

Current Status of
Amateur Spread Spectrum Radio
in Japan

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7K1NCP / JH0MRP / KD5EY I

Background

The 1st experiment at PARTECH'97

The 2nd experiment in Kofu

The 3rd experiment in Kofu

Alpha/Beta tests

License

U.S.

Operator/Primary station License

(Novice, Tech., Tech. Plus, General, Advance, Amateur Extra)

Japan

Operator License (1st to 4th Grade)

Station License (Freq., Mode, Power, TX, ANT, etc.)

無線局免許状

免許の番号	関A第	号	識別信号	7K1NCP			
氏名又は名称	両澤 克彦						
免許人の住所	東京都福生市						
無線局の種類	アマチュア局	無線局の目的	アマチュア業務用	運用許容時間	常時		
免許の年月日	平 7. 6. 18	免許の有効期間	平 12. 6. 17 まで				
通信事項	アマチュア業務に関する事項		(宇宙無線通信を含む)	通信の相手方	アマチュア局		
移動範囲	陸上・海上・上空						
無線設備の設置/常置場所	東京都福生市						
電波の型式、周波数及び空中線電力							
A1			1910 ㎐	50 W	F2 F3	435 ㎐	50 W
A1	A3	A3J	3537.5 ㎐	50 W	F2 F3	1280 ㎐	10 W
A1	A3	A3J	3798 ㎐	50 W	8000 F9	2425 ㎐	1 W
A1	A3	A3J	7050 ㎐	50 W			
A1			10125 ㎐	50 W			
A1	A3	A3J	14175 ㎐	50 W			
A1	A3	A3J	18118 ㎐	50 W			
A1	A3	A3J	21225 ㎐	50 W			
A1	A3	A3J	24940 ㎐	50 W			
A1	A3	A3J F3	28.85 ㎐	50 W			
A1	A3	A3J F3	52 ㎐	50 W			
F2	F3		145 ㎐	50 W			
備考	1280 ㎐帯を常置場所以外で使用する場合には、空中線電力は1W以下に限る。						

法律に別段の定めがある場合を除くほか、この無線局の無線設備を使用し、特定の相手方に対して行われる無線通信を傍受してその存在若しくは内容を漏らし、又はこれを盗用してはならない。

平成 9 年 10 月 28 日

関東電気通信監理局長



(as of Aug. '98)

JJ1CEI Method: (Digital data)

JJ1CEI , 7K1NCP , JM1ZNW , 7M3LCG ,
7K4JBX , JL1WQI , JG800M , JK1MLY ,
7K4KES , JL1ZCF , JHOMRP , JS1DCF ,
JP6UBJ , JS1XAF

JN3PVB Method: (Digital data)

JN3PVB , JA1KP

JJ1GRK Method: (Analog)

JJ1GRK

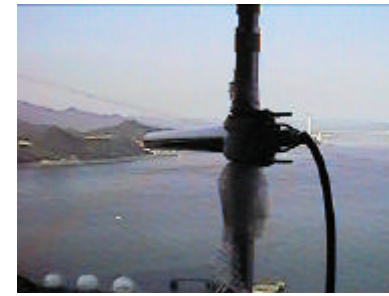
JARL Method: (Analog)

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The 1st experiment between Kitakyushu
and Shimonoseki (Nov. 2 '97, at PARTCH)

Distance: 2Km Throughput: about 80kbps

Successive transmission of pictures
using the 'Server Push'



Shimonoseki-City,
Honshu-Island



Kitakyushu-City,
Kyushu-Island

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The 2nd experiment in Kofu (Dec. 14 '97)

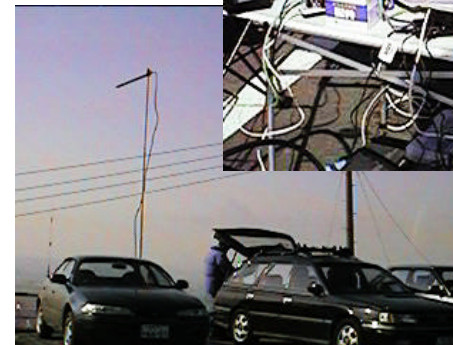
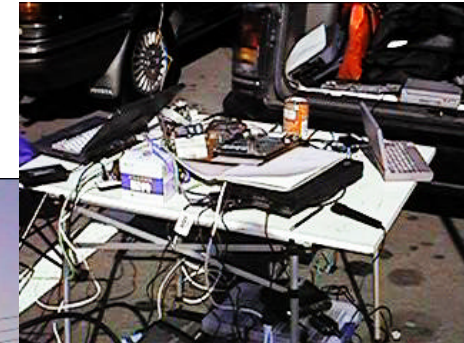


5km, 15km:

ping statistics: 100%
WWW browsing
Voice Communication
Keyboard chat

30km:

ping statistics: 20%

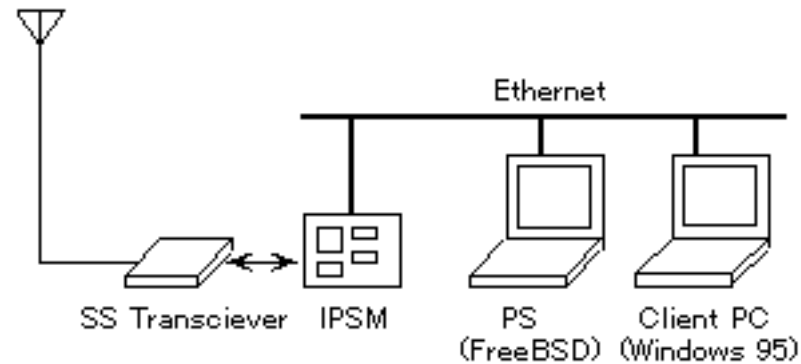


Base station



Stable high-speed data communication
over 15km-distance
Enable us to use the internet applications,
such as WWW, with practical speed

During Winter



P.S.

Tuned-up error correcting routine
Implemented routing protocols

IPSM

Rewrote the firmware

SS Transceiver

Tuned-up RX sensitivity

The 3rd experiment in Kofu (May 9,10 '98)



Budo-no-oka,
Katsunuma-Town

30km-distance High-speed
Data Communication



Oboshi-park,
Kajikazawa-Town

← 30km →

↙ 7km ↘

Video / Voice / Text
(Multimedia)
Communication



Fruits-park, Yamanashi-City



The 3rd experiment in Kofu (May 9,10 '98)



Budo-no-oka, Katsunuma-Town

5km



Shaka-do, Katsunuma-Town



Fruits-park,
Yamanashi-City

7km

8km

Network Operation

The 3rd experiment in Kofu (May 9,10 '98)



Budo-no-oka, Katsunuma-Town

5km



Shaka-do, Katsunuma-Town

7km



Fruits-park,
Yamanashi-City

8km

The 3rd experiment in Kofu (May 9,10 '98)



Budo-no-oka, Katsunuma-Town



Fruits-park,
Yamanashi-City



Shaka-do, Katsunuma-Town

The 3rd experiment in Kofu (May 9,10 '98)



Stationary (Top of the hill)

←————→ **Mobile**

Line of sight : Good

Out of sight : Bad

Moving : Bad

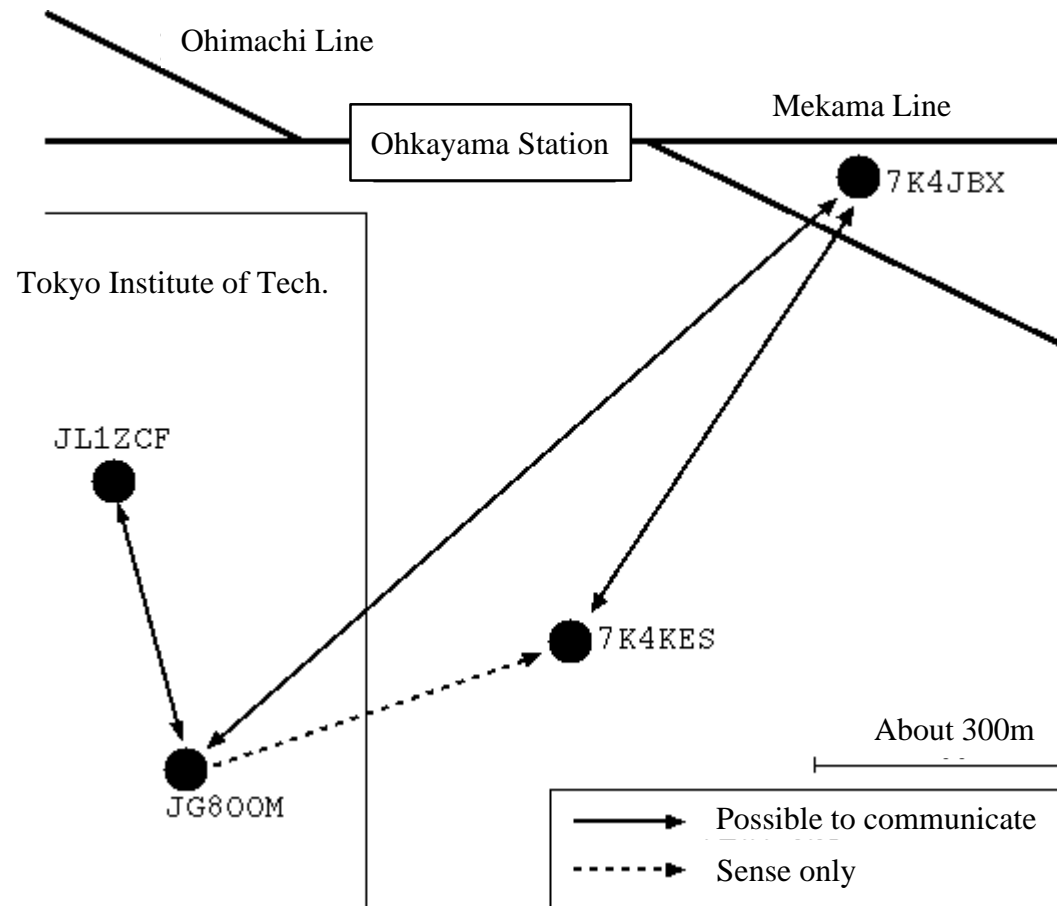


Moving car

←————→ **Moving car**

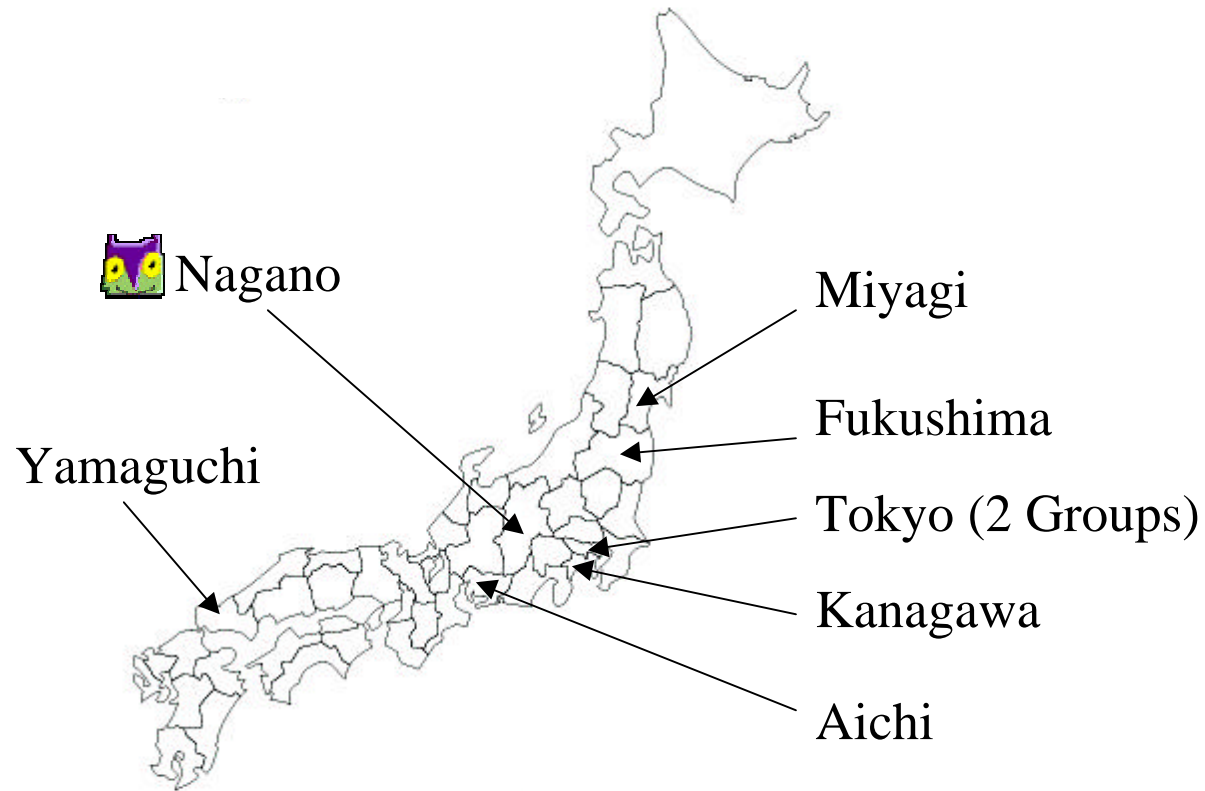
Line of Sight : Good

Alpha Test



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Beta Tests



Further Information

<http://www2s.biglobe.ne.jp/~jh0mrp/>

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