola SPK 104B	700
16	1 lot	Spare parts PAC for HT-220 Motorola SPK 108A	175
17	1 lot	Spare parts PAC for MICRO Motorola SPK 107B	700
18	4	Modification Kit to permit 4 Ch operation on present 2 Ch Motorola Mobile Transceiver - MOCOM-70	400

FY-79

<u>Item #</u>	<u>Qty</u>	<u>DESCRIPTION</u>	<u>Est. Cost</u>												
19	24	Transmit and Receive Crystals for operation of VHF/FM Mobile unit, Item #18, on following frequencies.	\$ 1,200												
		<table border="0"> <tr> <td></td> <td style="text-align: center;"><u>Transmit</u></td> <td style="text-align: center;"><u>Receive</u></td> </tr> <tr> <td style="padding-left: 20px;">Ch 1</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="padding-left: 20px;">Ch 2</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> <tr> <td style="padding-left: 20px;">Ch 3</td> <td style="text-align: center;">_____</td> <td style="text-align: center;">_____</td> </tr> </table>		<u>Transmit</u>	<u>Receive</u>	Ch 1	_____	_____	Ch 2	_____	_____	Ch 3	_____	_____	
	<u>Transmit</u>	<u>Receive</u>													
Ch 1	_____	_____													
Ch 2	_____	_____													
Ch 3	_____	_____													
20	2	Modification Kit to permit 4 Ch operation on present 2 Ch HT-220 Transceiver	200												
21	6	Transmit and Receive Crystals for HT-220 on same channel frequencies as Item #20.	300												
22	6	Battery Chargers, single unit, Rapid Charge, 220 v/AC, 50 HZ, Motorola Model NLN 6999	650												
23	1	Battery Charger, Twelve Units, Rapid Charge, 220 v/AC, 50 HZ, Motorola Model NLN 4572	675												

<u>Item</u>	<u>Qty</u>	<u>DESCRIPTION</u>	<u>Est. Cost</u>
1	4	HF-SSB Transceiver, Base Station, 4 Ch, 150 watts, PEP, USB/LSB, Clarifier for 220 v AC operation. Crystals to be furnished for operation of following frequencies: Ch 1 2 3 4 Scientific Radio SR 204-4 or equal	\$9,000
2	4	HF-SSB Transceiver, Mobile, 4 Ch, 150 watts PEP, 12 v negative ground, equipped as follows: a) Dynamic hand-held microphone b) Operating controls accessible from driver's compartment c) Whip antenna, mounting bracket and automatic antenna tuner to be provided.. Unit shall be equipped with crystals to operate on frequencies as for Item #1.	10,000
3	12	HF Dipole Antenna	600
4	2 rolls	Transmission Line, RG-58/U 500 ft/roll	150
5	20	UHF Coasial Connector, Male	50
6	1	HF Signal Generator, 2-10 MHZ, with calibrated output and step attenuator. Test cable with UHF connectors to be provided.	2,500
7	1	VHF Signal Generator 150-174 MHZ, calibrated output, step attenuator and connecting cables.	2,500
8	2	Sets, radio repairment tool kit, shop and field maintenance.	250

-5-

May 17, 1979

DRAFT PA/C FY-79 PIP-TELECOM COMMODITIES

\$ 105,000

<u>Item</u>	<u>Qty.</u>	<u>Description</u>	<u>Est. Cost</u>															
1	1	HF-SSB Transceiver, Base Station, 12CH, 150 watts output. PEP, USB/LSB/AM/CW, Clarifier, for 220V AC operation. Unit Shall be equipped with Crystals for operation on following frequencies Channel 1 4450 KHZ 2 4610 3 5140 4 5930 5 6500 6 7575 7 7660 8 7900 9 8130 10 9210 11 9985 12 10235	5,000															
2	1	HF-SSB Transceiver, Mobile, 4 CH, 150 watts output PEP, USB/LSB, clarifier, 12 V Negative Ground, equipped as follows: a) Dynamic hand held microphone b) Operating controls accessible from driver's compartment. c) Whip antenna, mounting bracket and automatic antenna tuner to be provided. Unit shall be equipped with Crystals on following operating frequencies: Channel 1 5140 KHZ 2 7900 3 9985 4 10235	3,000															
3	7	VHF/FM Transceiver, Base Station, 90 watts output, 150-170 MHZ, 4 CH, Power source 220 V AC or 12 V DC, with crystals on following operating frequencies: <table border="1"> <thead> <tr> <th><u>Channel</u></th> <th><u>Transmit</u></th> <th><u>Receive</u></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>153.200</td> <td>154.600</td> </tr> <tr> <td>2</td> <td>153.250</td> <td>154.650</td> </tr> <tr> <td>3</td> <td>153.150</td> <td>153.150</td> </tr> <tr> <td>4</td> <td>153.100</td> <td>153.100</td> </tr> </tbody> </table> Motorola C63RTB1193M	<u>Channel</u>	<u>Transmit</u>	<u>Receive</u>	1	153.200	154.600	2	153.250	154.650	3	153.150	153.150	4	153.100	153.100	15,000
<u>Channel</u>	<u>Transmit</u>	<u>Receive</u>																
1	153.200	154.600																
2	153.250	154.650																
3	153.150	153.150																
4	153.100	153.100																

4	10	VHF/FM Transceiver, Mobile, 4 CH, 12V DC Negative Ground, trunk mount to include control head, microphone, speaker, control cables and hardware. Crystal elements installed on operating frequencies as in item 3. Motorola T73BBA1900K	13,000
5	36	Hand-Held Transceiver, VHF/FM, 5 watt, 4CH, with crystal elements installed on operating frequencies as in item 3. Motorola H33FFN1170	39,000
6	20	Battery Charger, Single unit, rapid charge, 220V AC, Motorola NLN6999	2,100
7	1	Battery charger, twelve unit, rapid charge, 220V AC, Motorola NLN4572	600
8	8	Antenna Co-linear array, 5.25 db gain, with mounting clamps and terminated in UHF female connector, Motorola TDD6073	1,850
9	10	Antenna, VHF, 3db gain 100 watt, magnetic mount, Motorola ST-900	300
10	2 rolls	Transmission line RG 8/U, 500 ft.	250
11	4	Battery Charger, 220V AC operation, 12V DC output, 20 amperes. Motorola ST-771	500
12	36	Nickel cadmium Battery, Rapid Charge, Motorola Part No. NLN6900A	1,600
13	3	Spare Parts PAC for MOCOM 70, Motorola Model SPK 104B	1,500
14	1	Spare Parts PAC for MICOR, Motorola SPK 107B	500
15	4	Spare Parts PAC for HT-220, Motorola SPK 108B	2,000
16	8	Battery, Storage, 12V, 200 amperes lead-acid	1,600
17	4	Generator, Battery charging, gasoline engine driven, output 12V DC, 500 watts minimum	2,000
18	20	Power supply, Plug-in Module, Scientific Radio Model AR-250 to include 220V AC Blower. Ref: State 3299, State 5940.	6,000
19	20	UHF Coaxial Connectors, male	

TOTAL ... 95,800

7-

May 18, 1979
C

DRAFT PA/C FY-79 TELECOM COMM G.C. # 1

\$ 100,000

<u>Item</u>	<u>Qty.</u>	<u>Description</u>	<u>Est. Cost</u>												
1	4	HF-SSB Transceiver Base Station, 4 CH, USB/LSB/AM/CW, for operation on 12V DC Power Supply, equipped with Crystals on the following operating frequencies: Channel 1 - 5390 KHZ 2 - 6830 3 - 7415 4 - 10830 Scientific Radio Model SR204-4 or equal.	10,000												
2	1	HF-SSB Transceiver Base Station, same specifications as item 1 except for operations on 220V AC Power Supply.	2,500												
3	2	HF-SSB Transceivers, mobile, with specifications as given in item 1 with following changes: a) Dynamic hand held microphone b) Operating controls accessible from driver's compartment. c) Whip antenna, mounting bracket and automatic antenna tuner to be provided.	6,000												
4	5	VHF/FM Base Station Transceiver, 90 watts, 150-170 MHZ, 4 channels, Power Source 220V AC or 12V DC; with Crystals on following operating frequencies: <table border="1"> <thead> <tr> <th><u>Channel</u></th> <th><u>Transmit</u></th> <th><u>Receive</u></th> </tr> </thead> <tbody> <tr> <td>1</td> <td>155.150</td> <td>155.150</td> </tr> <tr> <td>2</td> <td>155.350</td> <td>155.350</td> </tr> <tr> <td>3</td> <td>156.000</td> <td>156.000</td> </tr> </tbody> </table> Motorola C63RTB1193M or equal	<u>Channel</u>	<u>Transmit</u>	<u>Receive</u>	1	155.150	155.150	2	155.350	155.350	3	156.000	156.000	11,000
<u>Channel</u>	<u>Transmit</u>	<u>Receive</u>													
1	155.150	155.150													
2	155.350	155.350													
3	156.000	156.000													
5	5	VHF/FM Mobile Transceiver, 4 CH, 12V DC, Negative Ground, trunk mount to include control head, microphone, speaker, control cable and hardware. Three channels shall be equipped with crystals as item 4. Motorola T73BBA1900K or equal.	7,000												

6	30	Hand-Held Transceiver, VHF/FM, 5 watt, 4 CH with crystal elements installed on three operating frequencies as in item 4. Motorola H33FFN1170.	33,000
7	12	Battery chargers, single unit, rapid charge, 220V AC, Motorola NLN 6999A	1,100
8	2	Battery charger, twelve unit, rapid charge, 220V AC. Motorola NLN4572	1,200
9	30	Battery, rapid charge, Nikel Cadmum Motorola NLN 6900A	1,500
10	5	Antenna, Co-linear array, 5.25 gain, with mounting clamps and terminated in UHF female connector, Motorola TDD6073	1,500
11	5	Antenna, VHF, 3db gain 100 watt, magnetic mount, Motorola ST-900	100
12	1 roll	Transmission line, RG 8/U, 500 ft.	110
13	6 rolls	Transmission line, RG 58/U, 500 ft. per roll	450
14	4	Battery Charger, 220V AC operation, 12V DC output, 20 amperes, Motorola ST-771	600
15	1	Spare parts for MOCOM70, Motorola SPK104B	1,000
16	1	Spare Parts for MICOR, Motorola SPK107B	1,000
17	4	Spare Parts for HT-220, Motorola SPK108B	1,000
18	8	Battery, storage, 12V, 200 amperes, lead-acid.	1,600
19	4	Generator, Battery Charging, gasoline driven, 4 cycle, one cylinder. Universal Industries 012-GH.	2,000
20	30	UHF Coaxial Connectors, male, with RG58/U adapters.	
21	30	Antenna Dipole Kit, HF, with Insulators and Hardware, Scientific Radio AR-247	1,200
TOTAL			84,010

9

May 18, 1979

DRAFT PA/C FY-79 TELECOM COMMODITIES C.G. # 2 \$ 5,000

<u>Item</u>	<u>Qty.</u>	<u>Description</u>	<u>Est. Cost</u>
1	2	Power supply, output 6-12 V DC, 30 amps, input 220V AC, Motorola T-1012A	928
2	2	Transformer, step-down, Motorola ST-1104	206
3	2	AC/DC VDM with test leads, carrying case and spare batteries, Motorola T-1009A	192
4	2	Wattmeter, Thru-line, with carrying case Model Bird 43 and CC3	275
5	2	250 H Element for item 4	80
6	2	100 C Element for item 4	80
7	1	Termaline RF Load Resistor, 1 KW with overload switch	500
8	1	Oscilloscope, field type, with Nickel Cadmium Batteries, 220V AC 50/60 HZ operation, including necessary probes, 6006, 6028. Tektronix TLD32	225
9	1	Desoldering System, PACE - SX - 300	460
10	1	Transistor automatic Portable Tester, Sencore Model TF-46	220
11	2	Sets, Radio Repairman Tool-Kit, -shop and field maintenance.	