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CIVIL AFFAIRS HANDBOOK ON ITALY

SECTION TWELVE ON COMMUNICATIONS

BOOK ON ITALY

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COMBINATION

RESTRICTED

Preliminary Draft

CIVIL AFFAIRS HANDBOOK

on

I T A L Y

Section Twelve

on

293

C O M M U N I C A T I O N S

10000 / 145 / 493

This study on Communications in Italy was prepared for the Military Government Division of the Office of the Provost Marshal General by the Office of Strategic Services.

Preliminary Draft

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THIS FOLDER
CONTAINS PAPERS
FROM
NO DATE
CATALOGUE-

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CIVIL AFFAIRS HANDBOOKS

TOPICAL OUTLINE

1. Geographical and Social Background
2. Government and Administration
3. Legal Affairs
4. Government Finance
5. Money and Banking
6. Natural Resources
7. Agriculture
8. Industry and Commerce
9. Labor
10. Public Works and Utilities
11. Transportation systems
12. Communications
13. Public Health and Sanitation
14. Public Safety
15. Education
16. Public Welfare

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INTRODUCTION

Purposes of the Civil Affairs Handbook.

International Law places upon an occupying power the obligation and responsibility for establishing government and maintaining civil order in the areas occupied.

The basic purposes of civil affairs officers are thus (1) to assist the Commanding General of the combat units by quickly establishing those orderly conditions which will contribute most effectively to the conduct of military operations, (2) to reduce to a minimum the human suffering and the material damage resulting from disorder and (3) to create the conditions which will make it possible for civilian agencies to function effectively.

The preparation of Civil Affairs Handbooks is a part of the effort of the War Department to carry out this obligation as efficiently and humanely as is possible. The Handbooks do not deal with planning or policy. They are rather ready reference source books of the basic factual information needed for planning and policy making.

Revision for Final Publication.

Significant area information is immediately needed (a) for civil affairs officers charged with policy making and planning, (b) for the use of civil affairs officers-in-training and (c) to make certain that organized data is in hand, whenever events require it.

Arrangements were therefore made with the cooperating agencies to organize all immediately available material in accordance with a prepared outline. Hence, this section on Communications in Italy was hastily assembled to meet emergency needs and should be considered a preliminary draft only. In particular, material on the postal systems, on press and publishing concerns, and on moving pictures has been omitted from this draft.

OFFICERS USING THIS MATERIAL ARE REQUESTED TO MAKE SUGGESTIONS AND CRITICISMS INDICATING THE REVISIONS OR ADDITIONS WHICH WOULD MAKE THIS MATERIAL MORE USEFUL FOR THEIR PURPOSES. THESE CRITICISMS SHOULD BE SENT TO LT. COLONEL JAMES H. SHOEMAKER, MILITARY GOVERNMENT DIVISION, P.M.G.O., 2805 MUNITIONS BUILDING, WASHINGTON, D. C. (OR PHONE WAR DEPARTMENT EXTENSION 76370).

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RESTRICTEDCOMMUNICATIONS — ITALY

In 1940 a committee under the Ministry of Communications was appointed to discipline, co-ordinate, and control all electrical communications. Its members have been appointed from various military, political and administrative bodies.

a. Telephone, telegraph and cable.

(1) Telephone.

(a) Ownership and operation. The Azienda di Stato per i Servizi Telefonici, a state enterprise under the Ministry of Communications, owns and operates the trunk interregional and some interurban lines. For interurban service not provided by the Azienda and for urban service, Italy since 1925 has been divided into five zones apportioned among five concessionaire companies. Exceptions are several companies having tiny nets and such ministries as army, navy, and air, which have some lines of their own. The five companies and their compartimenti follow:

<u>Company</u>	<u>Compartimento</u>
<u>Società Telefonica Interregionale</u> <u>Piemontese e Lombardia (STIPEL)</u>	Piedmonte Lombardia
<u>Società Telefonica delle Venezie</u> <u>(TELVE)</u>	Liguria Veneto Venezia Giulia e Zara Venezia Tridentina
<u>Società Telefonica Italia Media</u> <u>Orientale (TIMO)</u>	Emilia Marche Abruzzi e Molise Most of Umbria Parts of Lazio and Lombardia
<u>Società Telefonica Tirrena (TETI)</u>	Liguria Toscana Sardinia (Sardegna) Part of Lazio
<u>Società Esercizi Telefonici (SET)</u>	Sicily (Sicilia) Calabria Lucania Campania Puglie

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(b) Extent of Service. A modern network of underground telephone cables connects most of the provincial capitals and is capable of transmitting a large volume of calls. Aerial lines radiate from the provincial centers to the smaller towns and villages. Urban networks are less developed than the interurban system. About three-fourths of the communes have at least one telephone, but many of these have only a telephone available in a public booth or government office. The following statistics give a summary of development:

Interurban Lines of the State, 1940.

Number 857 Length of circuits, in miles: 144,610 Offices: 2240

Lines of the Five Companies, 1937, in miles.

	<u>Underground Cable</u>	<u>Aerial Lines</u>		<u>Length of Circuits</u>
		<u>Cable</u>	<u>Open Wire</u>	
Interurban	882		15,116	
Urban	388, 345	136,907	26,439	582,991

Distribution of Telephone Facilities by Commune and Compartimento, 1940.

Compartimenti	Communes	With Tele- phones	Percent of Communes with Tele- phones	Number of Telephones, 1938
Abruzzi e Molise	423	277	65.5	6,270
Calabria	395	202	51.1	5,016
Campania	476	263	55.3	43,425
Emilia	337	326	96.7	38,133
Lazio	352	223	63.4	121,891
Liguria	219	154	70.3	45,792
Lombardia	1389	1298	93.4	147,384
Lucania	123	47	38.2	805
Marche	230	209	90.9	8,673
Piedmonte	1066	845	79.3	59,793
Puglie	244	178	73.	11,999
Sardegna	275	80	29.1	4,963
Sicilia	353	217	61.5	14,934
Toscana	276	234	84.8	39,669
Umbria	88	88	100	4,922
Veneto	740	643	86.9	32,776
Venezia Giulia e Zara	129	108	83.7	18,414
Venezia Tridentia	219	183	83.6	7,395
REGNO			76.	611,254

(c) Urban Telephone Facilities, 1940

Number of Networks: 1005
 Telephones: 695,253
 Per 1000 inhabitants 15.5

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Subscribers: 479,144
 Public Telephone stations: 16,527
 Exchanges:
 Automatic 857
 Semi-automatic —
 Manual 4185

Urban systems with more than 5000 subscribers, 1940.

<u>Company</u>	<u>No. of subscribers</u>
STIPEL	
Milan	83,893
Turin	34,261
TIMO	
Bologna	11,571
TELVE	
Venice	6,342
Trieste	8,980
TETI	
Florence	15,572
Genoa	26,316
Rome	88,615
SET	
Catania	5,105
Naples	24,512
Palermo	8,422

(d) Equipment. Although much of the equipment used in Italy is made under foreign patents, to an increasing extent this production has been carried on in Italy by companies which have leased the patents. In 1938 the Fascist federation of electrical communication companies claimed that 80% of all materials needed for public electrical communication was domestically produced. The largest imports of recent years have been primarily from the German Siemens-Halske firm, secondarily the Swedish L.M. Ericsson Company.

Distribution of Equipment throughout Italy in 1942 was:

<u>Siemens-Halske</u>	68.2%
<u>Ericsson</u>	18.3
<u>Standard</u>	8.3
<u>Autelco</u>	4.2
Various others	1.0

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Poles: Wood, often imported from Yugoslavia and Austria.

Repeater stations: Siemens-Halske and Standard.

Cable equipment: Societa Italiana Ref: Telefoniche Interurbane, Milan (SIRTI) and associates Pirelli (Milan); Tedeschi, (Turin); Soc. An. Conduttori Elettrici Affini Torino (CEAT); International Standard Electric Corporation; and Siemens-Halske.

Exchanges. A few of the largest towns have automatic exchanges, but most have the manual type. Automatic exchanges, however, have the majority of subscribers.

Exchange equipment is made in Italy and abroad largely by the Siemens-Halske, Ericsson, and Standard Electric firms.

(e) Operating Personnel: The Azienda has been operated under civil service. In July 1943 militarization of the personnel of both telephone and telegraph services in Sicily and Sardinia was reported.

(2) Telegraph.

(a) Ownership and Operation.

The telegraph system in Italy is almost wholly government owned and operated. In June 1938, over ninety percent of the 41000 miles of land lines in Italy were state operated.

The chief exceptions to the government monopoly have been Italcable and Italo-Radio, both government sponsored companies under close supervision and sharing facilities with the government. In December 1941, Italo-Radio was incorporated into Italcable under the corporate name of Ital-Cable Servizi Cablografica Radio Telegrafica e Radio Elettrica Societa. The land lines of the company are long trunk circuits to facilitate its radio and submarine cable operations.

The government operated lines are under the supervision of the Administration of Posts and Telegraph in the Ministry of Communications. The Army, Navy, and Air Force have some lines and circuits. The Servizio di linee ed uffici telegrafici has been the agency controlling new construction and maintenance of lines and operation of offices.

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In cities and towns the local post office is usually also the telegraph office, and houses the transmitters, receivers, and repeaters. Railroad stations also are often telegraph bureaus.

(b) Extent of the System.

Number of Offices in Italy, 1940:

Posts and Telegraph Administration	10,067
Railroads	2,029
Public Companies	15

Length of lines in miles: 41,565.

Almost every commune has telegraph facilities, although most offices are open only for limited periods and have only primitive Morse equipment. Provincial capitals distribute messages to the local offices. There has been little recent extension of telegraph lines; expansion has taken the form of adding new circuits on existing telephone and telegraph poles, as required. In recent years much overhead wiring has been supplanted by underground circuits. Use of the telephone cable network has improved long-distance telegraphy. Where telegraph service is not on the telephone cable, the aerial telegraph lines between cities are likely to follow the roads and railways. Where interurban telephone lines are aerial, telegraph lines are likely to share their poles.

(c) Equipment. Imports of equipment have been mainly from Germany, with Sweden a poor second. Much equipment is imported, although Pirelli and the other companies mentioned as supplying telephone equipment also produce some telegraphic materials.

Transmitters and Receivers. Morse is used extensively on minor circuits, Hughes and Baudot on important lines. Distribution of machines in Italy and Sicily was as follows in 1934:

Morse:	12,941 (1932 figure)	Siemens	3 (none reported in 1940)
Hughes	917	Teletype:	24 (146 in 1940)
Wheatstone	224	Gandini type storage	
Baudot duplex & multiple	318	batteries	9967
		Tudor type storage	
		batteries	2565

Teletypes. Government offices have teletypes. Italian railroads have been installing Morkrum-Kleinsmidt machines. Some Creeds are used.

(d) Operating Personnel. Personnel are under civil service regulations of the Posts and Telegraph Division of the Ministry of Communication. Personnel in Sicily and Sardinia were militarized in the summer of 1943.

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(3) Submarine cables.

(a) Operation. The State operates most national circuits; the State-controlled Italcable company operates long international circuits connecting Italy with Spain and South America.

(b) Extent. There are telegraph cables linking the peninsula with Yugoslavia, Albania, Kerkyra (Corfu), and Zakynthos (Zante) to the east, with Sicily, Corsica, Malta, France, Spain, and South America to the west. The cable to Sardinia is a telephone cable, as are several across the Strait of Messina. The total length of State submarine telegraph cables is 4,785 miles.

Chief Submarine Cables

Otranto	-	Valona
Otranto	-	Kerkyra (Corfu)
Otranto	-	Zakynthos (Zante)
Brindisi	-	Durazzo
Brindisi	-	Valona
Naples	-	Palermo
Palermo	-	Cagliari
Reggio Calabria	-	Mili Marina (Sicily)
Terranova (Sardinia)	-	Fiumicino, Italy
Anzio (Italy)	-	Palermo
Anzio	-	Barcelona Malaga
Genoa	-	Menton (France)
Trieste-Pola-Split		

b. Radio.(1) Broadcasting.

(a) Stations. The broadcasting stations of Italy (about fifty in all, of which forty are medium-wave) are owned and operated by the Ente Italiano per le Audizioni Radiofoniche (EIRAR), a government-controlled corporation similar to the B.B.C.

Its programs are supervised by the Ministry of Popular Culture, and while it is given a fairly free hand in handling non-political material, its time is always available for state-sponsored programs. The EIRAR collaborates with the Posts and Telegraph Administration and the War, Navy, and Interior Ministries in planning the construction of new stations. Its central offices are in Turin.

The following are EIRAR's stations, with call signs, frequencies,

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and power as most recently reported.

Medium Wave	Call Sign	Frequencies (kc)	Power in antenna (kw)
Ancona	ILAN	1357	1
Bari I	ILBA	1059	20
Bari II	ILBA-2	1357	1
Bologna I	ILBO	986	50
Bolzano	ILB7	536	10
Cagliari	—	—	— (under construction)
Catania	ILCT	565	2
Firenze I	ILFI	610	20
Firenze II	ILFI-2	1258	1
Genova I	ILGE-1	1140	10
Genova II	ILGE-2	1357	5
Milano I	ILMI	814	50
Milano II	ILMI-2	1357	4
Milano III	ILMI-3	1429	1
Naples I	ILNA-1	1303	10
Naples II	ILNA-2	1429	1
Palermo	ILPA	565	3
Rome I	ILRO-1	713	100
Rome II	ILRO-2	1222	60
Rome III	ILRO-3	1357	1
San Remo	—	—	1 (under construction)
Torino I	ILTO-1	1140	30
Torino II	ILTO-2	1357	5
Torino III	ILTO-3	1429	5
Trieste	ILTS-3	1140	10
Venezia	—	1492	1 (under construction)

In addition to these, there are small stations (mostly 200 w) designed to rebroadcast the programs of the big stations at the following cities:

Aquila	Catania	Pescara
Ascoli Piceno	Catanzaro	Potenza
Benevento	Cosenza	La Spezia
Bologna (II)	Foggia	La Spezia
Cagliari	Macerata	San Remo
Campobasso	Padova	Terano
		Verona

(b) Short-Wave Broadcasting.

- i. Roma-Prato Smeraldo (25, 50, or 100 kw.) kc:

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6065, 6085, 6160, 6980, 7220, 9600, 9630, 9670, 11810, 11900, 15100, 15170, 15190, 15230, 15290, 15300, 17770, 17800, 17820, 21510, 25650.

11. Roma Prato Smeraldo (broadcasting relay)
kc: 9855, 10165, 10405, 11465, 12058, 13455, 14535, 14585, 14765, 15035, 15575, 15695, 15885, 16084, 19370, 20345, 21210, 21290.

(c) Ultra Short-wave Broadcasts.

Roma - Monte Maria: 40,540 kc., 2 kw.; 43478kc., 500 kw.
Milano - Torre Littoria: 42,000kw.; 250 w.
Rurale (ERR)

(d) Equipment. Little information available. Although often on foreign patents, a considerable amount of radio equipment, both transmitting and receiving, has until recently been produced in Italy. Imports^{are} from Germany, formerly from U.S.

(e) Reception. In 1941 there were an estimated 1½ million receiving sets in Italy, or 35 per 1000 persons. This low proportion is offset by the number of sets set up in public places and the degree to which listening has been organized, in the schools and by such organizations as the Ente Radio Rurale (ERR).

(2) Point-to-point Communication.

The commercial radio telegraphic and telephonic stations were operated by the state or by the Italo-Radio company (see above) in peacetime. The most important of these were the Rome stations here listed. Most of the following stations, however, belong to the Army and Navy, and are not available for public use. The list was largely compiled before 1940 and hence is not up-to-date, especially as concerns military installations. Radio communication is also carried on between Rome and the regional railway headquarters.

List of Point-to-Point Stations, presumably not including most military installations:

Alicudi
Ancona
Bologna
Bolzano
Brindisi
Cagliari
Capraia
Chieti
Coltano

(Continued)

La Maddalena
Mantova
Messina
Messina
Nestre
Milano
Montecelio (Rome)
Naples
Nettunia Porto

(Continued)

Roma Littorio
Roma Prato Smeraldo
Roma San Paolo
Roma Torrenova
Salina
Saseno
Sassari
Siracusa
Spezia

(Continued)

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List of Point-to-Point Stations (cont'd).

Cremona	Novara	Stromboli
Filicudi	Novi	Taranto
Firenze	Oristano	Torino
Fiume	Palermo	Trapani
Fiumicino	Pararia	Ustica
Golfo Aranci	Pantelleria	Varese
Gorgona	Piacenza	Venezia
Lagosta	Perugia	Vulcano
Lampedusa	Roma	Zara

(3) Communication with ships.

Before the war a number of state-operated stations along the coast provided communication with ships, including D/F and beacon services, meteorological bulletins, and the handling of distress signals. It is not improbable that some of these installations have now been removed, and that the use of others has been changed.

(a) List of Maritime Radio Stations.

<u>Place</u>	<u>Call Sign</u>	<u>Power (kw.)</u>
Ancona	ICA	2
Brindisi	ICE	5
Cagliari	IDP	5
Coltano	ICC	200
	IDG	200
	IAC	Several transmitters, power 5 to 80 kw.
Fiume	IQB	2.1-4.2
Genova	ICB	1.5
Lagosta	IQG	—
La Maddalena	ICH	2
Messina	ICF	5
Napoli Selmo	ICN	—
Napoli S. Eufrosino	IQH	3
Pola	IQZ	—
Portoferraio	IDJ	—
Saseno	IDB	—
Secche Della Meloria (near Livorno)	IQD	—
Spesie	ICS	—
Taranto	ICT	—
Trapani	ICP	5
Venesia	ICZ	5
Vittoria	ICV	1
Zara	IQO	1

(b) Radiobeacons are at Ancona, Capri Island, Pola, Venesia, and Zara,

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(c) Maritime D/F station, Sottomarina, (IRM) is near Venice^{and} works with Venezia ICZ.

(4) Communication with Aircraft. Of the two lists which follow, the first gives the airports listed in the pre-war official sources as having aeradio and direction-finding (D/F) facilities. The second gives other airports which recent aviation sources list as having facilities; much of this latter information probably comes from aerial observation. No information is available on the administration or operating personnel of these stations.

(a) Pre-war Aeradio and D/F Stations.

<u>Place</u>	<u>Call</u>	<u>Power, in watts</u>	<u>Direction/Finder</u>
Ancona (Falconara Marittima)	IKY	100	D/F reported
Bologna (Borgo Panigale)	ILA	300	D/F
Bolzano (San Giacomo)	IKB	20	D/F
Boscomantico (Verona)	ILX	400	D/F
Brindisi (Campo Lasale)	ILI	800	D/F
Cagliari	ILE	3500	D/F
Castiglione del Lago	IKQ	200	D/F
Foggia (Gino Lisa)	IKF	100	D/F
Gorizia	ILL	200	D/F
Lido di Roma	IKO	800	D/F
Milano (Linate)	ILK	800	D/F
Montecelio (Guidonia)	IKM	800	(Medium and short wave; D/F reported)
Montemoro	IKJ	800	D/F
Napoli (Capodicino)	ILD	500	D/F
Novi Ligure	ILZ	100	D/F
Roma-Littorio	ILJ	300	D/F reported
Siracusa	IKA	800	D/F
Torino (Venaria Reale)	IMM	300	D/F
Venezia (San Nicolo)	ILS	800	D/F
Villa Malagnino	IOC	300	D/F
Zara	IKZ	100	

(b) Airport Radio Installations Recently Reported

	<u>Radio</u>	<u>D/F</u>		<u>Radio</u>	<u>D/F</u>
Cameri (Near Novara)	X		Parma	X	
Capua (Oreste Salomane)	X	X	Pescara	X	
Cascina Malpensa	X		Piacenza	X	X
Cecina	X		Pisa		X
Cerceteri	X		Pola	X	also shortwave reported
Cisterna	X		Portofino	X	
Firenze (Peretola)	X		Reggio di Calabria	X	X
Forli	X	X	Rimini	X	
(Continued)			(Continued)		

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(b) Airport Radio Installations Recently Reported (cont'd).

	<u>Radio</u>	<u>D/F</u>		<u>Radio</u>	<u>D/F</u>
Ghedì	X		Roma-Centocelle	X	X
Grosseto	X	X	Roma-Ciampino	X	X
Lecce (San Donato)	X	X	Sessa Aurunca	X	
Levaldigi	X		Spezia (Cadimare)	} Facilities of Naval Base	
Lonate Pozzolo	X	X	(Muggiano)		
Milano (Bresso)	X		Trento	X	X
Milano (Taliedo)	X	X	Treviso	X	X
Napoli (Nisida)	X		Udine (Campofor-		
Orbetello (Italo Balbo)	X		mido)	X	
Orvieto	X		Vercelli	X	
Padua	X		Vicenza	X	
			Viterbo	X	X

(c) Air Radio Beacons listed by pre-war sources:

<u>Navigational</u>	<u>Approach Marker</u>
Brindisi	Brindisi
Cagliari	Calopezzati
Lido di Roma	Ancona (Falconara Marittima)
Milano	Lido di Roma
Siracusa	Milano
Venezia	Roma Littorio
	Siracusa
	Torino
	Venezia

(d) Wireless Telephoto and Printing Teletype Service:

No information.

(e) Operating Personnel: No information.

Sections on the Postal System, on Press & Publishing Concerns, and on Moving Pictures have been omitted from this draft.

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