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# JETRO Japanese Market Report -Regulations & Practices-

Communication Equipment

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# Yen-Dollar Exchange Rate

Year	Yen/US\$			
1993	1 1 1			
1994	102			
1995	9 4			
1996	109			
1997	1 2 1			

Source: "International Financial Statistics," IMF

#### Introduction

Telecommunications equipment is roughly classified into two types: cable or wired communication equipment and radio or wireless communication equipment. Telephones, facsimiles, switches, and carrier equipment are cable communication equipment, while mobile phones are radio communication equipment. At the same time, both cable and radio communication equipment are divided into terminal equipment, such as telephones, and communication equipment installed in telecommunications facilities. The buyers of the former are the users of communication services, such as general consumers and enterprises. The buyers of the latter, on the other hand, are communication enterprises such as Nippon Telegraph and Telephone Corporation(NTT) and new common carriers (NCCs). This report covers mobile phones, whose market is not only sizable but also expected to grow steadily, and the equipment for telecommunications facilities represented by switches and carrier equipment.

Mobile phone Switch : HS Code No. 8525.20.020 : HS Code No. 8517.30.000

Carrier equipment

: HS Code No. 8517.50.000

# Classification of Communications Equipment

<u> </u>	T., .						
Cable	Telephone sets	Standard telephones					
communication		Answering telephones					
equipment	Cordless telephones						
	Applied telephone	Key system telephone equipment					
	equipment	Telephone ancillary apparatus					
		Inter communication					
	Telegraph and video	Facsimile machines					
	equipment						
	Switches	Central office switching systems					
		Private branch exchanges					
	Carrier equipment	Code transmisson apparatus					
		Wideband office apparatus					
		Modems					
Radio	Fixed communication	Ground based equipment					
communication	equipment	Satellite equipment					
equipment	Radio communications	Landing radio communication equipment					
	equipment for mobile	Cellular mobile telephone					
	stations	Cellular telephones					
		Paging system					
		Marine radio communication equipment					
		Airborne radio communication equipment					
		Basic exchange for mobile customer premises					
		equipment					
	Personal communication	n equipment					
Broadcasting	Radio broadcasting equ	ipment					
equipment	Television broadcasting equipment						
Associated radio	Radar equipment	Radar equipment					
equipment	Maker radio measuring equipment						
·							

(Source: Communications Industry Association of Japan)

#### I. Market Overview

#### A. Mobile Phones

The Japanese mobile phone market expanded remarkably from 1994, when services started, until 1996, when market value reached approximately 800 billion yen. But growth slowed down in 1997 and domestic demand showed a stable growth of 5% between 1996 and 1997 (Table 1). The diffusion rate of mobile phones in the total Japanese population has reached about 30%, so the growth in demand for mobile phones has slowed down.

Imports decreased by 72% from 19.4 billion yen in 1996 to 5.5 billion yen in 1997 (Table 2). This is because domestic products, compared to foreign products, are lighter and thus have become more popular with Japanese users. In addition, the domestic phone system is being converted from analog to digital, so the import of equipment based on TACS (Total Area Coverage System), an analog mobile phone popular in the U.S., has drastically declined. The decline in the import of TACS equipment is also represented in the shifting makeup of imports. In 1996, Europe and the U.S. each held 49% shares of total imports, but the U.S. share decreased to 27% in 1997. This, however, does not change the fact that these two sources remain the largest exporters to Japan (Table 3, Figure 1).

Despite the fact that a further increase in the number of new users cannot be expected in the Japanese mobile phone market, demand will remain stable, based on the assumption that further quality enhancement and weight reduction will raise the replacement demand.

# B. Equipment for Telecommunications Facilities

Major equipment for telecommunications facilities comprises switches and carrier equipment. Along with the popularization of mobile phones, more and more new mobile phone bases have been established. As a result, the market for switches and carrier equipment has been steadily expanding. The domestic demand for switches in 1997 amounted to 905.1 billion yen, increasing by 17% from the previous year, and that of carrier equipment came to 889.6 billion yen, up 12%. Total demand grew 15% (Table 1).

The total value of imported switches and carrier equipment has leveled off. Although the import value of switches increased by 25% in 1997, as prices rose because of the improved software, carrier equipment import value declined 22% due to a drastic lowering of prices (Table 2).

In 1997, the import ratio of switches was 53% from Europe and 45% from North

America, while that of carrier equipment was 68% from North America and 23% from Asia (Table 3, Figure 2, and Figure 3).

Mobile phones can be used almost everywhere in Japan, so growth in demand for switches and carrier equipment has slowed down. For this reason, large-scale market expansion cannot be expected until the next generation of mobile phones is introduced along with substantially changed standards.

# II. Import System and Related Regulations

# A. Inspection Procedures

In order to sell terminal equipment such as telephones in the Japanese market, whether manufactured or imported, the products need to pass two inspections conducted by the following institutions:

- 1) Japan Approvals Institute for Telecommunications Equipment (JATE)<sup>1</sup>, whose inspections are based on the Regulations for Terminal Facilities etc.
- 2) Telecom Engineering Center (TELEC)<sup>2</sup>, formerly known as Radio Equipment Inspection and Certification Institute (MKK), whose inspections are based upon the Radio Law.

TELEC's inspections were revised by Ministry of Posts and Telecommunications (MPT) in May 1998, such that it now examines products by type. Some foreign companies complained that TELEC's inspection was creating a barrier to their market entry because of complexity, strictness, high charges and long inspection period. The Keidanren also asked for streamlined inspection procedures and reduced inspection charges. As a result, the revision made it possible for inspections to be conducted on groups of similar products, and while the products are still in the design stage. Before the revision, inspections were required for each individual item, and screening prior to manufacturing was not possible.

Further, the MPT intends to put a reciprocal approval system into practice, so that certifications given by foreign inspection authorities can be acknowledged as meeting Japanese standards. The MPT will also simplify technological inspections and lower the inspection charges drastically in the future.

# B. Related Laws and Regulations

Mobile phones must use the frequencies designated by the Radio Law, either 800 or 1,500 MHz. Also, the transmitting capacity of mobile phone terminals is set at 0.6 W. Regarding customs, neither mobile phones, switches nor carrier equipment are taxed.

<sup>&</sup>lt;sup>1</sup> JATE is an approval authority certified by the MPT. In order to connect equipment to Type 1 (facilities-based) carriers' lines, the equipment needs to comply with the technology standards and conditions stipulated by JATE, which are based on technology standard certification under the Telecommunication Business Law. This is to prevent the connected terminal equipment from damaging telecommunication lines and to protect users.

TELEC is an approval authority certified by the MPT. It conducts tests of radio stations, certifications of compliance with technical standards, examinations of radio equipment and quality approvals in accordance with the Radio Law.

#### III. Distribution

#### A. Mobile Phones

# 1. Distribution Channels of Mobile Phones

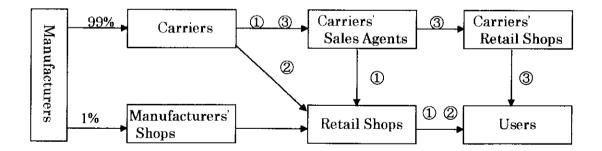
The major feature of the distribution channels of mobile phones is that nearly 100 percent of the products go from manufacturers to the mobile phone communication carriers. The products then go from carriers to retail shops by way of sales agents (Figure A. Route 1), directly to retail shops from the carriers (Figure A, Route 2), or from the carriers' sales agents to users through carriers' retail shops (Figure A, Route 3). In a word, the carriers control distribution.

Taking advantage of this feature, carriers have steadily lowered the sales prices of mobile phones, in part by offering incentives or bonuses to retailers. Carriers earn their profits through telephone-call charges, so the more mobile phones in use, the more the carriers stand to make in telephone charges paid to them. The carriers' strategy of selling mobile phones at low prices and gaining many customers is another characteristic of the Japanese mobile phone market.

With respect to the makes and numbers of products allotted to each retail store, the carriers' sales agents do not impose any rules. In other words, the retail outlets can freely order the products that they like to sell.

Figure A

Mobile Phone Distribution Channels



#### 2. Mobile Phone Standards

The Personal Digital Cellular (PDC) system, which was developed in Japan and had been the only standard until July 1998, when the Code Division Multiple Access (CDMA) system from North America was adopted by some NCCs.

The PDC system holds the majority of the market share, although it is a minor system in the global market. The only other countries where it is used are Sri Lanka and Thailand. This makes it necessary for most foreign manufacturers to specially produce equipment using PDC system to sell in Japan.

Mobile phone standards other than PDC are the Global System for Mobile communication (GSM), the mobile phone standard of Europe known as European Digital Cellular System and the CDMA system of North America. The PDC system is actually of much higher quality and more multi-functional, so foreign manufactures might have to pay the high R&D and production costs.

Some Japanese NCCs use the CDMA system, so North American products can be exported to such carriers.

#### 3. Selling Prices

Retail prices of mobile phones are considerably influenced by user preferences for the carrier and the equipment itself. When buying a mobile phone for the first time, the user must choose both at the same time. Currently, NTT Docomo holds the largest share, approximately 60 percent of the market. Due to such popularity, Docomo's mobile phones are selling for slightly higher prices than other carriers' phones. Even identical products of the same manufacturer are priced differently, depending on the carrier.

In terms of the mobile phone itself, price varies according to slight differences in color and design, even among neatly identical models of the same manufacturer. This is due to the facts that the intervals between model-changes are relatively short, and fashions and related trends have quite an influence over mobile phone sales.

# 4. User Preferences for Equipment

#### a. Small and Light weight

The first thing that Japanese users want in mobile phones is a small, light weight design. Japanese mobile phones are noticeably smaller and lighter than those of other countries, and the Japanese manufacturers are still making efforts to reduce size and weight even further. Now, a model that weighs less than 70 grams has appeared and is promoted as being so light that users do not feel like they are carrying anything. Model weights are expected to reach the 50-gram mark in 1999.

#### b. Fashionable

Along with size and weight, fashion is considered of great importance in the Japanese mobile phone market. This is another characteristic preference of Japanese mobile phone users. They want their belongings to be stylish in the eyes of others. In other words, good looks is one of the key factors in choosing a mobile phone. This explains why retail prices of mobile phones are considerably influenced by fashions and related trends.

#### c. Durable

Durability is another criterion for choosing a mobile phone. In Japan, people generally charge their mobile phone batteries at home. Considering the fact that high percentage of mobile phone uses are businessmen who often travel, it is bothersome for them to recharge their phones. Hence, the longer lasting the battery is, the more favorable the product is for the users. Mobile phones that can be used for at least a week without recharging are being demanded. Popular models now last for 200 to 400 hours between charging.

#### d. Added Value

As of the end of 1997, approximately 35 million mobile phones were in use in Japan. If PHS (Personal Handyphone System) mobile phones— which cannot be used in fast-moving vehicles such as cars—are added, the total number comes to 40 million. Since the Japanese population is roughly 120 million, this is a remarkable rate of diffusion.

Users are beginning to demand more than just plain communication equipment, so domestic manufacturers have been developing and marketing mobile phones equipped with extra functions. For instance, some mobile phones have a digital game function, while others instantly begin functioning as pagers when they get out of range for normal use. This dual mode is becoming popular.

## 5. Users' Preference for Carriers

#### a. Wide Call Area

The most important factor in choosing a carrier is the extent of its call area. Although it might differ in each area of use, consumers generally prefer carriers with wide call areas. In order to catch up with NTT Docomo, NCCs have made great efforts to broaden their own call areas. Now that the establishment of new call stations has been nearly completed, future user demand will shift their focus to carriers' policies regarding replacement purchases. However, it is expected that users will continue to purchase mobile phones of certain carriers that are using new systems such as the CDMA system.

#### b. Better Call Quality

Now that the differences in the sizes of call areas have been minimized, users are beginning to place more importance on the quality of phone calls. The population density in metropolitan areas is extremely high. As the saturation level of mobile phones in the population has reached 30%, deficiencies of lines have caused some problems, such as line interference. This mainly happens in densely populated urban

areas, particularly in the evening before a weekend, when mobile phones are intensively used. Under these circumstances, Japanese users are demanding mobile phone services that are capable of maintaining the high quality of calls all the time.

In response, some carriers have begun to adopt the CDMA system, which provides high-quality calls and is not subject to line interference.

#### B. Equipment for Telecommunications Facilities

#### 1. For Carriers

Carriers and telecommunications operators publicize the specifications of the equipment they procure to help all telecommunications manufacturers access their market, regardless of nationality.

For example, NTT not only shows its specifications on its Web site, but also manages an information desk at its headquarters building to provide information concerning the company's procurements.

Presently the import ratio of foreign equipment for telecommunications facilities is 40%. However, in the case of switches for government facilities, the import ratio of foreign products is between 16% and 17%. In other developed countries, domestic products monopolize 100% market shares for telecommunications facilities equipment. Therefore, the Japanese market for telecommunications facilities is clearly open.

NTT, the largest Japanese telecommunications carrier, procures products based on its original specifications. NTT specifications employ technologies to assure levels of absolute safety that are sometimes omitted in overseas production. Therefore, in order to manufacture NTT products, a foreign manufacturer needs a new production line specially designed for these specifications. Since such NTT products cannot be used in other countries, the cost of production might be quite high. Moreover, even if a foreign manufacturer successfully obtains an order, it still needs to deal with the networks and interfaces particular to NTT.

#### 2. For Government Agencies

Government agencies accept bids in procuring equipment. So as to maintain impartiality, the result is announced in a government newsletter. In order to bid, a manufacturer has to register as a bidder with the appropriate agency in advance.

# IV. Advice on Accessing the Market

## A. Marketing Channels

Manufacturers should attempt to sell their mobile phones or telecommunication facilities equipment, whether domestic or foreign, to the leading Japanese carriers, assuming that their products meet user needs for good quality and low prices.

With regard to mobile phones, the primary distribution channel is almost always the carrier itself. For this reason, after studying Japanese user preferences, foreign manufacturers should market to carriers intensively.

# B. System Standards

Since the majority of Japanese mobile phones employ the PDC system, a minor system internationally, foreign manufacturers need to produce and sell equipment conforming to this standard.

But the CDMA system used in North America is also being utilized by some Japanese carriers. Since many foreign manufacturers are expert in producing not only mobile phones but also telecommunications facilities equipment of this system, they could be more successful in marketing CDMA products.

Further, in the year 2001 the CDMA system is going to be introduced as the international common standard for next-generation products. It might also be wise to wait until then.

#### C. User Needs

As mentioned earlier in the distribution section, Japanese mobile phone users are particularly demanding in terms of product smallness, lightness, fashionableness, and durability. Such standards need to be adequately met.

Japanese manufacturers are exceptionally good at producing compact and light equipment. For this reason, one good option for foreign manufacturers would be not to manufacture all the components by themselves, For parts that require special technology for small, light products, they could entrust original equipment manufacturing (OEM) to Japanese manufacturers

Foreign manufacturers could also appeal to users with product features other than smallness and lightness. Moreover, foreign manufacturers could joint with Japanese manufacturers to develop terminal equipment with new features expected to penetrate the market in the near future.

They could also compete in terms of fashionableness by attracting users with stylish products. As a matter of fact, Japanese consumers tend to have a weakness for foreign products when purchasing items such as automobiles, clothes, shoes, and bags. From this point of view, being a foreign product could be a strong selling point.

#### D. Quality and After-Sales Services

The quality grades that are demanded in Japan are remarkably high for all kinds of consumer goods. In general, safety and quality standards are extremely strict, and they must be satisfied. The quality standards demanded by general users and enterprises are also significantly high. Supreme quality is expected for functions and durability as well. In such a context, Japanese consumers do not consider products as expendables, taking it for granted that products should hardly ever break down. Therefore, they tend to avoid re-purchasing products that break down soon after purchase.

An attractive finished surface is another condition that needs to be met. Japanese users and enterprises point out that foreign products look rather crude. Many foreign users are satisfied generally as long as a product functions well, so they are happy if a mobile phone functions efficiently as a phone. Japanese users, however, place much importance on the looks of products, as well as their functions. For this reason, many Japanese manufacturers devote more time and effort to coating the surfaces of their products than foreign counterparts in order to attract users.

Furthermore, Japanese users are particularly demanding of efficient after-sales service, so quick and pleasant user service is strongly recommended. The establishment of user service stations and the structure of an after-sales service system should be carefully considered as part of marketing. In particular, Japanese users expect their mobile phones to be repaired quickly because they carry them all the time. Some say that their waiting limit is 2 days at most. Well-planned services, such as lending customers substitute equipment during repairs, are required.

#### E. Summary

In order to sell in the Japanese market, mobile phones must satisfy three criteria: 1) function suitably as telecommunications equipment, 2) be small and light enough to carry and durable enough to seldom break down, and 3) have a good appearance and be fashionable.

When purchasing a mobile phone, Japanese users judge products by how well they comprehensively meet these criteria.

The same thing can be said for telecommunications facilities equipment. Comprehensively meeting all requirements—not only in terms of function, but also product life and appearance—is the key to sales.

The degree of perfection that Japanese people expect is much higher than the general world standard. This fact must be kept in mind when entering the Japanese market.

# Appendix 1. Statistics

Table 1 Domestic Demand for Communication Equipment

Unit: million yen

Products	1996	1997	Rate of Increase	
Communication Equipment	3,861,210	4,111,733	6%	
Cable Communication				
Equipment	1,950,208	2,164,714	11%	
Telephone sets	129,970	127,826	-2%	
Applied telephone equipment	165,911	169,919	2%	
Telegraph and video		109,919	5%	
equipment	211,484	222,542		
Switches	774,378	905,081	17%	
Carrier equipment	792,684	889,641	12%	
Radio Communication			2%	
Equipment	1,911,002	1,947,019		
Mobile phones	796,374	836,257	5%	

(Source: Communications Industry Association of Japan)

Table 2 Import Value of Communication Equipment

Unit: million yen

		· · · · · · · · · · · · · · · · · · ·		. minion yen	
				Rate of	
Products		1996	1997	Increase	
Communication Equipment		411,663	404,439	-2%	
ľ	Cable Communication			<u> </u>	
<b>i</b>	Equipment	287,570	318,174	11%	
1	Telephone sets	28,199	33,381	18%	
	Applied telephone				
1	equipment	7,593	7,704	1%	
	Telegraph and				
<b>!</b> i	video equipment	34,151	33,383	-2%	
- 1	Switches	56,239	70,258	25%	
	Carrier	64,174	50,375	-22%	
	Radio Communication				
	Equipment	124,093	86,265	-30%	
	Mobile phones	19,436	5,523	-72%	

(Source : Communications Industry Association of Japan )

Table 3 Import Amount of Communication Equipment by area in 1997

Unit: million yen

											nit:mil	
		Total Asia		Middle Europe&Russia East		North America		Latin America	Africa	Oceania		
				China			EU		USA			
Communica Equipment		404,439	127,318	36,121	1,924	80,396	79,891	194,062	189,344	328	18	<b>3</b> 93
Cable C	ommunication											
Equipment		318,174	113,798	31,924	1,345	54,074	53,738	148,384	144,662	225	15	333
Teleph	one sets	33,381	31,599	7,964	3	478	463	1,161	1,160	125	13	3
Cord	lless telephone sets	19,211	18,998	5,052		165	160	45	45	1		2
Othe	er telephone sets	14,170	12,601	2,912	3	313	303	1,116	1,115	124	13	1
Applied	d telephone											-
equipment		7,704	3,421	1,429	231	860	830	3,190	3,152			1
Ansv sets	wering telephone	965	953			1	1	11	2			
Appl	lied telephone											
	ipment n.e.c	6,739	2,468	1,429	231	859	829	3,179	3,150			1
Telegra	iph and video											
equipm	nent	33,383	32,833	9,230	2	44	41	495	478	1		7
Facsi	imile machines	32,797	32,763	9,224		9	8	24	24	1		
Teles	graphic Printers											
Othe	rs telegraph and video											
	oment n.e.c	585	71	6	2	34	32	<b>47</b> 1	454	1		7
Switche	es	70,258	1,105	226	59	37,314	37,314	31,762	31,146	. 1		17
Carrier	equipment	50,375	11,791	853	748	3,486	3,343	34,276	33,460	22		53
Parts		123,073	33,049	12,221	302	11,892	11,748	77,500	75,267	76	2	251
Wire	Exclusive Use	110,506	30,595	10,492	283	3,063	2,919	76,264	74,121	76	2	224
Other	r parts	12,567	2,454	1,729	19	8,829	8,829	1,236	1,146	1	1	28
Radio Co	ommunication											
Equipme		86,265	13,520	4,197	579	26,322	26,153	45,677	44,682	104	4	60
	/ Sending and											
11	ng Machine	78,832	6,890	2,328	579	26,014	25,891	45,186	4,205	102	4	56
Send		1,575	208	137	3	254	249	990	708	89		32
Sendi Mach	ing and Receiving	77,257	6,682	2,191	576	25,760	25,641	44,196	43,497	14	4	24
	Airborne equipment	807	1			31	31	775	775			
	Mobile phones	5,523	209	163		3,804	3,803	1,510	1,510			
	for long, medium, or short wave	1,179	964	283		95	91	118	111	0	1	
	for VHF	1,879	1,521	117		63	59	295	293			
	Others	67,869	3,987	1,628	576	21,767	21,658	41,499	40,808	13	3	24
Receive		7,434	6,629	1,869		308	262	491	477	1	<del></del>	4

(Source: Communications Industry Associations of Japan)

# Import Amount of Communication Equipment by area in 1997

Figure 1.

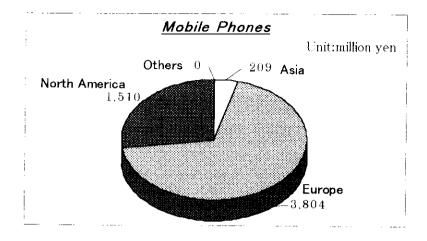


Figure 2.

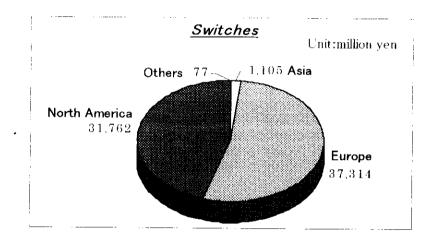
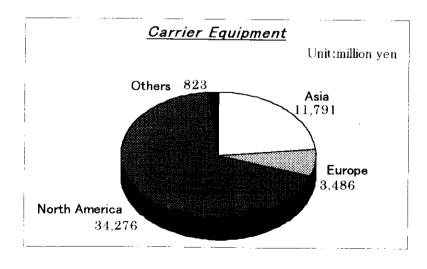


Figure 3.



(Source : Communications Industry Association of Japan)

# Appendix 2. Related Trade Fairs and Exhibitions

## 1. COM JAPAN

1) Office: COM JAPAN Conference Administration Office

Sankei Bldg. 8F, 1-7-2, Otemachi, Chiyada-ku, Tokyo

Tel. 03-3231-8788

Internet URL: http://www.comjapan.gr.jp

2) Date: November 1999

3) Frequency: Annually

4) Place: Tokyo Big Sight (Tokyo International Exhibition Hall)

## 2. International Wireless/Mobile Solution

1) Office: Ric Telecom Co. Ltd.

3-7-7, Yushima, Bunkyou-ku, Tokyo

Tel. 03-3834-8413

Internet URL: http://www.ric.co.jp/telecomi

2) Date: July 1999

3) Frequency: Annually

4) Place: Makuhari Messe

## 3. Mobile Communication & Computing Fair

1) Office: The Nikkan Kogyo Shimbun, Ltd.

1-8-10, Kudan-kita, Chiyoda-ku, Tokyo

Tel. 03-3222-7329 (headquarter)

Internet URL: http://www.nikkan.co.jp/eve/

2) Date: September 2000

3) Frequency: biennially

4) Place: Not fixed

# Appendix 3. Related Organizations

- 1. Government Agencies
- 1) Industrial Electronics Division,

Machinery and Information Industries Bureau,

Ministry of International Trade and Industry

1-3-1, Kasumigaseki, Chiyoda-ku, Tokyo

Tel. 03-3501-1074

Fax.03-3580-6073

Internet URL: http://www.miti.go.jp

2) International Policy Division, International Affairs Department

Minister's Secretariat, Ministry of Posts and Telecommunications

1-3-2, Kasumigaseki, Chiyoda-ku, Tokyo

Tel. 03-3504-4086

Internet URL: http://www.mpt.go.jp

3) Communications Policy Bureau, Ministry of Posts and Telecommunications

1-3-2, Kasumigaseki, Chiyoda-ku, Tokyo

Tel. 03-3504-4755

Internet URL: http://www.mpt.go.jp

- 2. Industrial Associations
- 1) Communications Industry Association of Japan

Sankei Bldg. 8F, 1-7-2, Otemachi, Chiyoda-ku, Tokyo

Tel. 03-3231-3001

Fax 03-3231-3110

Internet URL: http://www.ciaj.or.jp

2) Japan Approvals Institute for Telecommunications Equipment (JATE)

Isomura Bldg., 1-1-3, Toranomon, Minato-ku, Tokyo

Tel. 03-3591-4300

Fax 03-3591-4355

Internet URL: http://www.jate.or.jp

3) Telecom Engineering Center (TELEC)

5-7-2, Yashio, Shinagawa-ku, Tokyo

Tel. 03-3799-9033

Fax 03-3799-9054

Internet URL: http://www.mkk.or.jp

# 4) Radio Industry Association

Nittochi Bldg., 1-4-1, Kasumigaseki, Chiyoda-ku, Tokyo Tel. 03-5510-8590

# 5) Mobile Radio Center

Shinjuku Park Tower 34F, 3-7-1, Nishi-Shinjuku, Shinjuku-ku, Tokyo Tel. 03-5323-5501

# 3. Electrical Equipment manufacturers

#### 1) NEC Corporation

NEC Headquarters Bldg., 5-7-1, Shiba, Minato-ku, Tokyo Tel. 03-3454-1111

#### 2) Fujitsu Corporation

Marunouchi Center Bldg., 1-6-1, Marunouchi, Chiyoda-ku, Tokyo Tel. 03-3216-3211

# 3) Mitsubishi Electric Corporation

Mitsubishi Electric Bldg., 2-2-3, Marunouchi, Chiyoda-ku, Tokyo Tel. 03-3218-2111

# 4) Matsushita Electric Industrial Co., Ltd.

1006, Kadoma, Kadoma-shi, Osaka Tel. 06-6908-1211

# 4. Communication Carriers

#### 1) NTT (Nippon Telegraph and Telephone Corporation)

3-19-2, Nishi-Shinjuku, Shinjuku-ku, Tokyo

Tel. 03-5359-5111

Internet URL: http://wwwipo.nttinfo.ntt.co.jp/

## 2) NTT Docomo (NTT Mobile Communication Network, Inc.)

Shin-nikko Bldg., 2-10-1, Toranomon, Minato-ku, Tokyo

Tel. 03-5563-7015

Internet URL: http://www.nttdocomo.co.jp

#### 3) Daini Denden Inc. (DDI)

Ichibancho FS Bldg., 8, Ichibancho, Chiyoda-ku, Tokyo

Tel. 03-3222-0077

Internet URL: http://www.ddi.co.jp

# 4) Tokyo Digital Phone Inc.

JR Shinanomachi Bldg., 34, Shinanomachi, Shinjuku-ku, Tokyo

Tel. 03-5360-2222

Internet URL: http://www.tdp.co.jp/

# 5) IDO Corporation

6, Rokubancho, Chiyoda-ku, Tokyo

Tel. 03-3263-2131

 $Internet\ URL: http://www.mediagalaxy.co.jp/ido$