Declassified E.O. 12356 Section 3.3/NND No. 785015

ACC 10000|147|512 T/36/cs

PART I

Internal Planning

MAR.-SEPT, 1944

0072

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(cf. Standish: Summa (See also attached no 6a)

A. Requirements of A.C.

1. Toll Positions

a. 1-8 position. 30 ring down LD Tks. with relay sets. Mult. alternate positions. also 4 appearances - 20 jacks and lamps each without relays.
b. 1-6 position. 20 ring down and 20 CB Trunks all equipped.
c. 4-4 positions. 20 ring down and 10 CB Trunks all equipped.

2. C.B. Local Positions

a. 1-16 position with 2000 mult.; with 20 mag. and 20 CB/auto relay sets, and all misc. circuits.
b. 2-10 position with 1400 mult.; 20 mag. and 20 CB/auto relay sets etc.
c. 3-6 position with 800 mult.; 20 mag. and 20 CB/auto relay, sets, etc.

B. Major Tucker's Scheme

(1) 26 Toll positions being reconditioned (14 old and 12 new).
92 CB - Toll positions being manufactured to military Specn.
(2) Military needs as follows:

Toll: 14 reconditioned boards as in (a)
22 to be manufactured - no specn. prepared as yet.

(3) Civil needs as follows:

Toll: 12 reconditioned boards as in (a)
20 to be manufactured - no specn. prepared as yet.
Local: 54 position from 92 in (a).

(4) Distribution of needs as in table below.

Town	Long distance position		Local positions	
	Military	Civil	Military	Civil
Florence	-	Extension of 2	-	-
Bologna	-	4/20+10	-	6/800
Venice	6	4/20+10	-	6/800
Genoa	8	6/20+20	1-8-40	10/1400
Milan	8	8/30+20	-	16/2000
Trieste	8	2	-	6/800
Turin	6	6/20+20	-	10/1400

C. New Proposals. (4 (a Beck)

(1) New Fatme boards are sleeve control with consequent waste of relays on local equipment.

Proposal to redesign, reducing local multiple and equipment and make new specn. Also, Italians and A.C. will prepare new specn. for CB local borads.

Boards will be ordered and paid for by military, but State will agree to purchase later.

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Ministero delle Corporazioni

IL SEGRETARIO GENERALE
DEL CONSIGLIO NAZIONALE
DELLE CORPORAZIONI

(1) 2 Nuova SIELTE Siemens at Firenze can be used Stop gap only.

(2) 5 SvH probably also spare.

(3) A. Rimini 1 - Voce - 3 Morse - 4 Magic Function S.T. & C.

(4) 2 - from Marg. Kingsley each at Florence will go to Rome
place one as Spare.

(5) 14 - Roma. Siemens at Viminale - were in use by
State before 1925 and were given to TIELE who
took them out of Service some time ago.
Now in use Rome as State's latter. 30 yrs old.
Equipt for 56 lines held - manuf. for 60. - by drum.
50 jacks
30 L.B. trunk subscribers.
60 Call office lines
Two batteries 24 volt 60 A.H. and 24 volts (60 for auto relay)

(6.) 10 jacks at Ambasciata SvH on ground floor
2 " " SvH Can be released when 1829 Note one.
South African want 4 jacks for military tell tale
Also Relay from above.
4 Can be thrown Spare.

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Ministero delle Corporazioni

IL SEGRETARIO GENERALE
DEL CONSIGLIO NAZIONALE
DELLE CORPORAZIONI

(1) State boards: Old boards can be made OK — 10 out of 12
New 10 out of 12.

(2) Fences: 8 on site — 2 being repaired. - Cut etc.

Need 2 lines from Fin (Chas) prepare for Livorno.

Cost of wire on site - Write AFHQ.

16 cents/lb 050

Cu - 10¢ - 16 cents/lb. 163 lb./mile

2. 8
1-6 } to be done by Fatine for Auxiliary.
1-4

1-12 done by Fatine for Auxiliary.

18:8

HTWW/epc

List of TIMO Carrier Plant Available

SIEMENS MP 1 or 2

Channel No.	Situated at.	Worked to.	Condition
1	Perugia	Castiglione	Demounted - repairable
	Castiglione	Perugia	Lightly damaged - repairable.
	Todi	"	Good
	Spoleto	Foligno	Lightly damaged - repairable
	Campobasso	Termoli	Good.
	"	Not known	"
	Ascoli	Fermo	"
	Fermo	Ascoli	"
2.	Assisi	Perugia	"
	Orvieto	Terni	"
	Terni	Orvieto	"
3.	Spoleto	Cerreto	Lightly damaged - repairable
	Gualdo	Fabriano	Good
	Cerreto	Spoleto	Not known
	Campobasso	Isernia	Good
	"	Not known	"
	Isernia	Campobasso	Lightly damaged -repairable
4.	Termi	Rieti	Good
	Campobasso	Larino	"
	Isernia	Sulmona	Lightly damaged.

1837

FERGO 612/1

3.	Ancona	Reserve	OK
4.	Terni	Foligno	Good

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1	Perugia	Castiglione	Demounted - repairaole
	Castiglione	Perugia	Lightly damaged - repairable.
	Todi	"	Good
	Spoleto	Foligno	Lightly damaged - repairable
	Campobasso	Termoli	Good.
	"	Not known	"
	Ascoli	Fermo	"
	Fermo	Ascoli	"
2.	Assisi	Perugia	"
	Orvieto	Terni	"
	Terni	Orvieto	"
3.	Spoleto	Cerreto	Lightly damaged - repairable
	Gualdo	Fabriano	Good
	Cerreto	Spoleto	Not known
	Campobasso	Isernia	Good
	"	Not known	"
	Isernia	Campobasso	Lightly damaged -repairable
4.	Terni	Rieti	Good
	Campobasso	Larino	"
	Isernia	Sulmona	Lightly damaged.

1937

PEREGO 612/1

3.	Ancona	Reserve	OK
4	Terni	Foligno	Good
5	Perugia	Citta C.	Demounted, repairable
	Terni	Spoleto	Good
	Spoleto	Terni	Lightly damaged, repairable

PEREGO SR

2	Terni S.Gemini	S.Gemini	Good

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Channel No.	Situated at.	Worked at.	Condition
3.	Perugia	Citta C.	OK
	Citta C.	Perugia	Good
4	Perugia	Tavernelle	Desounted; repairable
	Perugia	Lodi	OK
	Tavernelle	Perugia	Good
	Todi	Perugia	Lightly damaged; repairable
	Also two reserve sets, frequency unknown, at Macerata.		
SAFAR OSI/K			
1.	Perugia	Terni	OK but desounted
	Terni	Aquila	Good
	"	Perugia	"
	Aquila	Terni	"
	"	Pescara	"
	Campobasso	Pescara	"
	Jesi	"-	Repairable
SIEMENS SF			
	PERUGIA	Assisi	OK
	Assisi	Perugia	Good
SIEMENS - OLD TYPE			
	Aquila	Roma	Repairable
	Roma	Aquila	Good
	"	Chieti	"
	"	Pescara	"

1856

Notes on Carrier Plant in Italy.

1. Siemens NK and PF. Ferraro 612/1 and SR.

Have five channels each with two frequencies. The equipment for

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Also two receive sets, frequency unknown, [illegible]

SAFAR OSI/K			
1.	Perugia	Terni	OK but demounted
	Terni	Aquila	Good
	"	Perugia	"
	Aquila	Terni	"
	"	Pescara	"
	Campobasso	Pescara	"
	Jesi	"-	Repairable
SIEMENS SP			
	PERUGIA	Assisi	OK
	Assisi	Perugia	Good
SIEMENS - OLD TYPE			
	Aquila	Roma	Repairable
	Roma	Aquila	Good
	"	Chieti	"
	"	Pescara	"

1856

Notes on Carrier Plant in Italy.

1. Siemens SK and SF. Pereve 612/1 and 3R.

Have five channels each with two frequencies. The enulpment for each channel is separately mounted.

Frequencies:

Channel	1a and b	60	and 108	Kcs.
	2 "	68	" 116	"
	3 "	76	" 124	"
	4 "	84	" 132	"
	5 "	92	" 140	"

They can be used of the following maximum distances

80 Kms on 2mm bronze lines
100 " " 3" " "
120 " " 4 " " "

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(b) There appears to be a second MP system called MP2 which operates from 64 K. by steps to 144 Kcs., and also the following:

Siemens M Ops. on 17.6 and 25.8 Kcs.
SI Ops on side bands of 5.8.Kcs.

Information on the MP2, M, and SI is not entirely dependable.

2. SAFAR DSI/K and DS3 and Siemens old type.

According toTIMO the frequencies of these installations cover a band of 4 to 15 Kcs. It is believed however that the DS 3 at least is a 3 channel system working on frequencies of 7.7, 19; 11,23.2; 14.8, 27.6, Kcs. Another DS 3 type Pwobably DS 3/40 is thought to operate on 6.6, 24; 10.2,28.4; 14.6,33 Kcs.

These installations operate with a suppressed carrier and are thus of a more secret type. They are in use on bronze or aluminium lines of over 200 Kms.

3. FACE

There are at least two types in use south of Florence, the HI and the SCT. The respective frequencies in operation are believed to be as follows:

H1 : Operates on 5.8.Kcs using upper and lower side bands with carrier filtered out; this seems to be similar to the Siemens SI.

SCT: operates on 23.7, 14.3; 19.8,10.9; 27.7, 7.7. Kcs. This is in the same class as theSAFAR Types specified above.

H.T.W.Millar Lt.Col.
R.Sigs.

Chief Telecomms Officer
HQ.A.C.C.

10th October, 1944

1935

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Embassy ~~Bonn~~ Rome	13	From Rome FATME order.
Milan	16	10 POS FROM 20 FATME Sched 23 INCREASE MULTIPLES TO 1000
Turin	10	
Genoa	10	Zadme - 10 from 20 Sched 23 Jan INCREASE MULTIPLES TO 1000 FATME 6 Sched 16 DEC
Bologna	6	
Venice	6	FATME 6 " " "
Trieste	6	FATME 6 " " "
	54	
Florence	2 (+2 installed).	26 State

HTWM/epc

Col. Henderson

Comments on Tran. ort Schedule and Lists of uipment

1. Motor Transport for Telecommunications:

The number of vehicles suggested, namely 169 is reasonable. The number ordered from A.F.H.Q. was 150. Circolos cover an average radius of 40 miles.

2. Equipment:

(a) Consideration of the need for the equipment is difficult for many of the items without a statement of present stocks, and an explanation of the basis on which the items were calculated. It is suggested that, if action is contemplated to obtain these stocks, the above facts should first of all be made known. Moreover, much of the material is in a class common to other Government Departments.

(b) The required plant and materials have been regrouped in five classes - Overhead plant; underground plant; internal plant; raw material; misellaneous equipment. The first three deal with what are essentially signal stores; the others do not concern the Ministry of Communications alone.

(c) Many of the articles or materials can be obtained from Italian sources (e.g.poles). Qualities of certain items seem excessive (e.g. items 12,13,17b etc.). No decision can however be finally made without the supply of the information mentioned in 2 (a).

As regards lists D and E, there should exist surely some coordinating Italian Government office to deal with these items the use of which is common to several Depts.

3. Comments on List of Equipment:

A rough estimate has been made in the third column of the immediate needs. In brackets in the fourth column are shown the cuantities requisitioned from A.F.H.Q. Many of the requisitioned items are not included in the Italian list.

H.W.T.Millar
Lt. Colonel
Chief Telecommunications Officer
6th October, 1943

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List of Equipment

(Amounts ordered from AFHQ shown in brackets)

Equipment	Amount Requested	Required Now	Comments.
A. Overhead Plant			
1. Wire: a. Iron Galv.	250Tons	100 Tons	Available in stocks at least 100Tons
b. Bronze	1400Tons	200 Tons	" " " " " " " (30 Tons)
c. Copperweld	40 Tons	-	None in stock.
d. Tinned copper	5 Tons	All	Amount in stock known to be very small.
e. Hard Drawn copper 4mm.	25 Tons	-	Probably none in stock.
f. Copper wire for winding	3.4Tons	1 Ton	" " " "
g. Resistance wire	0.7Tons	All	Stock, if any not known.
h. Steel wire	150Tons		About 20 Tons probably available
i. Steel flexible wire	120Tons		Small stocks.
2. Tarred twine	5 Tons	All	Practically no stocks
3. Insulators	1,100,000	100,000	Believed to be at least 100,000. Can be made Italy.
4. a. Tin for Solder	21 Tons	10 Tons	Nil
b. Resim cored solder	1 Ton	All	Nil (4000 lbs.)
5. Poles	100,000	-	Should be obtained in Italy probably 15,000 now available.
6. a. Tools for linemen	10,000	3000	Probably at least 1000 in stock (30 sets)
b. Equipment for linemen	340	All	Small amount available
c. Equipment for workers in the telecommunications network,	200	All	Small amount available 1822
B. Underground Plant:			

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	d. Tinned copper	5 Tons	All	Amount in stock known to be very small.
	e. Hard Drawn copper 4mm.	25 Tons	-	Probably none in stock.
	f. Copper wire for winding	3.4Tons	1 Ton	" " " "
	g. Resistance wire	0.7Tons	All	Stock, if any not known.
	h. Steel wire	150Tons		About 20 Tons probably available
	i. Steel flexible wire	120Tons		Small stocks.
2.	Tarred twine	5 Tons	All	Practically no stocks
3.	Insulators	1,100,000	100,000	Believed to be at least 100,000. Can be made Italy.
4.	a. Tin for Solder	21 Tons	10 Tons	Nil
	b. Resin cored solder	1 Ton	All	Nil (4000 lbs.)
5.	Poles	100,000	-	Should be obtained in Italy probably 15,000 now available.
6.	a. Tools for linemen	10,000	3000	Probably at least 1000 in stock (30 sets)
	b. Equipment for linemen	340	All	Small amount available
	c. Equipment for workers in the tele-communications network,	200	All	Small amount available 1822

B. Underground Plant:

7. Cable:

a. Urban 100prs 7/10	10 Kms	Position not known	
400 prs 6/10	10 "	"	" "
200 prs "	75 "	"	" "
100 prs "	300 "	"	" "

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Equipment	Amount Required	Required Now	Comments
50 prs 6/10	400 Kms		Position not known
30 " "	200 "		" " "
20 " "	200 "		" " "
10 " "	300 "		" " "
b. Interurban			
50Quad 9/10	200 "		" " "
(Kultg twin) 24" "+Scd.	300 "		" " "
18" "	20 "		" " "
36" "	25 "		" " "
8. Loading coils	245		Spare - Nil
9. Armoured Patterson Cable 18 prs	65 "		Fair amount available - probably 20 Kms.
C. Internal Plant:			
10. Manual SWBD.LB 10 to 50	1400	-	Small numbers available
11. Telephone L.B.	7000	500	Very few available of L.B.Type
12. Cords (flexible)	700,000	5000	Position not known
13. Small lamps Telephone type	60,000	3000	" " "
14. Cells a. Dry Telephone Type	2,200	All	Very small stocks
b. Dry 35-40Amp/hrs.	10.000	All	" " "
15. Batteries a. Secondary 120 volts	20	All	None in stocks
b. Plates for Secondary Cells	650Tons	say 20 Tons	Probably as above.

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(38)

16. Power Plant

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b. Interurban			
50Quad 9/10	200 "		" " "
(Multy twin) 24"	"+Spcd. 300 "		" " "
18"	" 20 "		" " "
36"	" 25 "		" " "
8. Loading coils	245		Spare - Nil
9. Armoured Patterson Cable 18 prs	65 "		Fair amount available - probably 20 Kms.

C. Internal Plant:

10. Manual SWBD.LB 10 to 50	1400	-	Small numbers available
11. Telephone L.B.	7000	500	Very few available of L.B.Type
12. Cords (flexible)	700,000	5000	Position not known
13. Small lamps Telephone type	60,000	3000	" " "
14. Cells a. Dry Telephone Type	2,200	All	Very small stocks
b. Dry 35-40Amp/hrs.	10.000	All	" " "
15. Batteries a. Secondary 120 volts	20	All	None in stocks
b. Plates for Secondary Cells	650Tons	say 20 Tons	Probably as above.
16. Power Plant a. Rectifiers 120 Volts	15	5	Nil
b. Misc.(1-10Kwts)	400	30	Small number (30)
17. Amplifiers a. Complete Stations	12	As in AFHQ order	Spare nil
b. Singe Amplifiers	180		Spare nil (289 amplifiers and 111 ringing equipts.)

1961

(38)

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Equipment	Amount Requested	Required Now	Comments
19. Carrier channels	800	-	Probably at least 30 O/H and 6 U/G available.
20. 4 to 12 ch.V.F. Telegraph Equipments.	4	All	Spare nil
21. Elec.Instruments.	850	100	" " (19 complete testing equipments)
22. "Armadi"	340		Not known
23. Cable a.1 paire lead covered	4000Kms	300 Kms	Position not known
24 b.1 pair jute covd.for mountings	1,700 "	150 "	" " "
24. "Tracciola permutazione"	6,500 "		
25. Thermionic valves	97		Spares not of suitabletypes.
26. Boxes of Wollaston Wire	4		Not known
27. Artificial lines for Submarine cable	2		
D. Raw Materials, etc.			
28. Copper sulphate	50 Tons	All	
29. Zinc	20 Tons	5 tons	
30. Tool steel brass sheets etc.	30 "	Not known	
31. Special steels	3 "	" "	
32. Lead plates	137 "	" "	
33. Zinc, copper, nickel, alloys	38 "	" "	

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21. Elec. Instruments.	850	100	equipments)
22. "Armadi"	340		Not known
23. Cable a. 1 paire lead covered	4000 Kms	300 Kms	Position not known
24 b. 1 pair jute covd. for mountings	1,700 "	150 "	" " "
24. "Tracciola permutazione"	6,500 "		
25. Thermionic valves	97		Spares not of suitabletypes.
26. Boxes of Wollaston Wire	4		Not known
27. Artificial lines for Submarine cable	2		

D. Raw Materials, etc.

28. Copper sulphate	50 Tons	All	
29. Zinc	20 Tons	5 tons	
30. Tool steel brass sheets etc.	30 "	Not known	
31. Special steels	3 "	" "	
32. Lead plates	137 "	" "	
33. Zinc, copper, nickel, alloys	38 "	" "	
34. Iron a. Laminated, etc.	1720 "	" "	
b. Magnetic	3 "	" "	
35. Silver (5 Kgms wire-rest bar)	195 Kgms.	" "	
36. Platinum	4 "	" "	

1899

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Equipment	Amount Requested	Required Now	Comment
37. Wolfram	10 Kgms.	Not known	
38. Insulating material (paraffin wax bakelight etc)	23 "	" "	
E. Miscellaneous Equipment.			
39. Raincoats	1200	" "	
40. Boiler Suits	2000	" "	
41. Shoes, Linemans type	2500 prs	" "	
42. Italian steps	140	" "	
43. Tricycles and handcars	60	" "	
44 "Box"	6000		
45. Electric lamps	160,000	20,000	

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Milan	8	16	8
Turin	6	10	6
Genoa	8	10	6
Bologna	8	6	4
Venice	6	6	4
Trieste	8	6	2
	~~36~~ 44	~~46~~ 54	30

Full 26 state available -
8 Bologna -
Torino =

74 from 16/12 to middle March

18.8

0090

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Araldsville

Dodd 26 State

8 Bologna -

CB. Joint 74 -

2 20

3 6

2 8

Need -

		From -
Milan	Military Dodd 8	Order 8 Pos
Turin	6	Order on FATME
Genoa	8	26 STATE
Bologna	8	LIVORNO TETI
Venice	6	State 26
Trieste	8	Order on FATME
~~Florence~~	~~4~~	

1827

0091

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Cinchin TOLF ~~EB~~.

need
Milan 8

Turin 6

Genoa 6

Bologna 4

Venice 4

Trieste 2

30

3 copies

Order on FATME

Do be ordered -

26 State -

26 State

26 STATE

18.6

CONFIDENTIAL

CONFIDENTIAL

ALLIED FORCE HEADQUARTERS

LAC AIRGRAM 39, 29 June 1944.

From : FHGEG

To : CCS, for CCAC (4 copies)

Subject: Requisition Number MGS-184-SIG.

Ship to: NAPLES consigned to Communications Subcommission, A.C.C., with delivery as follows:-
Items 1 to 24, inc. - immediate shipment.
Items 25 to end - required roughly in order as shown, as soon as possible after 1 July.

(The Serial No. of each consignment must include the letters TOG. Packages must be marked with standard approved markings of green dots on crossed white tape).

The following items are requested for allocation in relation to their availability and the CCAC's appraisal of the justification. The quantities requested give effect to screening by this headquarters.

If allocation is approved it is requested that procurement be initiated and this headquarters advised so that normal supply procedure may be effected.

Item No.	Stock No.	Article	Unit	Required
1	None	SWITCH BOARD, TOLL TYPE, long distance, 8 position, equipped for 30 ring-down long distance trunks, complete with relay sets; trunks being multipled on alternate positions; in addition to trunk multiple, four appearances of 20 each jacks and lamps without associated relay equipment.	Ea.	1
2	"	RINGING MACHINE, 17 or 20 cycle, mains driven, to operate on 150 volts at 45 cycles, for use with item 1. (no other power plant required for item 1).	"	1825 1
3	"	BRIDGE MEGGER, (or Wheatstone bridge and insulation megger) for battery operation.	"	1
4	"	TRANSMISSION MEASURING SETS, portable, with V.F. oscillators.	"	2
5	78-9329.2	TRUCK, CARGO, BODY, 1-1/2 ton, 4 x 4, 2-DT.	"	30
		TRUCK, CARGO, BODY,	"	20

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Ship to: [illegible]

with delivery as follows:-
Items 1 to 24, inc. - immediate shipment.
Items 25 to end - required roughly in order as shown, as soon as possible after 1 July.

(The Serial No. of each consignment must include the letters TOG. Packages must be marked with standard approved markings of green dots on crossed white tape).

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If allocation is approved it is requested that procurement be initiated and this headquarters advised so that normal supply procedure may be effected.

Item No.	Stock No.	Article	Unit	Required
1	None	SWITCH BOARD, TOLL TYPE, long distance, 8 position, equipped for 30 ring-down long distance trunks, complete with relay sets; trunks being multipled on alternate positions; in addition to trunk multiple, four appearances of 20 each jacks and lamps without associated relay equipment.	Ea.	1
2	"	RINGING MACHINE, 17 or 20 cycle, mains driven, to operate on 150 volts at 45 cycles, for use with item 1. (no other power plant required for item 1).	"	1
3	"	BRIDGE MEGGER, (or Wheatstone bridge and insulation megger) for battery operation.	"	1
4	"	TRANSMISSION MEASURING SETS, portable, with V.F. oscillators.	"	2
5	78-9329.2	TRUCK, CARGO, BODY, 1-1/2 ton, 4 x 4, 2-DT.	"	30
6	None	TRUCK, CARGO, BODY, 3/4 ton.	"	20
7	"	TEST DESK or TEST CASE, with equipment, including spare voltmeter.	"	1
8	"	BRIDGE MEGGER, (or Wheatstone bridge and insulation megger), for battery operation.	"	1

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Item No.	Stock No.	Article	Unit	Required
9	None	MAINTENANCE SET, tools, for CB exchange.	St.	3
10	"	SOLDER, TIN-LEAD, wire, resin core, for internal connection.	Lb.	1,000
11	"	SOLDER, TIN-LEAD, solid, for plumbing underground cable joints, together with sufficient splicing material (less lead, sleeves) for 500 splices.	Lb.	1,000
12	"	SLEEVE, JOINTING, paper, for underground cable	Ea.	50,000
13	"	RINGING MACHINE, 17 or 20 cycle, battery driven, (* see note at end of Page 8) to be driven off filanent battery (it is assumed that this can be done without noise at the repeaters).	Ea.	1
14	"	REPEATER, 4-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 22 terminating 4 wire repeaters. 1 lot of 6 terminating 4 wire repeaters. 1 lot of 6 terminating and 6 through 4-wire repeaters. 3 lots of 12 through 4-wire repeaters each. 3 lots of 6 through 4-wire repeaters each.	"	94
15	"	REPEATER, 2-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 8 2 lots of 4 each.	"	16
		NOTE: The repeaters in Items 14 and 15 are for use on underground cable with the following characteristics: 4-wire repeater : H-44-17 loading; 19 gauge or 20 lb. conductor. 2-wire repeaters: H-172-63 loading; 16 gauge or 40 lb. conductor.		
16	"	RINGING EQUIPMENT SET, 4-wire, 500/20 or 1,000/20, with bay capacity to accommodate the following: 1 lot of 22. 2 lots of 6 each.	"	34
17	"	RINGING EQUIPMENT SET, 2-wire, 500/20 or 1,000/20, with bay capacity to accommodate the following: 1 lot of 8.	"	16

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11	"	SOLDER, TIN-LEAD, solid, for plumbing underground cable joints, together with sufficient splicing material (less lead, sleeves) for 500 splices.	Lb.	1,000
12	"	SLEEVE, JOINTING, paper, for underground cable	Ea.	50,000
13	"	RINGING MACHINE, 17 or 20 cycle, battery driven, (* see note at end of Page 8) to be driven off filament battery (it is assumed that this can be done without noise at the repeaters).	Ea.	1
14	"	REPEATER, 4-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 22 terminating 4 wire repeaters. 1 lot of 6 terminating 4 wire repeaters. 1 lot of 6 terminating and 6 through 4-wire repeaters. 3 lots of 12 through 4-wire repeaters each. 3 lots of 6 through 4-wire repeaters each.	"	94
15	"	REPEATER, 2-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 8 2 lots of 4 each.	"	16

NOTE: The repeaters in Items 14 and 15 are for use on underground cable with the following characteristics:
4-wire repeater : H-44-17 loading;
19 gauge or 20 lb. conductor.
2-wire repeaters: H-172-63 loading;
16 gauge or 40 lb. conductor.

16	"	RINGING EQUIPMENT SET, 4-wire, 500/20 or 1,000/20, with bay capacity to accommodate the following: 1 lot of 22. 2 lots of 6 each.	"	34
17	"	RINGING EQUIPMENT SET, 2-wire, 500/20 or 1,000/20, with bay capacity to accommodate the following: 1 lot of 8. 2 lots of 4 each.	"	16
18	"	BAY, equipped for transmission and resistance measurements, cable fault localization, and testing, complete with oscillator.	St.	1
19	"	TRANSMISSION MEASURING SET, portable, for battery operation.	"	2

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Item No.	Stock No.	Article	Unit	Required
20	None	BAY, capable of taking cable termination for 400 pairs.	St.	1
21	"	BATTERY, FILAMENT, capable of taking forty 4-wire repeaters, 20 ringing equipments, and a ringing machine load, each battery to have a capacity for 48 hours' service.	Ea.	2
22	"	BATTERY, PLATE, capable of taking forty 4-wire repeaters, each battery to have a capacity for 48 hours' service.	"	2
23	"	ENGINE, PETROL OR PARAFFIN, DRIVEN, each driving two generators for charging batteries in Items 21 and 22 at 7 hours' rate; complete with spare parts.	"	2
24	"	WIRE, CADMIUM-COPPER, 70 lbs. per mile, single conductor, bare solid; or .080 copperweld type (or equal)	Ft.	5,280,000
25	"	SWITCHBOARD, CB multiple, 16-position, equipped with 2,000 subscribers line circuits, 20 magneto junction circuits, and 20 automatic CB junction circuits; complete with subscribers relay sets and junction relay sets; miscellaneous circuits (such as cord test, interposition trunks, etc.) fuses; spare parts.	Ea.	1
26	"	DISTRIBUTION FRAME, main, 4,000 pairs capacity.	"	1
27	"	DISTRIBUTION FRAME, intermediate.	"	1
28	"	TEST CASE, with equipment, including voltmeter.	"	1
29	"	BATTERY, STORAGE, voltage as of switchboard (Item 25), 1,000 amp. hours capacity.	"	2
30	"	GENERATOR, petrol or paraffin engine, output 140 amps. at normal battery charging voltage for Item 29, complete with voltage hand regulator, spare parts.	"	2

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hours' service.

23	"	ENGINE, PETROL OR PARAFFIN, DRIVEN, each driving two generators for charging batteries in Items 21 and 22 at 7 hours' rate; complete with spare parts.	"	2
24	"	WIRE, CADMIUM-COPPER, 70 lbs. per mile, single conductor, bare solid; or .080 copperweld type (or equal)	Ft.	5,280,000
25	"	SWITCHBOARD, CB multiple, 16-position, equipped with 2,000 subscribers line circuits, 20 magneto junction circuits, and 20 automatic CB junction circuits; complete with subscribers relay sets and junction relay sets; miscellaneous circuits (such as cord test, interposition trunks, etc.) fuses; spare parts.	Ea.	1
26	"	DISTRIBUTION FRAME, main, 4,000 pairs capacity.	"	1
27	"	DISTRIBUTION FRAME, intermediate.	"	1
28	"	TEST CASE, with equipment, including voltmeter.	"	1
29	"	BATTERY, STORAGE, voltage as of switchboard (Item 25), 1,000 amp. hours capacity.	"	2
30	"	GENERATOR, petrol or paraffin engine, output 140 amps. at normal battery charging voltage for Item 29, complete with voltage hand regulator, spare parts.	"	2
31	"	RINGING MACHINE, battery-driven, for use with Item 25.	"	1
32	"	CABLE, SWITCHBOARD, 42-wire.	Ft.	10,560
33	"	CABLE, SWITCHBOARD, 63-wire.	"	15,840
34	"	WIRE, JUMPER, (cross-connecting), for Items 26 & 27.	"	10,560
35	"	MAINTENANCE SET, tools for CB exchange.	St.	3

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Item No.	Stock No.	Article	Unit	Required
36	None	SOLDER, TIN-LEAD, wire, resin core, for internal connections.	Lb.	1,000
37	"	SOLDER, TIN-LEAD, solid, for plumbing underground cable joints, together with sufficient splicing material (less lead sleeves) for 500 splices.	"	1,000
38	"	SLEEVE, JOINTING, paper, for underground cable.	Ea.	50,000
39	"	SWITCHBOARD, TOLL TYPE, long distance, 6-positions equipped for 20 ring-down long distance trunks and 20 junctions to board covered by Item 25 all with relay sets; trunks to be multipled on alternate positions.	"	1
40	"	RINGING MACHINE, 17 or 20 cycle battery driven, for use with Item 39, to be driven off filament battery.	"	1
41	"	REPEATER, 4-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 13 through 4-wire repeaters. 4 lots of 10 through 4-wire repeaters. 1 lot of 3 terminating and 7 through 4-wire repeaters. 1 lot of 8 terminating 4-wire repeaters. 1 lot of 4 terminating 4-wire repeaters. 1 lot of 6 through 4-wire repeaters 1 lot of 4 through 4-wire repeaters. 1 lot of 3 through 4-wire repeaters.	Ea.	88
42	"	REPEATERS, 2-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 14. 1 lot of 13. 1 lot of 12. 4 lots of 6 each. 2 lots of 5 each. 6 lots of 3 each.	Ea.	91

NOTE: The repeaters in Items 41 and 42 are for use on underground cable with the following characteristics:

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38	"	STAPE, COATED, paper, for underground cable.	Ea.	50,000	
39	"	SWITCHBOARD, TOLL TYPE, long distance, 6-positions equipped for 20 ring-down long distance trunks and 20 junctions to board covered by Item 25 all with relay sets; trunks to be multipled on alternate positions.	"	1	
40	"	RINGING MACHINE, 17 or 20 cycle battery driven, for use with Item 39, to be driven off filament battery.	"	1	
41	"	REPEATER, 4-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 13 through 4-wire repeaters. 4 lots of 10 through 4-wire repeaters. 1 lot of 3 terminating and 7 through 4-wire repeaters. 1 lot of 8 terminating 4-wire repeaters. 1 lot of 4 terminating 4-wire repeaters. 1 lot of 6 through 4-wire repeaters 1 lot of 4 through 4-wire repeaters. 1 lot of 3 through 4-wire repeaters.	Ea.	88	
42	"	REPEATERS, 2-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 14. 1 lot of 13. 1 lot of 12. 4 lots of 6 each. 2 lots of 5 each. 6 lots of 3 each.	Ea.	91	
		NOTE: The repeaters in Items 41 and 42 are for use on underground cable with the following characteristics: 4-wire repeater: (H-44-17) loading: 19 gauge or 20 lb. conductor. 2-wire repeaters: H-172-63 loading; 16 gauge or 40 lb. conductor.			
43	"	RINGING EQUIPMENT SET, 4-wire, 500/20 or 1,000/20, with bay capacity to accommodate 3 lots of 3 each.	St.	9	

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S.G.M.A. - 5-44 - 1500 - 250,000

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Item No.	Stock No.	Article.	Unit.	Required.
44	None	RINGING EQUIPMENT SET, 2-wire, 500/20 or 1,000/20, with bay capacity to accommodate one lot of each of the following: 14, 13, 11, 6, 5, and 3.	St.	52
45	"	BAY, equipped for transmission and resistance measurement, cable fault localization, and testing, complete with oscillators.	St.	6
46	"	AVOMETER, or voltchmeters and current flow test sets.	Ea.	2
46a	"	TRANSMISSION MEASURING SET, portable, for battery operation.	St.	4
47	"	BAY, capable of taking cable termination for 200 pairs.	"	18
48	"	BATTERY, FILAMENT, capable of taking forty 4-wire repeaters, 20 ringing equipments, and a ringing machine load, each battery to have a capacity for 48 hours' service.	Ea.	8
49	"	BATTERY, PLATE, capable of taking forty 4-wire repeaters, each battery to have a capacity for 48 hrs' service.	"	8
50	"	BATTERY, FILAMENT, capable of taking twenty 4-wire repeaters, 20 ringing equipments, and a ringing machine load, each battery to have a capacity for 48 hours' service.	"	12
51	"	BATTERY, PLATE, capable of taking twenty 4-wire repeaters, each battery to have a capacity for 48 hours' service.	"	12
52	"	BATTERY, FILAMENT, capable of taking ten 4-wire repeaters and 10 ringing equipments, each battery to have a capacity for 48 hours' service.	"	16
53	"	BATTERY, PLATE, capable of taking ten 4-wire repeaters, each battery to have a capacity of 48	"	16

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		oscillators.	St.	6
46	"	AVOMETER, or voltchmeters and current flow test sets.	Ea.	2
46a	"	TRANSMISSION MEASURING SET, portable, for battery operation.	St.	4
47	"	BAY, capable of taking cable termination for 200 pairs.	"	18
48	"	BATTERY, FILAMENT, capable of taking forty 4-wire repeaters, 20 ringing equipments, and a ringing machine load, each battery to have a capacity for 48 hours' service.	Ea.	8
49	"	BATTERY, PLATE, capable of taking forty 4-wire repeaters, each battery to have a capacity for 48 hrs' service.	"	8
50	"	BATTERY, FILAMENT, capable of taking twenty 4-wire repeaters, 20 ringing equipments, and a ringing machine load, each battery to have a capacity for 48 hours' service.	"	12
51	"	BATTERY, PLATE, capable of taking twenty 4-wire repeaters, each battery to have a capacity for 48 hours' service.	"	12
52	"	BATTERY, FILAMENT, capable of taking ten 4-wire repeaters and 10 ringing equipments, each battery to have a capacity for 48 hours' service.	"	16
53	"	BATTERY, PLATE, capable of taking ten 4-wire repeaters, each battery to have a capacity of 48 hours' service.	"	16
54	"	ENGINE, PETROL OR PARAFFIN DRIVEN, each driving two generators for charging batteries in Items 48,49,50,51,52,& 53, at 7 hours' rate; complete with spare parts (or equivalent).	"	20
55	"	MAINTENANCE SET, tools, for repeater stations.	St.	12

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Item No.	Stock No.	Article	Unit	Required.
56	None	SWITCHBOARD, CB multiple, 10-position, equipped with 1,400 subscribers line circuits, 20 magneto junction circuits, and 20 automatic CB junction circuits, complete with subscribers relay sets and junction relay sets, miscellaneous circuits (such as cord test, inter position trunks, etc.), fuses spare parts.	Ea.	2
57	"	SWITCHBOARD, CB multiple, 6-positions, equipped with 800 subscribers line circuits 20 magneto junction circuits, and 20 automatic CB junction circuits, complete with subscribers relay sets and junction relay sets, miscellaneous circuits (such as cord test, inter position trunks, etc.) fuses, spare parts.	"	3
58	"	DISTRIBUTION FRAME, main, 3,000 pairs capacity, complete with protection.	"	2
59	"	DISTRIBUTION FRAME, main, 2,000 pairs capacity, complete with protection.	"	3
60	"	DISTRIBUTION FRAME, intermediate (to be associated with main distribution frames, Items 58 & 59; combined MDF and IDF will suffice in each case, provided the main frame sections have the required capacity).	"	5
61	"	BATTERY, STORAGE, voltage as of switchboard (Item 56), 800 amp. hours capacity.	"	4
62	"	BATTERY, STORAGE, voltage as of switchboard (Item 57), 600 amp. hours capacity.	"	6
63	"	TEST CASE, with equipment; including voltmeter.	"	5
64	"	GENERATOR, petrol or paraffin engine driven, output 110 amps. at normal battery charging voltage for Item 61, complete with voltage hand regulator, spare parts.	"	2

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		inter position trunks, etc.), fuses spare parts.	Ea.	2
57	"	SWITCHBOARD; CB multiple, 6-positions, equipped with 800 subscribers line circuits 20 magneto junction circuits, and 20 automatic CB junction circuits, complete with subscribers relay sets and junction relay sets, miscellaneous circuits (such as cord test, inter position trunks, etc.) fuses, spare parts.	"	3
58	"	DISTRIBUTION FRAME, main, 3,000 pairs capacity, complete with protection.	"	2
59	"	DISTRIBUTION FRAME, main, 2,000 pairs capacity, complete with protection.	"	3
60	"	DISTRIBUTION FRAME, intermediate (to be associated with main distribution frames, Items 58 & 59; combined MDF and IDF will suffice in each case, provided the main frame sections have the required capacity).	"	5
61	"	BATTERY, STORAGE, voltage as of switchboard (Item 56), 800 amp. hours capacity.	"	4
62	"	BATTERY, STORAGE, voltage as of switchboard (Item 57), 600 amp. hours capacity.	"	6
63	"	TEST CASE, with equipment; including voltmeter.	"	5
64	"	GENERATOR, petrol or paraffin engine driven, output 110 amps. at normal battery charging voltage for Item 61, complete with voltage hand regulator, spare parts.	"	2
65	"	GENERATOR, petrol or paraffin engine driven, output 80 amps. at normal battery charging voltage for Item 62, complete with voltage hand regulator, spare parts.	"	4
66	"	RINGING-MACHINE, battery-driven, for use with Items 56 & 57, complete with spare parts.	"	5

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S.G.M.A. - 5-14 - 1400 - 20.000

Declassified E.O. 12356 Section 3.3/NND No. 785015

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Item No.	Stock No.	Article	Unit	Required
67	None	CABLE, SWITCHBOARD, 42-wire.	Ft.	14,560
68	"	CABLE, SWITCHBOARD, 63-wire.	"	19,840
69	"	WIRE, JUMPER, (cross-connecting)	"	13,560
70	"	SWITCHBOARD, TOLL TYPE, long distance, 4-position, equipped for 20 ring-down long distance trunks, one switchboard with 10 junctions to the board covered by Item 56 and two switchboards each with 10 junctions to one of the boards covered by Item 57 (i.e., the third board under Item 57 will have no junctions to a toll board), each with relay sets, trunks to be multipled on alternate positions.	Ea.	4
71	"	RINGING MACHINE, 17 or 18 cycle, battery driven, for use with Item 70, to be driven off filament battery.	"	4
72	"	MAINTENANCE SET, tools, for CB exchange.	St.	12
73	78-9329.2	TRUCK, CARGO BODY, 1-1/2 ton, 4 x 4, 2-DT	Ea.	70
74	None	TRUCK, CARGO, BODY, 3/4 ton.	"	30

JUSTIFICATION:

1. This requisition provides for a minimum of essential local and long distance telephone service restoration to ensure the early release of military communications equipment initially installed, and to relieve the communications problems for Civil Administration. The requirements listed provide for a minimum long distance service for Naples (where L.D. equipment and building were completely destroyed), and for minimum local and long distance service for Rome, and for other undesignated cities in Northern Italy covering needs for essential rehabilitation.

Distribution will be as follows:-

Items 1 to 6, inc. - for Naples
Items 7 to 24, inc. - for Rome
Items 25 to end - for Northern Italy.

2. This requisition has been made from requirements lists prepared by Communications Subcommission, A.C.C., in collaboration with Signals A.F.H.Q.

3. All locally available equipment has been taken into account. This requisition lists only those needs which must come from overseas

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		one switchboard with 10 junctions to the board covered by Item 56 and two switchboards each with 10 junctions to one of the boards covered by Item 57 (i.e., the third board under Item 57 will have no junctions to a toll board), each with relay sets, trunks to be multipled on alternate positions.	Ea.	4
71	"	RINGING MACHINE, 17 or 18 cycle, battery driven, for use with Item 70, to be driven off filament battery.	"	4
72	"	MAINTENANCE SET, tools, for CB exchange.	St.	12
73	78-9329.2	TRUCK, CARGO BODY, 1-1/2 ton, 4 x 4, 2-DT	Ea.	70
74	None	TRUCK, CARGO, BODY, 3/4 ton.	"	30

JUSTIFICATION:

1. This requisition provides for a minimum of essential local and long distance telephone service restoration to ensure the early release of military communications equipment initially installed, and to relieve the communications problems for Civil Administration. The requirements listed provide for a minimum long distance service for Naples (where L.D. equipment and building were completely destroyed), and for minimum local and long distance service for Rome, and for other undesignated cities in Northern Italy covering needs for essential rehabilitation.

Distribution will be as follows:-

Items 1 to 6, inc. - for Naples
Items 7 to 24, inc. - for Rome
Items 25 to end - for Northern Italy.

2. This requisition has been made from requirements lists prepared by Communications Subcommission, A.C.C., in collaboration with Signals A.F.H.Q.

3. All locally available equipment has been taken into account. This requisition lists only those needs which must come from overseas sources.

4. Full consideration has been made for lack of destruction in Rome.

5. A.C.C. is with its present and prospective personnel prepared to:-

a. Train Italian Personnel.
b. Supervise Italian Personnel in the operation of this Communication equipment.

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6. If this equipment is approved by CC/S normal sale procedure to the Italian Government will apply.

7. The following comments are made with reference to specific items on this requisition:-

Item 1 - This toll board will initially handle a very limited number of circuits entirely on a delayed basis. Recording of outgoing calls will be handled on a separate installation which is available locally. Also available locally is equipment to modify (as necessary) the circuits from the proposed toll board to the existing local network. The proposed toll board will be located in an existing repeater station at which a distribution frame and a 24-volt battery, with charging equipment, is available.

Items 14, 15 - It is anticipated that cable terminations and distributing frames for the small repeater stations can be supplied locally.

Item 16 - 20/500 ringers are specified because the normal ringing in Italy is 500 cycles. However, 20/1000 ringers may be substituted though these are less desirable because of flexibility.

Item 20 - "Bay" is British nomenclature. The American equivalent would be a distributing frame with 400 pairs protected, to terminate outside cables, plus connecting blocks as required for inside wiring to toll terminal equipment and to the toll switchboard. Sufficient silk and cotton tip cable, switchboard cable, and connecting blocks should be provided for the installation.

8. As a general condition, it would be preferable to supply like items of the same type and manufacture of equipment or the various installations for reasons of initial installation flexibility and for future maintenance. However, the supply of miscellaneous small items necessary for any required modification are available locally, so that the importance of common types of items is to be places secondary to that of securing the large, major items in as short a time as possible.

9. Attempt has been made to describe items in a manner that will provide maximum flexibility in selecting and substituting materials to fill this requisition.

RATING: TWO

LANDED COSTS:- Information is requested with the manifests as to itemized costs & whether F.O.B. or C.I.F. If F.O.B. state approximate percentage to be added for freight.

Information Copies to:- The Directorate of Civil Affairs,
War Office, Whitehall,
London, S.W.1. (4 copies)
CG SOS Natousa for SSGDS (4 copies)
N.Y.P.E. (4 copies)
G-4, AFHQ.
Signals, AFHQ.
Q(AE), AFHQ.
Ordnance, AFHQ.

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Item 16 - 20/500 ringers are specified because the normal ringing in Italy is 500 cycles. However, 20/1000 ringers may be substituted though these are less desirable because of flexibility.

Item 20 - "Bay" is British nomenclature. The American equivalent would be a distributing frame with 400 pairs protected, to terminate outside cables, plus connecting blocks as required for inside wiring to toll terminal equipment and to the toll switchboard. Sufficient silk and cotton tip cable, switchboard cable, and connecting blocks should be provided for the installation.

8. As a general condition, it would be preferable to supply like items of the same type and manufacture of equipment or the various installations for reasons of initial installation flexibility and for future maintenance. However, the supply of miscellaneous small items necessary for any required modification are available locally, so that the importance of common types of items is to be places secondary to that of securing the large, major items in as short a time as possible.

9. Attempt has been made to describe items in a manner that will provide maximum flexibility in selecting and substituting materials to fill this requisition.

RATING: TWO

LANDED COSTS:- Information is requested with the manifests as to itemized costs & whether F.O.B. or C.I.F. If F.O.B. state approximate percentage to be added for freight.

Information Copies to:- The Directorate of Civil Affairs,
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CG SOS Natousa for SSGDS (4 copies)
N.Y.P.E. (4 copies)
G-4, AFHQ.
Signals, AFHQ.
Q(AE), AFHQ.
Ordnance, AFHQ.

* Page 2, Item 13 refers; insert at * - "for use with SWITCHBOARD, TOLL TYPE, long distance, 10-position, equipped for 30 ring-down long distance trunks, complete with relay sets, trunks multiplod on alternate positions",

"THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENCE OF THE UNITED STATES WITHIN THE MEANING OF THE ESPIONAGE ACT, U.S.C. 50; 31 AND 32. THE TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED BY LAW".

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MIL

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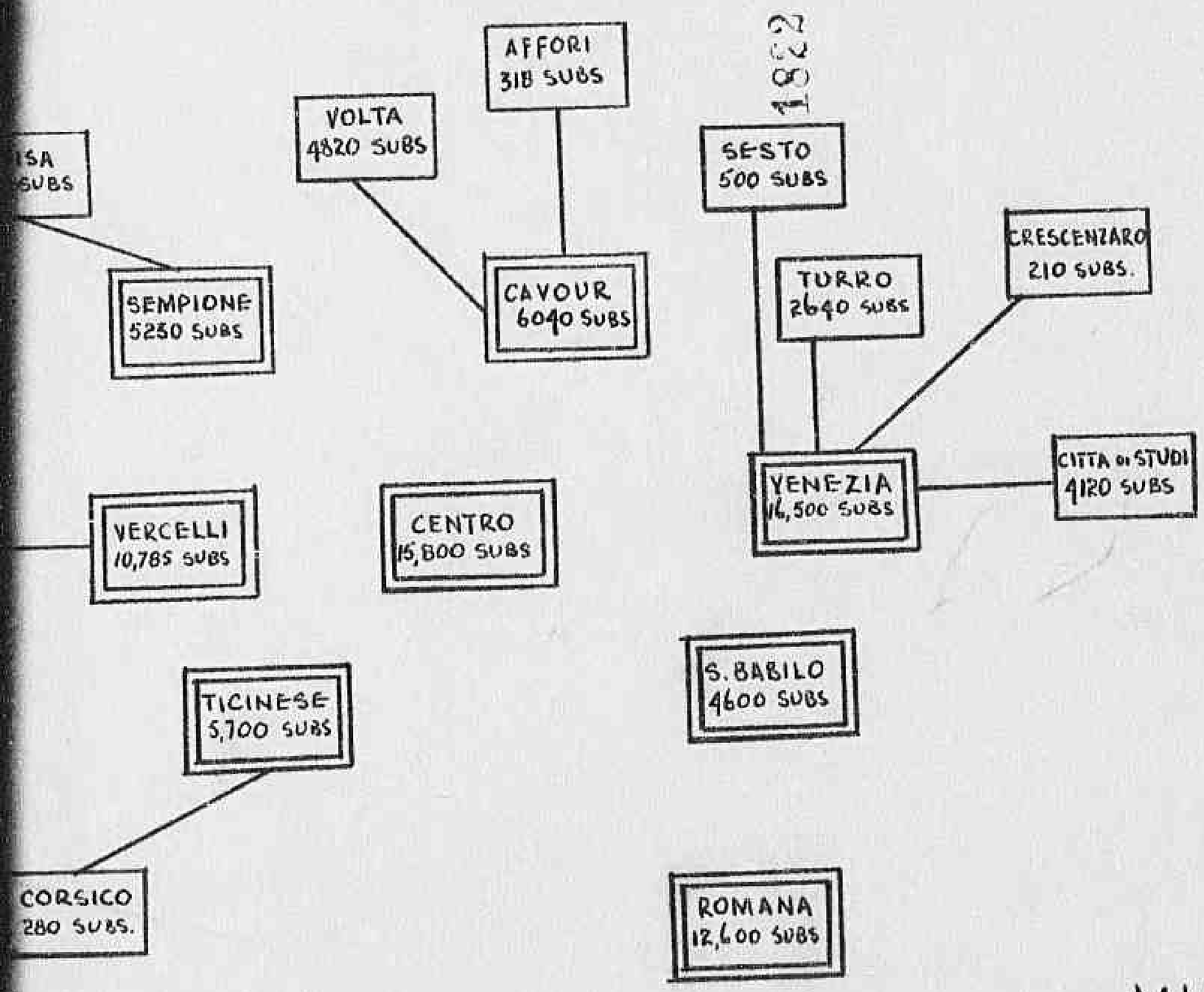

MILAN NETWORK
1942 (deduced from directory of 1942)

ITALIAN NETWORK

Numbering Scheme Reduced From Director 1942

Exchange	Banco	Private (estimated) Capacity
1. Centro	10,000 - 10,999 12,000 - 14,999 16,000 - 19,999 80,000 - 89,999	18,000
2. Venezia (a)	20,000 - 25,999 260,000 -273,999 283,000 -283,399 284,000 -284,799	21,200
Turro (b)	285,000 -287,999	3000
Crescenzago (c)	288,000 -288,399	400
S.Dosto Giovanni (d)	289,000- 289,599	600
Citta di Studi (e)	290,000 -294,799	4,800
3. (a) Milanese	30,000 - 34,999 36,000 - 37,999	7000
(b) Corsico	359,000 -359,099 380,000 -380,199 381,000 -381,199	500
4. (a) Vercelli	40,000 - 46,999 490,000 -495,699	12,700
(b) Manzio	47,000 - 47,299	300
5. (a) Nosuna	50,000 - 56,999 570,000 -577,999 580,000 - 580,999	16,000
(b) Not Known	5,965,000 -5,965,112	Doubtful
6. (a) Cavour	60,000 - 62,999 64,000 - 68,999	8000
(b) Volta	*630,000 -632,599 690,000 -693,999 696,000 -696,199	7000
(c) Affari	698,000 -698,999	1000
7. S.Babila	70,000 - 73,999 75,000 - 76,999	6000
8.		

* The 630-632 range may form part of CAVOUR.

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	Alto (b)	285,000 -287,999	3000
	Crescenzago (c)	288,000 -288,399	400
	S.Spirito Giovanni (a)	289,000- 289,599	600
	Città di Studi (c)	290,000 -294,799	4,800
3.	(a) Vialmerca	30,000 - 34,999 36,000 - 37,399	7000
	(b) Corsico	359,000 -359,099 360,000 -360,199 361,000 -361,199	500
4.	(a) Vercelli	40,000 - 46,999 490,000 -495,699	12,700
	(b) Sarpia	47,000 - 47,299	300
5.	(a) Romana	50,000 - 56,999 570,000 -577,999 580,000 - 580,999	16,000 12.1
	(b) Not Known	5,965,000 -5,965,112	Doubtful
6.	(a) Cavour	60,000 - 62,999 64,000 - 68,999	8000
	(b) Volta	*630,000 -632,599 690,000 -694,999 696,000 -696,199	7800
	(c) Affari	698,000 -698,999	1000
7.	S.Babila	70,000 - 73,999 75,000 - 76,999	6000
8.			
9.	(a) Sempione	90,000 - 96,799	6800
	(b) Spvisa	97,000 - 97,599	600
	(c) Not Known	981 ,000 -981,299	300

* The 630-632 range may form part of CAVOUR.

T. . Miller Lt.Col.
Communications Sub-Committee

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AFHQ

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14 OCT 44

pre 62.

RESTRICTED

ROUTINE

COMSUB-COMMISSION

RESTRICTED REF CSO LETTER DATED ONE MARCH SUBJECT QUOTE PROVISION OF COMMUNICATIONS IN NOTHERN ITALY UNQUOTE AND AGREED SIGNAL STORES REQUISITION FORWARDED ONE JUNE PAREN TO AFHQ FOR GEORGE FIVE AND CSO FROM ACC HQ FROM STONE PAREN WE ARE CONCERNED ABOUT PROBABILITY OF SUPPLY BY TIME REQUIRED PD LENGTHY OCCUPATION OF NORTHERN ITALY BY ENEMY AND INFORMATION RECENTLY TO HAND LEADS TO BELIEVE THAT LARGE PROPORTION OF TELEPHONE EQUIPMENT BOTH URBAN AND INTERURBAN WILL BE DESTROYED OR REMOVED PD SUPPLY OF THESE STORES CONSIDERED ESSENTIAL TO ESTABLISHMENT OF CENTRALISED CIVIL GOVERNMENT WHICH MAY OTHERWISE BE IMPRACTICABLE PD REQUEST ADVICE ON SUPPLY PROBABILITY TO ENABLE PLANNING TO BE MADE.

C of S Distribution
C of S.
Communications S/C
'A' File
Float

File CS/4/23 (sent out)

Director	
Deputy Director	
Chief Telecoms	
Chief Postal	
H. Q. Coms. O.	
Asst. Chief Postal	
Consultant	
Chief Clerk	Received on 15/10/44

1850

CROSS REF.

FILE CS/4/23 — B. I. W.

Date 15/10/44

Declassified E.O. 12356 Section 3.3/NND No. 785015

HTWM/epc

67

HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394
Telephone 489081 Ext. 555

17th October, 1944

In reply
refer to: CS/4/23/57

Subject : Civil Type "Open Wire" 1 Plus 1 Carrier Telephone Systems.

To : C.S.O., L.of C., South
Att: Major Taylor

Reference your 413.4/9 of 10th October, and 11th October, 1944.

1. A schedule prepared just before receipt of your Memos. is attached which includes the equipment of this type so far recorded.

As it was intended to make use of this equipment on certain routes, no doubt an early decision will be given regarding equipment required to replace military plant.

2. An endeavour is being made to obtain descriptive matter and it is expected this will be available very shortly.

3. As regards para.2 of your Memo. of 10th October, ~~~~ description of the 1 + 3 equipment was sent to you via Captain Bridgeman on Oct.6th, 1944.

For the Chief Commissioner:

1819

J.L.HENDERSON
Colonel
Director, Communications Sub-Commission

Incl: Copy of list of carrier plant.

Declassified E.O. 12356 Section 3.3/NND No. 785015

Ref. 8756/8/COS.

11 October 44.

56

My Dear Mr. Prime Minister,

With reference to your letter No. 14226/13416/13/1 dated 25th September the subject has received careful study and an outline of the action that is being taken in the matter is as follows :

The present policy of the Allied Government is that stores may only be supplied for essential military requirements, included in which are the requirements necessary for the establishment of centralised governmental control. The stores required on this basis have been requested for nearly six months: it is hoped that this demand will receive favourable consideration and that the supplies will be forwarded in due course. This demand is naturally considerably smaller than the one which you have forwarded with your letter; so far however no promise of supply of even this essential minimum has been received.

No statement of Allied policy has yet been given in respect of supplying material for a general rehabilitation; a complete review of the requirements for Italy in all fields is being made, and the list submitted by your Ministry of Communications will be used as a basis for furnishing the list of supplies necessary for the rehabilitation of the communication services.

You may be assured that the importance and urgency of the restoration of the communications services in Italy are fully appreciated by this Commission as being among the vital measures necessary for the rehabilitation of the country, and that all possible steps will be taken to obtain whatever can be procured within the framework of the policy of the Allied authorities.

Sincerely yours,

ELLERY W. STONE
Commodore, USNR
Acting Chief Commissioner.

CROSS REFS.

FILE CS/31/13 B/Fwd.

16/10/44

H.E. Ivanoe Bonomi,
President of the Council of Ministers,
ROME.

Director
D/Director
Chief, Telecoms
Chief, Postal
H.Q., Coms.
Asst. Chief
Censorship
Chief Clerk

18 8

COPY TO: COMMUNICATIONS SC.
(YOUR CS/31/1/20 dated 9 Oct 44).
54

Declassified E.O. 12356 Section 3.3/NND No. 785015

JLH/epe

53

AFHQ

ACC No

4864

14 OCT 44

RESTRICTED
ROUTINE
CONSUB-COMMISSION

RESTRICTED REF CSC LETTER DATED ONE EARCH SUBJECT QUOTE PROVISION OF COMMUNICATIONS IN SOTHERN ITALY UNQUOTE AND AGREED SIGNAL STORES REQUISITION FORWARDED ONE JUNE FAREN TO AFHQ FOR GEORGE FIVE AND CSC FROM ACC HQ FROM STONE FAREN WE ARE CONCERNED ABOUT PROBABILITY OF SUPPLY BY TIME REQUIRED FD LENGTHY OCCUPATION OF NORTHERN ITALY BY ENEMY AND INFORMATION RECENTLY TO HAND LEADS US TO BELIEVE THAT LARGE PROPORTION OF TELEPHONE EQUIPMENT BOTH URBAN AND INTERURBAN WILL BE DESTROYED OR REMOVED FD SUPPLY OF THESE STORES CONSIDERED ESSENTIAL TO ESTABLISHMENT OF CENTRALISED CIVIL GOVERNMENT WHICH MAY OTHERWISE BE IMPRACTICABLE FD REQUEST ADVICE ON SUPPLY PROBABILITY TO ENABLE PLANNING TO BE MADE

1817

CSC/1612 one copy

Declassified E.O. 12356 Section 3.3/NND No. 785015

JLH/epc

24

HEADQUARTERS
ALLIED CONTROL COMMISSION
AFO 394
Telephone 489081 Ext.400

9th October, 1944

In reply refer to: CS/31/1/20

Subject : Italian Communication Services.

To : The Acting Chief Commissioner.

1. Reference attached, a draft reply is submitted for your consideration.

2. The stores list has been retained and after discussion with the Ministry of Communications, an agreed revised list will be sent to the Economic Section for inclusion in their overall demand for general rehabilitation in all fields.

J.L.HENDERSON
Colonel
Director, Communications Sub-Commission.

Incls: Draft reply
Original attachments, less stores list.

1816

see 56

Declassified E.O. 12356 Section 3.3/NND No. 785015

JLH/epc

DRAFT

1. With reference to your letter No.14226/13416/13/1 dated 25th September, the subject has received careful study and an outline of the action that is being taken in the matter is as follows:

2. The present policy of the Allied Government is that stores may only be supplied for essential military requirements, included in which are the requirements necessary for the establishment of centralised governmental control. The stores required on this basis have been requested for nearly six months and it is hoped that this demand will receive favourable consideration and that the supplies will be forwarded in due course. This demand is naturally considerably smaller than the one which you have forwarded with your letter; so far however it must be stated that no promise of supply of even this essential minimum has been received.

3. No statement of Allied policy has yet been given in respect of supplying material for a general rehabilitation; however, a complete review of the requirements for Italy in all fields is being made, and the list submitted by your Ministry of Communications will be used as a basis for furnishing the list of supplies necessary for the rehabilitation of the communication services.

4. You may be assured that the importance and urgency of the restoration of the communications services in Italy are fully appreciated by the Allied Control Commission as being among the vital measures necessary for the rehabilitation of the country.

Declassified E.O. 12356 Section 3.3/NND No. 785015

20-2

and that all possible steps will be taken to obtain whatever can be procured within the framework of the policy of the Allied authorities.

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Declassified E.O. 12356 Section 3.3/NND No. 785015

RHS/epc

52

HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394
Telephone 849061 Ext. 333

10th October, 1944

In reply refer to: 68/4/23/52

Subject : Toll Boards.

To : H.E. The Under-Secretary of State for P.I.W.

1. As discussed with Comm. Cati the following measures were agreed to in order to meet immediate and future requirements for toll boards.

2. Military Toll switchboard for Palermo

This requirement is being met by having the 8 positions of Ex-Livorno TATI Toll Board shipped from Florence to Rome where they will be modified by F.A.C.B. in accordance with instructions given by Major Tucker. The Military authorities are issuing an order on F.A.C.B. covering the work to be done and will issue instructions as to the ultimate disposition of the Board.

3. Increase in Capacity of State Board at Naples

The present military board will be needed by the military for a considerable time so that the State Board will have to be increased. The Azienda di Stato is to investigate the possibility of utilizing 2 positions of inter-urban toll type board now at F.A.T.E.C. and alternatively utilizing positions from Bari.

1813

4. Preparation of Toll Boards for State Use in Cities North of Rome.

There are at present 2 positions of State Toll Board in Florence which are in workable condition and will be used as the initial State Toll Board in Florence. The remaining 12 positions have been brought to Rome for reconditioning together with 14 positions (7 Sections) of Toll Board which were at one time used as the Florence State Toll Board.

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Declassified E.O. 12356 Section 3.3/NND No. 785015

05/4/23/52

10th Oct.44. Continued.

These 26 positions should be reconditioned with a view to ultimate use as State Toll Boards in cities North of Rome. The Azienda is to arrange with F.A.C.E. to have this work completed as rapidly as possible.

The Azienda is to report to this Sub-Comm ission how many usable positions can be obtained from the 2c and the expected date of availability. Ultimate destination of positions will be determined after receipt of report.

J.L.HENDERSON
Colonel
Director, Communications Sub-Commission

Copy to: L.of C. Italy
Att: Major Tucker.

F.A.C.E., Via Emilia 86,
Rome.

T.E.T.I.
Att: Ing. Agosti
Lungotevere Marzio 11, Roma

1812

Declassified E.O. 12356 Section 3.3/NND No. 785015

1-1-8

GG/GP

Roma, 8 settembre 1944

DANNI PER AZIONI AEREE SOFFERTE DA CENTRALI DEL GRUPPO S T E T ,

PER QUANTO RISULTA FINO AL DICEMBRE 1943.

TORINO — Centrale "Vanchiglia". Ha subito un bombardamento che ha danneggiato gravemente l'edifizio e notevolmente l'autocommutatore.
In seguito ad opera di riattivamento la capacità della centrale è passata da 5400 a 4000 numeri.
Centrale "S.Salvario". E' stata colpita da una bomba che ha danneggiato la macchina segnali. Il danno è stato riparato senza diminuzione dell'efficienza della centrale.
Centrale "Lingotto". Ha subito dei danni, con minorazione della capacità, su cui non si hanno precisi elementi.

MILANO — Centrale interurbana dello Stato. In seguito al crollo del salone, andò completamente fuori servizio. S'ignora se attualmente ne sia stato riattivato qualche posto di lavoro.
Centrale dei servizi ausiliari (elenco, reclami, segreteria) è andata completamente fuori servizio in seguito al crollo del salone.

CENTRALE "TICINO" — In seguito ad incendio causato da bombe, la capacità della centrale è diminuita da 8300 a 6000 numeri.

1911

CENTRALI "ROMANA" "CAVOUR" - "VOLTA" "VERCELLI" — Sono state colpite da spezzoni incendiari che hanno prodotto danni riparati in seguito, senza diminuzione dell'efficienza della centrale.

BOLOGNA — La centrale "Galvani" ha subito danni tanto alla parte urbana che a quella interurbana, che non è possibile precisare.

RIMINI — La centrale risulta quasi completamente distrutta dai bombardamenti, insieme con la stazione amplificatrice del cavo Bologna-Ancona.

MESTRE, PARMA, TREVISO, PADOVA, PIACENZA, REGGIO EMILIA, MODENA, FERRARA, ALESSANDRIA, BERGAMO, BOLZANO, FIUME.
Hanno subito ripetuti bombardamenti; non si hanno però notizie precise circa l'entità dei danni subiti dalle centrali.

0122

Declassified E.O. 12356 Section 3.3/NND No. 735015

51-2

1-1-8

GG/gp

Roma, 8 settembre 1944

DANNI PER AZIONI AEREE SOFFERTE DA CENTRALI DEL GRUPPO S T E T .

PER QUANTO RISULTA FINO AL DICEMBRE 1943.

TORINO

Centrale "Vanchiglia". Ha subito un bombardamento che ha danneggiato gravemente l'edifizio e notevolmente l'autocommutatore.
In seguito ad opera di riattivamento la capacità della centrale è passata da 5400 a 4000 numeri.
Centrale "S.Salvario". E' stata colpita da una bomba che ha danneggiato la macchina segnali. Il danno è stato riparato senza diminuzione dell'efficienza della centrale.
Centrale "Lingotto". Ha subito dei danni, con minorazione della capacità su cui non si hanno precisi elementi.

MILANO

Centrale interurbana dello Stato. In seguito al crollo del salone, andò completamente fuori servizio. S'ignora se attualmente ne sia stato riattivato qualche posto di lavoro.
Centrale dei servizi ausiliari (elenco, reclami, segreteria) è andata completamente fuori servizio in seguito al crollo del salone.

CENTRALE "TICINO"

In seguito ad incendio causato da bombe, la capacità della centrale è diminuita da 8300 a 6000 numeri.

1810

CENTRALI "ROMANA" "CAVOUR" - "VOLTA" "VERCELLI"

Sono state colpite da spezzoni incendiari che hanno prodotto danni riparati in seguito, senza diminuzione dell'efficienza della centrale.

BOLOGNA

La centrale "Galvani" ha subito danni tanto alla parte urbana che a quella interurbana, che non è possibile precisare.

RIMINI

La centrale risulta quasi completamente distrutta dai bombardamenti, insieme con la stazione amplificatrice del cavo Bologna-Ancona.

MESTRE, PARMA, TREVISO, PADOVA, PIACENZA, REGGIO EMILIA, MODENA, FERRARA, ALESSANDRIA, BERGAMO, BOLZANO, FIUME.

Hanno subito ripetuti bombardamenti; non si hanno però notizie precise circa l'entità dei danni subiti dalle centrali.

0123

Declassified E.O. 12356 Section 3.3/NND No. 785015

HTW:/epc

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HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394
Telephone 489061 Ext.555

30th August, 1944

In reply refer to: CS/4/23/50

Subject : Information re S.T.E.T. Plant.

To : S.T.E.T., Via Vernilia, 2, Roma.

With reference to A.C.C. letter No. CS/4/23/49 of 24th August, it would be appreciated if most of the information could be supplied before the afternoon of Friday 2nd September, as the A.C.C. Telecommunications Officer for North Italy will be leaving Rome on Saturday and wishes to take as much information as possible with him.

1909

J.L.HENDERSON
Colonel
Director, Communications Sub-Commission

0124

Declassified E.O. 12356 Section 3.3/NND No. 785015

HTWM/epc

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HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394
Telephone 489031 Ext. 555

24th August, 1944

In reply refer to: CS/4/23/49

Subject : Information re S.T.E.T. Plant.

To : S.T.E.T., Via Versilia, 2. Roma.

1. It would be of great assistance to this Sub-Commission if you could provide the following information within a few days if it is readily available.

a. Type (CB,LB, or automatic), manufacturer, no. of lines, and address of each of the urban and S.T.I.P.E.L., T.E.L.V.E., or T.I.M.O., inter-urban exchanges in the following towns: (exclude State inter-urban exchanges).

Forli	Alessandria	Borgamo	Padova
Ravenna	Vercelli	Sondrio	Rovico
Bologna	Novara	Brescia	Venezia
Modena	Aosta	Mantova	Treviso
Reggio Emilia	Varese	Bolzano	Udine
Parma	Como	Trento	Trieste
Piacenza	Milano	Verona	Gorizia
Cuneo	Pavia	Belluno	Fiume
Torino	Cremona	Vicenza	

b. List of inter-urban underground cables in the above areas with the names of repeater stations (excluding Azienda cables and repeater stations).

c. Do you have available for A.C.C. two spare copies of prints showing S.T.I.R.E.L., T.E.L.V.E., or T.I.M.O., over-head routes in the above areas?

1988

J.L. HENDERSON
Colonel
Director, Communications Sub-Commission

0125

Declassified E.O. 12356 Section 3.3/NND No. 785015

Internal planning file. TS/4/23 48-4

INFORMATION REQUIRED FROM REGIONAL TELECOMMUNIC. IC[illegible] OFFICERS

1. Names of officials in charge of (a) Telegraphs (b) Local telephone service (c) Circolo - if any, and an estimate of their ability and energy to carry out restoration of services.

2. Name of each exchange in the town concerned with the following information as to condition before damage was caused by war.

   (a) Manufacturer of exchange
   (b) Location in town.
   (c) Subscribers line capacity
   (d) Function of exchange (e.g. inter-urban, main auto., etc.)
   (e) Number of manual positions of each type (e.g. manual, auto-manual, or inter-urban) and method of working (e.g. CB, magneto, etc.)
   (f) Number, type, frequency range, and number of channels of any carrier plant; or sub-audio, super-audio, or voice frequency telegraph plant, in exchanges or repeater stations.
   (g) Capacity and voltage of batteries; method of charging; if ringer mains or battery driven?
   (h) Power supply in town (e.g. AC 230 volts, 50 cycles)

3. The following information regarding damage.

   (a) Condition of exchange or repeater station building, and possibility of its immediate use.
   (b) Conditions of manual boards, automatic or manual apparatus, power plant, carrier or VF telegraph plant, and possibilities of early repair.
   (c) Is any local telephone service in operation? If not, can a limited service be given quickly by repairs to the exchange and/or line plant with locally held materials and by local staff. How long will it take? Is power supply in operation? What internal plant has been taken into operation by Army Signals.
   (d) General condition of telegraph office building and plant. Can the building be used without many repairs? A detailed list of telegraph plant is not required but if any is needed to start the service, requirements should be stated.

4. The following additional general information.

   (a) Are there any internal or external stores in the town. If so list any PBX's of 50 lines or greater capacity, and, very approximately, the quantities of G.I. and bronze wire and of solder.
   (b) What approximate numbers of workmen are available (i) Suitable for work on overhead routes and (ii) suitable for repairs to exchange plant (including those employed at the time by Army Signals formations)

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(c) Do any of the organizations in para (1) posses any transport and if so are the vehicles in running order? Have you requesitioned any locally? It is suggested that in any case this be done immediately if at all possible, as vehicles are badly required everywhere.

5. Later information when available.

(a) Towns to which it is suggested earliest telegraph and/or telephone service should be given.
(b) General condition of cable or overhead route to these towns and statements as to action being taken to provide circuits.
(c) Is there any spare bored up exchange or repeater station plant available in town.
(d) Are any factories available in the town for the manufacture of telephone equipment, secondary cells, or wire. Are they ready for operation as regards machinery and materials .

Lt.Col. Millar

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Declassified E.O. 12356 Section 3.3/NND No. 785015

47-1 HHS/ef c

U.S. CONFIDENTIAL Equals British CONFIDENTIAL

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

20 May, 1944

In reply
refer to: TS/4/23/23

Subject : Provision of Communications for Essential Civilian Purposes.

To : Military Government Section, A.F.H.Q.

17

18

1. Reference is made to your letter REF.MGS/S-19 of 9th May, 1944, our telegram 2755 of 13th May, 1944 and your telegram F 46930 of May 17th, 1944.

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2. It is not considered that special personnel is necessary to train Italian staff in the use of the equipment. There is very little of the proposed equipment which will not fairly readily be understood by the average Italian repeater station or automatic exchange mechanic.

3. The Signal Section's comprehensive memo of 5th May, has been studied with interest and appreciation. Comments on and answers to points raised in the memo are covered in our memo Inclosed.

4. The stock pile suggestion contained in para 4d of Signal Section memo is a good one if standard equipment is available. However, the fulfilment of requirements should not be delayed by insistence on any one type of equipment.

5. The list of material required has been discussed with Captain Klammer and Captain Fausch of A.F.H.Q. Signal Section and agreed to by them. It is believed that descriptions given in this list are sufficient to enable any British or American manufacturer to supply equipment which will serve our purpose. The descriptions have been purposely left broad so that the manufacturer may have the greatest possible latitude in supplying equipment which may be readily available

6. All locally available equipment has been taken into account and list covers minimum requirements.

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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TS/4/23/23

20 May, 44. Continued.

7. It is recommended that the inclosed list be considered as a completely edited order and be transmitted, without further editing by the Signal Section A.F.H.Q., to the agency concerned with procurement of supplies required by M.G.S.

J.L.HENDERSON
Colonel
Director, Communications Sub-Commission

2 Incls:
Incl: 1. List of Equipment in triplicate.
Incl: 2. Memo in duplicate.

1904

U.S. CONFIDENTIAL Equals British CONFIDENTIAL

Declassified E.O. 12356 Section 3.3/NND No. 785015

1461

Attachment to TS/4/23/25
of.. 1944

Provision of Communications for Essential Civilian

Purposes

The following comments are offered on the Signal Corps memo of 5th May, 1944.

1. A.C.S. Planning Basis. The chief considerations appear to be as follows:

(a) The time factor: Time is required for allocation of equipment to firms, search for equipment, transport, etc. It seems almost essential therefore that no further time be spent in planning provided that the manufacturers have sufficient suitable information to get on with the job.

This is confirmed by the phrasing of the C.C.S.0's letter of 1st March, "initiate prompt action with communication authorities in the U.K. or U.S."

(b) Shortage of equipment: The whole basis of planning depends on the likely sources of supply and expected condition of the plant - old or new. It seems reasonable to assume that it will be obtained from various firms in the two countries, and that some at least will be used equipment, rendering any form of standardisation difficult, and restrictive on supply.

The letter of 1st March supplied " a list of the major critical itmes of equipment", the amount of each item being small from which it was concluded that quantities demanded were to be of that low order.

Under these circumstances, and in view of the time factor, it may not be a wise policy to estimate Italian minimum requirements by comparison with America. The figure of 3% is admittedly on the low side, but it confines the demand to a reasonable expectation of supply. With a generally high destruction factor, it is probable that many services, utilities, industries, etc., will not exist or will exist in a reduced form, resulting in a reduction in the telephone demand.

(c) Choice of design: The main object in the choice of equipment was to select plant with the minimum degree of complication or restrictive design, along with sufficient information to enable a manufacturer to go ahead in the search for suitable plant.

The formation of a stock pile is considered to be the ideal method of supplying the equipment but probably not the quickest method under the present circumstances.

In Britain there are two main types of C.B. switchboards, one of which operates on 22 volts and another on 40 volts. Another type operates on 12 volts. The most common type in America is believed to operate on 48 volts for toll and 24 volts for local circuits.

Accordingly, any attempt to select a particular board as a stock pile unit restricts very greatly the possibilities of obtaining plant, especially used plant, quickly.

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If it be agreed to be inadvisable to select a board of standard voltage, this will prevent the standardisation of battery ringing machines, engine generators, batteries, relay sets, etc.

These considerations resulted in the preparation of a list of equipment of the kind already submitted, wherein each exchange was considered separately. Nevertheless, if standardised equipment can be supplied without delay, it is thought that the Signal Corps would have no difficulty in combining items in the list.

One other important point concerning a stock pile of switchboards should be mentioned. The engineering staff in Italy has had practically no experience of the installation of switchboard multiples. It is therefore considered important that boards should be supplied with complete multiples.

The voltage to which the combined automatic and C.B. relay sets should work was not stated since it is believed that the standard auto-exchange voltage for America is the volts which is the approximate British standard voltage. Such relay sets could fairly certainly be made to work to all of the automatic exchanges under consideration except one, where local adaptations could be made up. Such adaptations would also be necessary for working to C.B. exchanges, and few of such exchanges are thought likely to be met where much difficulty would be experienced.

Details necessary for normal complete design such as some of those mentioned in the Signal Corps memo, para 5, have been avoided in the A.C.C., demand since they are restrictive conditions on supply, and might delay the receipt of the equipment. Replies to para 5, are as follows:

5(a): Ringing trunks will all operate normally on delayed call basis. Record positions will be supplied locally.

5(b): It is thought can be neglected, in view of the time question.

5(c): As in (b); lines can be bunched if a few cases occur.

5(d): Time question prevents full investigation. Exchanges to which emergency exchanges work may be assumed to be operated on 50 or 60 volts.

The power supply voltages, etc., are not required, as engine generators have been requested. The mains supply will probably not be dependable under the conditions expected to exist. The normal ringing supply is 20 cycles at 80 volts, and the ringing units are of 500/20 type. Ringers type 1000/20 are of course suitable, and can be supplied for the long distance circuits concerned if desired.

1942

2. Suggested Action.

Under the circumstances it is recommended that the equipment be ordered as already listed. Equipment has not been ordered for all of the towns mentioned, since it is assumed from the 80% factor that in a small proportion of towns, the equipment will be sufficiently undamaged to enable existing equipment to be used. This is the reason for the apparent discrepancy brought

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Declassified E.O. 12356 Section 3.3/NND No. 785015

146-3

out in para 3a of Signal Section Memo.

The preparation of the list has not differed much in principle from the suggestion in para 4 (c) of the Signal Corps memo except as affected by the considerations mentioned above.

The list would appear to be sufficient for the manufacturer, and for reasons given previously it is thought to be undesirable to give too much detail, provided the manufacturer is given a general idea of the considerations affecting its preparation.

1901

U.S. CONFIDENTIAL [illegible] CONFIDENTIAL

145-1

List of Equipment Required for Restoration of Essential Civilian Communications in Northern Italy.

SECTION I. Equipment Date wanted: At once.

Item No.		Number Required	
1	1/1	1	8-Position Long Distance Toll Board for use at Naples, equipped for 30 ring-down long distance trunks, complete with relay sets; trunks being multiplied on alternate positions; in addition to trunk multiple, four appearances of 20 each jacks and lamps without associated relay equipment.
2	1/2	1	(17) 15 or 20 cycle mains driven ringing machine for above to operate on 150 volts at 45 cycles. (No other power plant required for above switchboard)
3	1/3	1	Bridge Megger, or Wheatstone Bridge and Insulation Megger (for battery operation)
4	1/4	2	Portable transmission measuring sets, and suitable V.F. oscillators.
5-6	1/5	50	Vehicles (trucks): 30 of approx. 30 Cwt. 20 of approx. 15 Cwt.

SECTION II. Date wanted: Six weeks after fall of Rome - say 15th July.

7	2/1	1	30 Position CB Multiple Switchboard equipped with - 4000 Subscribers' line circuits:- 40 magneto junction circuits and 30 automatic/CB junction circuits; complete with Subscribers' relay sets and junction relay sets;- Miscellaneous circuits (such as cord test, interposition trunks, etc); fuses, spare parts, etc. See item 2/13.-
8	2/2	1	Main Distribution Frame - Capacity 8000 pairs - complete with protection.
9	2/3	1	Intermediate Distribution Frame.
10	2/4	1	Test desk or Test case, with equipment including spare voltmeter.
11	2/5	1	Bridge Megger or Wheatstone Bridge and Insulation Megger (for battery operation).
12	2/6	2	Storage batteries of the voltage of the Switchboard in item 2/1; each of capacity 2000 amp.hrs.
13	2/7	2	Petrol or paraffin-driven engine generators each of output 300 amps. at normal battery charging voltage for item 2/6. (A mobile outfit of the R.A.F. type would be useful; complete with voltage hand regulator; spare parts.)
14	2/8	1	Battery-driven ringing machine for use with item 2/1. Spare parts.
15	2/9	4 miles	42 wire Switchboard cable.
16		5 Miles	63 Wire " " "
17		3 miles	Jumper wire (cross connecting) for above distribution frames.
18	2/10	3	Sets tools for maintenance CB exchanges. C&G.
19	2/11	½ Ton	Solder, resin cored, for internal connections.
20		½ Ton	Solder, for plumbing underground cable joints, together with sufficient miscellaneous splicing material (less, lead sleeves) for 500 splices.
21	2/12	50,000	Paper jointing sleeves (for underground cable)
22	2/13	1	10 Position Long Distance Toll Board equipped for 30 ring-down long distance trunks, and 20 junctions to

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2	1/2	1	17 or 20 cycle mains driven ringing machine to operate on 150 volts at 45 cycles. (No other power plant required for above switchboard)
3	1/3	1	Bridge Megger, or Wheatstone Bridge and Insulation Megger (for battery operation)
4	1/4	2	Portable transmission measuring sets, and suitable V.F. oscillators.
5-6	1/5	50	Vehicles (trucks): 30 of aporox.30 Cwt. 20 of approx. 15 Cwt.

SECTION II. Date wanted: Six weeks after fall of Rome - say 15th July.

7	2/1	1	30 Position CB Multiple Switchboard equipped with - 4000 Subscribers' line circuits:- 40 magneto junctions circuits and 30 automatic/CB junction circuits; complete with Subscribers' relay sets and junction relay sets;- Miscellaneous circuits (such as cord test, inter-position trunks, etc); fuses, spare parts, etc. See item 2/13.-
8	2/2	1	Main Distribution Frame - Capacity 8000 pairs -complete with protection.
9	2/3	1	Intermediate Distribution Frame.
10	2/4	1	Test desk or Test case, with equipment including spare voltmeter.
11	2/5	1	Bridge Megger or Wheatstone Bridge and Insulation Megger (for battery operation).
12	2/6	2	Storage batteries of the voltage of the Switchboard in item 2/1; each of capacity 2000 amp.hrs.
13	2/7	2	Petrol or paraffin-driven engine generators each of output 300 amps.at normal battery charging voltage for item 2/6. (A mobile outfit of the R.A.F. type would be useful; complete with voltage hand regulator; spare parts.)
14	2/8	1	Battery-driven ringing machine for use with item 2/1. Spare parts.
15	2/9	4 miles	42 wire Switchboard cable.
16	———	5 Miles	63 Wire " " " (cross connecting)
17	———	3 miles	Jumper wire for above distribution frames.
18	2/10	3	Sets tools for maintenance CB exchanges.
19	2/11	½Ton	Solder, resin cored, for internal connections,
20		½Ton	Solder, for plumbing underground cable joints, together with sufficient miscellaneous splicing material (less, lead sleeves) for 500 splices.
21	2/12	50,000	Paper jointing sleeves (for underground cable)
22	2/13	1	10 Position Long Distance Toll Board equipped for 30 ring-down long distance trunks, and 20 junctions to board covered by item 2/1; all with relay sets; trunks to be multipled on alternate positions
23	2/14	1	17 or 20 Cycle battery driven ringing machine for use with item 2/13, to be driven off filament battery.(it is assumed that this can be done without noise at the repeaters.

1990

Ext. 10

Maj. Krauer

Incl. #1

Declassified E.O. 12356 Section 3.3/NND No. 785015

Item No.	Number Required	Equipment
24 2/15	94	4 wire repeaters and bay capacity to accommodate them in the following lots. 1 lot of 22 terminating 4 wire repeaters. 1 " " 6 " " " " 1 lot of 6 Terminating and 6 through 4 wire repeaters. 3 lots of 12 through 4 wire repeaters each. 3 lots of 6 " " " " "
25	16	2 wire repeaters and bay capacity to accommodate them in the following lots: 1 lot of 8 2 lots of 4 each Note: The repeaters in this item 2/15 are for use on underground cable with the following characteristics. 4 wire repeaters: H-44-17 loading; 19 gauge or 20 lb. conductor. 2 wire repeaters: H-172-63 loading: 16 gauge or 40 lb. conductor.
26 2/16	34	4 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 1 lot of 22 2 lots of 6 each
27	16	2 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 1 lot of 8 2 lots of 4 each.
28 2/17	1 set	Bays equipped for transmission and resistance measurements, cable fault localization, and testing; complete with oscillator.
29 2/18	2	Portable transmission measuring sets for battery operation.
30 2/19	1 set	Bays to take cable termination for 400 pairs.
31 2/20 (Filament)	2	Batteries each to take 40-4 wire repeaters; filament batteries each to take also 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
32 (Plate)	2	
33 2/21	2	Petrol-of paraffin-engines each driving two generators for charging above batteries (Plate and filament) at 7 hours rate. Spare Parts.
34 2/22	1000 miles, (Pair wires clear vibe)	70 lb. Cad. Cu. Bare wire or .080 copperweld.

SECTION III — Date wanted: Required roughly in order as shown, as soon as possible after 1st July 39

35 3/1	1	16-Position multiple CB "Switchboard" equipped with 2000 Subscribers' line circuits; 20 magneto junction circuits and 20 automatic/CB junction circuits. complete with Subscribers' relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter position trunks, etc.); fuses, spare parts, etc. see item 3/12.
36 3/2	1	Main Distribution Frame- Capacity 4000 pairs - complete with protection.

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25			them in the following lots: 1 lot of 8 2 lots of 4 each Note: The repeaters in this item 2/15 are for use on underground cable with the following characteristics. 4 wire repeaters: H-44-17 loading; 19 gauge or 20 lb. conductor. 2 wire repeaters: H-172-63 loading: 16 gauge or 40 lb. conductor.
26	2/16	34	4 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 1 lot of 22 2 lots of 6 each
27		16	2 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 1 lot of 8 2 lots of 4 each.
28	2/17	1 set	Bays equipped for transmission and resistance measurements, cable fault localization, and testing; complete with oscillator.
29	2/18	2	Portable transmission measuring sets for battery operation.
30	2/19	1 set	Bays to take cable termination for 400 pairs.
31	2/20	2	Filament) Batteries each to take 40-4 wire
32		2	Plate) repeaters; filament batteries each to take also 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
33	2/21	2	Petrol-of paraffin-engines each driving two generators for charging above batteries (Plate and filament) at 7 hours rate. Spare Parts.
34	2/22	1000 miles,	70 lb.Cad.Cu. Bare wire or .080 copperweld.

SECTION III — Date wanted: Required roughly in order as shown, as soon as possible after 1st July 1949

35	3/1	1	16-Position multiple CB Switchboard equipped with 2000 Subscribers' line circuits; 20 magneto junction circuits and 20 automatic/CB junction circuits. complete with Subscribers' relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter position trunks, etc.); fuses, spare parts, etc. see item 3/12.
36	3/2	1	Main Distribution Frame- Capacity 4000 pairs - complete with protection.
37	3/3	1	Intermediate Distribution Frame.
38	3/4	1	Test case - complete with voltmeter.
39	3/5	2	Storage batteries of the voltage of the Switchboards in item 3/1; each of capacity 1000 amp hrs.
40	3/6	2	Petrol or paraffin driven engine generators each of output 140 amps at normal battery charging voltage for item 3/5; complete with voltage hand regulator; spare parts.
41	3/7	1	Battery driven ringing machine; Spare parts.
42	3/8	2 miles	42 wire Switchboard cable.
43		2 "	63 " " "
44		32 "	jumper wire.

Incl. #1

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Item No.	Number Required	Equipment
45 3/1	3 sets	Maintenance Tools, s[illegible]
46 3/10	1/2 Ton	Solder, resin cored, for internal connections.
47	1/2 Ton	Solder, for plumbing underground cable joints, together with sufficient miscelleanous splicing material (less lead sleeves) for 500 splices.
48 3/11	50,000	Paper jointing "sleeves" (cable).
49 3/12	1	6 - Position Long Distance Toll Board equipped for 20 ring- down long distance trunks and 20 junctions to board covered by item 3/1; all with relay sets; trunks to be multipled on alternate positions.
50 3/13	1	17 or 20 cycle battery driven ringing machine for use with item 3/12 to be driven off filament battery.
51 3/14	97	4 wire repeaters and bay capacity to accommodate them in the following lots. 13 — 1 lot of 13 through 4 wire repeaters 40 — 4 lots of 10 through 4 wire repeaters 10 — 1 lot of 3 terminating and 7 through 4 wire repeaters. 8 — 1 lot of 8 terminating ~~and~~ 4 wire repeaters 4 — 1 lot of 4 terminating 4 wire repeaters 6 — 1 lot of 6 through 4 wire repeaters. 4 — 1 lot of 4 through 4 wire repeaters. 3 — 1 lot of 3 through 4 wire repeaters.
52 3/15	91	2 wire repeaters and bay capacity to accommodate them in the following lots. 1 lot of 14 1 lot of 13 1 lot of 12 4 lots of 6 each. 2 lots of 5 each. 6 lots of 3 each.
53 3/16	9	See note in item 2/15. 4 wire 500/20 or 1000/20 "ringing equipments" with bay capacity to accommodate: 3 lots of 3 each.
54 3/17	52	2 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate one lot of each of the following: 14,13,11,6,5, and 3.
55 3/18	6 sets	Bays equipped for transmission and resistance measurements. cable fault localization, and testing; complete with oscillators.
3/19	4	Portable transmission measuring sets for battery operation. ~~avometers~~; ~~or voltohmeters and current flow test sets~~. 1793
56 3/20	2	Avometers; or voltohmeters and current flow test sets.
57 3/21 (Filament)	8	Bays each to take cable terminations for 200 pairs
58 3/22 (Plate)	8	Batteries each to take 40 -4 wire repeaters; filament batteries each also to take about 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
59		
60 3/23 (Filament)	12	Batteries each to take 20 - 4 wire repeaters; filament batteries each to take also about 20 ringing equipments and a ringing machine load; each battery to
61 (Plate)	12	

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				use with item 3/12 to be driven off filament battery.
51	3/14	37		4 wire repeaters and bay capacity to accommodate them in the following lots.
			13	1 lot of 13 through 4 wire repeaters
			40	4 lots of 10 through 4 wire repeaters
			10	1 lot of 3 terminating and 7 through 4 wire repeaters.
			8	1 lot of 8 terminating ~~and~~ 4 wire repeaters
			4	1 lot of 4 terminating 4 wire repeaters
			6	1 lot of 6 through 4 wire repeaters.
			4	1 lot of 4 through 4 wire repeaters.
			~~3~~ 8	1 lot of 3 through 4 wire repeaters.
52	3/15	91		2 wire repeaters and bay capacity to accommodate them in the following lots.
				1 lot of 14
				1 lot of 13
				1 lot of 12
				4 lots of 6 each.
				2 lots of 5 each.
				6 lots of 3 each.
				See note in item 2/15.
53	3/16	9		4 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate:
				3 lots of 3 each.
54	3/17	52		2 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate one lot of each of the following: 14,13,11,6,5, and 3.
55	3/18	6 sets		Bays equipped for transmission and resistance measurements. cable fault localization, and testing; complete with oscillators.
	3/19	Added 4		Portable transmission measuring sets for battery operation. ~~avometers~~; ~~or voltohmeters and current flow test sets~~.
56	3/20	2		Avometers; or voltohmeters and current flow test sets.
57	3/21	18 sets		Bays each to take cable terminations for 200 pairs
58	3/22	8		Filament) Batteries each to take 40 -4 wire
59		8		Plate) repeaters; filament batteries each also to take about 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
60	3/23	12		Filament) Batteries each to take 20 - 4 wire
61		12		Plate) repeaters; filament batteries each to take also about 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
62	3/24	16		Filament) Batteries each to take 10 - 4 wire
63		16		Plate) repeaters; filament batteries each to take also about ten ringing equipments; each battery to have a capacity for 48 hours service.
64	3/25	20		Petrol or paraffin driven engine generators each driving two generators for charging above batteries (Plate and filament) at 7 hours rate; Spare parts.

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Incl. #1

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45 4

Item No.	Number Required	Equipment
65 3/26	12	Sets of maintenance tools for repeater stations
66 3/27	1	10-Position multiple CB Switchboard equipped with 1400 Subscribers' line circuits; 20 magneto junction circuits and 20 automatic/CB junction circuits; complete with Subscribers' relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter - position trunks etc), fuses, spare parts, etc. See item 3/37.
67 3/28	3	6 - Position multiple CB Switchboards, each equipped with 800 Subscribers line circuits; 20 magneto junction circuits and 20 automatic/CB junction circuits; complete with Subscribers relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter - position trunks, etc. fuses, spare parts, etc. See item 3/37.
68 3/29	4	Main Distribution Frames - Capacity one of 3000, three of 2000 pairs each - complete with protection.
69 3/30	4	Intermediate Distribution Frames - associated with above; combined MDF and IDF would suffice in each case provided the main frame sections had the required capacity.
70 3/31	2	Storage Batteries of the voltage of the Switchboard in item 3/27; each of capacity 800 amp.hrs
71 3/32	6	Storage Batteries of the voltage of the Switchboard in item 3/28; each of capacity 600 amp.hrs
72 3/33	4	Test cases - complete with voltmeter. 24
73 3/34	$5	Petrol or paraffin driven engine generators one of output 110 amps and four of 80 amps. At normal battery charging voltages for items 3/31 and 3/32 respectively; complete with voltage hand regulator; spare parts.
74 3/35	4	Battery driven ringing machines for use with items 3/27 and 3/28; spare parts.
75 3/36	77 2 miles	42 wire Switchboard cable.
	78 3 "	63 " " "
	79 3 "	Jumper wire, cross-connecting.
80 3/37		4 Position Long Distance Toll Boards each equipped for 20 ring-down long distance trunks; one with 10 junctions to the board covered by items 3/27 and two each with 10 junctions to one of the boards covered by item 3/28 (i.e. the third board under item 3/28 will have no junctions to a toll Board); all with relay sets; trunks to be multiplied on alternate positions.
81	3	17 or 20 cycle battery driven ringing machines for use with above; driven off filament batteries
82 3/38	12	Sets of maintenance tools for CB Exchanges.
83 84 3/39	100	Vehicles (trucks); 70 of approx. 30 Cwt. 30 of approx. 15 Cwt.

Notes on Equipment List.

Reference Item.

1/1 1. The toll board will initially handle a very limited number of circuits entirely on a delayed basis. Recording of outgoing calls will be handled on a separate installation which is available locally. Also available locally

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				circuits; complete with Subscribers relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter - position trunks, etc. fuses, spare parts, etc. See item 3/37.
68	3/29		4 ✓	Main Distribution Frames - Capacity one of 3000, three of 2000 pairs each - complete with protection.
69				
70	3/30		4 ✓	Intermediate Distribution Frames - associated with above; combined MDF and IDF would suffice in each case provided the main frame sections had the required capacity.
71	3/31		2 ✓	Storage Batteries of the voltage of the Switchboard in item 3/27; each of capacity 800 amp.hrs
72	3/32		6 ✓	Storage Batteries of the voltage of the Switchboard in item 3/28; each of capacity 600 amp.hrs
73	3/33		4 ✓	Test cases - complete with voltmeter.
74	3/34		~~5~~ four	Petrol or paraffin driven engine generators one of output 110 amps and ~~three~~ four of 80 amps. At normal battery charging voltages for items 3/31 and 3/32 respectively; complete with voltage hand regulator; spare parts.
~~75~~				
76	3/35		4 ✓	Battery driven ringing machines for use with items 3/27 and 3/28; spare parts.
	3/36	77	2 miles	42 wire Switchboard cable.
		78	3 "	63 " " "
		79	2 "	Jumper wire, [illegible]
80	3/37		3	4 Position Long Distance Toll Boards each equipped for 20 ring-down long distance trunks; one with 10 junctions to the board covered by items 3/27 and two each with 10 junctions to one of the boards covered by item 3/28 (i.e. the third board under item 3/28 will have no junctions to a toll Board); all with relay sets; trunks to be multiplied on alternate positions.
81			3 ✓	17 or 20 cycle battery driven ringing machines for use with above; driven off filament batteries
F2	3/38		12 ✓	Sets of maintenance tools for CB Exchanges.
~~83~~ 84	3/39		100	Vehicles (trucks); 70 of approx. 30 Cwt. 30 of approx. 15 Cwt. ✓

1-9-6

Notes on Equipment List.

Reference Item.

1/1 1. The toll board will initially handle a very limited number of circuits entirely on a delayed basis. Recording of outgoing calls will be handled on a separate installation which is available locally. Also available locally is equipment to modify (as necessary) the circuits from the proposed toll board to the existing local network. The proposed toll board will be located in an existing repeater station at which a distribution frame and a 24 volt battery, with charging equipment is available.

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Reference Item.		
2/1	7	No telephones are required. Sufficient telephones of various types are available. It is anticipated that the signalling and range of any of the usual switchboards will be suitable.
2/15 & 2/16	24,25.	It is anticipated that cable terminations and distributing frames for the small repeater stations can be supplied locally.
2/16	26.	20/500 ringers are specified because the normal ringing in Italy is 500 cycles. However, 20/1000 ringers may be substituted altho there are less desirable because of flexibility.
2/19	30.	"Bays" is British nomenclature. The American equivalent would be a distributing frame with 400 pairs protected, to terminate outside cables, plus connecting blocks as required for inside wiring to toll terminal equipment and to the toll switchboard. Sufficient silk and cotton tip cable, and switchboard cable and connecting blocks should be provided for the installation.

General:

1. As a general condition, it would be preferable to supply like items for the various locations, of the same type and manufacture of equipment, for reasons of initial installation flexibility, and for future maintenance. However, the supply of miscellaneous small items necessary for modification, if required, is good in Italy so that the idea of common types of items is perhaps secondary to that of obtaining the large, major items in as short a time as possible.

2. Phasing: It is suggested that the equipment per Section I be shipped as soon as possible to Naples. Equipments per Sections II and III may be ordered tentatively and procurement possibilities explored. As occupation of the territory is completed and actual damages ascertained, the orders can be confirmed or altered to suit the condition.

omitted because of conflict with data 1796 in each section

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2/16 20. 20/500 ringers are specified because the normal ringing in Italy is 500 cycles. However, 20/1000 ringers may be substituted altho these are less desirable because of flexibility.

2/19 30. "Bays" is British nomenclature. The American equivalent would be a distributing frame with 400 pairs protected, to terminate outside cables, plus connecting blocks as required for inside wiring to toll terminal equipment and to the toll switchboard. Sufficient silk and cotton tip cable, and switchboard cable and connecting blocks should be provided for the installation.

General:

1. As a general condition, it would be preferable to supply like items for the various locations, of the same type and manufacture of equipment, for reasons of initial installation flexibility, and for future maintenance. However, the supply of miscellaneous small items necessary for modification, if required, is good in Italy so that the idea of common types of items is perhaps secondary to that of obtaining the large, major items in as short a time as possible.

2. Phasing: It is suggested that the equipment per Section I be shipped as soon as possible to Naples. Equipments per Sections II and III may be ordered tentatively and procurement possibilities explored. As occupation of the territory is completed and actual damages ascertained, the orders can be confirmed or altered to suit the condition.

omitted because of conflict with data in each section

1796

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0142

Declassified E.O. 12,56 Section 3.3/NND No. 785015

SECRET U.S. SECRET EQUALS BRITISH MOST SECRET

ALLIED FORCE HEADQUARTERS
APO 512

: S E C R E T :
: Auth: CinC, AF :
: Initials: :
: 11 March 1944 :

AG 400-1 (ACCOT) MCS-AGH 11 March 1944

SUBJECT: Requisitions.

TO : Headquarters Allied Control Commission, NAPLES.

1. Letter, this headquarters, subject and file as above, dated 30 January 1944, and Appendix I thereto, dated 30 January 1944, are rescinded and the following substituted therefor.

2. The following instructions are issued as a guide for all officers concerned in writing requisitions for civilian supplies.

3. All supplies (Medical, Engineer, Ordnance, Quartermaster, and miscellaneous) that are required by ACC/AFHQ must be obtained by requisition.

4. Mechanics of a requisition.

a. Copies: Original and five (5) copies to Military Government Section, this headquarters. Additional copies optional.

b. Numbered: Requisitions will be numbered consecutively, in series, according to supply service on which rendered. A new series will be initiated with each new fiscal year (July 1 to June 30). A requisition number will consist of the following elements:

(1) An individual requisition number according to series.

(2) A letter or group of letters indicating supply service on which drawn; e.g., "Eng", "Q M", "Ord", etc.

(3) Region for which supplies are intended.

(4) A number comprising the last two digits of the fiscal year.

For example, a requisition for engineer materials intended for Region VI, which is the first requisition in the series of the present fiscal year, would be No. 1-Eng-Reg.VI-44.

No single requisition should contain requests for items of more than one branch of service. An engineer requisition should contain only items which are an Engineer responsibility; a requisition marked as being for quartermaster supplies should include only items which are furnished by the Quartermaster Corps. This applies to all branches of the service and to all items requisitioned. One requisition which contains requests for materials on more

U.S. SECRET EQUALS BRITISH MOST SECRET

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AG 400-1 (SHCOT) HQ-AGM,
11 March 1944, (cont'd)

then one branch of the service, processing of one part of the requisition is delayed while the requisition goes through the supply office handling the other supplies listed.

c. Destination: Order for direct shipment to Mainland, Sicily or Sardinia, indicating port.

d. Initiated by: Any officer.

e. Approved by: Commanding Generals and Commanding Officers of Allied Control Commission or their duly authorized deputies. (A list of all officers authorized to approve requisitions will be compiled and furnished to Military Government Section, this headquarters.)

f. Amounts: Specify by numbers of items, length or weight, using standard nomenclature where possible.

g. Changes: Must be initialed by officer altering the original wording.

h. Justification: Every requisition should contain information which gives well-grounded reasons for requesting the particular supplies listed on the requisition. This information should not be placed on a separate covering letter, but should appear on the requisition form itself.

It is understood that ordinarily the basis will differ for each individual requisition submitted. The following general notes, however, indicate data which should appear in almost every case:

(1) Nature of work to be accomplished or use for which materials are intended. If possible, include also a statement as to what may transpire if materials are not delivered.

(2) Scope of work or operation, including, wherever applicable, time period of operation. Time should be expressed in six-month periods.

(3) Location of operations.

(4) Desired date of arrival of supplies at port of debarkation.

i. Period: On all ACC requisitions for civilian supplies in space indicated by "PERIOD" place the word, "Special", which indicates clearly to the processing or reviewing agency that this particular requisition is for items not covered by any authorized table of allowance. Requests for initial allotment of organizational equipment or replacement parts to bring organizational equipment to approved supply levels are covered by "Initial" and "Replacement" requisitions.

Approval or disapproval of "Initial" and "Replacement" requisitions is based on tables of allowances and standards of allowable replacements.

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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AG 400-1 (AMGOT) MCS-AGE,
1 March 1944, (cont'd)

Approval or disapproval of "Special" requisitions is based on the ability of the requisitioning agency to justify its request in the basis of the requisition.

Inasmuch as all ACC civilian supply requisitions are for non-organizational equipment, then all ACC requests for such equipment will be covered by "Special" requisitions, so marked and Period of Requirement should be stated, and approval or disapproval of these requisitions will depend upon ACC's ability to justify their need.

j. Stock Number: Under the column headed "STOCK NUMBER" indicate the Federal Stock Number of each item requisitioned as listed in the Federal Stock Catalogue or in the Standard Nomenclature List. If the stock number is not known, indicate that fact by the proper notation within the space.

In the event that spare parts are being ordered for American or British equipment which are non-standard military items, indicate clearly at the beginning of the requisition the nationality of the trade name of the equipment for which parts are desired, the name of the manufacturer, model number, and serial number, then change the heading "STOCK NUMBER" to "MANUFACTURER'S NUMBER" and insert in the column under the heading the stock number as given in the manufacturer's catalogue and state whether or not the trade name and number are specifically desired or are used to indicate similarity to desired item.

k. Rating: The "approving officer" should affix the rating I, II, III or IV, as specified in CAL Airgram Number 5, November 1943 (copies sent to all ACC/AMG headquarters, 16 December 1943).

5. Emergency requisitions may be sent direct to Military Government Section by cable from Headquarters Allied Control Commission. Include only data in paragraph 3 b, c, e, f, h (summarized), i, j, and k. Full confirming information will be sent in regular manner.

6. All requisitions will be submitted by Regions to Headquarters Allied Control Commission for review, coordination and consolidation and by Headquarters Allied Control Commission to Military Government Section, this headquarters.

By command of General WILSON:

1794

H. V. ROBERTS,
Colonel, AGD,
Adjutant General.

DISTRIBUTION:

5 - Addressee
5 - Hq AMG, Region 1, Palermo
5 - Hq AMG, Region 2, Matera
5 - Hq AMG, Region 3, Naples
5 - Hq AMG, Region 4, Naples
5 - Regional Allied Commissioner, Sardinia
50 - Military Government Section, AFHQ
2 - AG Records, AF

Declassified E.O. 12356 Section 3.3/NND No. 785015

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CONFIDENTIAL

HEADQUARTERS
ALLIED CONTROL COMMISSION
Communications Sub-Commission
APO 394

1 June 1944

SUBJECT: Communications for Essential Civilian Purposes.

TO : G-5 Section, Allied Forces Headquarters, APO 512.
(Attn: Economics and Supply Division)

1. Your 26 May 1944, subject: "Communications for Essential Civilian Purposes" is referred.

2. Requisitions prepared and approved by Headquarters Allied Control Commission - Economics Section are attached herewith.

3. It will be necessary to expedite the handling of this order to accomplish the objective of releasing military equipment initially installed.

For the Commanding General:

(Sgd) Scott Kramer-Major
for J. L. HUNTSBERGER
Colonel
Director, Communications Sub-Commission

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CONFIDENTIAL

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1 --

Adjt Hq

42

2 June 44

Commdg. Sub Comm

Attention Maj. Scudder

1. Herewith

A. 2 copies of regulations prepared from lists submitted. (1 for CBO)

B. 1 - copy of list. (1 retd Regu. Office)

C. 1 - copy transmittal letter

D. 1 copy 11-march - instructions concerning requisitions

E. Hq. Publications file.

2. The original and necessary copies were forwarded from here today

Scott Kinney
Major AGD

42-1

LIST OF EQUIPMENT REQUIRED FOR RESTORATION OF ESSENTIAL CIVILIAN COMMUNICATIONS IN

SECTION I Date wanted: At once. NORTHERN ITALY

Note: There is of course no objection to reasonable variations from the following due to differences in manufacturers standards.

Item No.	No. Required	List of Equipment
		(SUBSIDIARY LONG DISTANCE)
1/1	1	8 - Position Long Distance Toll Board for use at Naples, equipped for 30 trunks, complete with relay sets; trunks being multipled on alternate positions. IN ADDITION FOUR APPEARANCES OF 30 EACH JACKS AND LAMPS FOR ABOVE BOARD
1/2	1	1½ cycle mains driven ringing machine for above, to operate on 150 volts at 50 cycles. NO OTHER POWER PLANT REQUIRED.
1/3	1	Bridge Megger & WHEATSTONE BRIDGE AND INSULATION MEGGER FOR BATTERY OPERATION
1/4	2	Portable transmission measuring sets, and suitable V.F. oscillators
1/5	50	Vehicles (trucks): 30 or 40 cwts, 20 of 15 cwt. APPROX. APPROX.

SECTION II Date wanted: 6 weeks after fall of Rome - say on 1st. July.

2/1	1	50 Position CB switch with multiple of 3,000 subscribers' line circuits, MULTIPLE SWITCHBOARD EQUIPPED WITH 30 JUNCTION CIRCUITS AND 30 AUTOMATIC AC B RELAY SETS, complete with subscribers' and junction relay sets; miscellaneous items, fused, spare parts, etc. JUNCTION CIRCUITS (SUCH AS COND TEST, INTER-POSITION TRUNKS, ETC)
2/2	1	Main distribution frame - capacity 8000 pairs. Complete with protection SEE 2/13
2/3	1	Intermediate Distribution Frame.
2/4	1	Test Desk or Test Case with equipment including a spare voltmeter.
2/5	1	Bridge Megger & Wheatstone Bridge and insulation megger for battery operation
2/6	2	Storage batteries of the voltage of the above Switchboard: each of capacity 2000 amp.hours.
2/7	2	Petrol or paraffin driven engine generators of output 300 watts at normal battery charging voltage for item 2/6. A mobile outfit of the R.A.F. type would be useful. Spare parts.
2/8	1	Battery driven ringing machine for use with item 2/1. Spare parts.
2/9	1791 miles (or 2 miles)	42 wire Switchboard cable) or equivalent.)
	3 miles	Jumper wire for above distribution frame
2/10	3	Sets tools for maintenance of exchanges.
2/11	½ ton	Solder, RESIN CORE for internal connections.
	½ ton	Solder, for plumbing underground cable joints, together with sufficient miscellaneous jointing material (lead sleeves) for 50 splices

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	1	~~2 cycle~~ 2 cycle driven plant to operate the above, to generate on 110 volts at 4 cycles. No other power plant required.
1/3	1	Bridge Megger, Wheatstone Bridge and Insulation Meters for battery operation.
1/4	2	Portable transmission measuring sets and suitable V.F. oscillators
1/5	50	Vehicles (trucks): 30 of 30 cwt. (approx.) 20 of 15 cwt. (approx.)

Section II late routed: ~~6 weeks~~ after fall of snow - say on 1st. July.

2/1	1	~~30 position CB~~ Multiple switchboard equipped with ~~multiple~~ Junction circuits ~~of 400 subscribers' lines~~ 30 automatic/CB ~~junction multiple~~ Relay ^ and Junction circuits, ~~channel~~ complete with subscribers' ~~and~~ junction relay sets; miscellaneous ~~lamps~~ circuits (such as cord test, inter-office trunks, etc.), fuses, spare cords, etc.
2/2	1	Main distribution frame - capacity 8000 pairs. See 2/13
2/3	1	Intermediate distribution frame.
2/4	1	Test Desk or Test Case with equipment including a spare voltmeter.
2/5	1	Bridge Megger ~~and~~ Wheatstone Bridge and insulation megger for battery operation
2/6	2	Storage batteries of the voltage of the above switchboard; each of capacity 2000 amp.hours.
2/7	2	Petrol or paraffin driven engine generators of output 200 watts at normal battery charging voltage for item 2/6. A suitable outfit of the R.A.F. type would be useful. Spare parts.
2/8	1	Battery driven ringing machine for use with item 2/1, spare parts.
2/9	~~5~~miles 52 wire switchboard cable) 5miles 63 " " " ") or equivalent. 1791 3miles Junper wire for above distribution frame	
2/10	3	Sets tools for maintenance CB exchanges.
2/11	½ ton Solder, ~~resin core~~ Resin Core, for internal connections. ½ ton Solder, for plumbing underground cable joints. together with sufficient mechanical splicing material (wiped and sleeve) for 500 splices	
2/12	50,000	Paper jointing sleeves (for underground cable).
2/13	1	10-Position long distance Toll Board equipped for 10 trunks complete with relay sets, trunks being multiplied on alternate positions. Ring Down Long Distance

and to provision to, ~~should~~ connect by item 2/1

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2/14 1 17-20 cycle battery driven ringing machine for use with item 2/13, to be [illegible] if filament battery is assumed that this can be done without noise at the receivers.)

for use on voice-frequency cable with H-44-17 [illegible]

2/15 94 4 wire repeaters, on key capacity to accommodate them in the following separate lots:

with H-142-65
1 lot of 22
4 lots of 12 each
4 lots of 6 each

for use on underground cable [illegible]
also 2-wire repeaters in 1 lot of 6, and 2 lots of 4 each.

2/16 34 4 wire 500/20 ringing equipments with key capacity to accommodate.

with H-142-20
1 lot of 22
2 lots of 6 each

also 2-wire equipments in 1 lot of 8 and lots of 4 each.

2/17 1 set Duye equipment for transmission and resistance measurements, cable fault localisation, and testing: complete with oscillator, etc.

2/18 2 Portable transmission measuring sets for battery operation

2/19 1 set Have to take cable termination for 400 pairs.

2/20 2 Filament) Battries each to take 40 - 4 wire repeaters; also
2 PLATE) [illegible] filament batteries each to take ringing 20 equipments and a ringing machine load; each battery to have a capacity for 48 hours service.

2/21 2 Petrol or paraffin engines driving two generators for charging above batteries (plate and filament) at 7 hours rate. Spare parts.

2/22 1000 miles [illegible] 70lb. Cad.Cu. Bare wire or .080 copper weld

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SECTION III Required roughly in order as shown as soon as possible after 1st July.

3/1 1 18 Position CB board with multiple for 2000 subscribers; junction multiple of 1 to magneto and 1 to automatic or CB MU exchanges; complete with subscribers' an junction relay sets; miscellaneous jacks, fuses, spare parts, etc.

3/2 1 Main Distribution Frame - capacity 4000 pairs.

3/3 1 Intermediate Distribution Frame.

3/4 1 Test cane - complete with voltmeter.

3/5 2 Storage batteries: voltage as for above switchboard; each of capacity 1000 amp. hours.

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3/6 2 Petrol or paraffin engine generator for charging above batteries; output 140 amps. at normal charging voltage; complete with voltage hand regulator, spare parts.

3/7 1 Battery driven ringing machine; spare parts.

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also 2 wire experimental in lots of 8 and 2lbs of 9 each.

2/17 1 set Data required for transmission and resistance measurements, cable fault localisation, and testing; complete with oscillator, etc.

2/18 2 Portable transmission measuring sets for testing operation

2/19 1 set Data to take cable termination for 400 pairs.

2/20 2 Filament) Batteries each to take 4 - 4 wire repeaters; also
2 PLATE) filament batteries each to take ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.

2/21 2 Petrol or paraffin engines driving two generators for charging above batteries (plate and filament) at 7 hours rate. Spare parts.

2/22 1000 miles 7/18. Sad.Cu. Bare wire or .080 sebumetd.

Section III Required roughly in order as shown as soon as possible after 1st July.

3/1 1 16 position CB board with multiple for 2000 subscribers; junction multiple of 1 to magneto and 1 to automatic or CB exchanges; complete with subscribers' and junction relay sets; miscellaneous jacks, fuses, spare parts, etc.

3/2 1 Main Distribution Frame - capacity 4000 pairs.

3/3 1 Intermediate Distribution Frame.

3/4 1 Test case - complete with voltmeter.

3/5 2 Storage batteries; voltage as for above switchboard; each of capacity 1000 amp. hours.

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3/6 2 Petrol or paraffin engine generator for charging above batteries; output 140 amps. at normal charging voltage; complete with voltage hand regulator, spare parts.

3/7 1 Battery driven ringing machine; spare parts.

3/8 (2 miles 42 wire switchboard cable.
(2 " 63 " " " "
(2 " Jumper wire.

3/9 3 sets Maintenance tools.

3/10 ton Solder sticks for internal connections.
ton Solder for plumbing underground cable joints.

3/11 1000 Paper jointing sleeves (cable)

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J/12	2	6 - Positio-Long Distance Toll Board equipped for [illegible] trunks complete wi relay sets, trunks being divided on alternate positions
J/13	1	[illegible] 17.25 cycle battery driven ringing machine for above, driven off filament battery.
J/14	65	4 wire repeaters with bay capacity to accommodate them on the following lots: 6 of 10 each 1 of 8 each 1 of 6 each 2 of 4 each 5 of 3 each.
J/15	30	2 wire repeaters with bay capacity to accomodate them in the following lots: 1 of 14 1 of 13 1 of 12 4 of 6 each 2 of 5 each 6 of 3 each
J/16	9	4 wire 500/20 Ringing equipments with bay capacity to accommodate 3 lots of 3 each.
J/17	42	2 wire 500/20 Ringing equipments with bay capacity to accommodate one lot of each of the following: 14, 13, 11, 6, 5, 3.
J/18	6sets	Bays equipped for transmission and resistance measurements, b cable fault localisation, and testing complete with oscillators.
J/19	4	Portable transmission testers.
J/20	2	Avometers or a voltmeter and current flow test set [illegible].
J/21	15sets	Bays each to take Cable terminations for 200 pairs.
J/22	8	Filament) Batteries each to cater for 40 - 4 wire repeaters;
	6	Plate) filament batteries each to take also about 20 ringing equipments, etc. and a ringing machine load; each battery to have capacity for 4h hours service.
J/23	12	Filament) Batteries each to cater for 20 - 4 wire repeaters;
	12	Plate) filament batteries each to take also about 20 ringing equipment, etc. and a ringing machine load; each battery to have capacity for 4h hours service.
J/24	16	Filament) Batteries each to cater for 10 - 4 wire repeaters;
	15	Plate) filament batteries each to take also about 10 ringing equipments; each battery to have capacity for 4h hour service.
J/25	10	Petrol or paraffin engines each driving two generators for charging above batteries at 7 hours rate. Spare parts.
J/ 6	12	Sets of maintenance tools for repeaters stations.

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3/15	30	2 wire repeaters with bay capacity to accommodate them in the following lots: 1 of 14 1 of 12 1 of 12 4 of 6 each 2 of 5 each 8 of 3 each
3/16	9	4 wire 500/20 Ringing equipments with bay capacity to accommodate 3 lots of 3 each.
3/17	52	2 wire 500/20 Ringing equipments with bay capacity to accommodate one lot of each of the following: 14, 13, 11, 6, 5, 3.
3/18	6sets	Bays equipped for transmission and resistance measurements, by cable fault localisation, and testing complete with oscillators.
3/19	4	Portable transmission testers.
3/20	2	Avometers or ~~2 voltmeters~~ and current flow test set ~~1 ammeter~~.
3/21	18sets	Bays each to take Cable terminations for 200 pairs.
3/22	8 8	Filament) Batteries each to cater for 40 - 4 wire repeaters; Plate) filament batteries each to take also about 20 ringing equipments, etc. and a ringing machine load; each battery to have capacity for 48 hours service.
3/23	12 12	Filament) Batteries each to cater for 20 - 4 wire repeaters; Plate) filament batteries each to take also about 20 ringing equipment, etc. and a ringing machine load; each battery to have capacity for 48 hour service.
3/24	16 16	Filament) Batteries each to cater for 10 - 4 wire repeaters; Plate) filament batteries each to take also about 10 ringing equipments; each battery to have capacity for 48 hour service.
3/25	20	Petrol or paraffin engines each driving two generators for charging above batteries at 7 hours rate. Spare parts.
3/26	12	Sets of maintenance tools for repeaters stations.
3/27	1	10- Position CB Board with multiple for 1800 Subscribers; Junction multiple 15 to magneto and 15 to automatic or CB exchanges; complete with Subscribers' and junction relay sets; miscellaneous jacks, fuses, spare parts, etc.
3/28	3	6 - Position CB Board with multiple for 600 Subscribers; Junction multiple 15 to magneto and 15 to automatic or CB exchanges; complete with Subscribers' and junction relay sets; miscellaneous jacks, fuses, spare parts, etc.

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3/29	4	Main Distribution Frames - capacities one of 3000 and three of 2000 pairs.
3/30	4	Intermediate Distribution Frames - associated with above - combined MDF and IDF would suffice in each case provided the main frame sections had the required capacity.
3/31	2	Storage batteries; voltages suitable for working 10 position Board in item 3/27; each of capacity 800 amp.hours.
3/32	6	Storage batteries; voltage suitable for working 5 position boards in item 3/28; each of capacity 600 amp.hours.
3/33	4	Test cases - complete with voltmeter.
3/34	4	Petrol or paraffin engine generators for charging batteries in items 3/31 and 3/32; outputs - one of 110 amps. one horse of 80 amps at normal charging voltage; complete with voltage hand regulators spare parts.
3/35	4	Battery driven ringing machines; spare parts; driven off batteries in 3/31 and 3/32.
3/36	2miles 3 " 2 "	42 wire switchboard cable. 63 " " " . Jumper wire.
3/37	3	4 position long distance Toll Boards each equipped for 12 trunks complete with relay sets, trunks being multiples on alternate positions.
	3	17-23 cycle battery driven ringing machines for above; driven off filament batteries.
3/38	12	Sets of maintenance tools for CB exchanges.
3/39	100	Vehicles (trucks) 70 of 30 cwt: 30 of 35 cwt.

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3/33	4	Test cases - complete with voltmeter.
3/34	4	Petrol or paraffin engine generators for charging batteries in items 3/31 and 3/38; outputs - one of 110 amps. and three of 50 amps at normal charging voltage; complete with voltage hand regulators spare parts.
3/35	4	Battery driven ringing machines; spare parts; driven off batteries in 3/31 and 3/32.
3/36	2miles 3 " 5 "	42 wire Switchboard cable. 63 " " " . Jumper wire.
3/37	5	4 position Long Distance Toll Boards each equipped for 12 trunks complete with relay sets, trunks being multiplied on alternate positions.
	5	17-20 cycle battery driven ringing machines for above; driven off filament batteries.
3/38	12	Sets of maintenance tools for CB exchanges.
3/39	100	Vehicles (trucks) 70 of 30 cwt; 30 of 15 cwt.

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A P P E N D I X 'II'

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1. CIRCUITS

1st Phase: Rome, Bologna, and Firenze in Allied hands.

Circuits :

4 wire

Rome - Bologna	6
Rome - Firenze	6
Rome - Napoli	4
Rome - South elsewhere	6

2 wire

Bologna - Firenze	4
Firenze - Livorno	4

Allow repeaters for all stations North of Rome, and in repeater stations between Rome and Napoli for circuits South of Napoli.

2nd Phase: All Italy in Allied hands.

Circuits :

4 wire

Rome - Milano	4
Rome - Genova	3
Rome - Torino	3
Rome - Venezia	3
Rome - Bologna	3
Rome - Firenze	3
Rome - Trieste	3
Rome - Napoli	3
Rome - South of Napoli	5

2 wire

Milano - Torino	5
Milano - Genova	5
Genova - Bologna	3
Genova - Firenze	3
Bologna - Venezia	3
Bologna - Firenze	5
Bologna - Milano	3
Venezia - Trieste	3
Firenze - Livorno	5

2. DETAIL OF REPEATER STATION REQUIREMENTS.

Phase 1. Repeater stations	Number of repeaters 4 wire	2 wire
Roma	22	-
Viterbo	12	-
Abbadia	12	-
Siena	12	-
Firenze	12	-
Lojano	6	-
Ferentino	6	-
Avignano	6	-
Bologna	6	-

Phase 2. Repeater stations	Number of repeaters 4 wire	2 wire
Roma	30	
Viterbo	22	
Abbadia	22	
Siena	22	
Firenze	22	14 6
Lojano	9	6
Bologna	9	12
Poggio Renatico	6	
Padova	6	
S. Dona M.P.	3	
Udine	3	
Trieste	3	
Modena	3	
S. Secondo	3	
Monte Beccaria	3	
Milano	3	12
S. Giuliano M.P.	10	12
Genova	3	
Torino	3	
Napoli	3	

Allow repeaters for all stations North of Rome, and in repeater stations between Rome and Napoli for circuits South of Napoli.

2nd Phase: All Italy in Allied hands.

Circuits :

4 wire		2 wire	
Rome - Milano	4	Milano - Torino	5
Rome - Genova	3	Milano - Genova	5
Rome - Torino	3	Genova - Bologna	3
Rome - Venezia	3	Genova - Firenze	3
Rome - Bologna	3	Bologna - Venezia	3
Rome - Firenze	3	Bologna - Firenze	5
Rome - Trieste	3	Bologna - Milano	3
Rome - Napoli	3	Venezia - Trieste	3
Rome - South of Napoli	5	Firenze - Livorno	5

2. DETAIL OF REPEATER STATION REQUIREMENTS.

Phase 1.	Repeater stations	Number of repeaters 4 wire	2 wire	Phase 2.	Repeater stations	Number of repeaters 4 wire	2 wire
	Roma	22	-		Roma	30	
	Viterbo	12	-		Viterbo	22	
	Abbadia	12	-		Abbadia	22	
	Siena	12	-		Siena	22	
	Firenze	12	-		Firenze	22	- 14 6
	Lojano	6	-		Lojano	9	6
	Ferentino	6	-		Bologna	9	- 12
	Frignano	6	-		Poggio Renatico	6	3
	Bologna	6	-		Padova	6	3
					S.Dona Pr.	3	3
					Udine	3	3
					Trieste	3	3
					Modena	3	3
					S.Secondo	3	3
					Monte Beccaria	4	3
					Milano	4	5
					S.Giuliano N.P.	4	5
					Genova	10	11
					Torino	2	5
					Vercelli	-	5
					Chiavari	10	6
					Spezia	10	6
					Lucca	10	6
		94				208	113
					Less 20%	41	22
						167	91

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(a) To allow partly for 80% factor omit from list Phase 1. Equipment 4 wire repeaters for Siena.

(c) To allow for 80% factor, omit from list of Phase 2. equipment 4 wire repeaters for Siena, Chiavari, Udine, and Poggio. For 2 wire Repeaters, omit Genova, Chiavari, Udine, and Poggio.

Batteries.

Allow filament and plate batteries as follows:
Duplicate batteries with 48 hours capacity each for,

5 stations to take 40 - 4 wire repeaters less 80% = 4 station
7 stations " " 20 - " " " " " = 6 "
10 stations " " 10 - " " " " " = 8 "

500/20 Ringing Equipments.

1st Phase.

Total required:	4 wires
Roma	22
Bologna	6
Firenze	6
	34

All of them will be ordered for first phase.

2nd Phase.

	4 wire		2 wire
Rome	30	Milano	13
Milano	4	Torino	5
Genova	3	Genova	11
Torino	3	Bologna	14
Venezia	3	Firenze	13
Bologna	3	Venezia	6
Firenze	3	Trieste	3
Trieste	3		65
	52		
Less 20%	10	less 20%	13
	42		52

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Balance above phase 1. 4 wire 8 — 2 wire 52

Numbers to be ordered extra 3 lots of 3 - 4 wire and the following lots of 2 wire: 1 of 14, 1 of 13, 1 of 11, 1 of 6, 1 of 5, 1 of 3.

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500/20 Rireing Equipments.

1st Phase.

Total required: 4 wires

Roma	22
Bologna	6
Firenze	6
	34

All of them will be ordered for first phase.

2nd Phase.

4 wire		2 wire	
Rome	30	Milano	13
Milano	4	Torino	5
Genova	3	Genova	11
Torino	3	Bologna	14
Venezia	3	Firenze	13
Bologna	3	Venezia	6
Firenze	3	Trieste	3
Trieste	3		65
	52		
Less 20%	10	less 20%	13
	42		52

1786

Balance above phase 1. 4 wire 8 2 wire 52

Numbers to be ordered extra 3 lots of 3 - 4 wire and the following lots of 2 wire: 1 of 14, 1 of 13, 1 of 11, 1 of 6, 1 of 5, 1 of 3.

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CONFIDENTIAL

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G-5, AFHQ, APO 512

1-SIG-Reg.IV-44 30 May 44 Special

LUKO for A.C.C.

ROBERT P. KOENIG,
Colonel, C.E.,
Chief, Regn. Division,
Allied Control Commission.

D. S. ADAMS,
Colonel, C.E.,
Executive Officer,
Economic Section.

None	1. SWITCHBOARD, TOLL TYPE, long distance, 6 position, equipped for 30 ring-down long distance trunks, complete with relay sets; trunks being multiplied on alternate positions; in addition to trunk multiple, four appearances of 20 each jacks and lamps without associated relay equipment.	Ea.	1
None	2. RINGING MACHINE, 17 or 20 cycle, mains driven, to operate on 150 volts at 45 cycles, for use with item 1. (no other power plant required for item 1).	Ea.	1
None	3. BRIDGE, METER, (or Wheatstone bridge and insulation megger), for battery operation.	Ea.	1

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2

Special

30 May 1944

1-SIB-Reg.IV-44

None	4.	TRANSMISSION MEASURING SETS, portable, with V.F. oscillators.	Ea.	2
70-9329.2	5.	TRUCK, CARGO, BODY, 1-1/2 ton, 4 x 4, 2-DT	Ea.	30
None	6.	TRUCK, CARGO, BODY, 3/4 ton.	Ea.	20
None	7.	SWITCHBOARD, CB, multiple, 30-position, equipped with 4,000 subscribers line circuits, 40 manuals junction circuits, and 30 automatic CB junction circuits, complete with subscribers relay sets and junction relay sets, miscellaneous circuits (such as cord test, interposition trunks, etc.), fuses, spare parts. Requisition 2	Ea.	1
None	8.	DISTRIBUTION FRAME, main, 6,000 pairs capacity, complete with protection,	Ea.	1

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None	9. DISTRIBUTION FRAME, intermediate.	Ea.	1	
None	10. TEST DESK or TEST CASE, with equipment, including spare voltmeter.	Ea.	1	
None	11. BRIDGE MEGGER, (or Wheatstone bridge and insulation megger), for battery operation.	Ea.	1	
None	12. BATTERY, STORAGE voltage as of switchboard (item 7), 2,000 amp. hours capacity.	Ea.	2	
None	13. GENERATOR, petrol or paraffin engine driven, output 300 amps. at normal battery charging voltage for item 12 (a mobile outfit of the R.A.F. type is recommended), complete with voltage hand regulator, spare parts.	Ea.	2	
None	14. RINGING MACHINE, battery-driven, for use with item 7, with spare parts.	Ea.	1	
None	15. CABLE, SWITCHBOARD, twin wire.	Ft.	21,120	

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None	16.	CABLE, SWITCHBOARD, 63-wire, [redacted]	Ft.	26,400
None	17.	WIRE, JUMPER, (cross-connecting), for items 8 and 9.	Ft.	15,840
None	18.	MAINTENANCE SET, tools, for CB exchange.	St. St.	3
None	19.	SOLDER, TIN-LEAD, wire, resin core, for internal connections.	Lb.	1,000
None	20.	SOLDER, TIN-LEAD, [redacted] solid, for plumbing underground cable joints, together with sufficient splicing material (less lead, sleeves) for 500 splices.	Lb.	1,000
None	21.	SLEEVE, JOINTING, paper, for underground cable	Ea.	
None	22.	SWITCHBOARD, TOLL TYPE long distance, 10-position, equipped for 30 ring-down long distance trunks, 20 junctions to board covered by item 7, complete (cont'd on next sheet)		

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	with relay sets, trunks to be multiplied on alternate positions.	Ea.	1	
None	23. RINGING MACHINE, 17 or 20 cycle, battery driven, for use with Item 22, to be driven off filament battery (it is assumed that this can be done without noise at the repeaters).	Ea.	1	
None	24. REPEATER, 4-wire, with bay capacity to accomodate repeaters in following lots: 1 lot of 22 terminating 4 wire repeaters. 1 lot of 6 terminating 4-wire repeaters. 1 lot of 6 terminating and 6 through 4-wire repeaters. 3 lots of 12 through 4-wire repeaters each. 3 lots of 6 through 4-wire repeaters each.	Ea.	94	1781
None	25. REPEATER, 2-wire, with bay capacity to accomodate repeaters in following lots:			

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	1 lot of 8. 2 lots of 4 each.	Ea.	16	
	NOTE: The repeaters in Items 24 and 25 are for use on underground cable with the following characteristics: 4-wire repeater : H-44-17 loading: 19 gauge or 20 lb. conductor. 2-wire repeaters: H-172-63 loading: 16 gauge or 40 lb. conductor.			
None	26. RINGING EQUIPMENT SET, 4-wire, 500/20 or 1,000/20, with bay capacity to accommodate the following: 1 lot of 22. 2 lots of 6 each.	Ea.	34	1780
None	27. RINGING EQUIPMENT SET 2-wire, 500/20 or 1,000/20, with bay capacity to accommodate the following: 1 lot of 8. 2 lots of 4 each	Ea.	16	
None	28. BAY, equipped for transmission and resistance measurements, cable fault localization, and			

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	testing, complete with oscillator.	Ea.	1
None	29. TRANSMISSION MEASURING SET, portable, for battery operation.	Ea.	2
None	30. BAY, capable of taking cable termination for 400 pairs.	Ea.	1
None	31. BATTERY, FILAMENT, capable of taking forty 4-wire repeaters, 20 ringing equipments, and a ringing machine load, each battery to have a capacity for 48 hours' service.	Ea.	2
None	32. BATTERY, PLATE, capable of taking forty 4-wire repeaters, each battery to have a capacity for 48 hours' service.	Ea.	1779
None	33. ENGINE, SPARK, OR PARAFFIN DRIVEN each driving two generators for charging batteries in Items 31 and 32 at 7 hours' rate; complete with spare parts.	Ea.	2

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Declassified E.O. 12356 Section 3.3/NND No. 785015

1-SIG-Reg.IV-44 30 May 1944 Special

None	34. WIRE, CONDUCTOR, 70 lbs.per mile, single conductor, bare solid; or .080 copperweld type (or equal).	Ft.		5,280,000
None	35. SWITCHBOARD, CB multiple, 16-position, equipped with 2,000 subscribers line circuits, 20 magneto junction circuits, and 20 automatic CB junction circuits; complete with subscribers relay sets and junction relay sets; miscellaneous circuits (such as cord test, interposition trunks, etc.) fuses; spare parts.	Ea.		1
None	36. DISTRIBUTION FRAME, main, 4,000 pairs capacity.	Ea.		1
None	37. DISTRIBUTION FRAME, intermediate.	Ea.		1
None	38. TEST CASE, with equipment, including voltmeter.	Ea.		1
None	39. BATTERY, STORAGE, voltage as of switchboard (Item 35),			

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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	1,000 amp. hours capacity.	Ea.		2
None	40. GENERATOR, petrol or paraffin engine, output 140 amps. at normal battery charging voltage for Item 39, complete with voltage hand regulator, spare parts.	Ea.		2
None	41. RIGGING MACHINE, battery-driven, for use with Item 35.	Ea.		1
None	42. CABLE, SWITCHBOARD, 42-wire.	Ft.		10,560
None	43. CABLE, SWITCHBOARD, 63-wire,	Ft.		15,840
None	44. WIRE, JUMPER, (cross-connecting), for Items 36 and 37.	Ft.		10,560
None	45. MAINTENANCE SET, tools for CB exchange	St.		3
None	46. SOLDER, TIN-LEAD, wire, resin core, for internal connections.	Lb.		1,000
None	47. SOLDER, TIN-LEAD, solid, for plumbing underground cable joints, together with sufficient spliing material (less lead sleeves) for 500 splices.	Lb.		1,000

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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None	48. SLEEVE, JOINTING, paper, for underground cable.	Ea.	50,000	
None	49. SWITCHBOARD, TOLL TYPE, long distance, 6-positions equipped for 20 ring-down long distance trunks and 20 junctions to board covered by Item 35, all with relay sets; trunks to be multiplied on alternate positions.	Ea.	1	
None	50. RINGING MACHINE, 17 or 20 cycle battery driven, for use with Item 49, to be driven off filament battery.	Ea.	1	
None	51. REPEATER, 4-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 13 through 4-wire repeaters. 4 lots of 10 through 4-wire repeaters. 1 lot of 3 terminating and 7 through 4-wire repeaters. 1 lot of 8 terminating 4-wire repeaters. 1 lot of 4 terminating 4-wire repeaters 1 lot of 6 through 4-wire repeaters.			

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Declassified E.O. 12356 Section 3.3/NND No. 785015

	1 lot of 4 through 4-wire repeaters. 1 lot of 3 through 4-wire repeaters.	Ea.		38
None	52. REPEATERS, 2-wire, with bay capacity to accommodate repeaters in following lots: 1 lot of 14. 1 lot of 13. 1 lot of 12. 4 lots of 6 each. 2 lots of 5 each. 6 lots of 3 each.	Ea.		91
	NOTE: The repeaters in Items 51 and 52 are for use on underground cable with the following characteristics: 4-wire repeater: (H-44-17) loading: 19 gauge or 20 lb. conductor. 2-wire repeaters: H-172-63 loading; 16 gauge or 40 lb. conductor.			
None	53. WIRING EQUIPMENT SET 4-wire, 500/20 or 1,000/20, with bay capacity to accommodate 3 lots of 3 each.	St.		9

Declassified E.O. 12356 Section 3.3/NND No. 785015

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None	54.	RINGING EQUIPMENT SET 2-wire, 500/20 or 1,000/20, with bay capacity to accommodate one lot of each of the following: 14, 13, 11, 6, 5, and 3.	St.	52
None	55.	BAY, equipped for transmission and resistance measurement, cable fault localization, and testing, complete with oscillators.	St.	6
None	56.	AVOMETER, or voltohmeters and current flow tent sets.	Ea.	2
None	56a.	TRANSMISSION MEASURING SET, portable, for battery operation	St.	4
None	57.	BAY capable of taking cable termination for 200 pairs.	St.	18
None	58.	BATTERY, FILAMENT, capable of taking forty 4-wire repeaters, 20		

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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	ringing equipments, and a ringing machine load, each battery to have a capacity for 48 hours' service.	Ea.	8
None	59. BATTERY, PLATE capable of taking forty 4-wire repeaters, each battery to have a capacity for 48 hours' service.	Ea.	8
None	60. BATTERY, FILAMENT, capable of taking twenty 4-wire repeaters, 20 ringing equipments, and a ringing machine load, each battery to have a capacity for 48 hours' service.	Ea.	12
None	61. BATTERY, PLATE, capable of taking twenty 4-wire repeaters, each battery to have a capacity for 48 hours' service.	Ea.	12
None	62. BATTERY, FILAMENT, capable of taking ten 4-wire repeaters and 10 ringing equipments, each battery to have a capacity for 48 hours' service.	Ea.	16

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Declassified E.O. 12356 Section 3.3/NND No. 785015

1-SIG-Reg.IV-44 30 May 1944 Special

None	63.	BATTERY, PLATE, capable of taking ten 4-wire repeaters, each battery to have a capacity of 48 hours' service.	Ea.	16
None	64.	ENGINE, PETROL OR PARAFFIN, DRIVEN, each driving two generators for charging batteries in Items 58, 59,60,61,62, and 63, at 7 hours' rate; complete with spare parts (or equivalent)	Ea.	20
None	65.	MAINTENANCE SET, tools, for repeater stations.	St.	12
None	66.	SWITCHBOARD, CB multiple, 10-position, equipped with 1,400 subscribers line circuits, 20 magneto junction circuits, and 20 automatic CB junction circuits, complete with subscribers relay sets and junction relay sets, miscellaneous circuits (such as cord test, inter position trunks, etc.), fuses spare parts.	Ea.	1

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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1-SIG-Reg,IV-24 30 May 1944 Special

None	67. SWITCHBOARD, CB multiple, 6-positions, equipped with 300 subscribers line circuits 20 magneto junction circuits, and 30 automatic CB junction circuits, complete with subscribers relay sets and junction relay sets, miscellaneous circuits (such as cord test, inter position trunks, etc.) fuses, spare parts.	Ea.	3
None	68. DISTRIBUTION FRAME, main, 3,000 pairs capacity, complete with protection.	Ea.	1
None	69. DISTRIBUTION FRAME, main, 2,000 pairs capacity, complete with protection.	Ea.	3
None	70. DISTRIBUTION FRAME, intermediate (to be associated with main distribution frames, Items 68 and 69; combined MDF and IDF will suffice in each case, provided the main frame sections have the required capacity).	Ea.	4

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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None	71. BATTERY, STORAGE, voltage as of switchboard (Item 66), 800 amp. hours capacity.	Ea.	2
None	72. BATTERY, STORAGE, voltage as of switchboard (Item 67), 600 amp. hours capacity.	Ea.	6
None	73. TEST CASE, with equipment; including voltmeter.	Ea.	4
None	74. GENERATOR, petrol or paraffin engine driven, output 110 amps. at normal battery charging voltage for Item 71 complete with voltage hand regulator, spare parts.	Ea.	1
None	75. GENERATOR, petrol or paraffin engine driven, output 60 amps. at normal battery charging voltage for Item 72, complete with voltage hand regulator, spare parts.	Ea.	4

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Declassified E.O. 12356 Section 3.3/NND No 785015

1-SIG-Reg.IV-44 30 May 1944 Special

None	76.	RINGING-MACHINE, battery-driven, for use with Items 66 and 67, complete with spare parts.	Ea.	4
None	77.	CABLE, SWITCHBOARD, 42-wire.	Ft.	10,560
None	78.	CABLE, SWITCHBOARD, 63-wire	Ft.	15,840
None	79.	WIRE, JUMPER, (cross-connecting)	Ft.	10,560
None	80.	SWITCHBOARD, TOLL TYPE, long distance, 4-position, equipped for 20 ring-down long distance trunks, one switchboard with 10 junctions to the board covered by Item 66, and two switchboards each with 10 junctions to one of the boards covered by Item 67 (i.e., the third board under Item 67 will have no junctions to a toll box), each with relay sets, trunks to be multiplied on alternate positions.	Ea.	3
None	81.	RINGING MACHINE, 17 or 20 cycle, battery driven, for use			

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Declassified E.O. 12356 Section 3.3/NND No. 785015

CONFIDENTIAL

139-17

20

	with Item 80, to be driven off filament battery.	Ea.		3
None	82. MAINTENANCE SET, tools for CD exchange	St.		12
78-9329.2	83. TRUCK, CARGO BODY, 1-1/2 ton, 4 x 4, 2-DT	Ea.		70
None	84. TRUCK, CARGO, BODY, 3/4 ton.	Ea.		30

////// LAST ITEM ////////// / ////////////////////

DELIVERY: Ship to Naples consigned to Communications Subcommission, ACC, with delivery as follows:

Items 1 to 6, inc. - immediate shipment.
Items 7 to 34, inc. - within six weeks after fall of Rome, say 14 July 1944.
Items 34 to end - required roughly in order as shown, as soon as possible after 1 July 1944.

BASIS: 1. This requisition provides for a minimum of essential local and long distance telephone service restoration to insure the early release of military communications equipment initially installed and to relieve the communications problem for civil administration as recommended in the letter 1 March 1944 - Deputy Chief Signal Officer to - Chief, M.C.S., AFHQ.

1 of 3

The requirements listed provide for a minimum long distance service for Naples, (where L.D. equipment and building were completely destroyed) and for minimum local and long distance service for Rome and for other undesignated cities in Northern Italy. Distribution will be as follows:

Items 1 to 6, inc. - for Naples.
Items 7 to 34, inc. - for Rome.
Items 34 to end - for Northern Italy.

2. This order is in response to direction for action contained in letter of 10 March 1944 from Acting Chief, MCS, AFHQ, to Headquarters, ACC, subject:

CONFIDENTIAL

Declassified E.O. 12356 Section 3.3/NND No. 785015

CONFIDENTIAL

) 39-17
20

1-SIG-Reg.IV-4 30 May 44 Special

	with Item 80, to be driven off filament battery.	Ea.		3
None	82. MAINTENANCE SET, tools for CB exchange	St.		12
78-9329.2	83. TRUCK, CARGO BODY, 1-1/2 ton, 4 x 4, 2-DT	Ea.		70
None	84. TRUCK, CARGO, BODY, 3/4 ton.	Ea.		30

////// LAST ITEM ////////// / ////////////////////

DELIVERY: Ship to Naples consigned to Communications Subcommission, ACC, with delivery as follows:
Items 1 to 6, inc. - immediate shipment.
Items 7 to 34, inc. - within six weeks after fall of Rome, say 14 July 1944.
Items 34 to end - required roughly in order as shown, as soon as possible after 1 July 1944.

BASIS: 1. This requisition provides for a minimum of essential local and long distance telephone service restoration to insure the early release of military communications equipment initially installed and to relieve the communications problem for civil administration as recommended in the letter 1 March 1944 - Deputy Chief Signal Officer to - Chief, M.G.S., AFHQ. 1703

The requirements listed provide for a minimum long distance service for Naples, (where L.D. equipment and building were completely destroyed) and for minimum local and long distance service for Rome and for other undesignated cities in Northern Italy. Distribution will be as follows:
Items 1 to 6, inc. - for Naples.
Items 7 to 34, inc. - for Rome.
Items 34 to end - for Northern Italy.

2. This order is in response to direction for action contained in letter of 10 March 1944 from Acting Chief, MGS, AFHQ, to Headquarters, ACC, subject:

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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1-SIG-Reg.IV-44 30 May 1944 Special

"Signal Communications - North Italy," and letter of 1 March 1944 from Deputy Chief Signal Officer, AFHQ, to Chief, MGS, AFHQ, subject: "Provision of Communications for Military Purposes in Northern Italy."

3. This requisition has been made from requirements lists prepared by Communications Subcommission, Rear Headquarters, ACC, in collaboration with Captain Klammer, of Signals, AFHQ, who came to Headquarters, ACC, for this purpose, and was drawn up in agreement with Headquarters, AAI.

4. All locally available equipment has been taken into account, and this requisition lists only those [redacted] needs which must come from overseas sources.

5. The following comments are made with reference to specific items on this requisition:

Item 1 - This toll board will initially handle a very limited number of circuits entirely on a delayed basis. Recording of outgoing calls will be handled on a separate installation which is available locally. Also available locally is equipment to modify (as necessary) the circuits from the proposed toll board to the existing local network. The proposed toll board will be located in an existing repeater station at which a distribution frame and a 24-volt battery, with charging equipment, is available.

Item 7 - No telephones are required. Sufficient telephones of various types are available. It is anticipated that the signalling and range of any of the usual switchboards will be suitable.

1767

Items 24, 25 - It is anticipated that cable terminations and distributing frames for the small repeater stations can be supplied locally.

Item 26 - 20/500 ringers are specified because the normal ringing in Italy is 500 cycles. However, 20/1000 ringers may be substituted though these are less desirable because of flexibility.

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Item 30 - "Bay" is British nomenclature. The American equivalent would be a distributing frame with 400 pairs protected, to terminate outside cables, plus connecting blocks as required for inside wiring to toll terminal equipment and to the toll switchboard. Sufficient silk and cotton tip cable, switchboard cable, and connecting blocks should be provided for the installation.

6. As a general condition, it would be preferable to supply like items of the same type and manufacture of equipment for the various installations for reasons of initial installation flexibility and for future maintenance. However, the supply of miscellaneous small items necessary for any required modification are available locally, so that the importance of common types of items is to be placed secondary to that of securing the large, major items in as short a time as possible.

7. Attempt has been made to describe items in a manner that will provide maximum flexibility in selecting and substituting materials to fill this requisition.

RATING: II (Two)

////////// END OF REQUISITION //////////

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Declassified E.O. 12356 Section 3.3/NND No. 785015

Communications SC
(2 Copies)
kc
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R E S T R I C T E D

ALLIED FORCE HEADQUARTERS
APO 512

HEADQUARTERS
26 JUN 1944
A. G.

38

AG 400-1 (AMGOT) D-O

21 June 1944

SUBJECT: Military Signal Supplies for use on Civilian Communications

TO : Commander-in-Chief, Allied Armies in Italy
Commanding General, SOS NATOUSA, APO 750
Deputy President, Allied Control Commission

19

Letter, this headquarters, subject and file as above, dated 23 March 1944 is rescinded.

By command of General WILSON:

R. A. STUKEY
1st Lt, AGD,
Asst Adjutant General.

DISTRIBUTION:

3 - Ea Addressee
3 - Ea Major Command
1 - Ea General & Special Staff Section
2 - AG Records

ACC-DIST
Com. Sec.
Hist

DIRECTOR
DIRECTOR
G. O. (1)
S C P)
CENSORSHIP
CHIEF CLERK
Rec'd 27.6.44.

1765

RECEIVED ADJ SEC
26 JUN 1944
REAR HQ. A.C.C.

R E S T R I C T E D

Declassified E.O. 12356 Section 3.3/NND No. 785015

RESTRICTED

/kc 7534
381

ALLIED FORCE HEADQUARTERS
APO 512

AG 400-1 (AMGOT) D-O 21 June 1944

SUBJECT: Military Signal Supplies for use on Civilian Communications

TO : Commander-in-Chief, Allied Armies in Italy
Commanding General, SOS NATOUSA, APO 750
Deputy President, Allied Control Commission

Letter, this headquarters, subject and file as above, dated 23 March 1944 is rescinded.

By command of General WILSON:

R. A. STUKEY
1st Lt, AGD,
Asst Adjutant General.

DISTRIBUTION:

3 - Ea Addressee
3 - Ea Major Command
1 - Ea General & Special Staff Section
2 - AG Records

1764
RECEIVED ADJ GEN'S
26 JUN 1944
REAR HQ. A.C.C.

RESTRICTED

0182

Declassified E.O. 12356 Section 3.3/NND No. 785015

Reqn. Div./REQ/ec
6966 1396.
137

HEADQUARTERS
ALLIED CONTROL COMMISSION
Requisition Division
APO 394

16 June 1944

In reply
refer to:
RD-413.4

SUBJECT: Communications for Essential Civilian Purposes.

TO : Asst. C/S, G-5, AFHQ, APO 512.
Attention: Economic & Supply Division.

1. Reference is made to your message F 57862 of 11 June 44 and our requisition No. 1-SIG-Region IV-44 of 30 May 44.

2. In planning communications equipment requirements for North Italy it was not possible to allocate items specifically, since the amount of equipment that can be made available will not by any means meet the needs of all of them. The switchboard under Item 7, however, was intended to be large enough to meet the requirements of Rome.

3. It is considered that the situation as revealed by new reports will permit reduction of certain items, but not a complete deletion of these items. The following action is therefore recommended:

a. Delete the following items:
Nos. 7, 8, 9, 12, 13, 14, 15, 16, 17, 22.

b. Supply in place of the above items within two months the following, all of which are in addition to the quantities already specified under these item numbers:

Item 66 - 1
Item 68 - 1
Item 70 - 1*
Item 71 - 2
Item 73 - 1
Item 74 - 1
Item 76 - 1*
Item 77 - 4,000 ft.
Item 78 - 4,000 ft.
Item 79 - 3,000 ft.
Item 80 - 1
Item 81 - 1

*For association with addition to Item 66.

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DIRECTOR.
D/DIRECTOR.
S. O. (T).
S O (P)
CENSORSHIP.
CHIEF CLERK.
Received 18/6/44

Declassified E.O. 12356 Section 3.3/NND No. 785015

4. As reports indicate considerable damage to repeater station plant, no alterations have been made in repeater requirements.

For Lieutenant General MARCUS MACFARLANE:

D. S. ADAMS,
Colonel, C.E.,
Executive, Economic Section.

cc: Communications Subcommission, A.C.C.

RECEIVED

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Declassified E.O. 12356 Section 3.3/NND No. 785015

JLH/tjj

(36)

AAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

In reply
refer to: TS/4/23

13th June, 1944.

Subject: Provision of Communications for Essential Civilian Purposes.

to: ACC Main HQ (Requisition Division).

1. In planning equipment requirements for North Italy, it was not possible to allocate items specifically to certain towns. If this policy had been followed, the list would have been much greater, since the equipment finally requisitioned would not by any means meet the needs of all of them.

2. Nevertheless, the switchboard under item 7 of the requisition was obviously intended to be large enough to meet the requirements of Rome.

3. It is considered that the new situation will permit of a reduction in certain items as specified in the attached appendix, but not a complete deletion of the items.

4. As reports show considerable damage to repeater station plant, no alterations have been made in repeater requirements.

J. L. HENDERSON
Colonel,
Director, Communications Sub-Commission.

File

1761

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Declassified E.O. 12356 Section 3.3/NND No. 785015

APPENDIX

Proposed amendment to Requisition 1-SIG-REG.IV-44 of 30 May, 1944.

1. Delete following items, all other items to stand, in quantity and in priority.

7, 8, 9, 12, 13, 14, 15, 16, 17 and 22.

2. Supply in the places of the above items within two months the following, all of which are additional to the quantities already specified under these item numbers.

(a)	1 off	-	Item 66	
(b)	1 off	-	Item 68	
(c)	1 off	-	Item 70	For association with (a) above
(d)	2 off	-	Item 71	
(e)	1 off	-	Item 73	
(f)	1 off	-	Item 74	
(g)	1 off	-	Item 76	For use with (a) above
(h)	4000feet	-	Item 77	
(i)	4000feet	-	Item 78	
(j)	3000feet	-	Item 79	
(k)	1 off	-	Item 80	
(l)	1 off	-	Item 81	

Declassified E.O. 12356 Section 3.3/NND No. 785015

RED/ec 36.1

Phone: VAPOR 40

RESTRICTED

HEADQUARTERS
ALLIED CONTROL COMMISSION
Requisition Division
APO 394

In reply
refer to:
RD-413.4

12 June 1944

SUBJECT: Telephonic Equipment - Rome.

TO : Director, Communications Subcommission, A.C.C.

1. Reference is made to radiogram F 57862 of 11 June 44 from G-5, AFHQ, copy of which is attached.

2. It is requested that you indicate your recommendations by first indorsement hereon to this Division.

For the Chief Requisition Division:

for ROBERT A. MARTINO
Lt. Col., Spec. Res.,
Division Executive.

Enc: Radiogram F 57862 dtd 11 June 44.

DIRECTOR.
D/DIRECTOR.
S. O. (T).
S O P)
CENSORSHIP.
CHIEF CLERK.
Recd. 13.6.44

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RESTRICTED

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Declassified E.O. 12356 Section 3.3/NND No. 785015

RESTRICTED

RED/ec

HEADQUARTERS
ALLIED CONTROL COMMISSION
Requisition Division
APO 394

In reply
refer to:
RD-413.4

12 June 1944

SUBJECT: Telephonic Equipment - None.

TO : Director, Communications Subcommission, A.C.C.

1. Reference is made to radiogram F 57062 of 11 June 44 from G-5, AFHQ, copy of which is attached.

2. It is requested that you indicate your recommendations by first indorsement hereon to this Division.

For the Chief Requisition Division:

ROBERT A. MARTINO
Lt. Col., Gsc. Res.,
Division Executive.

Encl: Radiogram F 57062 dtd 11 June 44.

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Declassified E.O. 12356 Section 3.3/NND No. 785015

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ACTION ACC /// FOR HARTING

12/11

AFHQ SGD SACMED
F57862
JUN111338B

RESTRICTED
ROUTINE
CITE/PRIORITY

COMMUNICATION EQUIPMENT. REFER YOUR REQUISITION 1-SIG-REGION 4-44 OF 30 MAY. IN LIGHT OF INFORMATION THAT PRELIMINARY SURVEY OF ROME REVEALS COMMUNICATIONS SYSTEM IS IN GOOD CONDITION HAVE YOU ANY REDUCTIONS FOR ROME /// EQUIPMENT ON THIS ORDER?

ACC DIST

Action Econ Info - DCC File Flost

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JUN1116283

HEADQUARTERS
12 JUN 1944
A C C

RESTRICTED

12 June 55

0189

Declassified E.O. 12356 Section 3.3/NND No. 785015

Spedizione no. 646 — Telecomm. — 7.6.44 Romano

363

11th May

DIRECTOR. To A.C.C. Telecom Sub,
D.DIRECTOR. Salerno
S.O.(T).Cs
S.O.(P)
CENSORSHIP.
CHIEF CLERK.
Rec'd 7.6.44.

State Agency of Telephone

Telecom. AT/4.0/460

Subject: Telephone switch-boards for ~~new~~ port ~~and~~ installations

34-1

In sequence to ~~following~~ our last letter no. AT/4.0/425 of 24th May, 44, we would inform you that:

1. On the evening of 23rd May last, the telephone switch-boards, referred to in letter no. TS/4/23/8 of 21st April last from this Commission, were dispatched by rail from Taranto to the ~~Various~~ Works Binding Officina Mista Lavori at Naples, for later delivery to the S.E.T. Society.

2. In awaiting the decision of the A.C.C. concerning the matter in 2nd paragraph of the last letter from this agency, no. AT/4.0/425 of 24th May last, only six switch-boards have been dispatched, instead of ten.

The Undersecretary of State.

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0190

Declassified E.O. 12356 Section 3.3/NND No. 785015

Translation # 646 (364)

BA/dm

MINISTERO DELLE COMUNICAZIONI

SOTTOSEGRETARIATO.

AZIENDA STATO SERVIZI TELEF.CI

N. AT/4.0/460

Rispos al N. .....

Salerno, 3 GIU 1944

ALLA COMMISSIONE ALLEATA CONTROLLO

Sottocommissione Poste e Telecom.ni

S A L E R N O

OGGETTO: Centralini telefonici per impianti di emergenza

Si fa seguito al precedente foglio n° AT/4.0/425 del 24 maggio c.a. per comunicare che :

1°) La sera del 23 maggio c.a. a mezzo ferrovia sono stati spediti da Taranto, alla Officina Mista Lavori di Napoli, per successiva consegna alla Società S.E.T., i centralini telefonici di cui al foglio di codesta A.C.C. n° TS/4/23/8 del 21 aprile c.a.

2°) In attesa della decisione di codesta A.C.C. circa quanto fatto noto nel 2° capoverso del precedente foglio di questa Azienda n° AT/4.0/425 del 24 maggio c.a., sono stati spediti soltanto sei centralini, invece di 10.

IL SOTTOSEGRETARIO DI STATO

1755

Tip. Di Giacomo - Salerno Ord. 4-1944 (43 000)

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Declassified E.O. 12356 Section 3.3/NND No. 785015

HTWM/t33

35

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

4th June, 1944.

In reply
refer to: TS/4/23

Subject: Telephone switchboards for Emergency Installations.

To: Under Secretary of State for PP.TT.

1. With reference to your letter No. AT/4.0/425 dated 24th May, 1944, the difficulties of the Italian Royal Navy are appreciated. These switchboards represent only a fraction however of what will be required to give a skeleton service to the Prefect and other State and local Government officials in the large cities. Boards of this size cannot be supplied from Allied sources. An effort is being made to obtain larger boards for ultimate replacement of the 100-lines and 50-lines boards, but there is no indication as yet, as to whether they will be obtained. In any case, there would be considerable delay in their supply.

2. You will no doubt agree that it is essential in a town such as Bologna or Firenzia, to instal at least one board of the 50 or 100-lines size as early as possible after occupation of the town. It is expected that the local exchanges in these towns will be destroyed.

3. Accordingly it is necessary to insist that all of the boards be sent to Salerno, and an effort be made to meet naval requirements by the use of smaller or of reconditioned boards.

4. It is also necessary that they be sent at once, in order that frames, cabling, etc. may be prepared to enable installation of the boards, when required, to be carried out very speedily.

5. An effort will be made to speed up transport arrangements.

J. L. HENDERSON
Colonel.
Director, Communications Sub-Commission.

1754

TRANSLATION NO. 567 - PFC. BONANNI

MINISTRY OF COMMUNICATIONS

FILE NO. AT/4.0/425

Salerno, 24 May 1944

To; ACC

Telecoms Sub- Comm/

S A L E R N O

Subject: Telephone switchboards for emergency installations.

As communicated verbally, the Royal Navy's switchboards mentioned in letter TS/4/23/8 of APril 21 of the ACC are ready to be shipped from Taranto. Since the Royal Navy does not have means of transport at its disposal for their shipment ~~p~~ to Naples, the proper authorities have been notified in order to obtain their shipment by railway.

We wish to inform you, however, that the General Staff of the Royal Navy has requested that only 3 switchboards with 50 lines and 3 with 100 lines be sent instead of 5 of each. ~~S~~ This is due to the fact that the Royal Navy does not have other switchboards ~~xxxxxxxxx~~ to ~~xxxxx~~ meet its own needs in Sicily (where the resumption of the Maritime Commands is on the way) and the eventual needs in the ~~liberated~~ areas that will be eventually liberated and where new Maritime Commands and other Agencies will be instituted.

1753

We therefore would like the ACC to consider the Navy's request and to communicate to this Ministry its decision on the ~~xxxxx~~ matter.

The Under Secretary of State

/s/ Fano

DIRECTOR

Declassified E.O. 12356 Section 3.3/NND No. 785015

Subject: Telephone switchboards for emergency installations.

As communicated verbally, the Royal Navy's switchboards mentioned in letter TS/4/23/8 of APril 21 of the ACC are ready to be shipped from Taranto. Since the Royal Navy does not have means of transport at its disposal for their shipment ~~xx~~ to Naples, the proper authorities have been notified in order to obtain their shipment by railway.

We wish to inform you, however, that the General Staff of the Royal Navy has requested that only 2 switchboards with 50 lines and 3 with 100 lines be sent instead of 5 of each. ~~X~~ This is due to the fact that the Royal Navy does not have other switchboards ~~xxxxxxxxx~~ to ~~xxxxx~~ meet its own needs in Sicily (where the resumption of the Maritime Commands is on the way) and the eventual needs in the ~~liberated~~ areas that will be eventually liberated and where new Maritime Commands and other Agencies will be instituted.

1753

We therefore would like the ACC to consider the Navy's request and to communicate to this Ministry its decision on the ~~xxxx~~ matter.

The Under Secretary of State

/s/ Fano

DIRECTOR
DEPUTY DIRECTOR
S.C.I.
S.C.P.
CENSORSHIP
CHIEF CLERK
Registered in 30/5/44

Declassified E.O. 12356 Section 3.3/NND No. 785015

0194

Declassified E.O. 12356 Section 3.3/NND No. 785015

CI/dm

MINISTERO DELLE COMUNICAZIONI

DIREZIONE GENERALE PPTT

AZIENDA STATO SERVIZI TEL.CI

N. AT/4.0/425

Risposta al N. .....

567 34-2

Salerno 24 maggio 1944.....

COMMISSIONE ALLEATA DI CONTROLLO

SOTTOCOMMISSIONE POSTE E TEL.NI

S A L E R N O

OGGETTO: Centralini telefonici per impianti di emergenza

Come comunicato verbalmente i centralini del= la Regia Marina, di cui al foglio nº TS/4/23/8 del 21/4 di codesta A.C.C., sono pronti a Taranto per la spedizio= ne. Non disponendo la R.M. di automezzi per il loro tra= sporto a Napoli, sono state interessate le autorità com= petenti per ottenere la loro spedizione per ferrovia.

Si fa presente però che nel frattempo è perve= nuta dallo Stato Maggiore della Regia Marina una richiesta intesa ad ottenere di consegnare soltanto tre centralini a 50 linee e tre a 100 linee, invece di 5 e 5, giustifica= ta dal fatto che la R.Marina non dispone di altri centra= lini e deve già provvedere alle proprie necessità in Si= cilia, ove è attualmente in corso il ripristino dei Comandi Marittimi, ed in seguito a quelle che inevitabilmente si verificheranno nelle zone che saranno successivamente li= berate(istituzioni di nuovi Comandi Marittimi ed altri Enti della R.Marina).-

Si prega pertanto codesta A.C.C. di voler pren= dere in benevole esame detta richiesta comunicando a questo Ministero le proprie decisioni in merito.

1752

IL SOTTOSEGRETARIO DI STATO

Tip. Di Giacomo - Salerno Ord. 4-1944 (43.000)

0195

Declassified E.O. 12356 Section 3.3/NND No. 785015

HFWT/tjj

33

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

4th June, 1944.

In reply
refer to: TS/4/23 4/23

Subject: Transport.

To: Headquarter Commandant, Rear HQ, ACC.

1. Ten switchboards urgently required for emergency use at towns such as Rome are in store at Taranto, and it has not been possible to obtain transport from other sources to move them early. Modifications must be made to them befo re they can be used.

2. Can this transport be supplied from this headquarters as an exceptional arrangement. Each box (total ten boxes) would probably weigh about three or four hundred weight and be about 3ft square by 4ft high.

J. L. HENDERSON
Colonel.
Director, Communications Sub-Commission.

File

1751

TRANSLATION NO. 567 - PFC. BONANNI

MINISTRY OF COMMUNICATIONS

FILE NO. AT /4.0/424

32-1

Salerno 24 May 1944

TO: Main Office of S.E.T.
N A P L E S

and for information,

TO: ACC
Telecoms Sub- Comm.
S A L E R N O

Subject: Installation of meter in Salerno.

~~xxfxxxxxxxxx~~
~~(xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~

Reply to n.s. of 5 May 1944.

1) This Ministry has noticed a notable improvement in the service as a result of the installation of selectors in the city automatic switchboard, and wishes to thank the Company for the initiative it has taken.

2) It does not, however, share the opinion of the Company regarding the advisability of adopting the meter system since for the present (thanks to what has already said above) there is no need for it; and also because we do not believe that the adoption of this system would limit the traffic, due to the character of the agencies that make use of telephones (M Government an Ministries and Offices).

1750

The Under Secretary of State

/s/ Fano

DIRECTOR
[illegible]
S. O. (I).
S O P)

No authorized.

Declassified E.O. 12356 Section 3.3/NND No. 785015

and for information,

TO: ACC
Telecoms Sub- Comm.
S A L E R N O

Subject: Installation of meter in Salerno.

~~xxxxxxxxxx~~
~~(xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~

Reply to n.s. of 5 May 1944.

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2) It does not, however, share the opinion of the Company regarding the advisability of adopting the meter system since for the present (thanks to what has already said above) there is no need for it; and also because we do not believe that the adoption of this system would limit the traffic, due to the character of the agencies that make use of telephones (M Government an Ministries and Offices).

1750

The Under Secretary of State

/s/ Fano

DIRECTOR
D
S. O. (1).
S O P)
C
Registered in 20/5/44

No action reqd.

TS/4/23.

Declassified E.O. 12356 Section 3.3/NND No. 785015

Declassified E.O. 12356 Section 3.3/NND No. 785015

CI/dm

MINISTERO DELLE COMUNICAZIONI

~~DIREZIONE GENERALE P.T.~~

AZIENDA STATO SERVIZI TELEFONICI

N. AT/ 4.0/424

Risposta al N. n.s.del 5/5/44

Salerno 24 maggio 1944

DIREZIONE GEN.LE SOC. S.E.T.

N A P O L I

p.c. COMMISSIONE ALLEATA CONTROLLO
Sottocommissione Poste e Tel.ni

S A L E R N O

OGGETTO: Installazione contatore
a Salerno

1°) Questo Ministero ha constatato, con l'installazione dei nuovi organi di selezione nella centrale automatica urbana di Salerno, un sensibile miglioramento del servizio e si compiace con codesta Società per la iniziativa presa.

2°) Non condivide però l'opinione di codesta Società circa l'opportunità della adozione del sistema a contatore, sia perchè per ora, grazie a quanto sopra citato, non se ne riscontra la necessità, sia perchè, data la natura particolare della maggior parte degli utenti di Salerno(Ministeri ed Uffici Governativi),non si ritiene che l'adozione di detto sistema potrebbe portare una limitazione del traffico.

IL SOTTOSEGRETARIO DI STATO

Tip. Di Giacomo - Salerno - Ord. 4-1944 (13.000)

0199

Declassified E.O. 12356 Section 3.3/NND No. 785015

Translation no. 552 - Telecom - 26.5.44 31 K.T.I/man

Telephone Service Society Naples, 3rd May, 1944

to Ministry of Communications
Salerno

a.f.c. to Colonel L. G. Emerson
Director Telecoms Subcommand
Salerno

We beg you to kindly give your attention to the following matters:

1. A delay of the free exchange (signal occured) has started at our controls at the Salerno Exchange caused by the intensity of the city service.

2. We have arranged for the increase of selecting organs in said exchange, withdrawing them from the Benevento Exchange as follows:

No. 7 Registers
" 32 Searchers
" 30 SR Groups
" 32 SNR "
" 30 GVR "
" 30 Group selectors.

1748

3. We point out that said provisions, as has been seen in similar experiments made at Rome, will most probably be ineffective, because following

Declassified E.O. 12356 Section 3.3/NND No. 785015

2)

the greater facility of service will come a greater number of Conversations.

4. We therefore propose the installation and adoption of the meter system both in order to ~~regulate~~ control the service and to place a ~~inducement~~ sufficient charge ~~to~~ on those who ~~make the greater~~ use of the telephone more often;

5. The meter system will permit the Society, moreover, as given in article 125/215 of the Laws on the control of the telephone service and as in the regulation Title III Heading III Sect 1.° Article 87, to demand the ~~for~~ adoption of a second telephone should the conversations pass a certain number to be determined by the Ministry of Communications in agreement with the Ministry of Finance.

We await your certain instructions,

Ugo Pellegrini
Deputy Commissioner
Telephone service Society.

0201

Declassified E.O. 12356 Section 3.3/NND No. 785015

31-2

Società Esercizi Telefonici
PER AZIONI
CAPITALE L. 100.000.000 - VERSATO
SEDE IN NAPOLI

IL CONSIGLIERE DELEGATO

Napoli, 5 maggio 1944

Al Ministero delle Comunicazioni
Salerno

e p.c.: Colonnello L.G.Enderson
Director Communications Commission
Salerno

Ci pregiamo richiamare la Vs.cortese attenzione su quanto segue :

1) Dai nostri controlli nella Centrale di Salerno è risultato un ritardo nel segnale di centrale libera determinato dalla intensità del traffico urbano;

2) Abbiamo disposto in detta centrale l'aumento degli organi di selezione prelevandoli da quelli della Centrale di Benevento nella seguente misura :
   nº 7 Registri
   " 32 cercatori
   " 30 gruppi SR
   " 32 gruppi SNR
   " 30 gruppi GVR
   " 30 Selettori di gruppo

3) Ci permettiamo far presente che detto provvedimento, come risulta da analogo esperimento fatto in Roma, con tutta probabilità, non riuscirà di efficace giovamento perchè alla aumentata facilità di traffico corrisponderà un maggior numero di conversazioni;

4) Proponiamo quindi l'istallazione e l'adozione del sistema a contatore sia per poter disciplinare il traffico, sia per potere giustamente gravare il costo dell'esercizio su chi fa maggiore uso del telefono;

1747

./.

0202

Declassified E.O. 12356 Section 3.3/NND No. 785015

5) Il contatore permetterà inoltre, come previsto dall'art. 125/215 della Legge sulla disciplinadei servizi telefonici e dal regolamento Titolo III Capo III Sez.I^ Art.87 di poter richiedere l'adozione di un secondo telefono qualora sia sorpassato un certo numero di conversazioni da fissarsi dal Ministero delle Comunicazioni di intesa col Ministero delle Finanze -

Rimaniamo in attesa di Vs.cortese istruzioni -

Ugo Pellegrini
Consigliere Delegato
Società Esercizi Telefonici

0203

Declassified E.O. 12356 Section 3.3/NND No. 785015

HHS/epc

30

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

29th May, 1944

In reply
refer to: TS/4/23/30

Subject : Communications for Essential Civilian Purposes.

To : Telecommunications Officer, Major G.W.Knauer,
Allied Control Commission, Main Headquarters.

1. The inclosed papers are self explanatory.

2. In order to save time it would be appreciated if you will hand carry to Requisition Division (Sgt.Dean) Room 74 Provincia Building and explain the urgency of the matter.

3. As it may be necessary to obtain A.A.I. concurrence ~~in~~, Requisition Division should inform this Sub-Commission when requisitions are ready and approved at A.C.C. HQS., and we shall advise them if requisitions are to go direct to G-5 Section A.F.H.Q. or thru A.A.I.

J.L.HENDERSON
Colonel
Director, Communications Sub-Commission

1746

0204

Declassified E.O. 12356 Section 3.3/NND No. 785015

CONFIDENTIAL

Communications SC
(Rec'd HQ.)
S-3305

ALLIED FORCE HEAD QUARTERS
G-5 Section
APO 512

FHL/jm

26 May 1944

SUBJECT: Communications for Essential Civilian Purposes

TO : Headquarters, Allied Control Commission, APO 394
(For Communications Sub-Commission)

1. Your TS/4/23/23 of 20 May on subject is referred.

2. The requisitions attached to the above letter were not prepared and approved by HQ A.C.C. and are, therefore, returned for proper preparation.

FRED'K. H. LEVIS
Major, AUS
Economics & Supply Division

Incl:

DIRECTOR.
D/DIRECTOR.
S. O. (T).
S O P)
CENSORSHIP.
CHIEF CLERK.
Recd 29.5.44.

1745

CONFIDENTIAL

10203 1

Declassified E.O. 12356 Section 3.3/NND No. 785015

PERSONAL AND CONFIDENTIAL

28

Headquarters,
A. A. I.

26 May, 44.

DO.27373

extract in 20.

Dear

Reference para 1 of your DO/C dated 9 May 44 re provision of Civilian Communications in Occupied Territory.

1. I have discussed your proposed routine for the provision of signal supplies for Civil Communications in this theatre with ACC.

2. We have decided that it provides a workable scheme which would comply with the terms of the original order AG 400-1 (AMGOT) dated 23 May 44, besides fitting in quite readily with the existing machinery of the Communication Board (Italy). 19 2

3. The Director, Communications Sub-Committee, ACC, has, however, pointed out that as a result of your letter addressed to MGS AFHQ dated 1 Mar 44, certain correspondence has been in progress for some time on the quantity and details of Allied signal stores to be demanded for civil purposes. This correspondence is believed to be in the stage of settling specification details and exact quantities. 4-1

4. The Director would prefer to settle this outstanding correspondence and advise me of the quantities and details of the demand by AFHQ and from then on adopt the procedure as outlined in your letter.

5. I would be obliged if you would arrange for your proposed procedure to be published in official form and that MGS AFHQ be advised of the arrangements which have been made in respect of future demands.

Yours

Major-General L. B. Nicholls, CBE,
Chief Signal Officer,
Allied Force Headquarters.

Copy to: The Director,
Communications Sub-Committee,
Allied Control Commission.

AFFH/AH

DIRECTOR 17/6/44
D.DIRECTOR
S.O.(1)
S.O.(2)
CE/ENGINEER
CH.SIG.OFFR.

0206

Declassified E.O. 12356 Section 3.3/NND No. 785015

ALLIED CONTROL COMMISSION - INCOMING MESSAGE /hft

SVC/RELAY NO. RS/7

CLASS: NOT GIVEN

PREC : NOT GIVEN

FROM : AFHQ SGD SACMED CITE FHMGS

TO : FATIMA REAR FOR HENDERSON RPTD ACC MAIN FOR SCUDDER

RECEIVED ADJ SEC
18 MAY
REAR HQ. A.C.C.

M/C NO:

REF NO: F46930

FILED : MAY 172350B

REC'D : MAY 180845B via teletype

See 26

This is a paraphrase of Freedom F46930 dated 17 May by Crypto ACC Main. Captain Klammer signals lefts today to discuss subject of your 2725 dated 13 May with Col Henderson and Major Scudder.

2725

ACTION

DISTRIBUTION:

1 - Adj File
1 - DSG - info
1 - DCC - "
1 - Comms - action

DIRECTOR.
D/DIRECTOR.
S. O. (T).
S O (P)
CENSORSHIP.
CHIEF CLERK.
Rec'd. 18.5.46

1743

73/1/23

Declassified E.O. 12356 Section 3.3/NND No. 785015

S-3.156 9880

RESTRICTED

ALLIED CONTROL COMMISSION

INCOMING MESSAGE

Comm. S.C. 26 (2)

TO: ACC REAR FOR HENDERSON RPTD ACC MAIN FOR SCUDDER

SIGNAL MESSAGE CENTER No: 86/17

FROM: FREEDOM SIGNED SACMED

CLASSIFICATION: RESTRICTED

REFERENCE No: F46930

PRECEDENCE: ROUTINE

DATE AND TIME OF ORIGIN: MAY171422

OFFICE OF ORIGIN: CITE..FHMGS

See 1823

HEADQUARTERS 20 MAY 1944

REFERENCE IS 2755 OF 13 MAY. CAPT KLAMMER OF SIGNALS LEFT TODAY TO DISCUSS SUBJECT WITH COL HENDERSON AND MAJOR SCUDDER.

ACC DISTN

Info - Comm. S.C. -2

DCC

Fele

Float

1742

Note

Confirmation of

Acceptance of last

night 17 May

RESTRICTED

DATE and Time of RECEIPT MAY 171630

Distribution:

0208

Declassified E.O. 12356 Section 3.3/NND No. 785015

CONFIDENTIAL

Ts/4/23

25-1

Genoa Automatic Network

Note: The following are deductions from the 1941-42 telephone directory.

1. Numbering Scheme.

No.	Numbering Scheme	Exchange	Approx. Multiple	Approx. No. of Lines.	Remarks.
1	21-28)	Exchange in			
	292.)	City	8600	5500	
2	31-35	do.	5000	3200	
3	37.0-37.4	Nervi	500	400	
4	37.9	Borliasco	100	52	Satellite on No.3 ?
5	39.0-39.4	~~Quarto dei Mille~~ Struppa	500	415	
6.	40.0-40.4	Sestri Ponente	500	456	
7	408.0-408.4	Pegli	500	400	Satellite on No.6 ?
8	409.0-409.2	Voltri	300		Satellite on No.6 ?
9	41. -43.	Exchange in City	2400	1700	
10	49.0- 49.3	Bolzaneto	400	250	
11	499.0-499.1	Pontedecino	200	150	Satellite on No.10 ?
12	50.0	~~Struppa~~ Struppa	100	64	
13	51.0-57.0 and rest of 50.	Exchange in City	8500	5700	
14	580.0-584.5	do.	4600	3450	
15	61. - 63.	do.	2800	1750	

2. Probable Net.

As in diagram attached.

3. Possible small exchanges.

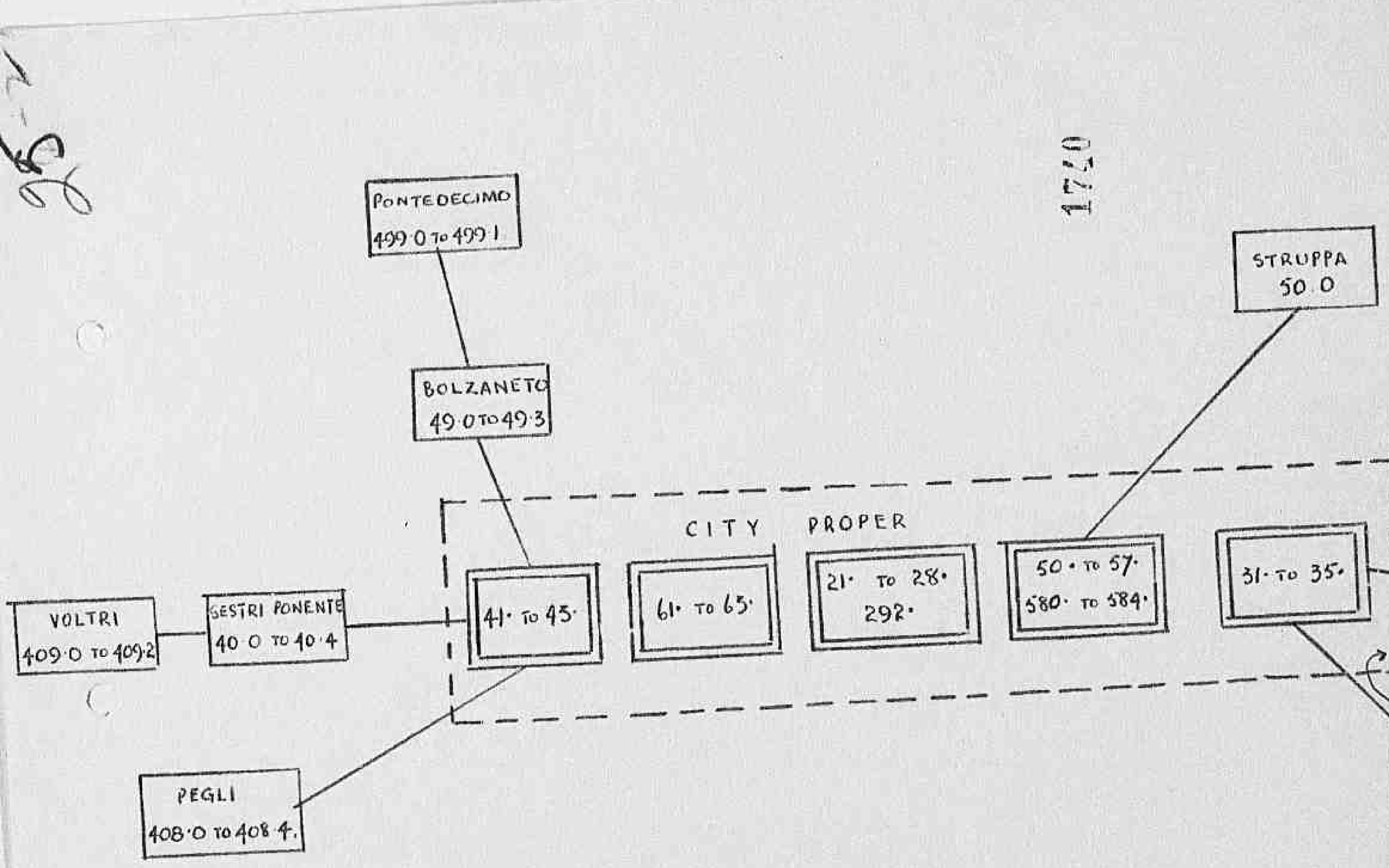
Although it does not appear to be the case, it is possible that several of the small Exchanges on the outskirts may have very small rural exchanges working to them.

H.T.W. 1741

H.T.W.Millar
Lt. Colonel.

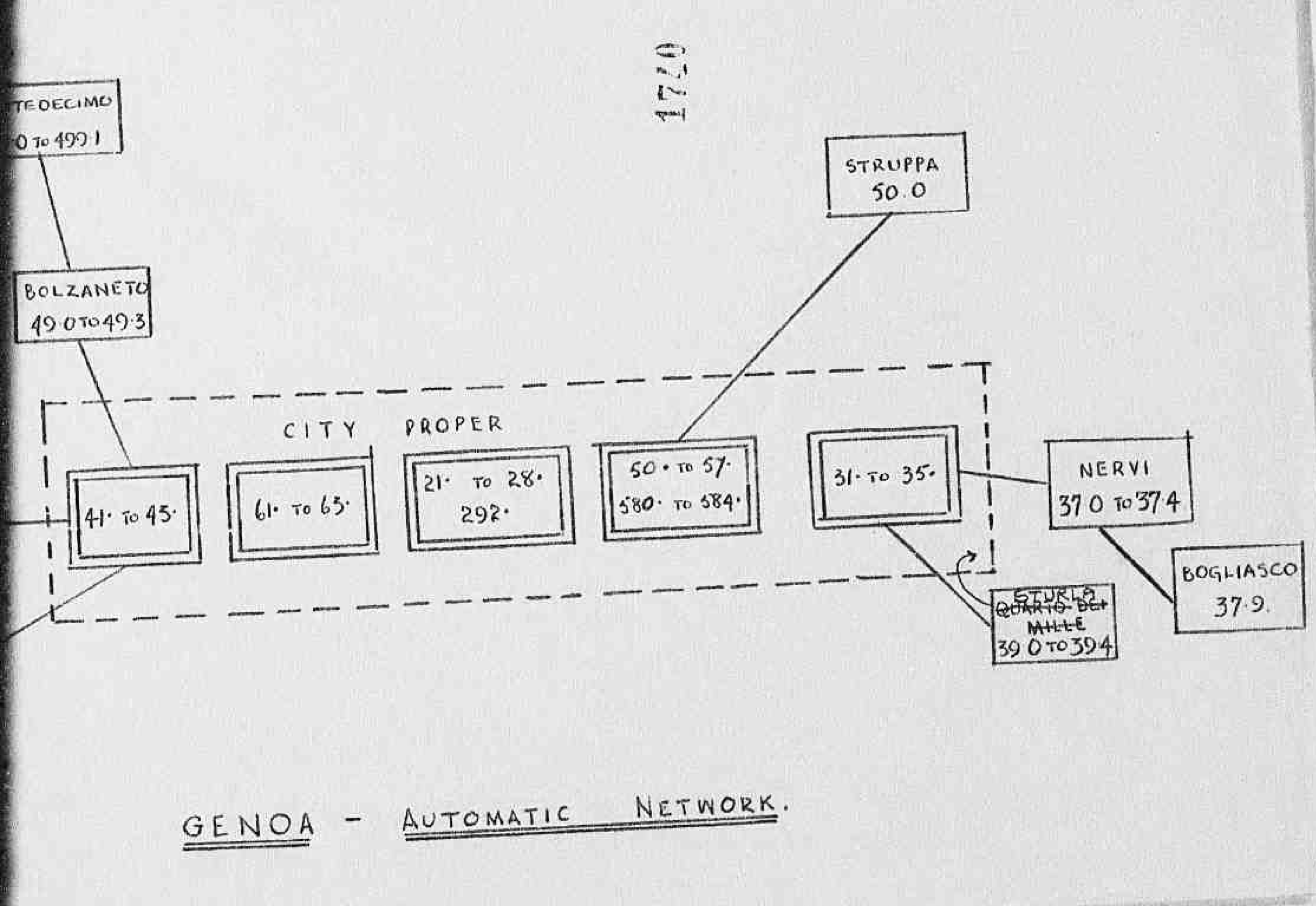
0209

Declassified E.O. 12356 Section 3.3/NND No. 785015



GENOA - AUTOMATIC NETWORK.

Declassified E.O. 12356 Section 3.3/NND No. 785015



GENOA - AUTOMATIC NETWORK.

0211

Declassified E.O. 12356 Section 3.3/NND No. 785015

RESTRICTED

24

ALLIED FORCE HEADQUARTERS
G-5 Section
APO 512

FHL/jm

19 May 1944

Ref. S-19

SUBJECT: Italian Signal Communications - North Italy

TO : Headquarters, Allied Control Commission Rear
(Attention: Colonel Henderson)

18

1. Reference is your message 2755 of 13 May and our F 46930 of 17 May.

2. As stated in WBS/S-19 of 9 May, Signal Section AFHQ will gladly lend such assistance as A.C.C. may need. However, the preparation and submission of requisitions must be by and thru A.C.C. channels.

3. As indicated in F 46930, Capt. Klammer left Algiers on 17 May for Naples to discuss this matter with Colonel Henderson and Major Scudder.

FRED'K. H. LEVIS
Major, AUS
Economics & Supply Division

Copy to: G-4, AFHQ

DIRECTOR,
DIRECTOR.
S. O. (I).
S. O. (P).
CENSORSHIP.
CHIEF CLERK.
Recd 21.5.44

1739

RESTRICTED

0214

Declassified E.O. 12356 Section 3.3/NND No. 785015

RESTRICTED

ALLIED FORCE HEADQUARTERS
G-5 Section
APO 512

FHL/jm

19 May 1944

Ref. S-19

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TO : Headquarters, Allied Control Commission Rear
(Attention: Colonel Henderson)

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FRED'K. H. LEWIS
Major, AUS
Economics & Supply Division

Copy to: G-4, AFHQ

1758

RESTRICTED

10213

Declassified E.O. 12356 Section 3.3/NND No. 785015

HHS/epc

23

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

20 May, 1944

In reply
refer to: TS/4/23/23

Sec 18, 17

Subject : Provision of Communications for Essential Civilian Purposes.

To : Military Government Section, A.F.H.Q.

1. Reference is made to your letter REF.MGS/8-19 of 9th May, 1944, our telegram 2755 of 13th May, 1944 and your telegram F 46930 of May 17th, 1944.

2. It is not considered that special personnel is necessary to train Italian staff in the use of the equipment. There is very little of the proposed equipment which will not fairly readily be understood by the average Italian repeater station or automatic exchange mechanic.

3. The Signal Section's comprehensive memo of 5th May, has been studied with interest and appreciation. Comments on and answers to points raised in the memo are covered in our memo inclosed.

4. The stock pile suggestion contained in para 4d of Signal Section memo is a good one if standard equipment is available. However, the fulfilment of requirements should not be delayed by insistence on any one type of equipment.

5. The list of material required has been discussed with Captain Klammer and Captain Pausch of A.F.H.Q. Signal Section and agreed to by them. It is believed that descriptions given in this list are sufficient to enable any British or American manufacturer to supply equipment which will serve our purpose. The descriptions have been purposely left broad so that the manufacturer may have the greatest possible latitude in supplying equipment which may be readily available.

6. All locally available equipment has been taken into account and list covers minimum requirements.

Declassified E.O. 12356 Section 3.3/NND No. 785015

TS/4/23/23

20 May, 44. Continued.

7. It is recommended that the inclosed list be considered as a completely edited order and be transmitted, without further editing by the Signal Section A.F.H.Q., to the Agency concerned with procurement of supplies required by M.G.S.

J.L.HENDERSON
Colonel
Director, Communications Sub-Commission

2 Incls:
Incl: 1. List of Equipment in triplicate.
Incl: 2. Memo in duplicate.

1736

List of Equipment required for Automation of essential Civilian Communications in Northern Italy.

Section I. Equipment. Date wanted: At once.

Item No.	Number Required	
1/1	1	8-position long distance toll board for use at Naples, equipped for 30 ring-down long distance trunks, complete with relay sets; trunks being multiples on alternate positions; in addition to trunk multiple, four appearances of 20 each jacks and lamps without associated relay equipment.
1/2	1	17 or 20 cycle mains driven ringing machine for above to operate on 150 volts at 45 cycles. No other power plant required for above switchboard.
1/3	1	Bridge Megger, or Wheatstone Bridge and Insulation Megger (for battery operation)
1/4	2	Portable transmission measuring sets, and suitable V.F. oscillators.
1/5	50	Vehicles (trucks): 30 of approx. 30 cwt. 20 of approx. 15 Cwt.

Section II. Date wanted: Six weeks after fall of Rome - say 15th July.

2/1	1	30 Position CB multiple Switchboard equipped with 5000 Subscribers' line circuits; 40 magneto junctional circuits and 30 automatic/CB junction circuits; complete with Subscribers' relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter-position trunks, etc); fuses, spare parts, etc. See item 2/13.
2/2	1	Main Distribution Frame - Capacity 5000 pairs, complete with protection.
2/3	1	Intermediate Distribution Frame.
2/4	1	Test desk or test case with equipment including spare voltmeter.
2/5	1	Bridge Megger or Wheatstone Bridge and Insulation Megger (for battery operation).
2/6	2	Storage batteries of the voltage of the switchboard in item 2/1; each of capacity 2000 amp.hrs.
2/7	2	Petrol or paraffin driven engine generators each of output 300 amps. at normal battery charging voltage for item 2/6. A mobile outfit of the R.A.F. type would be useful; complete with voltage hand regulator; spare parts.
2/8	1	Battery-driven ringing machine for use with item 2/1. Spare parts.
2/9	½ miles 5 miles 3 miles	42 wire Switchboard cable. 63 wire " " " Jumper wire for above distribution frames.
2/10	3 tons	Sets tools for maintenance CB exchanges.
2/11	½ ton	Solder, resin cored, for internal connections Solder, for plumbing underground cable joints, together with sufficient miscellaneous splicing material (lead, lead sleeves) for 500 splices.
2/12	50,000	Paper jointing sleeves (for underground cable)
2/13	1	10 position long distance toll board equipped for 30 ring-down long distance trunks, and 20 junctions to board covered by item 2/1; all with relay sets; trunks to be multiplied on alternate positions [illegible] driven ringing machine for use [illegible] Battery (if

Declassified E.O. 12356 Section 3.3/NND No. 785015

1/2	1	17 or 20 cycle [illegible] to operate on 150 volts at 45 cycles. No other power plant required for above switchboard.
1/3	1	Bridge Megger, or Wheatstone Bridge and Insulation Megger (for battery operation)
1/4	2	Portable transmission measuring sets, and suitable V.F. oscillators.
1/5	50	Vehicles (trucks): 30 of approx. 30 Cwt. 20 of approx. 15 Cwt.

Section II. Date wanted: Six weeks after fall of bomb - say 15th July.

2/1	1	30 position CB multiple Switchboard equipped with 4000 subscribers' line circuits; 40 magneto junction circuits and 30 automatic/CB junction circuits; complete with subscribers' relay sets and junction relay sets; Miscellaneous circuits (such as cord test, inter-position trunks, etc); fuses, spare parts, etc. See item 2/13.
2/2	1	Main Distribution Frame - Capacity 8000 pairs, -complete with protection.
2/3	1	Intermediate Distribution Frame.
2/4	1	Test desk or test case with equipment including spare voltmeter.
2/5	1	Bridge Megger or Wheatstone Bridge and Insulation Megger (for battery operation).
2/6	2	Storage batteries of the voltage of the Switchboard in item 2/1; each of capacity 2000 amp.hrs.
2/7	2	Petrol or paraffin driven engine-generators each of output 300 amps. at normal battery charging voltage for item 2/6. A mobile outfit of the R.A.F. type would be useful; complete with voltage hand regulator; spare parts.
2/8	1	Battery-driven ringing machine for use with item 2/1. Spare parts.
2/9	4 miles 5 miles 3 miles	42 wire Switchboard cable. 63 wire " " " Jumper wire for above distribution frames.
2/10	3	Sets tools for maintenance CB exchanges.
2/11	½Ton ½Ton	Solder, resin cored, for internal connections Solder, for plumbing underground cable joints, together with sufficient miscellaneous splicing material (less, lead sleeves) for 900 splices.
2/12	50,000	Paper jointing sleeves (for underground cable)
2/13	1	10 Position Long Distance Toll Board equipped for 30 ring-down long distance trunks, and 20 junctions to board covered by item 2/1; all with relay sets; trunks to be multiplied on alternate positions
2/14	1	17 or 20 Cycle battery driven ringing machine for use with item 2/13, to be driven off filament battery. (It is assumed that this can be done without noise at the repeaters.

Declassified E.O. 12356 Section 3.3/NND No. 785015

Item No.	Number Required	Equipment
2/15	94	4 wire repeaters and bay capacity to accommodate them in the following lots. 1 lot of 22 terminating 4 wire repeaters. 1 " " 6 " " " " 1 lot of 6 Terminating and 6 through 4 wire repeaters. 3 lots of 12 through 4 wire repeaters each. 3 lots of 6 " " " " "
	16	2 wire repeaters and bay capacity to accommodate them in the following lots: 1 lot of 8 2 lots of 4 each Note: The repeaters in this item 2/15 are for use on underground cable with the following characteristics. 4 wire repeaters: H-44-17 loading: 19 gauge or 20 lb. conductor. 2 wire repeaters: H-172-63 loading: 16 gauge or 40 lb. conductor.
2/16	34	4 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 1 lot of 22 2 lots of 6 each
	16	2 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 1 lot of 8 2 lots of 4 each.
2/17	1 set	Keys equipped for transmission and resistance measurements, cable fault localization, and testing; complete with oscillator.
2/18	2	Portable transmission measuring sets for battery operation.
2/19	1 set	Bays to take cable termination for 400 pairs.
2/20	2	Filament) Batteries each to take 40-4 wire
	2	Plate) repeaters; filament batteries each to take also 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
2/21	2	Petrol or paraffin engines each driving two generators for charging above batteries (Plate and filament) at 7 hours rate. Spare Parts.
2/22	1000 miles	70 lb. Sad. Cu. bare wire or .080 copperweld.

SECTION III — Date wanted: Required roughly in order as shown, as soon as possible after 1st July.

3/1	1	16-Position multiple CB Switchboard equipped with 2000 Subscribers' line circuits; 20 magneto junction circuits and 30 automatic/CB junction circuits, complete with Subscribers' relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter position trunks, etc.); fuses, spare parts, etc. see item 3/12.
3/2	1	Main Distribution Frame- Capacity 4000 pairs -

Declassified E.O. 12356 Section 3.3/NND No. 785015

		then in the following lots: 1 lot of 8 2 lots of 4 each Note: The repeaters in this item 2/15 are for use on underground cable with the following characteristics. 4 wire repeaters: H-44-17 loading: 19 gauge or 20 lb. conductor. 2 wire repeaters: H-172-63 loading: 16 gauge or 40 lb. conductor.
2/16	24	4 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 1 lot of 22 2 lots of 6 each
	16	2 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 1 lot of 8 2 lots of 4 each.
2/17	1 set	Bays equipped for transmission and resistance measurements, cable fault localisation, and testing; complete with oscillator.
2/18	2	Portable transmission measuring sets for battery operation.
2/19	1 set	Bays to take cable termination for 400 pairs.
2/20	2 2	Filament) batteries each to take 40-4 wire Plate) repeaters; filament batteries each to take also 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
2/21	2	Petrol or paraffin engines each giving two generators for charging above batteries (Plate and filament) at 7 hours rate. Spare parts.
2/22	1000 miles	70 lb. Cad. Cu. Bare wire or .080 copperweld.

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		SECTION III — Note wanted: Required roughly in order as shown, as soon as possible after 1st July.
3/1	1	16-position multiple CB Switchboard equipped with 2000 Subscribers' line circuits; 20 magneto junction circuits and 20 automatic/CB junction circuits, complete with Subscribers' relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter position trunks, etc.); fuses, spare parts, etc. see item 3/12.
3/2	1	Main Distribution Frame- Capacity 4000 pairs - complete with protection.
3/3	1	Intermediate Distribution Frame.
3/4	1	Test case - complete with voltmeter.
3/5	2	Storage batteries of the voltage of the Switchboard in item 3/1; each of capacity 1000 amp hrs.
3/6	2	Petrol or paraffin driven engine generators each of output 140 amps at normal battery charging voltage for item 3/5; complete with voltage Auto regulator; spare parts.
3/7	1	Battery driven ringing machine; Spare parts.
3/8	2 miles 3 " 2 "	42 wire Switchboard cable. 6 " " " Jumper wire

Encl. #1

Declassified E.O. 12356 Section 3.3/NND No. 785015

Item No.	Number Required	Equipment
3/9	3 sets	Maintenance tools.
3/10	½ Ton ½ Ton	Solder, resin cored, for internal connections. Solder, for plumbing underground cable joints, together with sufficient miscellaneous soldering material (less lead sleeves) for 500 splices.
3/11	50,000	Paper jointing sleeves (cable).
3/12	1	6 - position Long Distance Toll Board equipped for 20 ring-down long distance trunks and 20 junctions to board covered by item 3/11; all with relay sets; trunks to be multiplied on alternate positions.
3/13	1	14 or 20 cycle battery driven ringing machine for use with item 3/12 to be driven off filament battery.
3/14	97	4 wire repeaters and bay capacity to accommodate them in the following lots. 1 lot of 13 through 4 wire repeaters 4 lots of 16 through 4 wire repeaters 1 lot of 3 terminating and 7 through 4 wire repeaters. 1 lot of 8 terminating — 4 wire repeaters. 1 lot of 4 terminating 4 wire repeaters 1 lot of 6 through 4 wire repeaters. 1 lot of 5 through 4 wire repeaters. 1 lot of 3 through 4 wire repeaters.
3/15	91	2 wire repeaters and bay capacity to accommodate them in the following lots. 1 lot of 14 1 lot of 13 1 lot of 12 4 lots of 6 each. 2 lots of 5 each. 6 lots of 3 each.
3/16	9	See note in item 2/15. 4 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 3 lots of 3 each.
3/17	52	2 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate one lot of each of the following: 14,13,12,6,5, and 3.
3/18	6 sets	Bays equipped for transmission and resistance measurements, cable fault localization, and testing; complete with oscillators.
3/19	4	Portable transmission measuring sets for battery operation. ~~ammeters; or voltmeters and current flow test sets.~~
3/20	2	Ammeters; or voltmeters and current flow test sets.
3/21 (Filament) 3/22 (Plate)	18 sets 6 5	Bays each to take cable terminations for 200 pairs Batteries each to take 80 4 wire repeaters; filament batteries each also to take about 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
3/23 (Filament) (Plate)	12 12	Batteries each to take 20 - 4 wire repeaters; filament batteries each to take also about 20 ringing equipment and a ringing machine load; each battery to

1735

Declassified E.O. 12356 Section 3.3/NND No. 785015

		battery.
3/14	97	4 wire repeaters and bay capacity to accommodate them in the following lots. 1 lot of 13 through 4 wire repeaters 4 lots of 10 through 4 wire repeaters 1 lot of 3 terminating and 7 through 4 wire repeaters. 1 lot of 8 terminating — 4 wire repeaters 1 lot of 4 terminating 4 wire repeaters 1 lot of 6 through 4 wire repeaters. 1 lot of 4 through 4 wire repeaters. 1 lot of 3 through 4 wire repeaters.
3/15	91	2 wire repeaters and bay capacity to accommodate them in the following lots. 1 lot of 14 1 lot of 13 1 lot of 12 4 lots of 6 each. 2 lots of 5 each. 6 lots of 3 each.
		See note in item 2/15.
3/16	9	4 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate: 3 lots of 3 each.
3/17	52 52	2 wire 500/20 or 1000/20 ringing equipments with bay capacity to accommodate one lot of each of the following: 14,13,11,6,5, and 3.
3/18	6 sets	Bays equipped for transmission and resistance measurements, cable fault localisation, and testing; complete with oscillators.
3/19	4	Portable transmission measuring sets for battery operation. ~~ammeters, or voltmeters and current flow for test sets.~~
3/20	2	Avometers; or voltmeters and current flow test sets.
3/21 3/22	18 sets 6 6	Bars each to take cable terminations for 200 pairs Filament) Batteries each to take up 4 wire Plate) repeaters; filament batteries each also to take about 20 ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
3/23	12 12	Filament) Batteries each to take 20 - 4 wire Plate) repeaters; filament batteries each to take also about 20 ringing equipment and a ringing machine load; each battery to have a capacity for 48 hours service.
3/24	16 16	Filament) Batteries each to take 10 - 4 wire Plate) repeaters; filament batteries each to take also about ten ringing equipment; each battery to have a capacity for 48 hours service.
3/25	20	Petrol or paraffin driven engine generators each driving two generators for charging above batteries (Plate and filament) at 7 hours rate, Spare parts.

1733

Declassified E.O. 12356 Section 3.3/NND No. 785015

Item No.	Number Require	Equipment.
3/26	12	Sets of maintenance tools for repeater stations
3/27	1	16-Position multiple CBSwitchboard equipped with 1400 Subscribers' line circuits; 20 manneto junction circuits and 20 automatic/CB junction circuits; complete with Subscribers' relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter - position trunks etc) fuses, spare parts, etc. See item 3/37.
3/28	3	6 - Position multiple CB Switchboard equipped with 800 Subscribers line circuits; 20 manneto junction circuits and 20 automatic/CB junction circuits; complete with Subscribers relay sets and junction relay sets; miscellaneous circuits (such as cord test, inter - position trunks, etc fuses, spare parts, etc. See item 3/37.
3/29	4	Main distribution Frames - Capacity one of 3000 three of 2000 pairs each - complete with protection.
3/30	4	Intermediate distribution Frames - associated with above, combined MDF and IDF would suffice in each case provided the main frame sections had the required capacity.
3/31	2	Storage Batteries of the voltage of the Switchboard in item 3/27; each of capacity 800 amp.hrs
3/32	6	Storage Batteries of the voltage of the Switchboard in item 3/28; each of capacity 600 amp.hrs
3/33 3/34	4 ½ 5	Test cases - complete with voltmeter. Petrol or paraffin driven engine generators one of output 110 amps and one of 50 amps. At normal battery charging voltages for items 3/31 and 3/32 respectively; complete with voltage hand regulator; spare parts.
3/35	4	Battery driven ringing machines for use with items 3/27 and 3/28; spare parts.
3/36	2 miles "	42 wire Switchboard cable. 63 " "
	2½ "	Jumper wire.
3/37	3	4 Position Long Distance Toll Boards each equipped for 20 ring-down long distance trunks; one with 10 junctions to the board covered by items 3/27 and two each with 10 junctions to one of the boards covered by item 3/28 (i.e. the third board under item 3/28 will have no junction to a toll Board); all with relay sets; trunks to be multipled on alternate positions.
	3	16 or 20 cycle battery driven ringing machines for use with above; driven off filament batteries
3/38	12	Sets of maintenance tools for CB Exchanges.
3/39	100	Vehicles (trucks): 70 of approx. 30 Cwt. 30 of approx. 15 Cwt.

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Notes on Equipment List.

Reference Item.

board will initially handle a very limited

Declassified E.O. 12356 Section 3.3/NND No. 785015

		and junction relay sets; miscellaneous circuits (such as cord test, inter - position trunks, etc fuses, spare parts, etc. See item 3/37.
3/29	4	Main Distribution Frames - Capacity one of 3000 three of 2000 pairs each - complete with protection.
3/30	4	Intermediate Distribution Frames - associated with above, combined MDF and IDF would suffice in each case provided the main frame sections hm the required capacity.
3/31	2	Storage Batteries of the voltage of the Switchboard in item 3/27; each of capacity 800 amp.hrs
3/32	6	Storage Batteries of the voltage of the Switchboard in item 3/28; each of capacity 600 amp.hrs
3/33	½	Test cases - complete with voltmeter.
3/34	½ 5	Petrol or paraffin driven engine generators one of output 110 amps and one of 30 amps. At normal battery charging voltages for items 3/31 and 3/32 respectively; complete with voltage hand regulator; spare parts.
3/35	4	Battery driven ringing machines for use with items 3/27 and 3/28; spare parts.
3/36	2 miles 3 " 2 "	42 wire Switchboard cable. 1732 63 " " " Jumper wire.
3/37	3	4 Position Long Distance Toll Boards each equipped for 20 ring-down long distance trunks; one with 10 junctions to the board covered by items 3/27 and two each with 10 junctions to one of the boards covered by item 3/28 (i.e. the third board under item 3/28 will have no junction to a toll Board); all with relay sets; trunks to be multiplied on alternate positions.
	3	17 or 20 cycle battery driven ringing machines for use with above; driven off filament batteries
3/38	12	Sets of maintenance tools for CB Exchanges.
3/39	100	Vehicles (trucks); 70 of approx. 30 Cwt. 30 of approx. 15 Cwt.

Notes on Equipment List.

Reference Item.

1/1 The toll board will initially handle a very limited number of circuits entirely on a delayed basis. Recording of outgoing calls will be handled on a separate installation which is available locally. Also available locally is equipment to modify (as necessary) the circuits from the proposed toll board to the existing local network. The proposed toll board will be located in an existing repeater station at which a distribution frame and a 24 volt battery, with charging equipment is available.

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Notes on Equipment List (continued)

Reference Item.	
2/1	No telephones are required. Sufficient telephones of various types are available. It is anticipated that the signalling and range of any of the usual switchboards will be suitable.
2/15 & 2/16	It is anticipated that cable terminations and distributing frames for the small repeater stations can be supplied locally.
2/16	20/500 ringers are specified because the normal ringing in Italy is 500 cycles. However, 20/1000 ringers may be substituted altho these are less desirable because of flexibility.
2/19	"Bays" is British nomenclature. The American equivalent would be a distributing frame with 400 pairs protected, to terminate outside cables, plus connecting blocks as required for inside wiring to toll terminal equipment and to the toll switchboard. Sufficient silk and cotton tip cable, and switchboard cable and connecting blocks should be provided for the installation.

General:

1. As a general condition, it would be preferable to supply like items for the various locations, of the same type and manufacture of equipment, for reasons of initial installation flexibility, and for future maintenance. However, the supply of miscellaneous small items necessary for modification, if required, is good in Italy so that the idea of common types of items is perhaps secondary to that of obtaining the large, major items in as short a time as possible.

2. Phasing: It is suggested that the equipment per Section I be shipped as soon as possible to Naples. Equipments per Section II and III may be ordered tentatively and procurement possibilities explored. As occupation of the territory is completed and actual damage ascertained, the orders can be confirmed or altered to suit the condition.

1731

Declassified E.O. 12356 Section 3.3/NND No. 785015

0224

Declassified E.O. 12356 Section 3.3/NND No. 785015

JLH/eqc

22

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

18th May, 1944

In reply refer to: T3/4/23/22

Subject : Provision of Civil Communications in Occupied Territory.

To : Chief Signal Officer, Allied Armies in Italy.

20

1. Reference your 2737 X 3 dated 13th May, I am in agreement with the proposals made, except that to avoid delay in correspondence, freedom should be left for this Commission to correspond direct with A.F.H.Q., to conclude the first bulk demand on Allied signal supplies for wholly civil purposes.

4-1

2. As a result of the letter from the C.S.O., A.F.H.Q. dated 1st March, addressed to H.C.S., A.F.H.Q., copied to you and to this and other offices, and in accordance with the terms of A.F.H.Q. letter dated 29 March, correspondence has been in progress for some time on the quantity and details of Allied signals stores to be demanded for civil purposes. A copy of the first proposal by this office was sent to C.S.O., L. of C., Italy, (ay T3/4/29 dated 9th April) and he is aware of and in agreement with the general plan. The correspondence is now in the stage of settling specification details and exact quantities, but is not diverging widely from the general plan.

1730

3. It is therefore suggested that we notify you and C.S.O., L.of C. Italy of the quantities and details of the demand that as a result of the correspondence are actually demanded by A.F.H.Q., and from then deal through you on any matter which would affect the overall planning.

28

J.L.HENDERSON
Colonel
Director, Communications Sub-Commission

0225

Declassified E.O. 12356 Section 3.3/NND No. 785015

Headquarters,
AAI.

200

SUBJECT: Provision of Civilian Communications in Occupied Territory

2737X3

The Director,
Telecomm & Post Sub-Commission,
ACC.

79

13 May 44.

Your attention is drawn to letter AG 400-1 (AMGOT) D-O dated 23 Mar 44, on the subject of the use of military signal supplies on civilian communication facilities in occupied territory, the details of which we have previously discussed.

2. I have taken the matter up with CSO AFHQ, and have explained that the existing "machinery" of the Communications Board Italy, has to date, dealt with all questions on the provision of civilian communication facilities.

3. CSO AFHQ has forwarded the following proposals with which I agree. I would, however, appreciate your views before submitting my reply:-

(a) Demands for stores for civil communications will be co-ordinated by ACC, submitted to CSO AAI and met from local resources wherever possible.

(b) Any project requiring US signal supplies for wholly civil purposes to be submitted by CSO AAI to AFHQ with necessary recommendations.

(c) AFHQ to then review and finally dispose.

22
see 28
1729

Major-General,
Chief Signal Officer.

RFHD/AH

DIRECTOR
D/DIRECTOR.
S.O.(1).
S.C.P.
CONFIDENTIAL
DEP. DIR.

TS/4/28.
Registered in 15/5/44

0220

Declassified E.O. 12356 Section 3.3/NND No. 785015

RESTRICTED

ALLIED FORCE HEADQUARTERS
APO 512

ABK/whr

23 March 1944

AG 400-1 (Angot) D-O

SUBJECT: Military Signal Supplies for use on Civilian Communication Facilities in Occupied Territory.

TO : Commander-in-Chief, Allied Armies in ITALY.
Commanding General, SOS NATOUSA, APO 750.
Deputy President, Allied Control Commission, APO 394.

1. In general, military signal supplies or stores will not be used for civilian communication installations. Only such repairs and construction as is necessary for the military effort will be carried out. Supplies for such work will be ordered specifically for this purpose, except in case of emergency. Full use will be made of any civilian communication supplies that may be found in the areas. Any overstockage of military supplies, which would deteriorate prior to anticipated use, may be made available for use on civilian communication system.

2. All requests from civilian agencies in occupied territories for signal material will be referred to Headquarters, Allied Control Commission, for review and recommendation. The recommendations of Allied Control Commission will be forwarded to this headquarters for review and final disposition.

By command of General WILSON:

A. B. KING,
Major, AGD,
Asst Adjutant General.

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Received 1/4/44.

0221

Declassified E.O. 12356 Section 3.3/NND No. 785015

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COMMUNICATIONS
JLH/mbf

4/13

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MAY

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U. S. RESTRICTED
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OUTGOING

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ROUTINE

ACC/REAR

AFI/

file 17

R&F MEG SLANT SUGAR EACH ONE NINE DATED NINE MAY FD CONSIDER PREFERABLE FOR DETAILED RE QUESTIONS TO BE PREPARED BY SIGNAL SECTION TO AVOID DELAY AND AS THEY HAVE ACCESS TO FULLER TECHNICAL DATA FD TO AFHQ FOR MGS ACC REAR FROM HENDERSON SIGNAL MACFARLANE FD REQUEST SIGNAL SECTION BE ASKED TO PREPARE AND SUBMIT FORTHIN REQUESTIONS COVERING MAJOR REQUIREMENTS FOR PARA FOUR D OF ENCLOSURE TO YOUR LETTER WITHOUT AWAITING REPLIES TO PARA FIVE WHICH WILL BE FORWARDED EARLIEST

AUTHENTICATED:

E. J. CHIVVOCCA
CWO USA
Asst Adj

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file 1727

47/
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0228

Declassified E.O. 12356 Section 3.3/NND No. 785015

CONFIDENTIAL

Communications
Rear HQ
S C
MM

ALLIED FORCE HEADQUARTERS

Military Government Section

FHI/jm S-2528

AG 18.2.26

9 May 1944

Ref. MGS/S-19

3-1

SUBJECT: Provision of Communications for Military and Essential Civilian Purposes in Northern Italy

TO : HQ A.C.C. (Attention Executive Officer)

6

1. Some exchange of communications has taken place between AFHQ and A.C.C. Reference is HP/GHR/jm of 10 March, "Signal Communications - North Italy" to HQ A.C.C. and letter of 9 April 1944 from the Director, Telecommunications and Posts Sub-Commission.

2. The attached memorandum from Signal Section, this HQ, to M.G.S. was prepared at our request. It is not intended to agree or disagree the suggestions made by The Director, Telecommunications and Posts Sub-Commission. It is intended as a guide, to lend a sense of direction to the coordinated planning which it is requested A.C.C. effect with A.A.I. at the earliest.

3. It is requested that requisitions be prepared and submitted which will cover the equipment necessary to maintain such essential communication as is defined by Signal Section, AFHQ. If in disagreement with this definition referred, please indicate the reasons.

4. Information is requested incident to the availability of trained personnel necessary to train Italian personnel in the installation and use of such equipment as may be received from U.S.

5. It is stressed that the requisition must be sufficiently complete in all details as to enable a civil supply concern to furnish equipment suitable for the job desired.

6. The Signal Section will willingly lend such assistance as A.C.C. may care to call on it for in the consummation of this project.

F[illegible]
Major, AUS
Economics & Supply Division

Incl:
Buck slip from Signal Section
to MGS, dated 5 May 1944

Copy to:
Col. McElroy, Signal Section
Capt. V. F. Evans, Signal Section

DIRECTOR.
D.DIRECTOR.
S.O.(1).
S.O.(2).
CENSORSHIP.
CHIEF CLERK.
Rec'd 13.5.44

CONFIDENTIAL

0229

Declassified E.O. 12356 Section 3.3/NND No. 785015

CONFIDENTIAL

ALLIED FORCE HEADQUARTERS

Military Government Section

FHL/jm

9 May 1944

Ref. MGS/9-19

SUBJECT: Provision of Communications for Military and Essential Civilian Purposes in Northern Italy

TO : HQ A.C.C. (Attention Executive Officer)

1. Some exchange of communications has taken place between AFHQ and A.C.C. Reference is HF/CHR/jm of 10 March, "Signal Communications - North Italy" to HQ A.C.C. and letter of 9 April 1944 from the Director, Telecommunications and Posts Sub-Commission.

2. The attached memorandum from Signal Section, this HQ, to A.C.C. was prepared at our request. It is not intended to agree or disagree the suggestions made by The Director, Telecommunications and Posts Sub-Commission. It is intended as a guide, to lend a sense of direction to the coordinated planning which it is requested A.C.C. effect with A.A.I. at the earliest.

3. It is requested that requisitions be prepared and submitted which will cover the equipment necessary to maintain such essential communication as is defined by Signal Section, AFHQ. If in disagreement with this definition referred, please indicate the reasons.

4. Information is requested incident to the availability of trained personnel necessary to train Italian personnel in the installation and use of such equipment as may be received from U.S.

5. It is stressed that the requisition must be sufficiently complete in all details as to enable a civil supply concern to furnish equipment suitable for the job desired.

6. The Signal Section will willingly lend such assistance as A.C.C. may care to call on it for in the consummation of this project.

FRED'K. H. LEWIS
Major, AUS
Economics & Supply Division

Incl:
Buck slip from Signal Section
to MGS, dated 5 May 1944

Copy to:
Col. McElroy, Signal Section
Capt. V. F. Evans, Signal Section

CONFIDENTIAL

0230

Declassified E.O. 12356 Section 3.3/NND No. 785015

CONFIDENTIAL

Informal Routing Slip

NORTH AFRICAN THEATER OF OPERATIONS
UNITED STATES ARMY
Signal Section

File :

Date: 5 May 1944

Subject: Italian Signal Communications - North Italy.

Fill in each column, initial action, and draw a line across the sheet just below the initials. Number each memo consecutively in the first column. Use entire width of sheet for long memos.

No.	From	To	Date	
1.	Signal Section	Military Government Section Attn: Major LEVIS	5 May 1944	1. Pursuant to your request that we assist in the determination of the minimum essential wire communications to be provided in occupied areas under ACC control and the preparation of the final ordering list, we are outlining below our thoughts on the matter in order that controlling policy may be clearly understood and sufficient data be accumulated for presentation as justification for the materials and any personnel to be requested.

2. As we understand the problem, it is the intention to assure the minimum telephone service necessary to the maintenance of the local economy, that is, to assure maintenance of public health, continuance of minimum transporation needs, operation of essential industry--particularly those contributing to Allied war effort, assure necessary police, air warden, fire, and medical aid services. These functions to be performed through the functioning of governmental agencies, public, utilities, and certain professional groups, all on the minimum essential scale.

3. According to your letter of 9th April 1944, AG/4/23, the immediate problem concerns nine large multi-office cities and a number of unnamed small communities.

a. This letter indicates that 9 local and 8 toll boards are to be requested for these cities but the appendix lists six toll and six exchange boards as follows without indicating place of usage in all cases:

EXCHANGE			TOLL	
LOCATION	POSITION	LINES	POSITIONS	TRUNKS
NAPLES	-	-	8	24
ROME (?)	30	4000	10	30
-	16	2000	6	18
-	10	1400	-	-
	6*	800	4*	12

* Three boards each of this size required.

1724

CONFIDENTIAL

0231

Declassified E.O. 12356 Section 3.3/NND No. 785015

Declassified
Authority NND 785015
By NARS, Date 12-28-78

11460

RECEIVED
7 MAY 1944
Military Government
Section AFHQ

3941

0232

Declassified E.O. 12356 Section 3.3/NND No. 785015

Informal Routing Slip

NORTH AFRICAN THEATER OF OPERATIONS
UNITED STATES ARMY
Signal Section

File :

Date: 4 May 1944

Subject: Italian Signal Communications - North Italy. (Cont'd)

Fill in each column, initial action, and draw a line across the sheet just below the initials. Number each memo consecutively in the first column. Use entire width of sheet for long memos.

No.	From	To	Date

b. The situation in the large cities mentioned in TS/4/23 is as follows. The number of telephones in service is estimated where no records are available.

CITY	POPULATION	(X) LARGE EXCHANGES A	B	C	(Y) LINES	(Z) PROPOSED RELIEF Lines	% of normal
MILAN	1,219,000	7	2	2	67,000	2000	3.
TURIN	698,000	4	1	1	46,000	800	3.
VENICE	286,000	1	1	-	7,700	-	-
BOLOGNA	318,400	(*) 1		-	9,600	800	8.
FLORENCE	322,000	1	1	-	10,800	800	7.
LEGHORN	-	1	-	-	3,880	-	-
GENOA	659,000	2	2	1	57,000	1400	2.5
ROME	1,349,000				122,000	4000	3.3
NAPLES	925,000				-	-	-

Notes

(X) A-from 1000 to 4000 incl. - lines
B-from 4000 to 10,000 incl. - lines
C-from 10,000 to 30,000 incl. - lines
All offices are automatic

17.3

(Y) Best available data.

(Z) Assumed location where not indicated in TS/4/23.

(*) There are, in addition, 1 - 500 & 1 - 400 line boards.

c. It appears from the above that over all relief in the order of 3% is planned.

(1) In American communities, where telephone development is from two to four times that of European communities of comparable size, it has been estimated that essential services could be maintained on an emergency basis until major rehabilitation is completed, by about 5% of the telephone exchange lines. Considering the larger residential telephone development in America, it is probable that essential services would represent a higher percentage of total lines in an Italian City. Furthermore, the American plan did not contemplate the general disruption of large areas as would be expected in a combat zone. In estimating the line capacity of the boards requested, was it intended that 3% would

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CONFIDENTIAL

Informal Routing Slip

NORTH AFRICAN THEATER OF OPERATIONS
UNITED STATES ARMY
Signal Section

File :

Date: 5 May 1944

Subject: Italian Signal Communications - North Italy. (Cont'd)

Fill in each column, initial action, and draw a line across the sheet just below the initials. Number each memo consecutively in the first column. Use entire width of sheet for long memos.

No.	From	To	Date	

adequately care for all services or was this to be provided above the 20% of existing lines estimated to remain serviceable?

(a) The amount of service to be established thru the general exchange system is a matter of AMGOT policy. Is it the intention to limit services to the following types and to what extent:

Governmental Agencies
- Commerce
- Public Safety
  - Police Dept.
  - Fire Dept.
  - Air Wardens

Public Health
- Hospitals
- Clinics
- First Aid Stations
- Food Depots
- Warehouses
- Individual Doctors
- Individual Nurses
- Pharmacies

Public Works

Utilities
- General Offices
- Warehouses
- Depots
- Garages
- Power Stations
- Shops

Individuals
- AMGOT Billets
- Government Officials
- Utility Officials
- Other key personnel

17.2

Public phones for emergency calling, perhaps one per each square quarter mile.

CONFIDENTIAL

10234

Declassified E.O. 12356 Section 3.3/NND No. 785015

Informal Routing Slip

NORTH AFRICAN THEATER OF OPERATIONS
UNITED STATES ARMY
Signal Section

File :

Date: 5 May 1944

Subject: Italian Signal Communications - North Italy. (Cont'd)

Fill in each column, initial action, and draw a line across the sheet just below the initials. Number each memo consecutively in the first column. Use entire width of sheet for long memos.

No.	From	To	Date

(b) Are data available as to line requirements in cities now occupied, to serve as a guide to percentage of normal lines required for a minimum of essential services?

d. Referring to the column headed "Exchanges" it will be noted that the total number of lines served is divided between several exchanges in cities having the higher telephone development. It appears probable that sabotaged mechanical exchanges will be completely inoperative. In multi-office cities it is possible that some exchanges will be relatively undamaged as was the case in Naples, or salvageable thru cannabilism. In Naples adequate exchange service is being given thru concentration of lines on the two small undamaged exchanges. However, emergency boards should be provided to meet the possibility of complete destruction in some cities, as indications are that a greater degree of sabotage can be expected in the future.

4. Review of Appendix I.

a. A review of the list of equipment in Appendix I indicates that the number of switchboard positions requested probably represents a minimum in that the line capacity would care for about 3% of total normal lines in event of total destruction of existing large offices.

b. The amount of trunk or junction multiple is however too low and in the case of Long Distance Boards does not include trunks to the local emergency exchanges for completion of toll and long distance calls to subscribers. Additional trunks it seems would be required to nearby toll points and suburban areas. Also a few dial trunks should be provided to work into any small dial offices which may be spared as was the case in Naples. A breakdown should be given in each case of the number of incoming or 2 way trunks requiring lamp appearances and the amount of outgoing trunks only without lamp appearances.

c. With reference to the 24 trunk toll board for Naples, there are in the order of 36 long distance trunks working out of the present military toll board. Is it the intention that the ACC toll board shall have spare capacity to absorb some or all of the long distance trunks now working on the military toll board? Assignment of three trunks per position seems very low as existing 6 position toll boards are handling from 30 to 40 long distance lines and an additional 100 to 140 trunks. We understand that the commercial toll boards handled in the order of 10 long distance trunks per position together with local trunks.

d. It is our opinion that rather than order separate toll and exchange switchboards for each specific locality it would be preferable to set-up a stock pile of switchboard sections and equipment that could be assembled to meet the

0235

Declassified E.O. 12356 Section 3.3/NND No. 785015

Informal Routing Slip

NORTH AFRICAN THEATER OF OPERATIONS
UNITED STATES ARMY
Signal Section

File :

Date: 5 May 1944

Subject: Italian Signal Communications - North Italy. (Cont'd)

Fill in each column, initial action, and draw a line across the sheet just below the initials. Number each memo consecutively in the first column. Use entire width of sheet for long memos.

No.	From	To	Date

situation as it actually develops. What we have in mind is, estimate the total number of positions on the basis of absolute minimum requirements for each city, then to setup the ordering lists with sufficient sets of power, ringing, frame equipment, etc., to provide that number of boards and to order a type of board with some extra trunk and multiple equipment capable of being built-up in large units if more than expected damage is done in some cities and less in others. From experience in North Africa 1000/20 cycle ringers have proven more reliable than 500/20 cycle type and should be ordered where both ends of a circuit are being furnished.

5. Additional technical information which should be supplied when order is placed.

a. Give outline of proposed method of operation especially the method of handling Long Distance and Toll Traffic which is apparently all on a delayed call basis with manual completion on both inward and outward calls to called or calling subscriber requiring the use of recording positions on outward calls.

b. Give impedance values and type (magneto, local battery, common battery) of existing subscriber telephone sets in various cities or areas since this may affect the design of some circuits.

c. Give grade of subscriber facilities i.e., guage of subscriber cable plant in each city. It may be well to add to this the estimated number of subscribers outside of a 750w loop from local emergency exchange since long line sets and dial impulse repeaters may be required for these subscribers.

d. Give voltages used in various types of automatic and manual exchanges such as Siemens-Halske 60v, Manual 24v, etc., with positive side of battery grounded; also voltages and frequency of Ringing supply and voltages and frequency of Power supply and whether it is AC or DC.

For the Chief Signal Officer:

1720

R. W. MINCKLER
Colonel, Signal Corps

0236

Declassified E.O. 12356 Section 3.3/NND No. 785015

HTWH/rm

15

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

In reply refer to: TS/4/23/15.

7th May 1944.

Subject: Reservations of L.B. Telephones.

To: Director General, Soc. Esercizi Telefonici, Naples.

Further to Allied Control Commission letter No.TS/4/23/13 of 3rd May1944, kindly note that the Chief Signal Officer, Headquarter Allied Armies in Italy has now given permission for the reservation of the following for use by Allied Control Commission.

200 - Modern L.B. Wall Sets as inspected in SET store on 1st May with the Director General.

J.L.Henderson,
Colonel,
Director, Communications Sub-Commission.

Copy to: Major Knauer, Main HQ, A.C.C.
Major Hawker, Region IV, A.C.C. - This number includes 50 for Rome.

17.9

0257

Declassified E.O. 12356 Section 3.3/NND No. 785015

14

Headquarters,
Allied Armies in Italy

2720X

5 May 44

Subject: Italian Telecommunication Requirements (ROME & N. ITALY)

The Director,
Telecommunication & Posts Sub Commission,
A C C

12

Reference your TS/4/23/12 dated 3 May 44.

The subject of the reservation of 200 L B Wall Set telephones has been discussed with CSO L of C Italy and no objection is raised.

This reservation of course, being subject to provision in para 2 of the above mentioned letter.

for Major General,
Chief Signal Officer.

AFF/IWW

Copy to: CSO L of C Italy.

DIRECTOR
D/DIRECTOR.
S. O. (T).
CABLES CLEAR.
Clear 7.5.44

see 13

1718

0238

Declassified E.O. 12356 Section 3.3/NND No. 785015

13-1

NEAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

In reply refer to: T/4/23/43.

3rd May 1944.

Subject: Emergency Civil Telephone Arrangements.

To: Director General, Post Imperial Telefonici, Naples.

In confirmation of verbal arrangements made at Naples on Monday, 1st May 1944, the following statement explains the present requirements of this Headquarters.

1. The 100-lines capacity Army type manual switchboard, as inspected, to be modified as follows:

(a) Cord circuits to be fitted in positions at present blank complete with keys and equipment.

(b) Cord circuits to be split, and an additional operator's telephone circuit, jack, and ringer fitted, to enable two operators to work at the board simultaneously. Switching key to be fitted to enable all cord circuits to be worked by one operator.

(c) Ten exchange line circuits to be wired for operation to CB or automatic exchanges. Two other intercoms will be required for working magneto tie lines, but presumably the existing intercoms can be used for this purpose.

(d) Jails to be fitted.

2. Small distribution frame to be constructed, with tag blocks for 150 cable pairs, along with the necessary tag blocks for terminations from the switchboard.

3. Switchboard to be cabled, with jute covered switchboard cable, to tag blocks, so that the fixing of the tag blocks to the frame will complete the switchboard to frame cabling. If tag blocks can be accommodated in the board, it may make packing arrangements simpler if both ends of each of the switchboard cable lengths are cabled to tag blocks, - one for the board and one for the frame. The most suitable method of carrying out this work would be to set up the board and frame in temporary fashion with say 3 metres between, cable between them, and then unsolder the tag blocks.

4. 50 - wall type L.B. sets as inspected should be laid aside to accompany the above, pending authority from Headquarters, Allied Armies in Italy. The object of the above will be to provide a complete exchange suitable for very rapid installation, and any improvements the SCR like to suggest to

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Declassified E.O. 12356 Section 3.3/NND No. 785015

13-2

major manner to assist this object will be welcomed.
if wiring diagrams are not fixed in the board, but can be made available, perhaps they will be fixed in position.

J.L.Henderson.
Colonel.
Director, Communications Sub-Commission.

Copy to: U.S.C.C. L of C.
" " Major Hunter, Allied Control Commission, Main H.Q.
" " Major Barbee, Region IV
" " The Under Secretary of State for FP. FT.

0240

Declassified E.O. 12356 Section 3.3/NND No. 785015

ATAM/cpc

12

HEAD HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

3rd May, 1944

In reply
refer to: TS/H/23/12

Subject : Civil Telephone Requirements - North Italy.

To : Chief Signal Officer, HQ. Allied Armies in Italy.

1. With further reference to A.C.C. No.TS/H/2/7 of 19th April, it is necessary to set aside about 200 local battery telephones (SET) for use with emergency towns. Permission is therefore requested for the reservation of 200 S.E. Mail Sets at present lying in a S&T store in Naples, as pointed out already to the Director General of the S&T.

2. Reservation would be subject to the availability of Allied material for military requirements.

subject to objection in para 2.

J.L. HENDERSON
Colonel
Director, Communications Sub-Commission

see 14

1715

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Declassified E.O. 12356 Section 3.3/NND No. 785015

HTWB/ma

11

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394.

27th April 1944.

In reply refer
to:T3/4/25/11.

Subject: Italian Signal Communications - North Italy.

To: Military Government Section, A.F.H.Q.

3-1

References: Allied Control Commission letter No. T3/4/29 of 9th April 1944. - subject as above.
Military Government Section letter No. MP/GHR/jn of 10th March 1944. Subject as above.

1. With reference to the list of plant supplied with the above A.C.C. letter, it would be appreciated if MGS would keep this Headquarters in touch with the progress of any negotiations for obtaining the equipment.

2. It will be necessary to keep the Chief Signal officer, L of C suitably informed as to the ability of A.C.C. at any moment to replace military switchboards with civilian types, and it would be useful for this reason to have some knowledge of plant possibilities from Allied sources.

for the Chief Commissioner.

J.L.Henderson,
Colonel,
Director, Communications Sub-Commission.

1714

0242

Declassified E.O. 12356 Section 3.3/NND No. 785015

RESTRICTED

Headquarters
AAI

(10)

Subject :- Civilian Telephone Switchboards

2728/2/X

22 Apr 44

The Director,
Telecommunications & Posts
Sub Commission.
ACC

Ref CSO L of C ITALY X/3/4 dated 21 Apr 44 (9)

1. It has now been confirmed in telephone conversation of even date that you are agreeable to arrange the overhaul of the Telephone Switchboards quoted in the stock list.

2. It was stated that you would be arranging for these switchboards to be stored eventually at NAPLES and SALERNO.

A H Cumming
for Major-General,
Chief Signal Officer

AFF/MSB

Copy to :- CSO L of C ITALY.

Director
D/Director
SO (1)
SO (2)
Cable Ship SO
Chief Clerk

Read 24.4.44
TS/4/23

1712

0203

Declassified E.O. 12356 Section 3.3/NND No. 785015

Subject:- Civilian Telephone Switchboards. RESTRICTED.

X/

C.S.O. A.A.I. 8-4 21 Apr 44.

Reference your 2728/2/X of 18 Apr 44.

In connection with the instructions contained in para.3 of the above quoted letter.

It should be noted that the switchboards are at present located in Italian Army and Naval establishment stores, and/or in the premises of the concessionary telephone companies. In the circumstances it is not thought possible that this branch can undertake the repairs and overhaul that may be necessary. A tentative arrangement has been made with Director of Telecommunications and Posts Sub Commission, A.C.C., who agree that they are in a better position to undertake this work.

Will you please communicate fully with the latter branch on the subject.

GHB/REJ.
In the field.

G.H.Barker
Colonel,
C.S.O. L. of C., ITALY.

Copy to:- Director of Telecommunications
and Posts Sub Commission,
Rear H.Q. Allied Control Commission.

Director
D.Director
S.O. (1)
S.O. (2)
Ca.o.ship L.O.
Che Cork

Recd. 22.4.44.

see 10
1713

0244

Declassified E.O. 12356 Section 3.3/NND No. 785015

JLH/epc

8-1

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

21 April, 1944.

In reply refer to: TS/4/29/8

Subject : Italian PBX's and PABX's.

To : Under Secretary of State for Telecommunications and Posts.

1. With reference to ACC letter No. TS/4/12/62 of 17th March 1944, and to the list of PBX's and PABX's submitted by you to ACC for the information of Hq. A.A.I., on 30th March 1944, certain of these equipments have now been reserved on the authority of C&O, Hq.A.A.I., to give emergency service to Italian officials in towns at present occupied by the enemy. These will be installed as opportunity occurs under the supervision of ACC Officers, by available Italian Staff.

2. The following plant is reserved:

a. Centralini Forze Armate

Centralini per 50 linee	5
Centralini per 100 linee	5

b. Centralini Nuovi SET.

Centralini a BL a 18 linee	4
Centralini a BL a 20 linee	2
Centralini a BL a 25 linee	4

c.

Centralini Automatico Fatme	a 3 + 20 linee	18
Centralini Automatico Fatme	a 4 + 40 linee	3
Centralini Automatico Fatme	a 100 linee	1

3. It is possible that certain items of the above plant may not be suitable for the purpose, and it is intended that each type be examined by an officer of this Sub-Commission and a member of your staff and of the SET. In order to make the plant available for immediate use, please make the necessary arrangements now to have all of the plant brought into stores in Naples or Salerno, (especially the Army boards).

0245

Declassified E.O. 12356 Section 3.3/NND No. 785015

TS/4/23/6

8-2

Apr.44. Continued.

The equipment should be stored in places as safe as possible from bombing e.g. basement of Post Office, Naples etc.

4. In the meantime kindly state as soon as possible the items available for inspection in Naples and Salerno, in order that an immediate joint inspection may be made.

5. After inspection, it will be necessary for you to provide suitable boxes for those items likely to be required first, and have thus complete units available for installation. Additional equipment required will be small distribution frames for cross connections from cable pairs to equipment (e.g. with capacity 100 - 400- pairs); exchange batteries, etc. The SCT accordingly should be asked to examine their stores with a view to the provision of complete PBX or PABX working units including wiring, using the PBX or PABX equipment specified above, and to be in a position to state any items deficient.

6. The above will no doubt be dealt with early.

7. It may be desirable also to make use of PABX's at present installed in Public buildings and this can be discussed at the joint inspection mentioned in Paragraph 4.

J.L.HENDERSON
Colonel
Director, Telecommunications and Posts Sub-Commission

Copy to: Major C.W.Knauer

1710

0245

Declassified E.O. 12356 Section 3.3/NND No. 785015

8-3

Subject: Italian Telecommunications Requirements (ROME & N.ITALY)

Headquarters
A. A. I.

2720/X

The Director,
Telecommunication and Posts Sub Commission
A.C.C.

18 April 44.

7.

Reference your TS/4/23/7 dated 14 April 44.

1. It is agreed that the Telephone Switchboards required for the 1st Stage of the rehabilitation of Italian Telecommunications as outlined in the a/m letter shall be reserved from the Stock List of Switchboards forwarded to this office under your letter TS/12/1/50 dated 30 Mar 44.

2. Instructions are being forwarded to CSO L of C ITALY under separate cover arranging for the necessary reservation and overhaul of these Switchboards, so that they will be available for installation as soon as the military situation permits.

3. In accordance with previous agreement the reservation of these Switchboards for Italian use is subject to the availability of Allied material for the military requirements.

Director
D, Director
SO [illegible]
[illegible] O [illegible])
[illegible]
AFF/RL
Che Cek

J R Storm Col
& Major General,
Chief Signal Officer

Recd. 19.4.44.

Copy to CSO L of C (ITALY) - with copy of TS/4/23/7 dated 14 April 44.

0247

Declassified E.O. 12356 Section 3.3/NND No. 785015

8-4

Subject: Civilian Telephone Switchboards

Headquarters
A. A. I.

2728/2/X

CSO L of C ITALY

18 April 44.

1. In accordance with Minute No. 106 to the Fourth Meeting of the Communications Board (ITALY) Dr Fano has now forwarded to this office through the Director Telecommunication & Posts Sub Commission, a Stock List of Civilian Telephone Switchboards. A copy of the Stock List is attached for your information.

2. Under this office letter 2720/X 8-3 of even date is was agreed that certain Telephone Switchboards should be reserved for Italian Telecommunications in ROME and N. ITALY and your are requested to advise all concerned of this reservation.

3. In order that the switchboards in the attached stock list be available for either Allied or Italian use at short notice will you please arrange for these switchboards to be overhaulded and repairs effected where necessary.

Director
D/Director
SO (1)
SO (2)
Casserta LO
Che Cek

AFF/RL

Recd. 19.4.44

J H Thorw Col
Major General,
Chief Signal Officer

1708

Copy to: The Director, Telecommunications & Posts Sub Commission, AFC

0248

Declassified E.O. 12356 Section 3.3/NND No. 785015

(COPY)

Italian Switchboards

8-5

50-line swbds	5	
10-line swbds	5	
6-line local battery swbd	1	
18-line " " "	4	
20- " " " "	2	
25- " " " "	4	
22-line Automatic Swbd	10	(Fatine Brand)
20-line Type OB for internal use	2	
25- " " " " " "	1	
1- line swbd	-	
10-line automatic for internal use	4	
20-line central battery for internal use	4	(Fatine Brand)
6-line local battery for "internal use"	3	
10- " " " " " "	4	
15- " " " " " "	5	
1 Urban line & 5 extensions local battery	32	
3-20 automatic Fatine Brand	13	
10 " " "	1	
40-40 " " "	3	
100 " " "	1	
1-3 automatic local battery Fatine Brand	16	
6-line board	11	

1707

0249

Declassified E.O. 12356 Section 3.3/NND No. 785015

PTM/600

REAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

14 April, 1944

In reply
refer to: PS/4/23/7

Subject : Italian Telecommunications Requirements - Rome and N.Italy.

To : Chief Signal Officer Allied Armies in Italy.

References: (1) Letter of 1st March, 1944 from CSO, AFHQ. (Copy to you).
(2) Your No.2720/X of 8th March, 1944 to CSO, L.of C.
(3) CSO. AFHQ. No.HI/CHW/Im of 10th March, 1944, to H.Q. A.C.C.

1. Plans have now been prepared for emergency installations to meet Italian requirements in Rome and N. Italy. It is of course realised that the time at which such installation work can be begun in a captured city will depend on a military decision on the spot.

2. It is intended that the work be done in two stages i.e. a first stage to cater for a few important lines, and a second stage to deal with up to say. 2 % of the subscribers.

3. As regards the second stage, requirements were submitted to AFHQ on 9th April (Copy to CSO, L.of C.).

4. For the first stage, a number of PBX boards will be required. A list of Italian PBX's and PABX's was submitted to CSO, AAI., on 30th March, 1944. It has been found since that there are no second hand manual boards suitable for emergency work.

1706

5. Accordingly perhaps the CSC would agree to the reservation of the following equipment for use by A.C.C. on the above emergency work. These items are on the list of 30th March.

50 lines Switchboards (Army) - 5 off.
100 " " " - 5 off.
10 lines L.B. boards (SET) - 4 off.
20 " " " " - 2 off.

0250

Declassified E.O. 12356 Section 3.3/NND No. 785015

25 lines L.B.boards (SET) - 4 off.
20 lines Automatic equipment (Fatine) - 18off.
40 " " " " - 3off.
100 " " " " - 1off.

Reservation would of course be subject always to re-consideration if Military needs arose which could not be met from Allied sources. It is understood from CSC. L. of C., that Switchboards will probably be available shortly from Allied sources to meet military requirements.

J.L.Henderson
Colonel
Director, Telecommunications and Posts Sub-Commission

see 12
14

1705

0251

Declassified E.O. 12356 Section 3.3/NND No. 785015

U.S. CONFIDENTIAL
Equals British CONFIDENTIAL

14 MAR 1944

ALLIED FORCE HEADQUARTERS

Military Government Section HP/GHR/jm

FAST AIR 10 March 1944

SUBJECT: Signal Communications - North Italy

TO : HQ A.C.C.

58-1 also at folio 54

1. Attached copy letter from Deputy Chief Signal Officer AFHQ is forwarded for attention and necessary action.

2. The subject matter of this communication is of some importance and urgency and if the full report called for will take some time it is suggested that an interim report be submitted indicating what action is being taken.

HENRY PARKMAN JR
Lt. Colonel, G.S.C.
Acting Chief
Military Govt Section

Incl:
Letter from DCSO, AFHQ,
to MGS, AFHQ, 1 Mar 1944,
re Provision of Communications
for Military Purposes in Northern
Italy

Seen:- Col. H. 10/3
Col. B. 1704

618
Recd. 14th Mar. 44.

U.S. CONFIDENTIAL
Equals British CONFIDENTIAL

0232

Declassified E.O. 12356 Section 3.3/NND No. 785015

RECD - 8 MAR 1944

13 MAR 1944 10/3/44 A.C.C Hy-Telecomm

1703 T.P. 2

Subject: Utilization of Commercial Facilities in the Restoration of Civil Communication Services.

Headquarters
A.C.M.F. Civil Commission
Salerno

2720/X

8 Mar. 44.

CSO
L of C (Italy).

1. Letter, subject "Provision of Communications for Military Purposes in Northern Italy", from OCSO/AFHQ, 1 March 1944, to "Chief Military Government Section, AFHQ", indicates that AMG/AFHQ, or its subordinate branches may, as a result of "investigating sources of (communication) equipment ------ in and around NAPLES and ----- southern Italy", expect to utilize some of this equipment for the "temporary restoration of necessary civil communications in all of the cities in Italy yet to come under control of the Allied Forces".

2. The utilization of existing commercial communication equipment for the restoration, temporary or permanent, of urban facilities, either in situ or in other cities, falls within the jurisdiction of the CSO, L of C. It is therefore imperative that any action being taken by an AMG headquarters with reference to this matter be coordinated closely with your office, or with your various representatives in occupied Italy.

Signed J.R. Horn
Colonel, Signal Corps

TRH/awh

Brigadier,
Chief Signal Officer.

1703

Copy to:- AMG, Naples — Copy retained by Maj Knauer
AMG, ACIF

Seen: Col. H.
Col. B.

TS/4/HF. Recd. 13th Mar. 44.

0253

Declassified E.O. 12356 Section 3.3/NND No. 785015

U.S. CONFIDENTIAL Equals British CONFIDENTIAL

JLH/epc

3-1

NEAR HEADQUARTERS
ALLIED CONTROL COMMISSION
APO 394

In reply refer to : CS/4/23

9th April, 1944

Subject : Italian Signal Communications - North Italy

To : Military Government Section, AFHQ.

Reference : AFHQ no.AF/CMP/jm of 10th March 1944 on above subject.

1. General

The policy outlined in the above memo is welcomed and accordingly plans have been produced as shown below. Appendix I states the minimum requirements based on the assumption that all equipment is in short supply. It will not be possible to give a reasonable service with less.

2. Existing Conditions Affecting Planning.

a. Local exchange plant:

Exchanges in S.Italy and Sicily are of the Ericsson Automatic type in all but the very small towns. In the large cities this plant is of the 5 digit type with sequence switches, is not of unit construction, and is not therefore easily subdivisible for use elsewhere. Moreover Borza (Naples) a 20,000 lines exchange of this type has been destroyed. The smaller Ericsson exchanges are of the 500 or 1000 line unit type but in many cases the removal of a unit means the removal of the whole exchange. Furthermore, a large proportion of the exchange equipment elsewhere in operation in Italy is of the Siemens and Halske type which will not normally interoperate with Ericsson equipment. Accordingly there appears to be little prospect of the removal of exchange equipment in S.Italy for use in the North, though the possibility of the complete removal of an exchange will be borne in mind.

1702

b. Toll Exchange Plant.

At Naples and Palermo the inter-urban boards were destroyed. At Catania and Messina two or three positions might be removed from the existing suites after military Signals staff has ceased to use them. These appear to be the only possible sources of Toll Boards.

c. Subscribers' PBX Plant.

Four or five 50 lines PBX's and a number of smaller boards are in Italian stores. Whilst the number of 50 lines PBX's in use in Naples prior to Allied occupation

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was surprisingly small, it is expected that some will be available for reconditioning. A few may be required by G.H.Q. A. of O. The PBX position is at present being closely investigated.

c. Telegraph Equipment.

Telegraph equipment (m.r. Morse and Baudot mainly, with some Hughes) is in fairly good supply in S. Italy. A small amount of VF equipment exists but almost all of it has been brought into use by Military Signals for essential circuits.

d. Line Equipment.

Spare repeaters in S.Italy and Sicily have been or will be required for use South of Rome to provide the minimum number of circuits for military and civilian needs as planned by G.H.Q.,A. of O. Accordingly requirements North of Rome must be met from Allied resources.

No portable transmission measuring equipment is available.

e. Underground and Aerial Cable.

It is assumed that underground cable of the smaller sizes may be obtained in Rome by recovery. A very small amount of aerial cable is in stock in S. Italy.

f. Other Items.

A stores tally taken recently showed that under 10 tons of phosphor bronze wire were in stock, and practically no solder for iron wire joints, for switchboard wire joints, or for plumbing existed.

Since exchange and repeater station installations were done entirely by contract, no stock of switchboard cable has been found.

Barely sufficient tools are held to maintain existing equipment.

3. Further Considerations in Planning.

a. Destruction factor.

It has been assumed that 60% of the internal plant will be destroyed.

b. Cities Concerned in the Plan.

In order to restrict demands, equipment has been requested only for Roma, Napoli, Milano, Torino, Genova, Venezia, Palermo, Firenze, and Livorno (all reduced by application of the 60% factor) In all of these cities except Livorno it has been found necessary to ask for both local and toll boards. As a first step before these boards are installed, it is hoped that it will be possible to instal one or perhaps two 5 lines PBX's to take about 40 or 50 important lines.

In each of the towns not mentioned above it will be necessary to instal one or more PBX boards, the capacity depending on the size of the town, until something larger can be supplied either from local resources or as a result of further opportunities outside Italy.

c. Design of local manual boards.

The system of charging in Italy is based on a flat rate which tends to produce as a habit a high calling rate. This is further increased by the fact that a line

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connected to the emergency exchange will be much more used than a normal line. Accordingly, in an estimate of number of switchboards required, due allowance must be made for this.

The size of multiple shown for some of the positions multiple boards may result in more traffic than the ~~junction~~ will handle but it will be very useful to have such available for trial.

c. Seating of Toll Boards.

The only reasonable system of working at first will be the assignment of three trunks per operator. After a consideration of the minimum numbers of trunks required between the various exchanges, it has been possible to calculate the number of toll positions. Multiples have been requested on these boards as it may be possible to make use of them during certain hours.

As an example, a minimum of 30 trunks terminating in Rome was chosen (maximum individual route number - 4 Milano circuits) requiring 10 positions. For comparison it may be stated that the Italian Government at present has 6 Palermo - Bari circuits and 4 Palermo - Naples circuits.

d. Line Equipment.

From the consideration of the number of trunks and a knowledge of the number of repeater stations on each route, it was possible to calculate repeater requirements, using again an 80% destruction factor. (see Appendix B)

The numbers of repeaters shown are high but it is felt to be almost certain that endeavours will be made by the enemy to destroy all such equipment.

4. Transport.

The lack of transport has seriously delayed the restoration of communications in S.Italy up to the present, and it is only recently that it has been possible to restore communications to and in Calabria. This has been due to a considerable extent to lack of transport.

The only vehicles in use by the Civilian telephone and telegraph services are a very few military vehicles on loan, one third of which is in very bad condition and has only recently been supplied.

Very little maintenance work can be done except near the faultsmen's HQ. and external plant is bound to deteriorate.

Accordingly it is suggested that, to meet immediate and near future skeleton requirements, 30 - 40 lt. and 20 - 15 3ct. vehicles be supplied. 17

J.L.Henderson
Colonel
Director, Telecommunications and Posts Sub-Commission

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APPENDIX 'I'

SECTION I Date Wanted: At Once.

Note: There is of course no objection to reasonable variations from the following due to differences in manufacturers standards.

Item No. Required		List of Equipment
1/1	1	4 - Position long distance toll board for use at Naples, equipped for 24 trunks, complete with relay sets; trunks being multiplied on alternate positions.
1/2	1	~~One~~ 17 cycle mains driven ringing machine for above, to operate on 110 volts at 50 cycles.
1/3	1	Bridge Meager.
1/4	2	Portable transmission measuring sets.
1/5	50	Vehicles (trucks): 30 of 30 cwt., 20 of 15 cwt.

SECTION II Date Wanted: Two months after full of Rome - say on 1st. July.

2/1	1	30 position cupboard with multiple of 4000 Subscribers; junction multiple of 40 to magneto and 30 to automatic or CB exchanges; complete with subscribers' and junction relay sets; miscellaneous jacks, fuses, spare parts, etc.
2/2	1	Main Distribution Frame - capacity 5000 pairs.
2/3	1	Intermediate Distribution Frame.
2/4	1	Test Desk or Test Case with equipment including a spare voltmeter.
2/5	1	Bridge Meager
2/6	2	Storage batteries of the voltage of the above Switchboard; each of capacity 2000 amp.hours.
2/7	1	Petrol or paraffin driven engine generator of output 300 watts at normal battery charging voltage for item 2/6. A mobil outfit of the R.A.F. type would be useful. Spare parts.
2/8	1	Battery driven ringing machine for use with item 2/1. Spare parts.
2/9	Miles 42 wire Switchboard cable 5miles 6) 3miles Jumper wire.	) or equivalent.
2/10	3	Sets tools for maintenance CB exchanges.
		folder, sticks, for internal connections.
		underground cable joints.

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1/1	1	8 - Position Long Distance Toll Board equipped for 24 trunks, complete with relay sets; trunks being multiplied on alternate positions.
1/2	1	40~ cycle mains driven ringing machine for above, to operate on 150 volts at 40 cycles.
1/3	1	Bridge Megger.
1/4	2	Portable transmission measuring sets.
1/5	5	Vehicles (trucks): 3 of 30 cwt., 2 of 15 cwt.

SECTION II Date Wanted: Two months after fall of Rome - say on 1st. July.

2/1	1	30 Position C.B. Board with multiple of 4000 Subscribers; junction multiple of 40 to magneto and 30 to automatic or C.B. exchanges; complete with subscribers' and junction relay sets; miscellaneous jacks, fuses, spare parts, etc.
2/2	1	Main Distribution Frame - capacity 6000 pairs.
2/3	1	Intermediate Distribution Frame.
2/4	1	Test Desk or Test Case with equipment including a spare voltmeter.
2/5	1	Bridge Megger
2/6	2	Storage batteries of the voltage of the above Switchboard; each of capacity 2000 amp.hours.
2/7	1	Petrol or paraffin driven engine generator of output 300 amps. at normal battery charging voltage for item 2/6. A mobil outfit of the R.A.F. type would be useful. Spare parts.
2/8	1	Battery driven ringing machine for use with Item 2/1, Spare parts.
2/9	4miles 42 wire Switchboard cable) 5miles 6) " " " ") 3miles Jumper wire.	or equivalent.
2/10	3	Sets tools for maintenance C.B. exchanges.
2/11	½ ton Solder, sticks, for internal connections. ½ ton Solder, for plumbing underground cable joints.	
2/12	5000	Paper jointing sleeves (for underground cable)
2/13	1	16 - Position Long Distance Toll Board equipped for 40 trunks complete with relay sets, trunks being multiplied on alternate positions.

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2/13	1	~~1~~ cycle battery driven ringing machine for use with item 2/13, to be driven off filament battery (it is assumed that this can be done without noise at the repeaters.)
2/15	24	4 wire repeaters, and bay capacity to accommodate them in the following separate lots: 1 lot of 20 4 lots of 12 each 4 lots of 6 each also have spares in one bay, and like 4 sets.
2/16	24	4 wire 500/20 ringing equipments with bay capacity to accommodate. 1 lot of 20 3 lots of 6 each also have equipments in 1 bay, and 4 sets.
2/17	1 set	Bays equipped for transmission an resistance measurements, cable fault localisation, and testing; complete with oscillator, etc.
2/18	2	Portable transmission measuring sets.
2/19	1 set	Bays to take cable termination for 400 pairs.
2/20	8	(Filament) Batteries each to take 20 - 4 wire repeaters; also Grid) filament batteries each to take ringing equipments and a ringing machine load; each battery to have a capacity for 48 hours service.
2/21	1	Petrol or paraffin engines driving two generators for charging above batteries (plate an filament) at 7 hours rate. Spare parts.
2/22	30tons	70lb. Std.Cu. Bare wire or equivalent.

SECTION III Required roughly in order as shown as soon as possible after 1st July.

3/1	1	15 Position CB Board with multiple for 2000 subscribers; junction multiple of 1: to magneto and 10 to automatic or CB exchanges; complete with Subscribers' an Junction relay sets; Miscellaneous jacks, fuses, spare parts, etc.
3/2	1	Main Distribution Frame - capacity 4000 pairs.
3/3	1	Intermediate Distribution Frame.
3/4	1	Test case - complete with voltmeter.
3/5	2	Storage batteries; voltage as for above switchboard; each of capacity 1000 amp. hours.
3/6	1	Petrol or paraffin engine generator for charging above 4 batteries; output 140 amps. at normal charging voltage; complete with voltage hand regulator, spare parts.
3/7	1	Battery driven ringing machine; spare parts.

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2/16		accessories. 1 lot of 12 2 lots " 6 each also 2 wire equipments with CB 1/1, and 2 CB 1/4 each
2/17	1 set	Have equipped for transmission and resistance measurements, cable fault localisation, and testing; complete with oscillator, etc.
2/18	2	Portable transmission measuring sets.
2/19	1 set	Have to take cable termination for 400 pairs.
2/20	2	(Filament) Batteries each to take 40 - 4 wire repeaters; also (Grid) filament batteries each to take ringing equipments and a ringing machine to ; each battery to have a capacity for 48 hours service.
2/21	1	Petrol or paraffin engines driving two generators for charging above batteries (plate an. filament) at 7 hours rate. Spare parts.
2/22	½ tons	70lb. Cad.Cu. Hare wire or equivalent.

Section III Required roughly in order as shown as soon as possible after 1st July.

3/1	1	15 Position CB Desk with multiple for 2000 subscribers; junction multiple of 1 to markets and 10 to automatic or CB exchanges; complete with subscribers' and junction relay sets; Miscellaneous jacks, fuses, spare parts, etc.
3/2	1	Main Distribution Frame - capacity 4000 pairs.
3/3	1	Intermediate Distribution Frame.
3/4	1	Test case - complete with voltmeter.
3/5	2	Storage batteries; voltage as for above switchboard; each of capacity 1000 amp. hours.
3/6	1	Petrol or paraffin engine generator for charging above 2 batteries; output 140 amps. at normal charging voltage; complete with voltage hand regulator, spare parts.
3/7	1	Battery driven ringing machine; spare parts.
3/8	12miles 63 " 62 "	40 wire switchboard cable. 63 " " " Jumper wire.
3/9	½ sets	Maintenance tools.
3/10	¼ ton ¼ ton	Solder sticks for internal connections. Solder for plumbing underground cable joints.
3/11	500	Paper jointing sleeves (cable)

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[illegible]	1	6 - Positi n Long Distance Toll Posts equipped for 16 trunk complete with relay sets, trunks being multiplied on alternate positions
3/13	1	24 - cycle battery driven ringing machine for above, driven off filament battery.
3/14	85	4 wire repeaters with bay capacity to accommodate them on the following lots: 6 of 10 each 1 of 8 each 1 of 6 each 2 of 4 each 5 of 3 each.
3/15	90	2 wire repeaters with bay capacity to accomodate them in the following lots: 1 of 14 1 of 12 1 of 12 4 of 6 each 2 of 5 each 5 of 3 each
3/16	9	4 wire 500/20 Ringing equipments with bay capacity to accommodate 3 lots of 3 each.
3/17	42	2 wire 500/20 Ringing equipments with bay capacity to accommodate one lot of each of the following: 14, 12, 11, 6, 5, 3.
3/18	6sets	Bays equipped for transmission and resistance measurements, by cable fault localisation, and testing complete with oscillators.
3/19	4	Portable transmission testers.
3/20	2	Avometers or the equivalent.
3/21	18sets	Bays each to take Cable terminations for 200 pairs.
3/22	8 8	Filament) Batteries each to cater for 40 - 4 wire repeaters; Plate) filament batteries each to take also about 20 ringing equipments, etc. and a ringing machine load; each battery to have capacity for 48 hours service.
3/23	12 12	Filament) Batteries each to cater for 20 - 4 wire repeaters; Plate) filament batteries each to take also about 20 ringing equipment, etc. and a ringing machine load; each battery to have capacity for 48 hours service.
3/24	16 16	Filament) Batteries each to cater for 10 - 4 wire repeaters; Plate) filament batteries each to take also about 10 ringing equipments; each battery to have capacity for 48 hour service.
3/25	18	Petrol or paraffin engines each driving two generators for charging above batteries at 7 hours rate. Spare parts.
3/26	12	Sets of maintenance tools for repeaters stations.

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		following lots: 1 of 14 2 of 12 1 of 10 4 of 6 each 2 of 5 each 2 of 3 each
3/16	9	4 wire 500/20 Ringing equipment, with bay capacity to accommodate 3 lots of 3 each.
3/17	52	2 wire 500/20 Ringing equipment, with bay capacity to accommodate one lot of each of the following: 14, 12, 11, 6, 5, 3.
3/18	6sets	Bays equipped for transmission and resistance measurements, by cable fault localisation, and testing complete with oscillators.
3/19	4	Portable transmission testers.
3/20	2	Avometers or the equivalent.
3/21	15sets	Bays each to take Cable terminations for 200 pairs.
3/22	8 8	Filament) Batteries each to cater for 40 - 4 wire repeaters;) filament batteries each to take also about 20 ring- Plate) ing equipments, etc. and a ringing machine load; each battery to have capacity for 48 hours service.
3/23	12 12	Filament) Batteries each to cater for 20 - 4 wire repeaters;) filament batteries each to take also about 20 Plate) ringing equipment, etc. and a ringing machine load; each battery to have capacity for 48 hours service.
3/24	16 16	Filament) Batteries each to cater for 10 - 4 wire repeaters;) filament batteries each to take also about 10 ring- Plate) ing equipments; each battery to have capacity for 48 hour service.
3/25	16	Petrol or paraffin engines each driving two generators for charging above batteries at 7 hours rate. Spare parts.
3/26	12	Sets of maintenance tools for repeatere stations.
3/27	1	10- Position CB Board with multiple for 1000 Subscribers; junction multiple 15 to magneto and 15 to automatic or CB exchanges; complete with Subscribers' and junction relay sets; miscellaneous jacks, fuses, Spare parts, etc.
3/28	3	6 - Position CB Board with multiple for 600 Subscribers; junction multiple 15 to magneto and 15 to automatic or CB exchanges; complete with Subscribers' and junction relay sets; miscellaneous jacks, fuses, spare parts, etc.

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3/	4	Main Distribution Frames - capacities one of 3000 and three of 2000 pairs.
3/30	4	Intermediate Distribution Frames - associated with above - combined MDF and IDF would suffice in each case provided the main frame Sections had the required capacity.
3/31	2	Storage Batteries; voltages suitable for working 10 position Board in item 3/27; each of capacity 800 amp.hours.
3/32	6	Storage Batteries; voltage suitable for working 6 position Boards in item 3/28; each of capacity 600 amp.hours.
3/33	4	Test cases - complete with voltmeter.
3/34	4	Petrol or paraffin engine generators for charging batteries in items 3/31 and 3/32; outputs - one of 110 amps. and three of 80 amps at normal charging voltage; complete with voltage band regulators; spare parts.
3/35	4	Battery driven ringing machines; spare parts; driven off batteries in 3/31 and 3/32.
3/36	2miles "	42 wire Switchboard cable. 63 " " " .
	½ "	Jumper wire.
3/37	3	4 Position long distance Toll Boards each equipped for 12 trunks complete with relay sets, trunks being multiples on alternate positions.
	3	17 cycle battery driven ringing machines for above; driven off filament batteries.
3/38	12	Sets of maintenance tools for CB exchanges.
3/39	100	Vehicles (trucks) 70 of 30 cwt: 30 of 15 cwt.

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3/34	4	Petrol or paraffin engine generators for charging batteries in items 3/31 and 3/32; outputs - one of 110 amps. at three of 60 amps at normal charging voltage; complete with voltage hunt regulators spare parts.
3/35	4	Battery driven ringing machines; spare parts; driven off batteries in 3/31 and 3/32.
3/36	2miles ½ " ½ "	42 wire Switchboard cable. 63 " " " . Jumper wire.
3/37	3	4 Position long distance Toll Boards each equipped for 12 trunks complete with relay sets, trunks being multiplied on alternate positions.
	3	17 cycle battery driven ringing machines for above; driven off filament batteries.
3/38	12	Sets of maintenance tools for CB exchanges.
3/39	100	Vehicles (trucks) 70 of 30 cwt; 30 of 15 cwt.

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APPENDIX 'II'

1. CIRCUITS

1st Phase: Rome, Bologna, and Firenze in Allied hands.

Circuits :

4 wire		2 wire	
Rome - Bologna	6	Bologna - Firenze	4
Rome - Firenze	5	Firenze - Livorno	4
Rome - Napoli	4		
Rome - South elsewhere	6		

Allow repeaters for all stations North of Rome, and in repeater stations between Rome and Napoli for circuits South of Napoli.

2nd Phase: All Italy in Allied hands.

Circuits :

4 wire		2 wire	
Rome - Milano	4	Milano - Torino	5
Rome - Genova	3	Milano - Genova	5
Rome - Torino	3	Genova - Bologna	3
Rome - Venezia	3	Genova - Firenze	3
Rome - Bologna	3	Bologna - Venezia	3
Rome - Firenze	3	Bologna - Firenze	5
Rome - Trieste	3	Bologna - Milano	3
Rome - Napoli	3	Venezia - Trieste	3
Rome - South of Napoli	5	Firenze - Livorno	5

2. DETAIL OF REPEATER STATION REQUIREMENTS.

Phase 1. Repeater stations	Number of repeaters 4 wire	2 wire
Roma	22	-
Viterbo	12	-
Abbadia	12	-
Siena	12	-
Firenze	12	-
Lojano	6	-
Ferentino	6	-
Mignano	6	-
Bologna	6	-

Phase 2. Repeater stations	Number of repeaters 4 wire	2 wire
Roma	30	
Viterbo	22	
Abbadia	22	
Siena	22	14
Firenze	22	6
Lojano	22	12
Bologna	22	
Poggio Renatico	6	
Adova	6	
S. Dona DiP.	6	
Udine	6	
Trieste	6	
Modena	6	
S.Secondo	6	
Monte Beccaria	6	
Milano	6	
S.Giuliano M.P.	6	
Genova	10	
Torino	6	

Allow repeaters for all stations North of Rome, and in repeater stations between Rome and Napoli for circuits South of Napoli.

2nd Phase: All Italy in allied hands.

Circuits :

4 wire		2 wire	
Rome - Milano	4	Milano - Torino	5
Rome - Genova	3	Milano - Genova	5
Rome - Torino	3	Genova - Bologna	3
Rome - Venezia	3	Genova - Firenze	3
Rome - Bologna	3	Bologna - Venezia	3
Rome - Firenze	3	Bologna - Firenze	5
Rome - Trieste	3	Bologna - Milano	3
Rome - Napoli	3	Venezia - Trieste	3
Rome - South of Napoli	5	Firenze - Livorno	5

2. DETAIL OF REPEATER STATION REQUIREMENTS.

Phase 1. Repeater stations	Number of repeaters 4 wire	2 wire	Phase 2. Repeater stations	Number of repeaters 4 wire	2 wire
Roma	22	-	Rome	30	
Viterbo	12	-	Viterbo	22	
Abbadia	12	-	Abbadia	22	
Siena	12	-	Siena	22	
Firenze	12	-	Firenze	22	14
Lojano	6	-	Lojano	9	6
Ferentino	6	-	Bologna	9	12
Rignano	6	-	Foggia Renatico	6	7
Bologna	6	-	Udine	3	3
			Trieste	3	-
			Vodena	3	3
			S.Secundo	3	3
			Monte Beccaria	4	3
			Milano	4	13
			S.Giuliano M.P.	4	4
			Genova	10	11
			Torino	5	5
			Vercelli	5	5
			Chiavari	10	6
			Spezia	10	6
			Lucca	10	6
	94			208	117
			Less 20%	41	23
				167	91

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(a) To allow partly for 80% factor omit from list Phase 1. equipment 4 wire repeaters for Siena.

(b) To allow for 80% factor, omit from list of Phase 2. equipment 4 wire repeaters for Siena, Chiavari, Udine, and Foggia. For 2 wire Repeaters, omit Genova, Chiavari, Udine, and Foggia.

Batteries.

Allow filament and plate batteries as follows:
Duplicate batteries with 48 hours capacity each for,

5 stations to take 40 - 4 wire repeaters less 80% = 4 station
7 stations " " 30 - " " " " " = 6 "
10 stations " " 10 - " " " " " = 8 "

600/20 Binding Equipments.

1st Phase.

Total required: 4 wires

Roma	22
Bologna	6
Firenze	6
	34

All of them will be ordered for first phase.

2nd Phase.

4 wire		2 wire	
Roma	30	Milano	13
Milano	4	Torino	5
Genova	3	Genova	11
Torino	3	Bologna	14
Venezia	3	Firenze	13
Bologna	3	Venezia	6
Firenze	3	Trieste	3
Trieste	3		65
	52		
Less 20%	10	less 20%	13
	42		52

Balance above phase 1. 4 wire 8 — 2 wire 52

Numbers to be ordered extra 3 lots of 3 - 4 wire, and the following lots of 2 wire: 1 of 14, 1 of 13, 1 of 11, 1 of 6, 1 of 5, 1 of 3.

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10 stations 10 -

500/20 Hiring Equipments.

1st Phase.

Total required: 4 wires

Roma	22
Bologna	6
Firenze	6
	34

All of them will be ordered for first phase.

2nd Phase.

4 wire		2 wire	
Roma	30	Milano	13
Milano	4	Torino	5
Genova	2	Genova	11
Torino	3	Bologna	14
Venezia	3	Firenze	13
Bologna	3	Venezia	6
Firenze	3	Trieste	3
Trieste	3		65
	52		
Less 20%	10	less 20%	13
	42		52

Balance above phase 1. 4 wire 8 — 2 wire 52

Numbers to be ordered extra 3 lots of 3 - 4 wire and the following lots of 2 wire: 1 of 14, 1 of 13, 1 of 11, 1 of 6, 1 of 5, 1 of 3.

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Class I

Roma
Torino
Milano
Firenze
Bologna
Venezia
Trieste

} Two 50 Lines boards each

Class II

Spezia
Livorno
Ferrara
Verona
Modena
Padova
Brescia
Reggio Emilia

} One 50 Lines board each

Class III

Novara
Alessandria
Como
Pavia
Bergamo
Mantova
Cremona
Udine
Treviso
Vicenza
Fiume
Pola
Savona
Piacenza
Parma

} One 20 Lines bd

Class IV

Vercelli
Asti
Cuneo
Varese
Bolzano
Trento
Gorizia
Belluno
Ravenna
Forli
Lucca
Pistoia
Arezzo
Siena
Pesaro

} One 10 Lines board.

Class V.

Aosta
Sondrio
Belluno
Rovigo
Massa
Grosseto
* Carrara
* Busto Arsizio
* Biella

} One 5 Lines board.

Macerata
Ascoli
Viterbo
Rieti
Frosinone
Littoria
Teramo

} Samy 7-10 Lines
4-5

Total

Class I	4 – 2 from 50L	
II	8 – 1 from 50L	
III	17 – 20 Lines	
IV	24 – 10 Lines	
V	13 – 5 Lines	

Total Switchboards

		Samy 80%
50 Lines	— 22	17
20 -	— 17	14
10 -	— 24	19
5 ..	— 13	10

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20 - — 17 14
10 - — 24 19
5 - — 13 10

Class II

Spezia
Livorno
Ferrara
Verona
Modena
Padova
Brescia
Reggio Emilia

} Une 50 Lines board each

Class III

Novara
Alessandria
Como
Pavia
Bergamo
Mantova
Cremona
Udine
Treviso
Vicenza
Fiume
Pola
Savona
Piacenza
Parma
Pisa
Ancona

} Une 10 Lines bd

Class IV

Vercelli
Asti
Cuneo
Varese
Bolzano
Trento
Gorizia
Imperia
Ravenna
Forli
Lucca
Pistoia
Arezzo
Siena
Pesaro
Perugia
Terni

} Une 10 Lines board.

Class V.

Aosta
Sondrio
Belluno
Rovigo
Massa
Grosseto
* Carrara
* Busto Arsizio
* Biella

} Une 5 Lines board.

NW ref Class prod 1693

Macerata
Ascoli
Viterbo
Rieti
Frosinone
Littoria
Teramo
Aquila
Pescara
Chieti
Campobasso

} Same 7-10 Lines 4-5

* NW Provincial Centres.

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1. So far as has been possible to ascertain, the civil telephone system is now arranged as follows:-

(a) Urban Communications.

Within the city itself communications for appox 100000 subscribers is provided by means of the following five main automatic exchanges (shown on Exhibit).

	Probably Serving Area
Ministry of Interior Via Cesare	20000 line Central
T.E.T.I. ACEC District H, 200 Corso Vittorio Emanuele	20000 line West Central and South West
Centrale Flaminia	10000 line North West to left bank of River Tiber
Centrale Salaria, Via Sicilia	10000 line North East
Centrale Appia, Via Magna Grecia	10000 line South East
Centrale Prati, Via di Cavalli	10000 line West of River Tiber

It is probable that there are a number of satellite exchanges but no information has been obtainable on this subject.

(b) Inter-urban communication.

1692

Inter-urban communication is provided:-

(i) On the T.E.T.I. owned inter-urban network which terminates on the inter-urban switchboard located in the Via Liveno.

(ii) On the state U/G cables terminating in the state inter-urban exchange located in the Ministry of Interior.

2. Urban Cables Network.

It has not been possible to obtain either plans or precise information regarding the city telephone cable network, or of the exact area served by each exchange, but, having regard to the locations of the exchanges and information obtained from a study of the telephone directory as to locations of subscribers on these exchanges, it would appear that the distribution system follows normal civilian practice. On this assumption all main inter-exchange junction cables will meet at some central point (geographically this should be at the Ministry of the Interior), and at this point it is to be expected that there would be a large jointing chamber in which all jointing to provide inter-exchange and exchange to inter-urban exchange junctions would be effected.

3. It is known that a monitor board is located in the Ministry from which separate cables run, these being terminated as required on the [illegible] which are provided in separate rooms at all urban exchanges.

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Ministry of Interior Via Guerra	20000 line Central
T.E.T.I. ROMA District H. 203 Corso Vittorio Emanuele.	20000 line West Central and South West
Centrale Tiburtina	10000 line North East to left bank of Tevere River
Centrale Salaria, via Sicilia	10000 line North West
Centrale Appia, via Negra Greca	10000 line South East
Centrale Prati, via di Cracchi	10000 line West of River Tiber

It is probable that there are a number of satellite exchanges but no information has been obtainable on this subject.

(b) Inter-urban communication.

1692

Inter-urban communication is provided:-

(i) On the T.E.T.I. owned inter-urban network which terminates on the inter-urban switchboard located in the Via Liguria.

(ii) On the state U/G cables terminating in the state inter-urban exchange located in the Ministry of Interior.

2. Urban Cables Network.

It has not been possible to obtain either plans or precise information regarding the city telephone cable network, or of the exact area served by each exchange, but, having regard to the locations of the exchanges and information obtained from a study of the telephone directory as to locations of subscribers on these exchanges, it would appear that the distribution system follows normal civilian practice. On this assumption all main inter-exchange junction cables will meet at some central point (geographically this should be at the Ministry of the Interior), and at this point it is to be expected that there would be a large jointing chamber in which all jointing to provide inter-exchange and exchange to inter-urban exchange junctions would be effected.

3. It is known that a monitor board is located in the Ministry from which separate cables run, these being terminated as required on the duplicate frames which are provided in separate rooms at all urban exchanges.

4. Trunk entry cables from O/H routes.

It is thought that there should be at least five such cables to lead in the T.E.T.I. and circolo main O/H routes radiating from the city.

These cables would terminate : -

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Class I

Roma
Torino
Milano
Firenze
Bologna
Venezia
Trieste

Two 50 lines boards each

Totals

Class I	7	2 from 50L
II	8	1 from 50L
III	17	20 lines
IV	24	10 lines
V	13	5 lines

Total Switchboards

			Say 80%
50 lines	—	22	17
20 -	—	17	14
10 -	—	24	19
5 ..	—	13	10

Class II

Genova
Livorno
Ferrara
Verona
Modena
Padova
Brescia
Reggio Emilia

One 50 lines board each

Class III

Novara
Alessandria
Como
Pavia
Bergamo
Mantova
Cremona
Udine
Treviso
Vicenza
Fiume
Pola
Savona
Piacenza

One 20 lines bd

Class IV

Vercelli
Asti
Cuneo
Varese
Bolzano
Trento
Gorizia
Imperia
Ravenna
Forli
Lucca
Pistoia
Arezzo
Siena

One 10 lines board.

Class V.

Aosta
Sondrio
Belluno
Rovigo
Massa
Grosseto
* Carrara
* Busto Arsizio
* Biella

One 5 lines board.

Not yet classified 1939?

Macerata
Ascoli
Viterbo
Rieti
Frosinone
Littoria

Say 7-10 lines
4-5 "

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10 - - 24 19
5 .. — 13 10

Class II

Spezia
Livorno
Ferrara
Verona
Modena
Padova
Brescia
Reggio Emilia

} One 50 Lires board each

Class III

Novara
Alessandria
Como
Pavia
Bergamo
Mantova
Cremona
Udine
Treviso
Vicenza
Fiume
Pola
Savona
Piacenza
Parma
Pisa
Ancona

} One 20 Lires bd

Class IV

Vercelli
Asti
Cuneo
Varese
Bolzano
Trento
Gorizia
Imperia
Ravenna
Forli
Lucca
Pistoia
Arezzo
Siena
Pesaro
Perugia
Terni

} One 10 Lires board.

Class V.

Aosta
Sondrio
Belluno
Rovigo
Massa
Grosseto
* Carrara
* Busto Arsizio
* Biella

} One 5 Lires board.

Not ret classified 1893

Macerata
Ascoli
Viterbo
Rieti
Frosinone
Littoria
Teramo
Aquila
Pescara
Chieti
Campobasso

} Say 7-10 Lires 4-5.

* Not Provincial centres.

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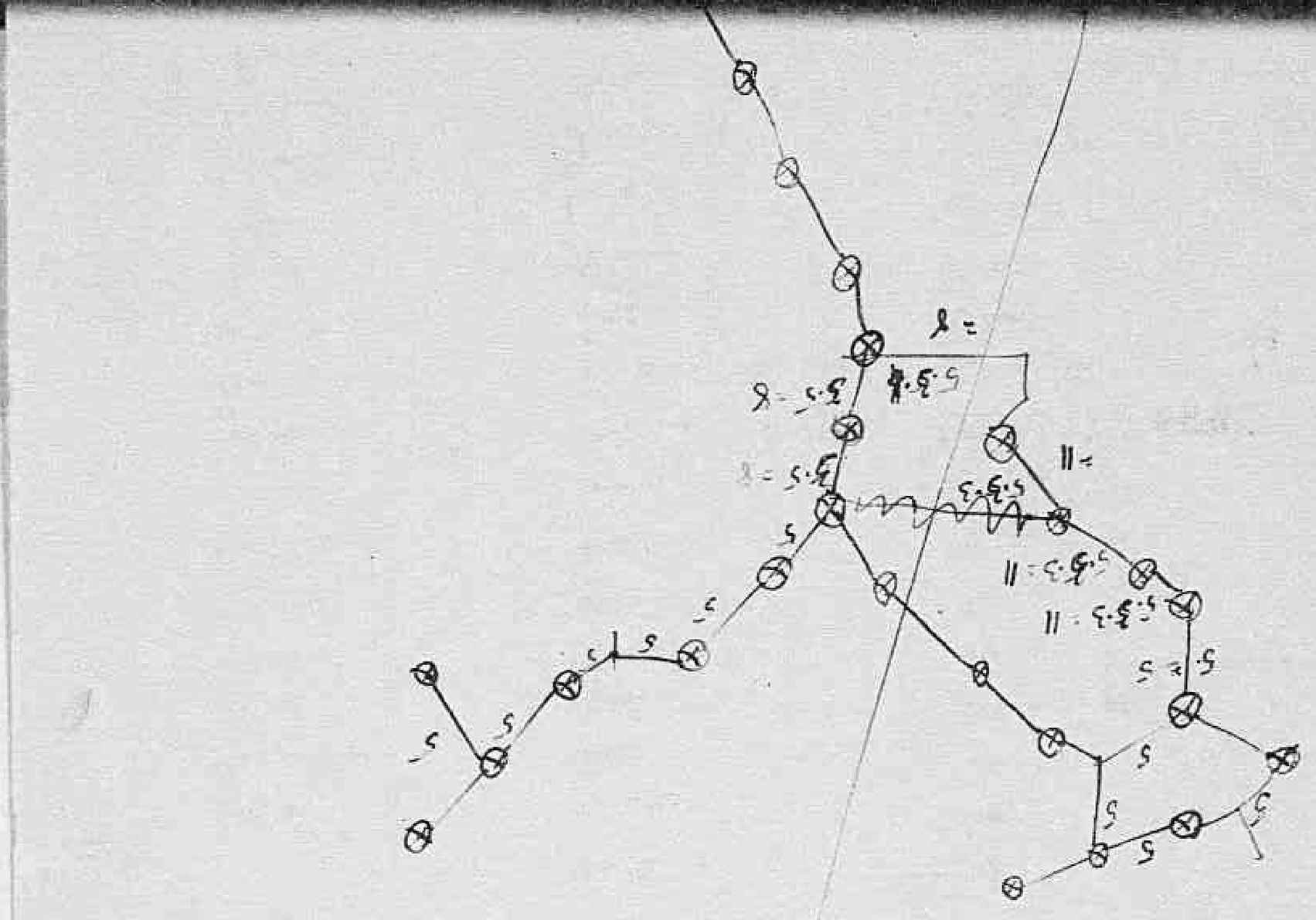

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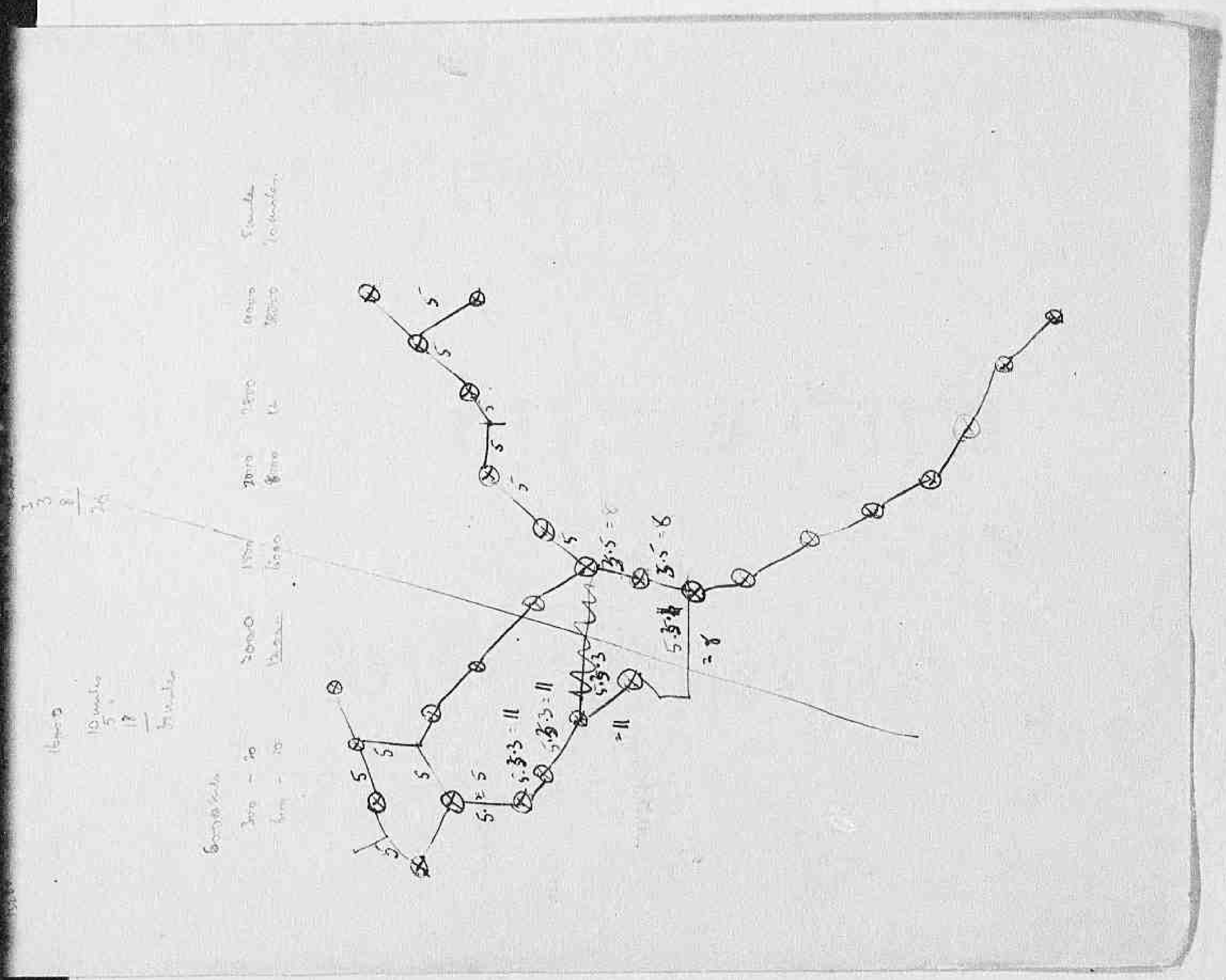

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BEST COPY POSSIBLE

1. So far as has been possible to ascertain, the civil telephone system in ROME is arranged as follows:-

(a) Urban Communication.

Within the city itself communications for approx 100000 subscribers is provided by means of the following five main automatic exchanges (giveame and Hekuba).

	Probably serving Area
Ministry of Interior via Genova	20000 line Central
T.E.T.I. ROME district HQ 265 Corso Vittorio Emanuele	20000 line West Central and South West
Centrale Flaminia	12000 line North West to left bank of River Tiber
Centrale Salaria, via Sicilia	10000 line North West
Centrale Appia, via Magna Grecia	10000 line South East
Centrale Prati, Via di Cracchi	10000 line East of River Tiber

It is probable that there are a number of satellite exchanges but no information has been obtainable on this subject.

(b) Inter-urban communication.

1692

Inter-urban communication is provided:-

(i) On the T.E.T.I. owned inter-urban network which terminates on the inter-urban switchboard located in the Via Liguria.

(ii) On the State U/G cables terminating in the State inter-urban exchange located in the Ministry of Interior.

2. Urban Cables Network.

It has not been possible to obtain either plans or precise information regarding the city telephone cable network, or of the exact area served by each exchange, but, having regard to the locations of the exchanges and information obtained from a study of the telephone directory as to locations of subscribers on these exchanges, it would appear that the distribution system follows normal civilian practice. On this assumption all main inter-exchange junction cables will meet at some central point (geographically this should be at the Ministry of the Interior), and at this point it is to be expected that there would be a large jointing chamber in which all jointing to provide inter-exchange and exchange to inter-urban exchange junctions would be effected.

3. It is known that a monitor board is located in the Ministry from which separate cables run, these being terminated as required on the Quadrante Europa which are provided in separate rooms at all urban exchanges.

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Ministry of Interior via Cenova	20000 line Central
T.E.T.I. ROMA District II, 205 Corso Vittorio Emanuele	20000 line East Central and South West
Centrale Flaminio	10000 line North East to left bank of River Tiber
Centrale Salaria, via Sicilia	10000 line North East
Centrale Appia, via Lugra Cecilia	10000 line South East
Centrale Prati, via di Grecia	10000 line West of River Tiber

It is probable that there are a number of satellite exchanges but no information has been obtainable on this subject.

(b) Inter-urban communication.

1692

Inter-urban communication is provided:-

(i) On the T.E.T.I. owned inter-urban network which terminates on the inter-urban switchboard located in the via Liguria.

(ii) On the State U/G cables terminating in the state inter-urban exchange located in the ministry of Interior.

2. Urban Cable Network.

It has not been possible to obtain either plans or precise information regarding the city telephone cable network, or of the exact area served by each exchange, but, having regard to the location of the exchanges and information obtained from a study of the telephone directory as to locations of subscribers on these exchanges, it would appear that the distribution system follows normal civilian practice. On this assumption all main inter-exchange junction cables will meet at some central point (geographically this should be at the Ministry of the Interior), and at this point it is to be expected that there would be a large jointing chamber in which all jointing to provide inter-exchange and exchange to inter-urban exchange junctions would be effected.

3. It is known that a monitor board is located in the Ministry from which separate cables run, these being terminated as required on the duplicate frames which are provided in separate rooms at all urban exchanges.

4. Trunk entry cables from O/H routes.

It is thought that there should be at least five such cables to load in the T.E.T.I. and Circolo main O/H routes radiating from the city.

These cables would terminate : -

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In the case of T.E.T.I. routes on the T.E.T.I. inter-urban switchboard.

In the case of circuits routed at the main post office and Telegraph office Piazza San Silvestro, from which point T.E.T.I. telephone circuits on Circle routes would be taken to the T.E.T.I. inter-urban switchboard.

5. On the foregoing assumptions the general layout of NCSS should be as shown on diagram at Appendix 'A'.

6. It can be assured that the enemy will take steps to ensure, either by removal of equipment or destruction, that the use of the urban and inter-urban exchanges is denied to us. It is believed that, although cables will be broken at points of entry to exchanges and possibly also at some main distribution points, the enemy is unlikely to undertake such extensive destruction of the cable network as would make it more profitable to provide communication by fresh construction as opposed to the repair of the existing network.

It is considered, therefore, that provision of communication should be effected by installation of a manual exchange system utilising the existing civil network as received.

7. The plan for provision of communication is as follows:-

(a) Phase I Appendix "B". Initial and essential operational communications being provided on field wire basis by Army Administration signals.

Since it is unlikely that it will be possible to make any part of the civil cable network available within the time by which the communication would be required, it is considered that military construction will be necessary. The exchanges would be located at or adjacent to the sites of the existing civil exchanges. This plan calls for the provision of the following major items of equipment.
1 TG-1, 4 TG-2's.

(b) Phase II. Appendix "B".

(i) As the cable network linking exchanges was repaired the magneto type exchanges initially installed would be replaced by larger C.B. type switchboards. The employment of C.B. switchboards, apart from the greater ease of operation, will enable use to be made of existing civilian telephones and PBX's

1691

(ii) It is considered essential for good working that one of the urban exchanges should be the main exchange with an adequate number of junctions to all subsidiary inter-urban exchanges as well as to the trunk exchange. The subsidiary exchanges would have direct junctions to each other and to the trunk exchange, but the correct number of junctions required to each point could be decided on after examination of traffic. Temporary access traffic loads between any two subsidiary exchanges or between

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6. It can be assumed that the enemy will make no attempt, either by removal of equipment or destruction, that the use of the cable and inter-urban exchanges is denied to us. It is believed that, although cables will be broken at points of entry to exchanges and possibly also at some main distribution points, the enemy is unlikely to undertake such extensive destruction of the cable network as would make it more profitable to provide communication by fresh construction as opposed to the repair of the existing network.

It is considered, therefore, that provision of communication should be effected by installation of a manual exchange system utilising the existing civil network as required.

7. The plan for provision of communication is as follows:-

(a) Phase I Appendix "A". Initial and essential communications being provided on field fire leads by City Administration Signals.

Since it is unlikely that it will be possible to make any part of the civil cable network available within the time by which the communication would be required, it is considered that military construction will be necessary. The exchanges would be located at or adjacent to the sites of the existing civil exchanges. This plan calls for the provision of the following major items of equipment.
1 TG-1, 4 TG-2's.

(b) Phase II. Appendix "B".

(i) As the cable network linking exchanges was repaired the magneto type exchanges initially installed would be replaced by larger C.B. type switchboards. The employment of C.B. switchboards, apart from the greater ease of operation, will enable use to be made of existing civilian telephones and PBX's.

1691

(ii) It is considered essential for good working that one of the urban exchanges should be the main exchange with an adequate number of junctions to all subsidiary inter-urban exchanges as well as to the trunk exchange. The subsidiary exchanges would have direct junctions to each other and to the trunk exchange, but the correct number of junctions required to each point could be decided on after examination of traffic. Temporary access traffic loads between any two subsidiary exchanges or between a subsidiary exchange and the trunk exchange would be carried through the main exchange.

(iii) The major items of equipment required either seven switchboards type T.C.I. or equivalent or two switchboards type T.C.I. or equivalent, and ten switchboards type B.B.55/B.B.53 or equivalent.

(iv) The arrangement of exchanges as shown in Appendix gives a potential of approx 1200 urban subscriber

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positions, but having regard to the high selling rate which obtains on military circuits, it is considered that connections to the switchboards should be limited to 5% of capacity in order to avoid excessive operating load and consequent inefficiency. Allowing for the fact that a certain number of subscriber positions on the urban exchanges will be taken up by connections to various R.A.P.B.X. and that the junctions from these P.B.X. are idle at the subscribers on the P.B.X. it is calculated that the system will be capable of giving reasonable urban and trunk connection service to approx 2000 subscribers.

(v) It will be noted that no provision has been made for civil subscribers. It is considered that it will not be possible, with the equipment which is or is likely to be available, to provide a civil position on these military urban switchboards. Communication for essential civil subscribers will require to be effected through the A.M.S. or A.D.S. connections to the military system or, in the case of really vital requirements, on a point to point basis.

7. Repair of the cable network.

(a) It is envisaged that the following work will require to be undertaken:-

(i) Repair of cables from main urban exchange to subsidiary urban exchanges.

(ii) Repair of a trunk entry cable leading towards the location at which it is proposed to locate the carrier terminals on the C/H routes.

(iii) Repair of selected primary subs distribution cables from all urban exchanges.

(iv) Repair of such trunk entry cables as may be required to bring in circuits from installations situated in the areas outside the city distribution system.

Repair of the cable network. (cont)

(b) The priority on which these repairs will require to be effected will depend on the information obtained from signals officers of the various HQ in RCAF as to location of formation HQ and installations and priority of requirement. It is obvious however that the first priority will be the repair of the cabling from the urban exchanges to one or more subsidiary exchanges and also to the C/H carrier terminal.

(c) The estimate of stores requirements for repair of the system is based on quantities used on similar work in Malta and is attached at Appendix "D".

8. Trunk exchange.

1699

Initially it is proposed to terminate RCAF trunk circuits on the

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these p.B.X. are 10% of the subscribers on the p.M.B. It is calculated that the system will be capable of giving reasonable urban or trunk connection service to approx 1000 subscribers.

(v) It will be noted that no provision has been made for civil subscribers. It is considered that it will not be possible, with the equipment which is or is likely to be available, to provide a civil position on those military urban switchboards. Accommodation for essential civil subscribers will require to be effected through the A.M.E. or A.C.E. connections to the military system or, in the case of really vital requirements, on a point to point basis.

7. Repair of the cable network.

(a) It is envisaged that the following work will require to be undertaken:-

(i) Repair of cables from main urban exchange to subsidiary urban exchanges.

(ii) Repair of a trunk entry cable leading towards the location at which it is proposed to locate the carrier terminals on the O/H routes.

(iii) Repair of selected primary cable distribution cables from all urban exchanges.

(iv) Repair of such trunk entry cables as may be required to bring in circuits from installations situated in the areas outside the city distribution system.

Repair of the cable network.

(b) The priority on which these repairs will require to be effected will depend on the information obtained from signals officers of the various HQ in ROME as to location of formation HQ and installations and priority of requirement. It is obvious however that the first priority will be the repair of the cabling from the urban exchanges to one or more subsidiary exchanges and also to the O/H carrier terminal.

(c) The estimate of stores requirements for repair of the system is based on quantities used on similar work in NAPLES and is attached at Appendix "B".

8. Trunk exchange.

1699

Initially it is proposed to terminate ROME trunk circuits on the main urban exchange, the circuits being led in on a military cable. Subsequently a trunk exchange would be set up in ROME adjacent to the main urban exchange, although initially and until the trunk entry cable had been repaired it might be necessary to locate the trunk exchange outside the city adjacent to the O/H carrier terminals. A 200 line Gowmani switchboard or equivalent would be suitable for the initial installation.

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HEADQUARTERS
4 MAR 1944
A. C. of S.

Dept. Planning file

Dupe Sig O. Acc
S-236

141

APO 512, U. S. Army
1 March 1944

SUBJECT: Provision of Communications for Military Purposes in Northern Italy.

TO : Chief, Military Government Section, AFHQ.

1. From experience gained in the occupation of NAPLES by our forces it is reasonable to expect that a major portion of the Signal communication equipment found in the Northern Italian cities and towns which will eventually be under control of the Allied Forces will be damaged to the extent that repairs are impracticable. The practice of the enemy destroying all switchboards and central office equipment will result in a tremendous communications problem for civil administration as well as military communications.

2. Communication equipment available to the theater through military channels is limited to the tactical operation requirements of the military forces and will not normally be available for civil administration communications other than for a very short period initially. This is in line with our general policy concerning the provision of communication facilities for AMGOT in Western Sicily as outlined in our letter dated 11 September 1943, file 311.3/1 (Wire).

3. It is suggested that your section initiate such action as considered necessary, which will make available on short notice, temporary telephone exchanges and associated equipment for civil administration purposes pending restoration of the main civil system.

See 19
20
21
28

4. It is suggested that:

a. Your section investigate sources of used equipment removed, or which can be made available, from industrial establishments, particularly in and around NAPLES and also in Southern Italy, that could possibly be utilized for the temporary restoration of necessary civil communications in all of the cities in Italy yet to come under control of the Allied Forces.

1689

b. It is further suggested that you initiate prompt action with communication authorities in the UK or US to determine what used equipment is available for the purposes outlined in paragraph 4 a above. Civil telephone supply agencies in the US and UK should be consulted on this matter.

Recd. 5th Mar. 44.

Lieut-Col. [illegible]
Col. [illegible]

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c c. A list of the major critical items of equipment and material is indicated on the attached APPENDIX.

5. Such equipment as can be made available should be crated, marked, and delivered to ports of embarkation ready for immediate shipment to the theater if needed. The city of ROME alone will certainly present a serious problem insofar as civil communications are concerned.

6. It is felt that this problem is particularly a concern of the Military Government Section. It is presented at this time with a view of having a Signal Officer of your section prepare a plan for the prompt rehabilitation of the civil telephone and telegraph system to insure the early release of all military communication equipment initially installed. This plan should include the necessary warning orders on the US and UK so that timely preparation may be made to fill the requirements when needed.

7. The Signal Section, AFHQ, will be glad to assist in this matter. We are deeply interested in the prompt and proper solution of it, since any delay will result in requiring the use of essential military equipment in the area for a longer period than would otherwise be necessary.

T. J. TULLY,
Colonel, Signal Corps,
Deputy Chief Signal Officer.

HEADQUARTERS
4 MAR 1944
A. C. C.

Copies to:
CSO, ACMF
CSO, L of C, ITALY
SO, ACC
SO, PBS
OIC, Wire Div.

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APPENDIX

MAJOR CRITICAL ITEMS OF MATERIAL AND EQUIPMENT
SUGGESTED FOR PROMPT REHABILITATION AND/OR TEMPORARY USE IN ITALIAN AREAS

1. Local CB switchboard (with large size distribution frames, 1,000 to 10,000 line capacity).- - Two each

2. Four to eight position multiple CB switchboards (manual or dial operation) preferably the latter.- - Four each

3. Toll switchboards. - 6 Position - one each

4. Power supply.

5. Local and toll testing equipment.

6. Splicing materials for repair of cables. Also central office cabling (S & C type).

7. Toll terminal equipment.

a. Telephone and telegraph repeaters and terminals.

b. Power plants, batteries and motor generators.

c. Toll test boards, distribution frames and associated equipment.

d. 2000 telephones (Balance expected to be found in area).

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MAPS FILMED ON

35MM ROLL

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APPENDIX

SECRET

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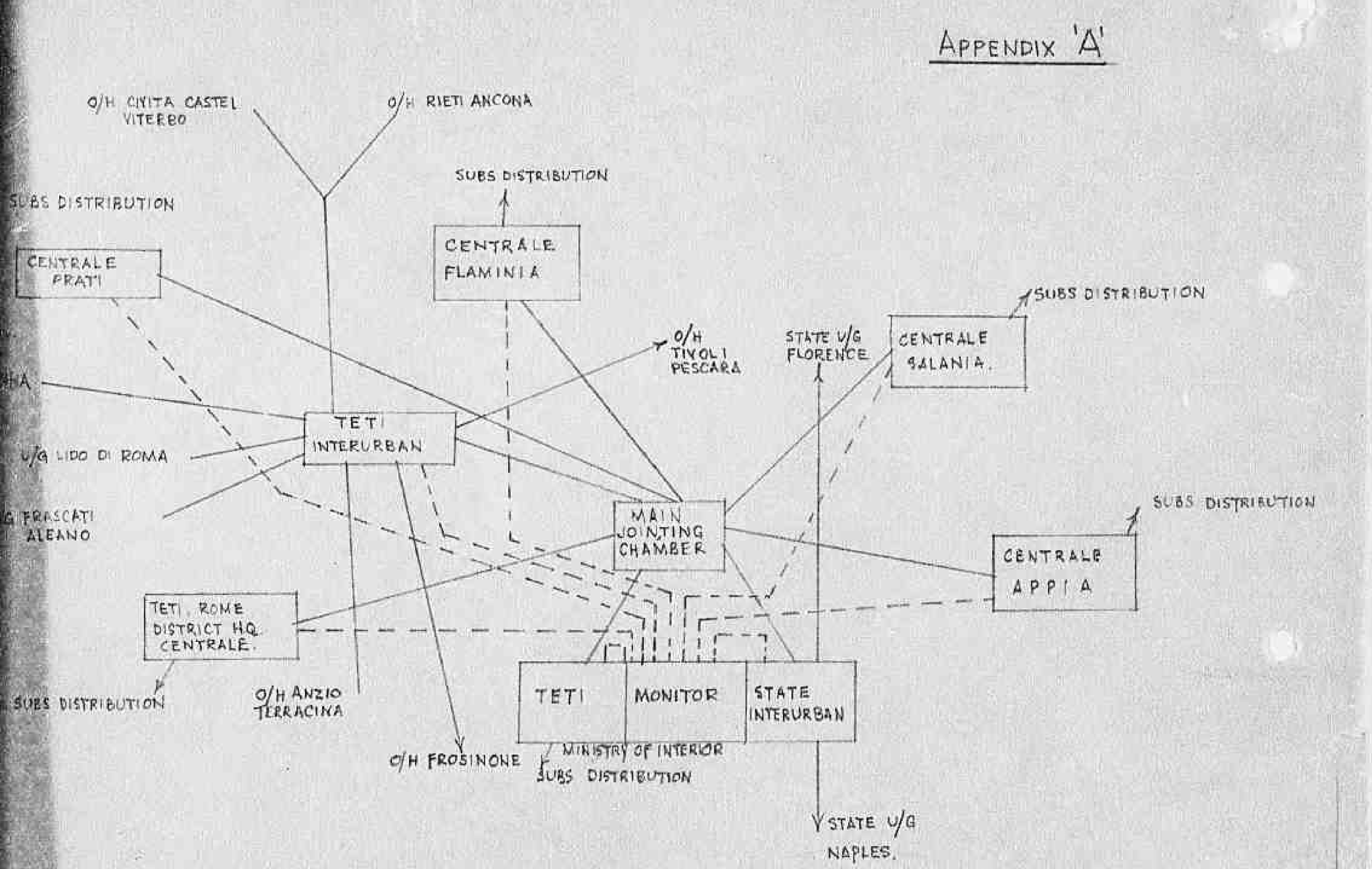
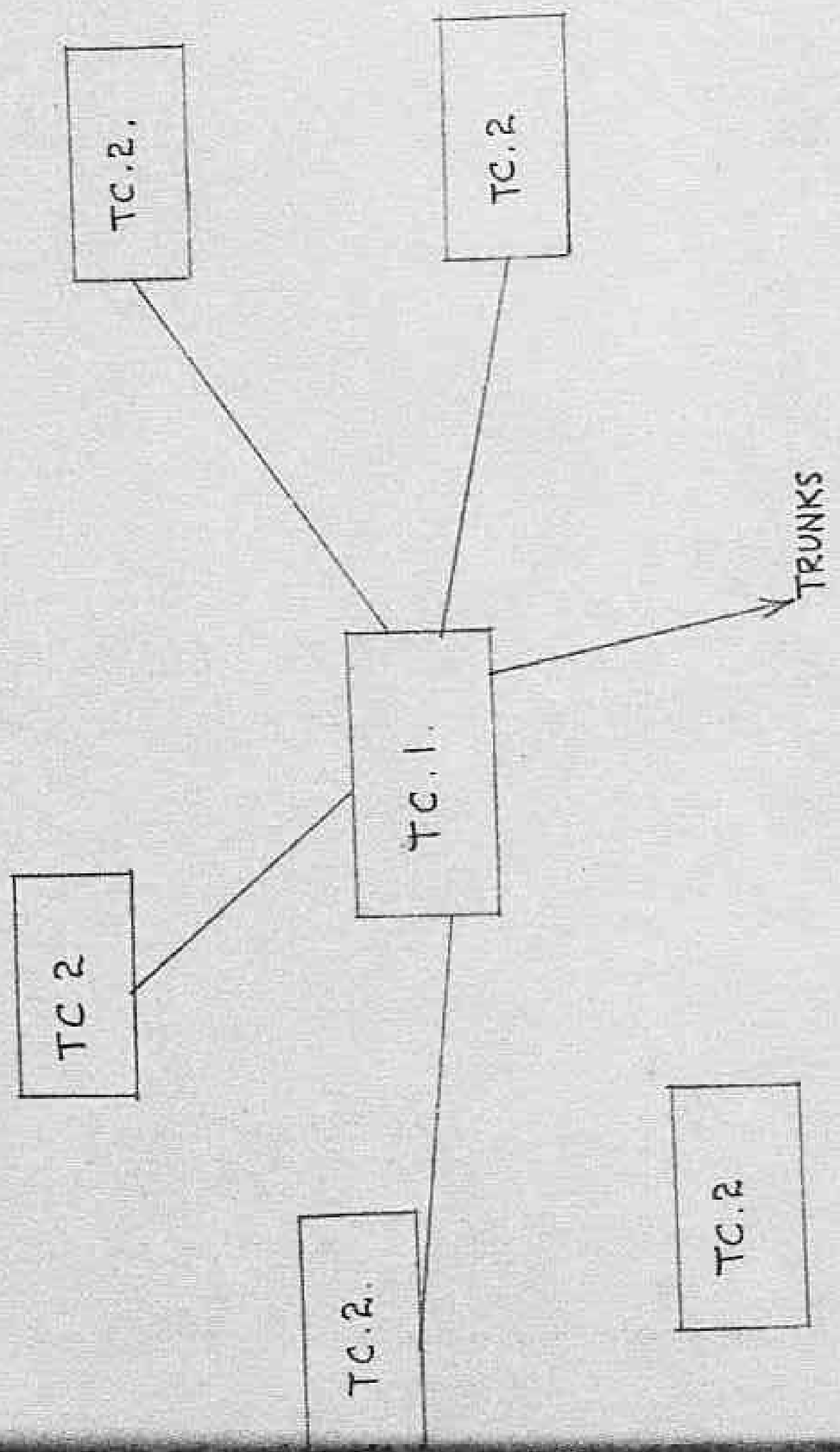
APPENDIX 'A'



SECRET

APPENDIX 'B'



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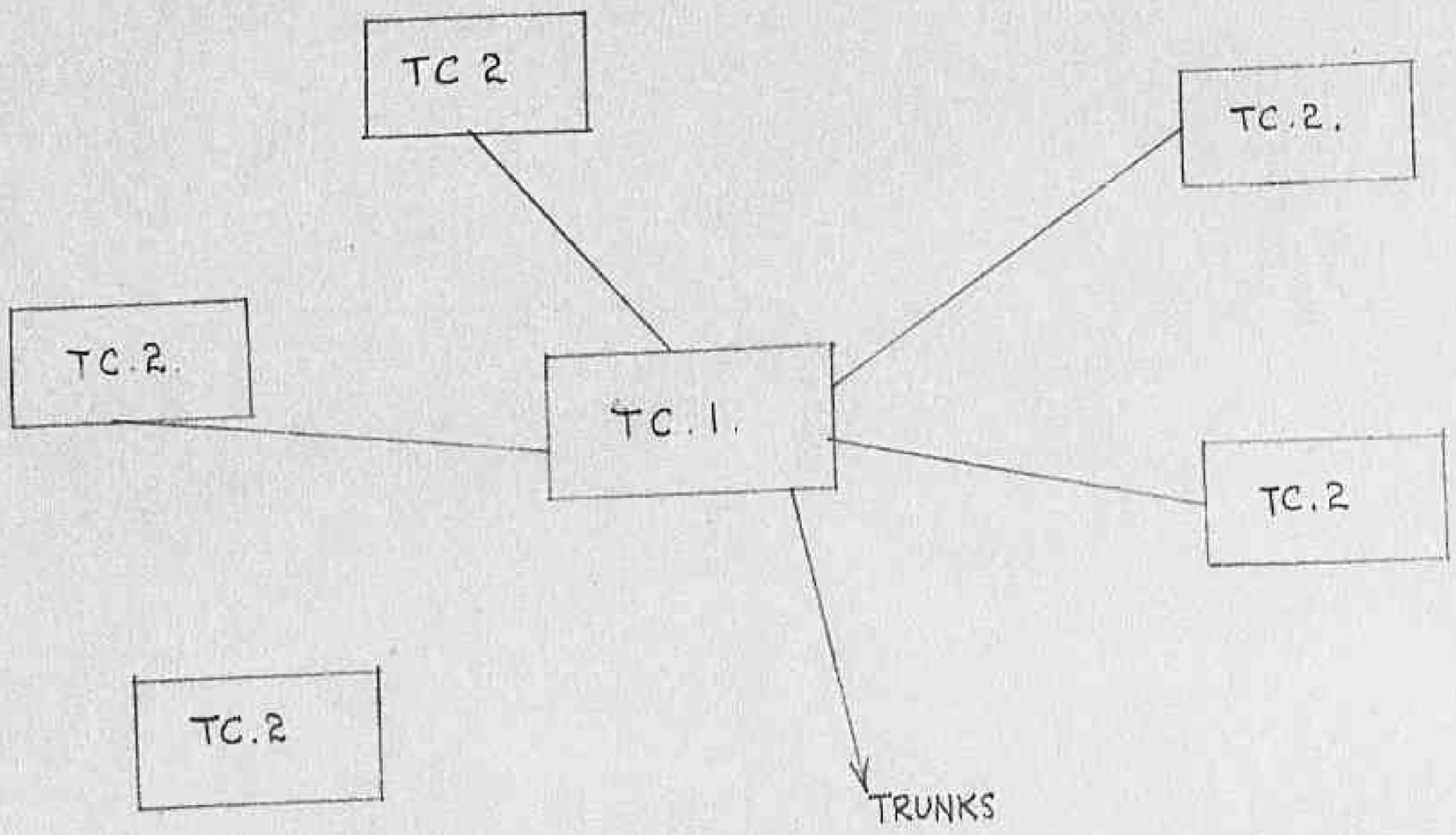
APPENDIX 'B'



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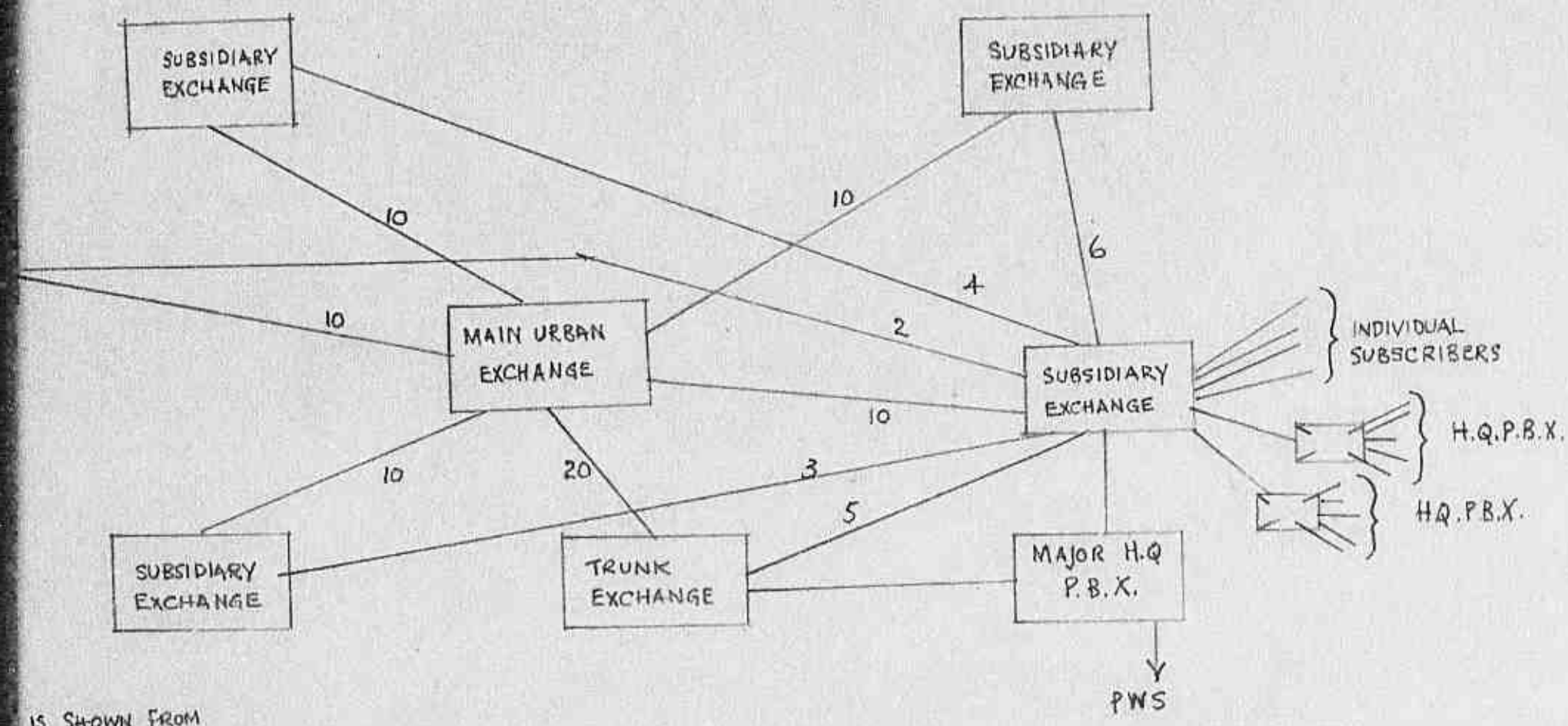
SECRET

APPENDIX 'C'



IS SHOWN FROM
HANGE ONLY THE
JUNCTIONS AVAILABLE OR
AND DEPEND ON
NTS.

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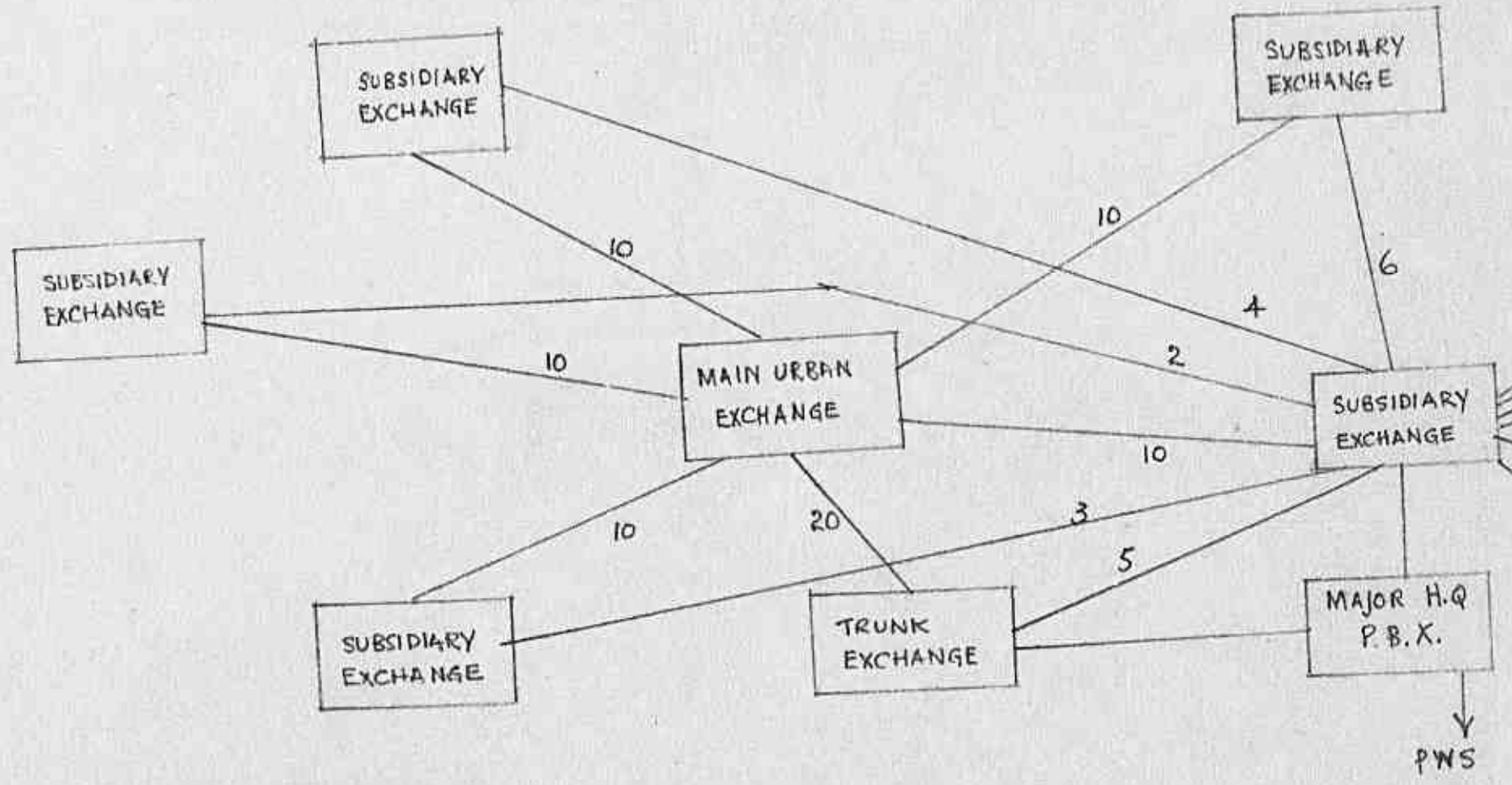
APPENDIX 'C'



COMPLETE DISTRIBUTION IS SHOWN FROM ONE SUBSIDIARY EXCHANGE ONLY. THE ALLOCATION OF THE 30 JUNCTIONS AVAILABLE OR TWO BD 550's WOULD DEPEND ON TRAFFIC REQUIREMENTS.

FIG 3

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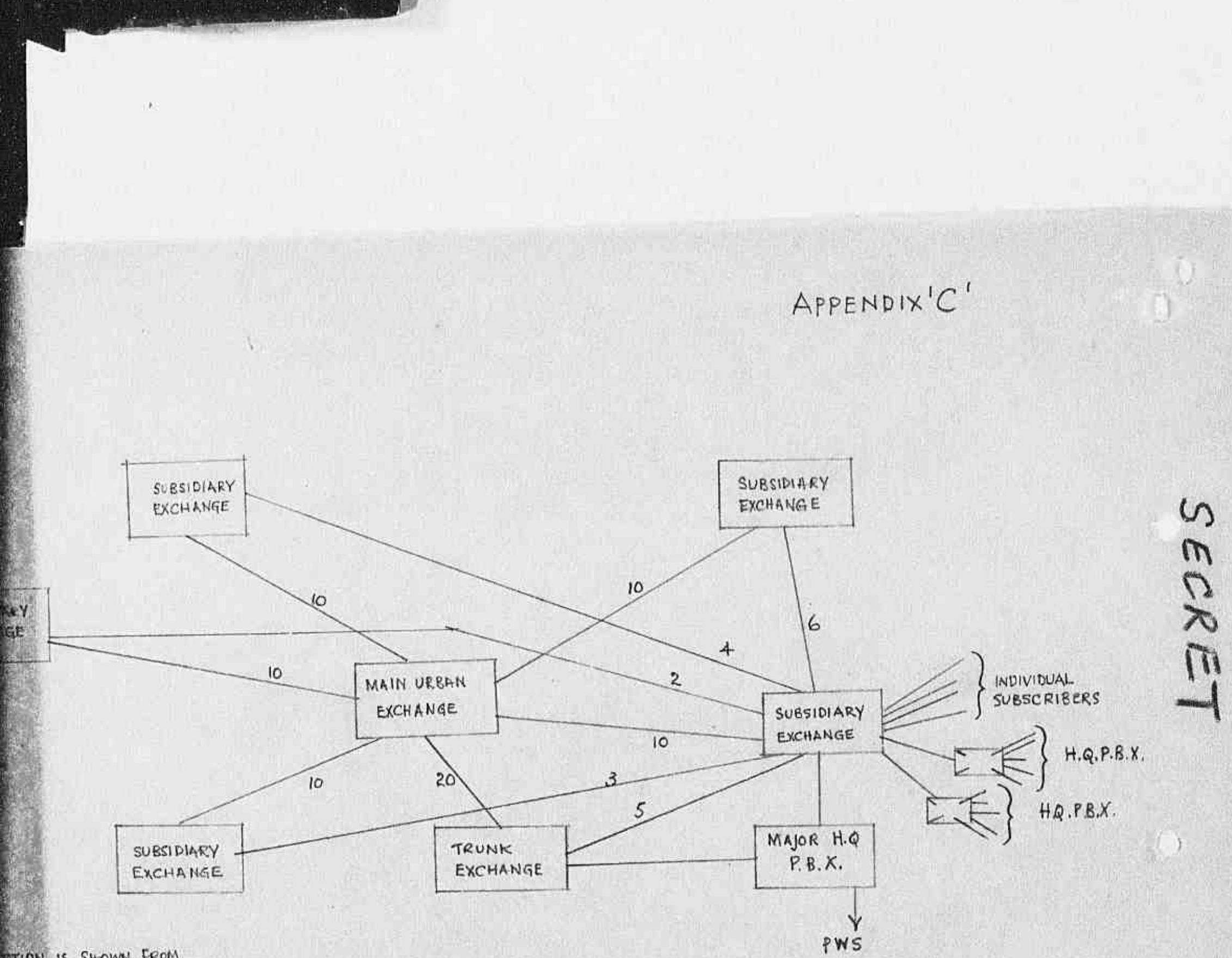
APPENDIX 'C'



TION IS SHOWN FROM
EXCHANGE ONLY THE
E 30 JUNCTIONS AVAILABLE OR
WOULD DEPEND ON
EMENTS.

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SECRET

0294

Declassified E.O. .2356 Section 3.3/NND No. 785015

WJH/tjj

To: Under Secretary of State for Telecommunications and Posts.

From: Telecommunications and Posts Sub-Commission.

Subject: Provision of Communications in that part of Italy now occupied by the Enemy.

Reference: T3/4/12/62 : 17th March, 1944.

1. As it is certain that the enemy will carry out much more demolition in the land he now occupies, more so than he was able to accomplish in Southern Italy, it is necessary to plan what steps should be taken now to obtain sufficient stores and equipment to provide a working minimum of communications for Government purposes.

2. It is necessary to decide : -

a. The minimum equipment necessary in each town.
b. Whether or not it can be expected to obtain such equipment from Italian sources or whether it should be requested from USA or UK.

3. Line stores will have to be considered as well, though it may be anticipated that some reconstruction of the main underground cables will be undertaken by Army Signals, who will probably be able to release some circuits as they have been doing.

4. At Appendix "A" is an analysis of the number of towns to be catered for, and at Appendix "B" are details of proposed units which should be boxed up in advance for the towns of various sizes. No proposals have been prepared for the larger towns.

5. In preparing Appendix "B" it has been assumed that towns having a population of less than 25,000 would have to depend on a telegraph circuit, and that sufficient morse equipment could be found in the area to make this possible.

6. It will be seen that no attempt has been made to cover the possibility of repairing automatic exchanges, as it is thought that this matter could only be considered by an inspection on site and in any case it is unlikely that suitable equipment exists unless a complete unit were installed.

7. Perhaps a discussion on the matter can be arranged at your earliest convenience.

1682

J. L. Henderson
Colonel,
Director, Telecommunications and Posts Sub-Commission.

APPENDIX "A"

DETAILS OF AREA NORTH OF CAMPANIA AND PUGLIE.

Number of : -

COMPARTIMENTI	.....	12
PROVINCES	.....	68
ACC REGIONS	.....	9
TOWNS BY POPULATION (figures not inclusive)		
over 200,000	.....	8
" 100,000	.....	9
" 50,000	.....	32
" 25,000	.....	69
" 10,000	.....	
COMMUNES	.....	3358 with telephones.

The average telephone density is about 1.5 per 100 population.

COMPARTIMENTI.

COMPARTIMENTO	No. of PROVINCES	No. of TOWNS (figures not inclusive)			
		over 100,000	over 50,000	over 25,000	over 10,000
Abbruzzi-Molise	5	-	2	5	19
Emilia	8	Genoa Modena La Spezia Reggio Bologna Ferrara	6	7	38
Lazio	5	Rome	-	8	19
Liguria	4	-	1	3	10
Lombardy	9	Milan Brescia	5	6	1681
Marche	4	-	1	8	18
Piedmont	7	Turin	2	6	26
Tuscany	9	Florence Leghorn	6	7	60

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over 200,000	 8
" 100,000	 9
" 50,000	 32
" 25,000	 69
" 10,000	.....

COMUNES ..... 3358 with telephones.

The average telephone density is about 1.5 per 100 population.

COMPARTIMENTI.

COMPARTIMENTO	No. of PROVINCES	No. of TOWNS (figures not inclusive)			
		over 100,000	over 50,000	over 25,000	over 10,000
Abbruzzi-Molise	5	-	2	5	19
Emilia	8	Genoa Modena La Spezia Reggio Bologna Ferrara	6	7	38
Lazio	5	Rome	-	8	19
Liguria	4	-	1	3	10
Lombardy	9	Milan Brescia	5	6	1681
Marche	4	-	1	8	18
Piedmont	7	Turin	2	6	26
Tuscany	9	Florence Leghorn Carrara	6	7	60
Umbria	2	-	3	4	19
Venezia Eugania	8	Venice Verona Padua	3	10	45
Venezia Giulia	5	Trieste	1	4	12
Venezia Tridentina	2	-	2	1	4

LARGEST TOWN...../

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Appendix "B"

Towns 25-50,000 population.

UNIT 1. Switchboard Magneto..10 line..1
Instruments F. with battys....11 complete Genrs.
Wire PBJ or twisted D 8..... 10 miles
Blocks terminal.... 10
Wire, flameproof... ... 100 yds
Strips conn. 20 oct..... .. 1
Tools:-
Waterproof satchel
Screwdriver
Side - cutters
Long-nosed pliers.. Tool 82
Bit,soldering, small
Spool cored solder
Telephone 44... linesman's instrument.
Insulating tape.

Towns 50-100,000 population.

UNIT 2. Switchboard Magneto..20 line or(F&F)
Tele. Magneto complete..... 21
All other items double Unit 1.

Towns greater than 100,000 population.

UNIT 3. Switchboard 10 ring-down,40 CB terminations...1
Batteries (car type) and charging plant 160v45 cycle.
(these cannot be specified unless type of swbd. can determined in advance).
Telephones CB.....42
Wire PBJ or D8.....10 miles
Wire 40lb bronze.....1/2 ton. approx.15 route miles.
Distribution Case 60 pair..1 plus binders etc.
Blocks terminal.....40
Tools:-
As in unit 1.....3
Detectors No. 4 or equiv. 1
Wire:- flameproof and jumper

It is anticipated that a little power will be available 3 or 4 days after the Allies take over any large town.

Stores per Region

Plumbing metal.....½ ton.
70 lb. bronze or C . Copper...12 tons...approx 200 route miles.
Paper sleeves, binder miscellaneous stores Cored Solder.

1680

Items to be considered

Multiple switchboards for the largest towns or switching centres.
Break-up of area covered by Rome and Milan

Testing equipment...
Spare batteries, cords and re-placement parts.

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Screwdriver
Side - cutters
Long-nosed pliers.. Tool 81
Bit,soldering, small
Spool cored solder
Telephone 44... linesman's instrument.
Insulating tape.

Towns 50-100,000 population.

UNIT 2. Switchboard Magneto..20 line or(F&F)
Teles. Magneto complete..... 21
All other items double Unit 1.

Towns greater than 100,000 population.

UNIT 3. Switchboard 10 ring-down,40 C3 terminations...1
Batteries (car type) and charging plant 160v/5 cycle.
(these cannot be specified unless type of Swbd. can determined in advance).
Telephones CB.....42
Wire PBJ or D8.....10 miles
Wire 40lb bronze.....1/2 ton. approx.15 route miles.
Distribution Case 60 pair..1 plus binders etc.
Blocks terminal.....40
Tools:-
As in unit 1.....3
Detectors No. 4 or equiv. 1
Wire:- flameproof and jumper

It is anticipated that a little power will be available 3 or 4 days after the Allies take over any large town.

Stores per Region

plumbing metal.....½ ton.
70 lb. bronze or C . Copper...12 tons...approx 200 route miles.
Paper sleeves, binder miscellaneous stores Cored Solder.

1680

Items to be considered

Multiple switchboards for the largest towns or switching centres.
Break-up of area covered by Rome and Milan

Testing equipment...
Spare batteries, cords and re-placement parts.
Larger size Distribution frames for cable switching
Vide Borsa, Naples.
Emergency power plant - gasoline driven

0298

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LARGEST TOWNS.

TOWN	POPULATION	NO. OF TELEPHONES
Rome	1,155,722	111,784
— Milan	1,115,348	97,392
— Turin	629,115	40,474
— Genoa	634,646	34,484
Florence	322,535	19,506
— Bologna	269,687	14,011
— Venice	264,027	8,923
— Trieste	248,379	12,270
— Verona	153,708	3,905
— Padua	138,709	4,540
Leghorn	124,963	4,122
— Brescia	123,332	3,795
— Ferrara	119,265	2,980
Carrara (Apuania)	113,161	-
— La Spezia	106,119	2,851
— Reggio (Emilia)	103,462	-
— Modena	100,000	2,674

Suburbs:

Genoa

Albaro	3,150	5 Exchanges
Sestri Ponente	9,050	
Pellicceria	10,200	
Sampierdarena	26,50	

Suburbs: 21 exchanges of about 3,500 lines total.

Bologna - 900

Livorno - 3880

Florence - Florence 8700

Campo di Marte 1900.

2 - 200 lines each.

0300

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COMMUNES HAVING POPULATION BETWEEN 25,000 - 100,000

SICILY	NO.
Trapani	63,540
Marsala	62,171
Siracusa	53,166
Caltanissetta	50,467
Noto	29,992
Canciatte	29,974
Pozzo di Gatto	27,153
Comiso	26,500
Aceriale	36, 871
Agrigento	34,317
Erice	32,933
Gela	32,855
Licata	31,611
Paterno	32,919

APULIA	NO.
Province of Bari	
Andria	57,046
Barletta	52,386
Malfetta	49,361
Corato	44,661
Bisciglie	33,552
Bitonto	31,800
Atamura	31,413
Trani	31,175
Monopoli	29,653
Canoso di Puglia	28,377
Ruvo di Puglia	25,452
Province of Brindisi	
Brindisi	41,699
Ostuni	28,247
Province of Foggia	
Foggia	69,403
Cirignola	39,540
San Severo	37,702
Monte Sant'Angelo	25,509
Province of Lecce	
Lecce	49,261
Province of Ionio Taranto	
Martina Franca	32,629

Sardinia	NO.
Cagliari	126,861
Sassari	55,373
Iglesias	21,720

LUCANIA	NO.
Potenza	25,103
Matera	23,044

CALABRIA	NO.
Catanzaro	49,841
Nicastro	24,998
Cosenza	44,627

CAMPANIA	NO.
Province of Napoli	
Torre Annunziata	78,416
Torre del Greco	55,663
Caserta	51,560
Castellammare di Stabia	50,254
S.Maria Capua Vitere	40,856
Aversa	38,986
Resina	32,146
Ischia (Island)	31,465
Pozzuoli	34,346
Afragola	31,681
Sorrento	28,345
Portici	27,338
Sessa Aurunca	25,285
Madaloni	25,215
Province of Avellino	
Avellino	22,278
Ariano Irpino	26,414
Province of Benevento	
Benevento	42,985
Province of Salerno	
Salerno	77,221
Cavi del Tirreni	35,349
Nocere Inferiore	31,311

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COMMUNES HAVING POPULATION BETWEEN 25,000 - 100,000(Cont)

ABRUZZI AND MOLISE	NO.
Province of Aquila	
Aquila	56,750
Province of Campobasso	
Campobasso	52,419
Province of Chiete	
Chiete	35,175
Lanciano	24,141
Ortona	25,300
Province of Pescara	
Pescara	61,795
Province of Teramo	
Teramo	36,131
LAZIO	
Province of Rome	
Civitavecchia	35,903
Velletri	33,501
Province of Littoria	
Terracina	24,415
Littoria	25,137
Province of Frosinone	
Sara	22,617
Cassino	20,960
Province of Riete	
Riete	37,960
Province of Viterbo	38,161
TUSCANY	
Province of Firenze	
Prato	74,691
Empoli	27,340
Province of Apuania	
Apuania	113,161
Province of Arezzo	
Arezzo	63,745
Cortona	31,189
Province of Grossito	
Grossito	29,346
Province of Livorno	
Piombino	30,210

Province of Lucca	NO.
Lucca	85,154
Capannori	41,413
Viareggio	38,573
Province of Pistoia	
Pistoaia	74,272
Province of Pisa	
Pisa	75,695
Cascina	27,631
Province of Siena	
Siena	54,555
MARCHE	
Province of Ancona	
Ancona	89,189
Jesi	29,587
Senigallia	28,399
Fabriano	26,382
Province of Ascoli Piceno	
Ascoli Piceno	38,111
Fermo	25,203
Province of Macerata	
Macerata	26,708
Province of Pesaro e Urbino	
Pesaro	44,589
Fano	31,617
UMBRIA	
Province of Perugia	
Perugia	82,407
Terni	69,786
Foligno	38,483
Grubbio	33,727
Citta di Castello	32,618
Spolito	32,341
Province of Terni	
Terni	69,786

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COMMUNES HAVING POPULATION OF BETWEEN 25,000 - 100,000 (Cont)

LIGURIA	NO.
Province of Genoa	
Chiavari	19,166
Province of Imperia	
Imperia	29,936
SanRemo	35,460
Province of La Spezia	
La Spezia	124,067
Province of Savona	
Savona	64,199
EMILIA	
Province of Bologna	
Imola	43,190
Province of Ferrara	
Argenta	28,245
Bondeno	26,689
Portomaggiore	25,290
Province of Forli	
Forli	72,643
Rimini	69,036
Cesena	65,988
Province of Modena	
Modena	109.808
Carpi	34,543
Province of Parma	
Parma	81,438
Province of Piacenza	
Piancenza	69,529
Province of Ravenna	
Ravenna	83,871
Faenza	47,701
Lugo	29,985
Province of Reggio Nell'Emilia	
Reggio	103,462
VENEZIA EUGANEA	
Province of Venice	
Chioggia	44,337
Cavarzere	25,968
San Dona diPiave	24,065

Province Belluno	NO.
Belluno	21,066
Province of Padua	
Padua	157,570
Province of Rovigo	
Rovigo	41,916
Adria	32,647
Province of Treviso	
Treviso	57,537
Vittorio Veneto	25,873
Province of Udine	
Udine	66,227
Pordenone	24,122
Province of Vernona	
Verona	174,506
Legnago	22,819
Province of Vicenza	
Vicenza	72,653
Bassano del Grappia	24,605
VENEZIA TRIDENTINA	
Province of Trento	
Trento	59,269
Province of Bolzano	
Bolzano	60,366
Merano	25,902
VENEZIA GUILIA E ZARA	
Province of Trieste	
Monfalcone	23,704
Province of Carnaro	
Fiume	60,270
Province of Gorizia	
Gorizia	49,348
Province of Istria	
Pola	49,162
Province of Zara	
Zara	24,339

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COMMUNES HAVING POPULATION OF BETWEEN 25,000 - 100,000 (Cont)

PIEDMONT	NO.
Province of Alessandria	
Alessandria	79,000
Casale	34,000
Province of Aosta	
Aosta	24,000
Province of Cuneo	
Cuneo	35,000
Province of Asti	
Asti	49,000
Province of Novara	
Novara	63,000
Province of Torino	
Torino	629,000
Province of Vercelli	
Vercelli	39,000
Biella	29,000
LOMBARDIA	
Province of Bergano	
Bergano	86,000
Province of Brescia	
Brescia	123,000
Province of Como	
Como	53,000
Cremone province	64,000
Cremona	
Mantova Provinee	
Mantova	40,000
Province of Milano	
Busto Arsizio	28,000
Legnano	27,000
Mounza	57,000
Lodi	29,000
Province of Pavia	
Pavia	52,000
Vigevano	31,000
Province of Varese	
Varese	45,000
Province of Sondria	nil.

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0304

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COMMUNES HAVING A POPULATION BETWEEN 10,000 - 25,000

APULIA

Province of Bari (3)
" Brindisi (3)
" of Foggia(1)
" Lecce (2)

LAZIO

Province of Rome (1)
" " Littoria(1)
" "Frosinone(2)
(32 in all between 10,000-50,000)

Abruzzi and Molise

Province of Aquila (6)
" " Campobasso (2)
" " Chiete (4)
" " Pescara (2)
" " Teramo (5)

TUSCANY

Province of Firenze (21)
" " Apuania (2)
" " Arezzo (6)
" " Grosseto (5)
" " Livorno (5)
" " Lucca (6)
" " Pisa (4)
" " Pistoia (4)
" " Siena (7)

MARCHE

Province of Ancona (4)
" " Ascoli Piceno (2)
" " Macerata (7)
" " Pesaro e Urbino (5)

UMBRIA

Province of Perugia (7)
" " Terni (3)
" " Liguria (3)
" " Imperia (1)
" " LaSpezia (2)
" " Savono (3)

EMILIA

Province of Bologna (7)
" " Ferrara (5)
" " Forli (3)
" " Modena (11)
" " Parma (5)
" " Piacence (2)
" " Ravenna (4)
" " Reggio Nell'Emilia(4)

VENEZIA EUGANIA

Province of Venice (9)
" " Belluno (2)
" " Padua (7)
" " Rovigo (8)
" " Treviso (10)
" " Udine (7)
" " Verona (5)
" " Vicenza (7)

VENEZIA TREDENTINA

Province of Trento (2)
" " Bolzano (2)

VENEZIA GIULIA E ZARA

Province of Trieste (2)
" " Gorizia (1)
" " Istria (8)
" " Zara (1)

PIEDMONTE

Province of Turin (9)
" " Allesandria (4)
" " Aosta (2)
" " Cuneo (5)
" " Novara (4)
" " Vercelli (2)

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Lombardia- nothing is available for the present. Information will be forwarded as soon as the information section can secure it.

LIGURIA

Genoa.....3
Imperia.....2
La Spezia...2
Savona.....3

0305