Exhibit C ..... Measurement Report

ETC ELECTRONICS TESTING CENTER(ETC), TAIWAN

EMI TEST REPORT

FCC ID.	: D6XBE4900
Product	: 4 LINE NOKSU WITH CORDLESS HANDSET
Model No.	: BE-4900
Applicant	: TECOM CO., LTD.
Manufacturer	: TECOM CO., LTD.
Regulation Applied	: FCC Rules and Regulations Part 15 Subpart C (1997)
Report Number	: ET88S-03-030
Issued Date	: Apr. 07, 1999

BCIQ ISO 9002 and Guide 25.

TÜV Product Service ISO9002 and EN45001.

NIST NVLAP Accredited Laboratory for FCC Part 15/ CISPR 22/ AS/NZS 3548.

CNLA ISO/ IEC Guide 25.

NEMKO, FIMKO , SGS , TÜV Laboratory Assessment.

FCC, VCCI Registered.

ETC ELECTRONICS TESTING CENTER(ETC), TAIWAN

TEST REPORT CERTIFICATION

Applicant	: TECOM CO., LTD. 23, R&D ROAD 2, SCIENCE-BASED INDUSTRIAL PARK, HSIN-CHU, TAIWAN, R.O.C.
Manufacturer	: TECOM CO., LTD. 23, R&D ROAD 2, SCIENCE-BASED INDUSTRIAL PARK, HSIN-CHU, TAIWAN, R.O.C.
Description of EUT	: 4 LINE NOKSU WITH CORDLESS HANDSET
a) Brand Name	: Bell Equipment
b) Model No.	: BE-4900
c) FCC ID.	: D6XBE4900
d) Power Supply	: Base unit: AC Adapter (Model: 411204003C0, I/P: 120VAC, 60Hz O/P: 12VDC, 0.4A) Handset: Ni-MH Battery DC 3.6V, 1200mA/hrs, P/N:AC9401
Regulation Applied	: FCC Rules and Regulations Part 15 Subpart C (1997)

I HEREBY CERTIFY THAT: The data shown in this report was in accordance with the procedures given in ANSI C63.4 and the energy emitted by the device was found to be within the limits applicable. I assume full responsibility for accuracy and completeness of these data.

Test Date : Mar. 15, 1999

Test Engineer : C. Y. Tsai

Approve & Authorized Signer : Win-Po Tsai Apr. 13. 1999

Win-Po Tsai, Supervisor, NVLAP Signatory
EMC Dept. of ELECTRONICS
TESTING CENTER, TAIWAN

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 Characteristics of Device

The BE-4900 consists of one base unit and one cordless handset provides RF links for intercom and outside call.

1.2 Test Methodology

Both conducted and radiated testing were performed according to the procedures in FCC/ANSI C63.4, Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.3 Test Facility

The semi-anechoic chamber and conducted measurement facility used to collect the radiated and conducted data is located at No. 8, Lane 29, Wen-ming Road,Lo-shan Tsun, Kui-Shan Hsiang, Taoyuan, Taiwan, R.O.C.
This site has been fully described in a report submitted to your office, and accepted in a letter dated July 07, 1998.

2. PROVISIONS APPLICABLE

2.1 Class Definition

Unintentional radiator:

A device that intentionally generates and emits radio frequency energy for use within the device, or that sends radio frequency signals by conduction to associated equipment via connecting wiring, but which is not intended to emit RF energy by radiation or induction.

Class A Digital Device: A digital device which is marketed for use in commercial or business environment; exclusive of a device which is marketed for use by the general public, or which is intended to be used in the home.

Class B Digital Device : A digital device which is marketed for use in a residential environment notwithstanding use in a commercial, business of industrial environment. Example of such devices that are marketed for the general public.

Note : A manufacturer may also qualify a device intended to be marketed in a commercial ,business, or industrial environment as a Class B digital device, and in fact is encouraged to do so, provided the device complies with the technical specifications for a Class B Digital Device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B Digital Device, Regardless of its intended use.

Intentional radiator:

A device that intentionally generates and emits radio frequency energy by radiation or induction.

2.2 Class Limitations

(1) Conducted Emission Requirement

For unintentional device, according to § 15.107(a) Line Conducted Emission Limit is as following :

Frequency MHZ	Emissions uV	Emissions dBuV
0.45 - 30.0	250	48.0

(2) Radiated Emission Requirement

For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values :

Frequency MHZ	Distance Meters	Radiated uV/m	Radiated dBuV/m
30 - 88	3	100	40.0
88 - 216	3	150	43.5
216 - 960	3	200	46.0
above 960	3	500	54.0

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

For intentional radiator device, per § 15.249(a), the field strength of radiated emissions comply with the following values :

Frequency MHZ	Distance Meters	Fundamental		Harmonic	
		dBuV/m	mV/m	dBuV/m	uV/m
902 - 928	3	94	50	54	500
2400 - 2483.5	3	94	50	54	500
5725 - 5875	3	94	50	54	500
24000 - 24250	3	108	250	54	2500

In according with § 15.249(d), limits shown in above table are based on average limits for frequencies above 1000MHz, and frequencies below 1000MHz are based on quasi peak. However, the peak field strength of any emission shall not exceed the maximum permitted average limits by more than 20 dB.

(3) Antenna Requirement

For intentional device, according to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

(4) Band edges measurement

For intentional device, according to § 15.249(c), emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of fundamental or to the radiated emission limits in § 15.209.

2.3 Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below :

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42-16.423	399.9-410	4.5-5.25
0.490 - 0.510	16.69475 - 16.69525	608-614	5.35-5.46
2.1735 - 2.1905	16.80425 - 16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475 - 156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2655-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3360-4400	Above 38.6
13.36-13.41			

2.4 Labelling Requirement

The device shall bear the following statement in a conspicuous location on the device.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference (2)This device must accept any interference received, including interference that may cause undesired operation.

2.5 User Information

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

For a Class B digital device or peripheral, the instructions furnished the user shall include the following or similar statement, placed in a prominent location in the text of the manual.

The Federal Communications Commission Radio Frequency Interference Statement includes the following paragraph.

This equipment has been tested and found to comply with the limits for a Class B Digital Device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction may cause harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-- Reorient or relocate the receiving antenna.

-- Increase the separation between the equipment and receiver.

-- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-- Consult the dealer or an experienced radio / TV technician for help.

3. SYSTEM TEST CONFIGURATION

3.1 EUT configuration and operating

For both radiated and conducted emissions, the system was configured for testing in a typical fashion as a customer would normally use it. The peripherals other than EUT were connected in normally standing by situation.

3.2 Tested System Details

The Tested System Detail equipment, plus description of all cables used in the tested system are :

Description	Model No.	FCC ID.	Manufacturer	Cable
4 LINE NOKSU WITH CORDLESS HANDSET *	BE-4900	D6XBE4900	TECOM	Telephone Line 1.8m x 3 Unshielded
Adapter *	411204003C0	----	----	DC Line 3.0m Unshielded
Telephone Analyzer	1076-A	----	SYSGRATION LTD.	Power cord 1.5m Unshielded

Note : "*" means equipment under test.

3.3 Modification

(If any deviation from additions to or exclusions from test method must be stated)

N/A

4. RADIATED EMISSION MEASUREMENT

4.1 Applicable Standard

For intentional radiator digital devices, according to § 15.249(a), operation within the frequency band of 902 to 928 MHz, the fundamental field strength shall not exceed 94 dBuV/m and the harmonics shall not exceed 54 dBuV/m. For out band emission except for harmonics shall comply with § 15.209 or at least attenuated by 50 dB below the level of the fundamental.

4.2 Measurement Procedure

(1). Setup the configuration per figure 1 & 2.

(2). For emission frequencies measurment is performed in a semi-anechoic chamber to determine the accurate frequencies of higher emissions and then each selected frequency is precisely measured.

(3). The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0 ° to 360 ° with a speed as slow as possible, and keep the azimuth that the highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading. A RF test receiver is also used to confirm emissions measured.

(4). Repeat step 3 until all frequencies need to be measured were complete.

(5). Repeat step 4 with search antenna in vertical polarized orientations.

(6). Check the frequency of the highest emission with varying the placement of cables associated with EUT to obtain the worst case and record the result.

Figure 1 : Frequencies measured below 1 GHz configuration

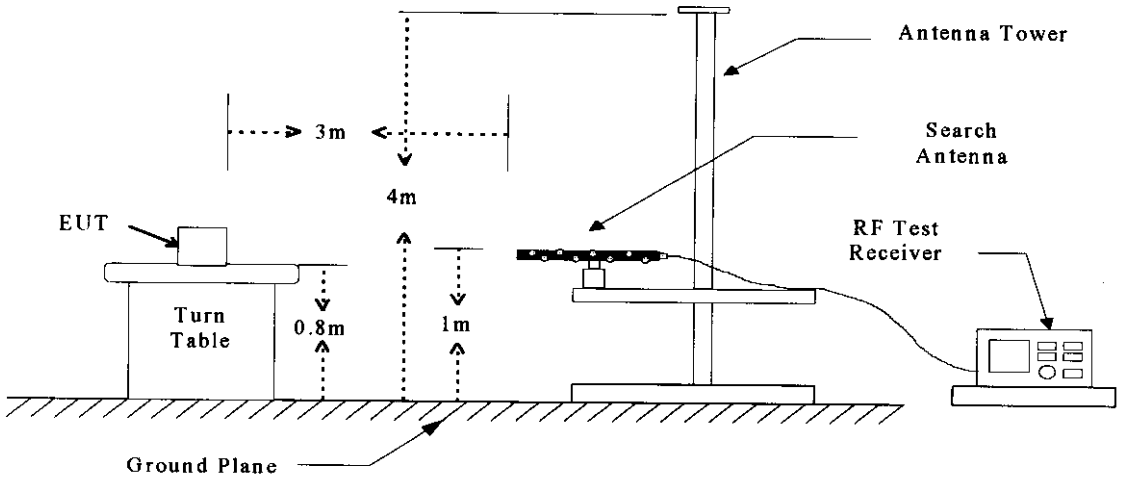
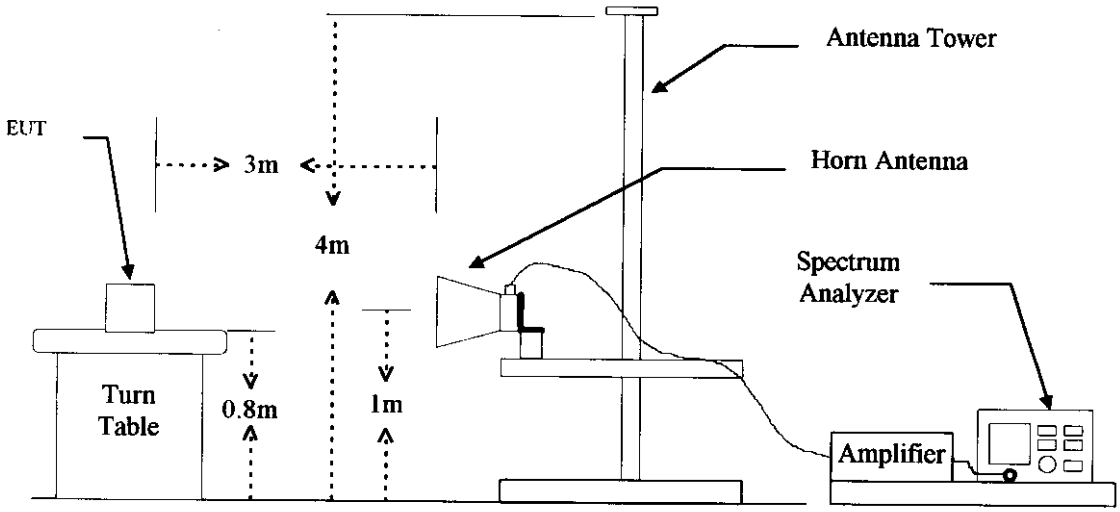


Figure 2 : Frequencies measured above 1 GHz configuration



4.3 Radiated Emission Data

4.3.1 Fundamental and Harmonics

Operation Mode : Transmitting

(1) Base, voice channel 1

Test Date : Mar. 15, 1998 Temperature: 27 ℃ Humidity: 70%

Emission Frequency (MHz)	Meter Reading (dBuV)		CORR'd Factor (dB)	Results (dBuV/m)		Limit (dBuV/m)	Margins (dB)
	HOR.	VERT.		HOR.	VERT.		
903.225	52.1	51.0	30.4	82.5	81.4	94.0	-11.5
1806.450	54.8	54.5	-5.5	49.3	49.0	54.0	-4.8
2709.675	45.4	45.8	-2.0	43.4	43.8	54.0	-10.2
3612.900	44.4	44.0	0.6	45.0	44.6	54.0	-9.0
4516.125	----	----	2.1	----	----	54.0	----
5419.350	32.7	----	4.3	37.0	----	54.0	-17.0
6322.575	----	35.0	4.5	----	39.5	54.0	-14.5
7225.800	----	----	5.8	----	----	54.0	----
8129.025	----	----	6.2	----	----	54.0	----
9032.250	----	----	6.9	----	----	54.0	----

Note: 1. Measuring data shown on above table is according to section (2) of 2.2 of this report.

2. "----" means the noise is too low to be measured.

(2) Base, voice channel 41

Test Date : Mar. 15, 1998 Temperature: 27 ℃ Humidity: 70%

Emission Frequency (MHz)	Meter Reading (dBuV)		CORR'd Factor (dB)	Results (dBuV/m)		Limit (dBuV/m)	Margins (dB)
	HOR.	VERT.		HOR.	VERT.		
915.225	51.3	49.5	30.4	81.7	79.9	94.0	-12.3
1830.450	51.8	52.2	-5.5	46.3	46.7	54.0	-7.4
2745.675	48.1	43.4	-2.0	46.1	41.4	54.0	-7.9
3660.900	42.1	43.8	0.6	42.7	44.4	54.0	-9.6
4576.125	----	----	2.1	----	----	54.0	----
5491.350	----	----	4.3	----	----	54.0	----
6406.575	32.2	----	4.5	36.7	----	54.0	-17.3
7321.800	----	----	5.9	----	----	54.0	----
8237.025	----	----	6.3	----	----	54.0	----
9152.250	----	----	7.0	----	----	54.0	----

Note: 1. Measuring data shown on above table is according to section (2) of 2.2 of this report.

2. "----" means the noise is too low to be measured.

(3) Base, voice channel 80

Test Date : Mar. 15, 1998 Temperature: 27 ℃ Humidity: 70%

Emission Frequency (MHz)	Meter Reading (dBuV)		CORR'd Factor (dB)	Results (dBuV/m)		Limit (dBuV/m)	Margins (dB)
	HOR.	VERT.		HOR.	VERT.		
926.900	56.9	54.5	30.4	87.3	84.9	94.0	-6.7
1853.800	52.9	53.3	-5.5	47.4	47.8	54.0	-6.2
2780.702	45.1	48.0	-1.9	43.2	46.1	54.0	-7.9
3707.605	39.8	37.9	0.8	40.6	38.7	54.0	-13.4
4634.505	----	----	2.3	----	----	54.0	----
5561.406	----	----	4.4	----	----	54.0	----
6488.304	----	33.3	4.5	----	37.8	54.0	-16.2
7415.203	34.1	----	6.0	40.1	----	54.0	-13.9
8342.101	----	----	6.4	----	----	54.0	----
9269.010	----	----	7.1	----	----	54.0	----

Note: 1. Measuring data shown on above table is according to section (2) of 2.2 of this report.

2. "----" means the noise is too low to be measured.

(4) Handset, voice channel 1

Test Date : Mar. 15, 1998 Temperature: 27 ℃ Humidity: 70%

Emission Frequency (MHz)	Meter Reading (dBuV)		CORR'd Factor (dB)	Results (dBuV/m)		Limit (dBuV/m)	Margins (dB)
	HOR.	VERT.		HOR.	VERT.		
903.225	60.4	58.2	30.4	90.8	88.6	94.0	-3.2
1806.450	50.9	51.1	-5.7	45.2	45.4	54.0	-8.6
2709.675	49.7	54.0	-2.0	47.7	52.0	54.0	-2.0
3612.900	46.4	46.5	0.5	46.9	47.0	54.0	-7.0
4516.125	----	41.5	2.1	----	43.6	54.0	-10.4
5419.350	----	----	4.2	----	----	54.0	----
6322.575	----	----	4.5	----	----	54.0	----
7225.800	----	----	5.8	----	----	54.0	----
8129.025	42.8	----	6.2	49.0	----	54.0	-5.0
9032.250	----	----	6.9	----	----	54.0	----

Note: 1. Measuring data shown on above table is according to section (2) of 2.2 of this report.

2. "----" means the noise is too low to be measured.

(5) Handset, voice channel 41

Test Date : Mar. 15, 1998 Temperature: 27 ℃ Humidity: 70%

Emission Frequency (MHz)	Meter Reading (dBuV)		CORR'd Factor (dB)	Results (dBuV/m)		Limit (dBuV/m)	Margins (dB)
	HOR.	VERT.		HOR.	VERT.		
915.235	59.8	57.4	30.4	90.2	87.8	94.0	-3.8
1830.470	46.7	49.0	-5.5	41.2	43.5	54.0	-10.5
2745.705	45.6	46.8	-2.0	43.6	44.8	54.0	-9.2
3660.940	46.0	47.7	0.6	46.6	48.3	54.0	-5.7
4576.175	----	----	2.1	----	----	54.0	----
5491.410	----	----	4.3	----	----	54.0	----
6406.645	----	----	4.5	----	----	54.0	----
7321.880	----	----	5.9	----	----	54.0	----
8237.115	----	----	6.3	----	----	54.0	----
9152.350	----	----	7.0	----	----	54.0	----

Note: 1. Measuring data shown on above table is according to section (2) of 2.2 of this report.

2. "----" means the noise is too low to be measured.

(6) Handset, voice channel 80

Test Date : Mar. 15, 1998 Temperature: 27 ℃ Humidity: 70%

Emission Frequency	Meter Reading (dBuV)		CORR'd Factor	Results (dBuV/m)		Limit	Margins
(MHz)	HOR.	VERT.	(dB)	HOR.	VERT.	(dBuV/m)	(dB)
926.930	59.9	59.0	30.4	90.3	89.4	94.0	-3.7
1853.860	49.2	50.0	-5.5	43.7	44.5	54.0	-9.5
2780.790	48.4	50.9	-1.9	46.5	49.0	54.0	-5.0
3707.720	43.0	45.1	0.8	43.8	45.9	54.0	-8.2
4634.650	----	----	2.3	----	----	54.0	----
5561.580	----	----	4.4	----	----	54.0	----
6488.512	----	----	4.5	----	----	54.0	----
7415.445	----	----	5.9	----	----	54.0	----
8342.375	----	----	6.3	----	----	54.0	----
9269.300	----	----	7.1	----	----	54.0	----

Note: 1. Measuring data shown on above table is according to section (2) of 2.2 of this report.

2. "----" means the noise is too low to be measured.

4.3.2 Spurious Emission

Operation Mode : Always

Test Date : Mar. 15, 1998 Temperature: 27 ℃ Humidity: 70%

Emission Frequency (MHz)	Meter Reading (dBuV)		CORR'd Factor (dB)	Results (dBuV/m)		Limit (dBuV/m)	Margins (dB)
	HOR.	VERT.		HOR.	VERT.		
56.478	----	29.2	7.8	----	37.0	40.0	-3.0
115.213	----	30.8	9.4	----	40.2	43.5	-3.3
192.919	----	21.1	12.3	----	33.4	43.5	-10.1

Note: 1. Measuring data shown on above table was derived with quasi peak detector function.

2. "----" means the noise is too low to be measured.

4.4 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor, High Pass Filter Loss and Cable Loss, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation calculation is as follows:

Result = Reading + Corrected Factor

where

Corrected Factor = Antenna Factor + Cable Loss - Amplifier Gain

4.5 Radiated Measuring Equipment

The following instrument are used for radiated emissions measurement :

Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
EMI Test Receiver	Hewlett-Packard	8546A	3411A00192	Nov. 04, 1999
Spectrum Analyzer	Advantest	R3271	1505001	Aug. 24, 1999
Horn Antenna	EMCO	3115	9107-3729	Apr. 22, 1999
BiconiLog Antenna	EMCO	3142	9702-1142	Aug. 20, 1999

Note: The standards used to perform this calibration are traceable to NML/ROC and NIST/USA.

Measuring instrument setup in measured frequency band when specified detector function is used :

Frequency Band (MHz)	Instrument	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	RF Test Receiver	Quasi-Peak	120 kHz	N/A
	Spectrum Analyzer	Peak	100 kHz	100 kHz
Above 1000	Spectrum Analyzer	Peak	1 MHz	1 MHz
	Spectrum Analyzer	Average	1 MHz	Auto

5. CONDUCTED EMISSION MEASUREMENT

5.1 Applicable Standard

For intentional digital devices, Line Conducted Emission Limits are in accordance to § 15.207(a).

5.2 Measurement Procedure

(1). Setup the configuration per figure 3.

(2). A preliminary scan with a spectrum monitor is performed to identify the frequency of emission that has the highest amplitude relative to the limit by operating the EUT in selected modes of operation, typical cable positions, and with a typical system configuration.

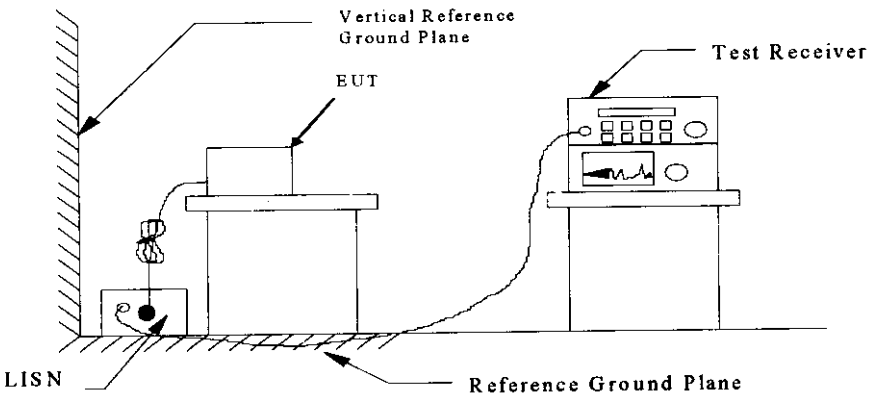
(3). Record the 4 to 8 highest emissions relative to the limit.

(4). Measure each frequency obtained from step 3 by a test receiver set on quasi peak detector function, and then record the accuracy frequency and emission level. If all emissions measured in the specified band are attenuated more than 20 dB from the limit, this step would be ignored, and the peak detector function would be used.

(5). Confirm the highest emissions with variation of the EUT cable configuration and record the final data.

(6). Repeat all above procedures on measuring each operation mode of EUT.

Figure 3 : Conducted emissions measurement configuration



5.3 Conducted Emission Data

(1) Charging unit

Operation Mode : Charging

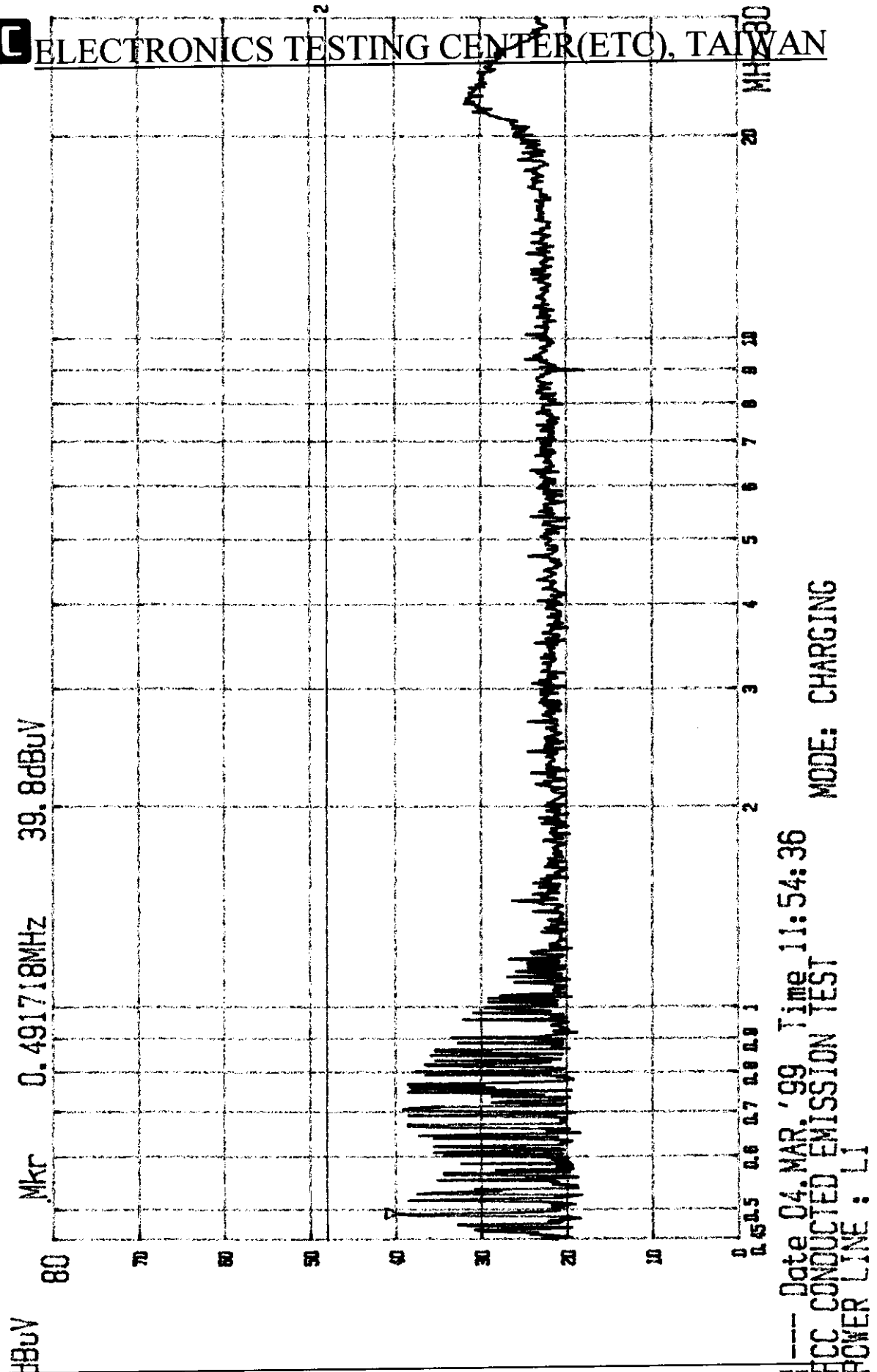
Test Date : Mar. 04,1999 Temperature : 24 ℃ Humidity : 70%

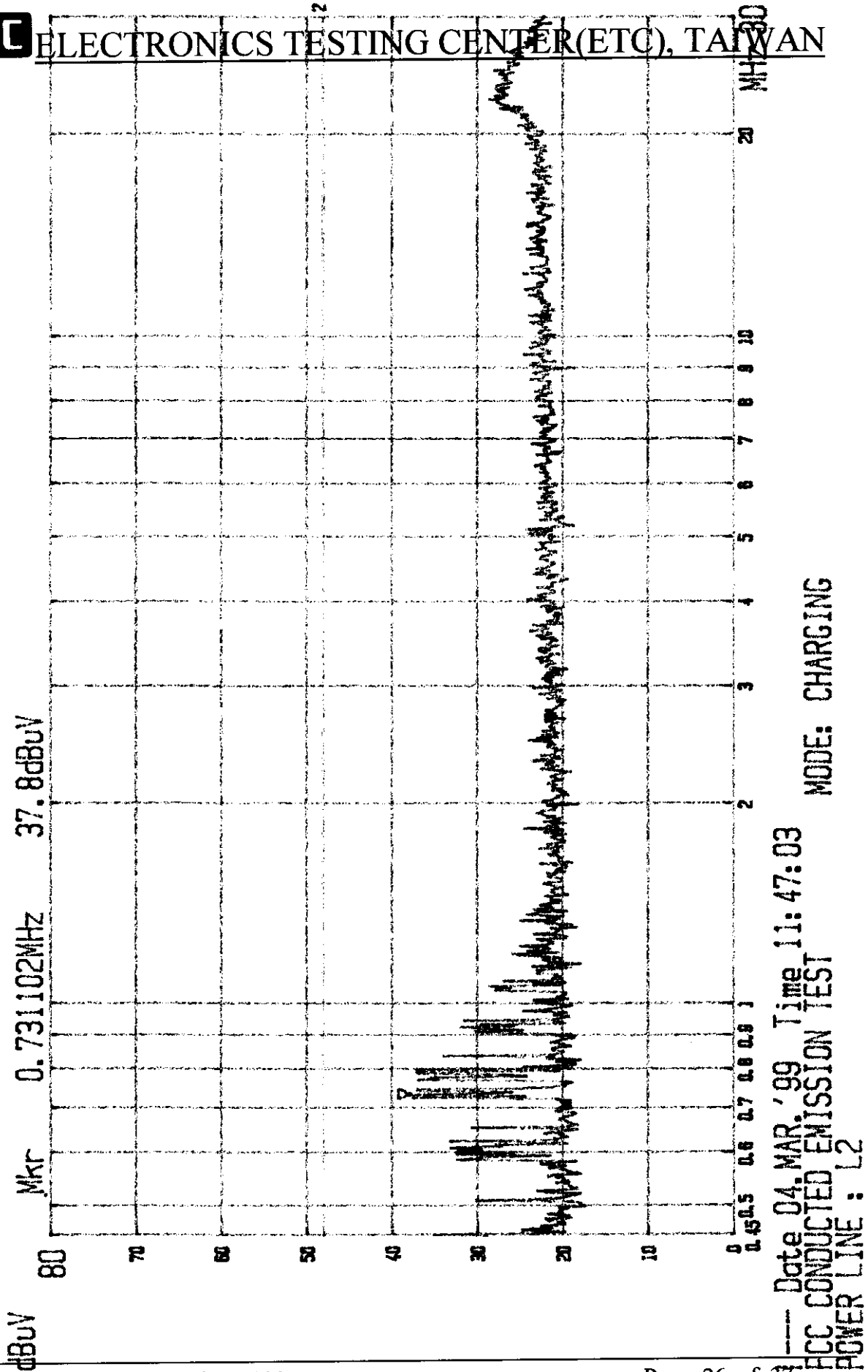
Frequency	Reading dB μV		LISN	Results dB μV		Limit	Margins
MHz	L1	L2	Factor	L1	L2	dB μV	dB
0.450	33.2	32.3	0.1	33.3	32.4	48.0	-14.7
0.732	----	26.9	0.1	----	27.0	48.0	-21.0
0.750	28.4	----	0.1	28.5	----	48.0	-19.5
25.010	----	17.7	0.5	----	18.2	48.0	-29.8
25.479	23.8	----	0.5	24.3	----	48.0	-23.7

Note :

(1) "----" means the noise is too low to be measured.

(2) The full frequency range scanning test data is shown in next two pages.


FCC CONDUCTED EMISSION TEST
POWER LINE : L1
--- Date 04.MAR.'99 Time 11:54:36
MODE: CHARGING
Mkr 0.491718MHz 39.8dBuV
dBuV
80
MHz


FCC CONDUCTED EMISSION TEST
POWER LINE : L2
Date 04.MAR.'99 Time 11:47:03
MODE: CHARGING
Mkr 0.731102MHz 37.8dBuV
dBuV
MHz

(2) Base, voice channel 40

Operation Mode : On line

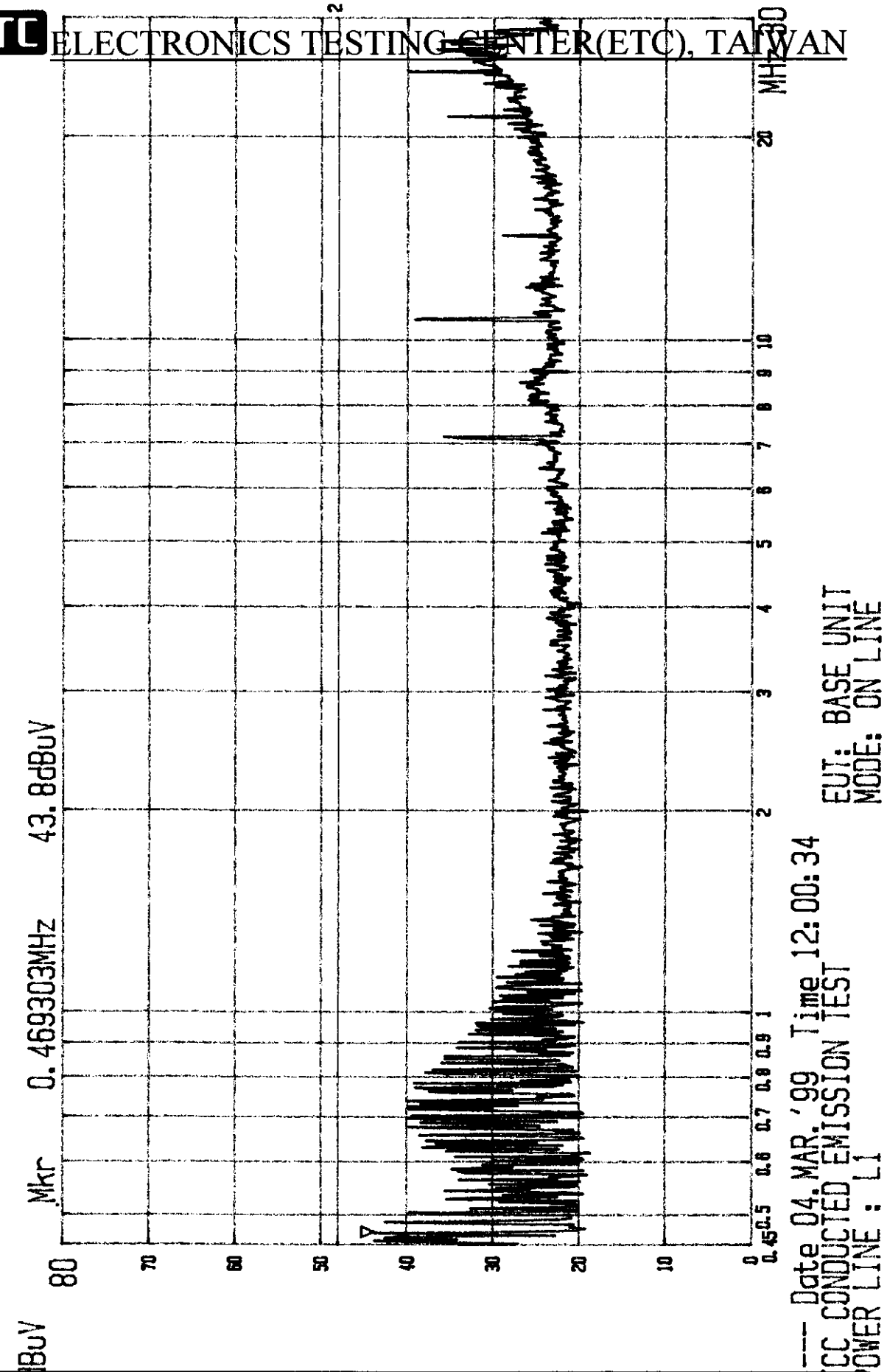
Test Date : Mar. 04,1999 Temperature : 24 ℃ Humidity : 70%

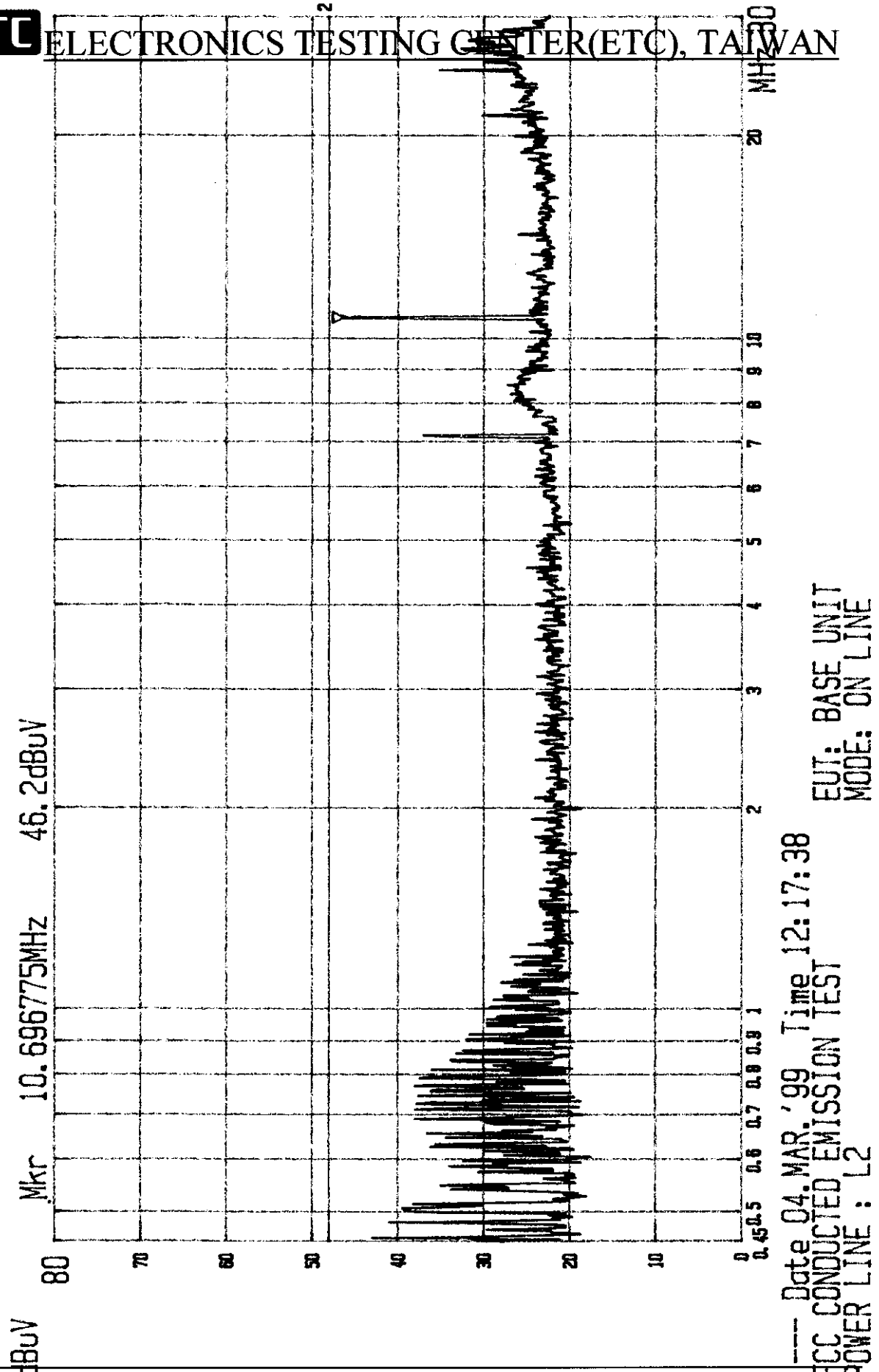
Frequency	Reading dB μ V		LISN	Results dB μ V		Limit	Margins
MHz	L1	L2	Factor	L1	L2	dB μ V	dB
0.450	32.7	32.1	0.1	32.8	32.2	48.0	-15.2
0.729	----	26.8	0.1	----	26.9	48.0	-21.1
0.749	28.1	----	0.1	28.2	----	48.0	-19.8
7.158	31.7	32.9	0.3	32.0	33.2	48.0	-14.8
10.739	41.9	42.6	0.4	42.3	43.0	48.0	-5.0
25.057	37.6	33.1	0.5	38.1	33.6	48.0	-9.9
27.008	34.9	31.2	0.5	35.4	31.7	48.0	-12.7

Note :

(1) "----" means the noise is too low to be measured.

(2) The full frequency range scanning test data is shown in next two pages.


FCC CONDUCTED EMISSION TEST
POWER LINE : L1
--- Date 04.MAR.'99 Time 12:00:34
EUT: BASE UNIT
MODE: ON LINE
Mkr 0.469303MHz 43.8dBuV
dBuV
MHz


Mkr 10.696775MHz 46.2dBuV
EUT: BASE UNIT
MODE: ON LINE
--- Date 04.MAR.'99 Time 12:17:38
FCC CONDUCTED EMISSION TEST
POWER LINE : L2
dBuV
MHz
80
70
60
50
40
30
20
10
0
0.45
0.5
0.6
0.7
0.8
0.9
1
2
3
4
5
6
7
8
9
10
20

5.4 Result Data Calculation

The result data is calculated by adding the LISN Factor to the measured reading. The basic equation with a sample calculation is as follows:

RESULT = READING + LISN FACTOR

Assume a receiver reading of 22.5 dB μ V is obtained, and LISN Factor is 0.1 dB, then the total of field strength is 22.6 dB μ V.

RESULT = 22.5 + 0.1 = 22.6 dB μ V
Level in μ V = Common Antilogarithm[(22.6 dB μ V)/20]
= 13.48 μ V

5.5 Conducted Measurement Equipment

The following test equipment are used during the conducted test .

Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
EMI Test Receiver	Rohde and Schwarz	ESH3	894718/018	Jan. 20, 2000
Line Impedance Stabilization Network	Telemeter	NNB-2/16E	----	Nov. 02, 1999
Line Impedance Stabilization Network	EMCO	3825/2	9704-2677	Oct. 29, 1999

Note: The standards used to perform this calibration are traceable to NML/ROC and NIST/USA.

6. ANTENNA REQUIREMENT

6.1 Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

6.2 Antenna Construction

The antenna is permanently mounted on RF box, no consideration of replacement.

7. BAND EDGES MEASUREMENT

7.1 Applicable Standard

According to § 15.249(c), emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of fundamental or to the radiated emission limits in § 15.209.

7.2 Measurement Procedure

(1) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.

(2) Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.

(3) Set RES BW 100KHz and VBW 300KHz with a convenient frequency span.

(4) Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

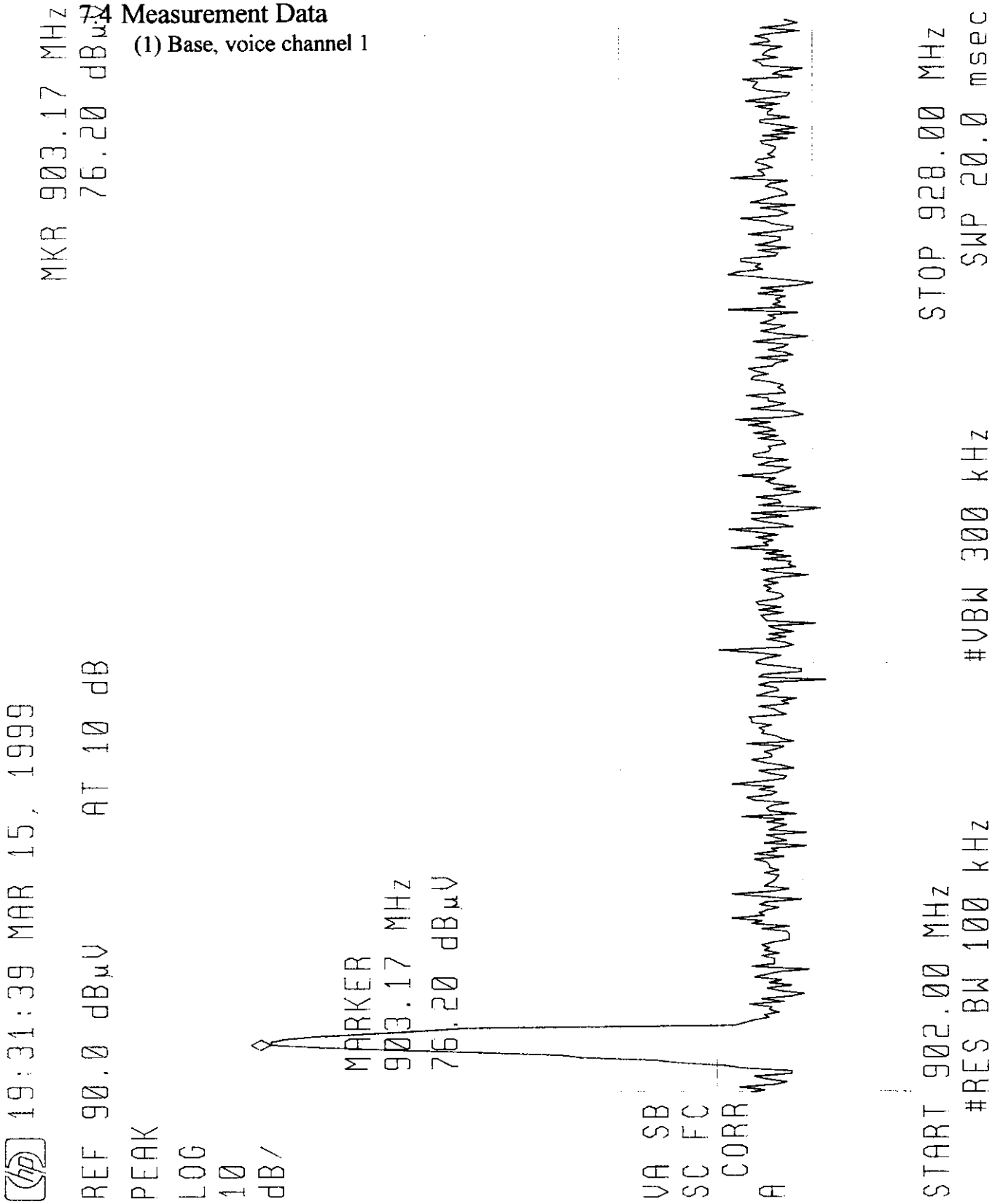
(5) Repeat above procedures until all measured frequencies were complete.

7.3 Measurement Equipment

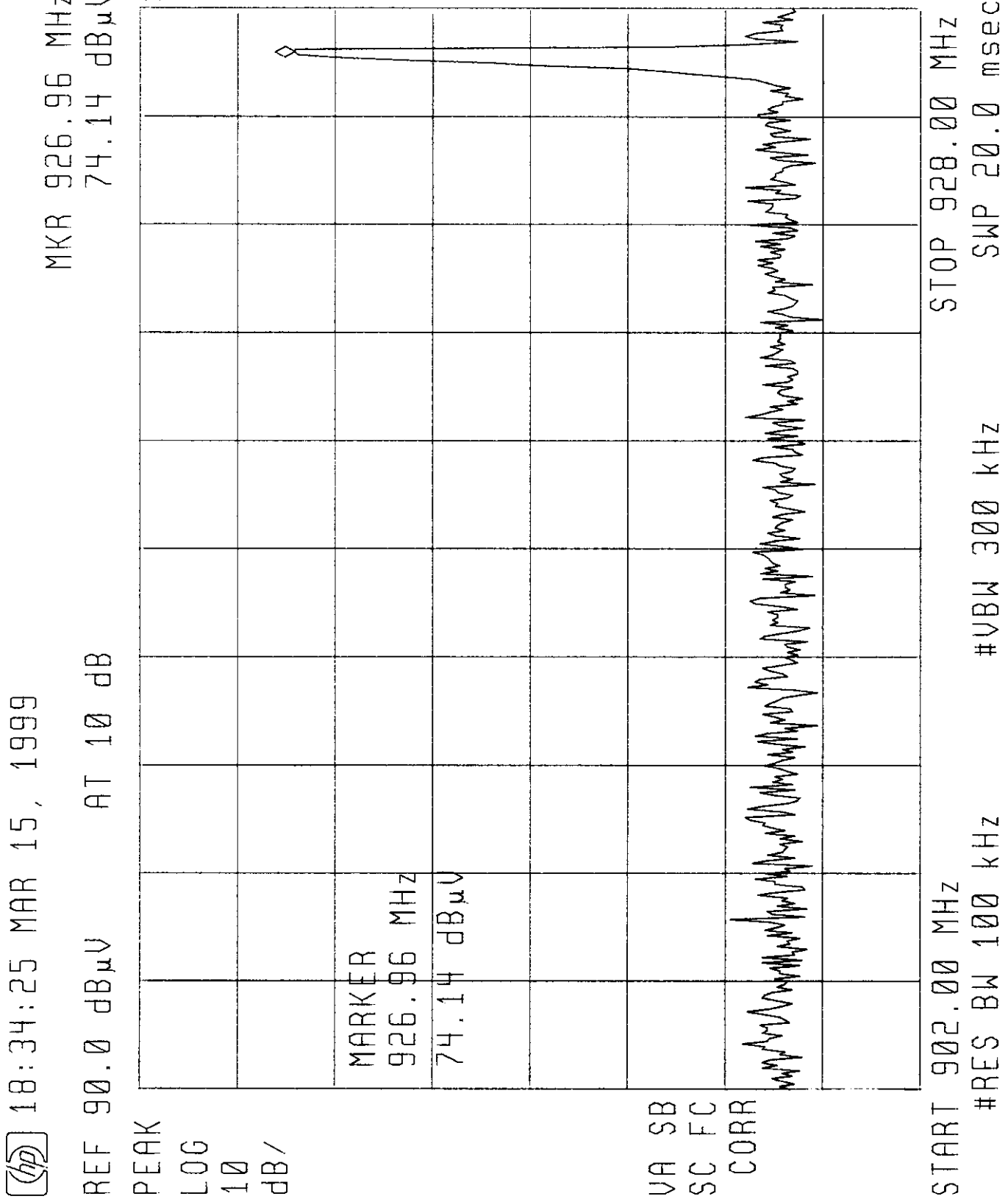
Equipment	Manufacturer	Model No.	Serial No.	Calibrated until
EMI Test Receiver	Hewlett-Packard	8546A	3411A00192	Dec. 04, 1998
Plotter	Hewlett-Packard	7470A	2308A69929	N/A

7.4 Measurement Data

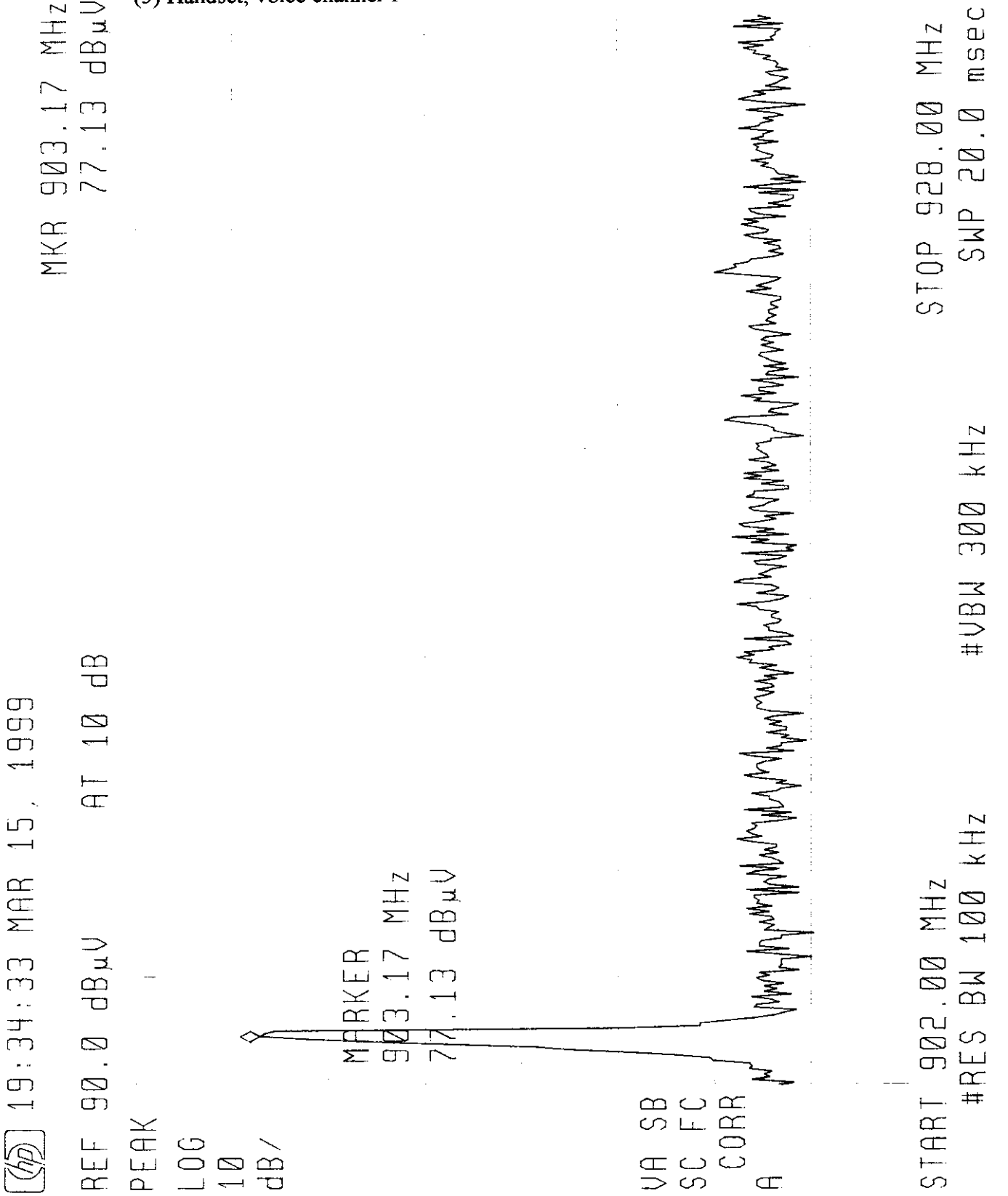
(1) Base, voice channel 1



(2) Base, voice channel 80



(3) Handset, voice channel 1



(4) Handset, voice channel 80

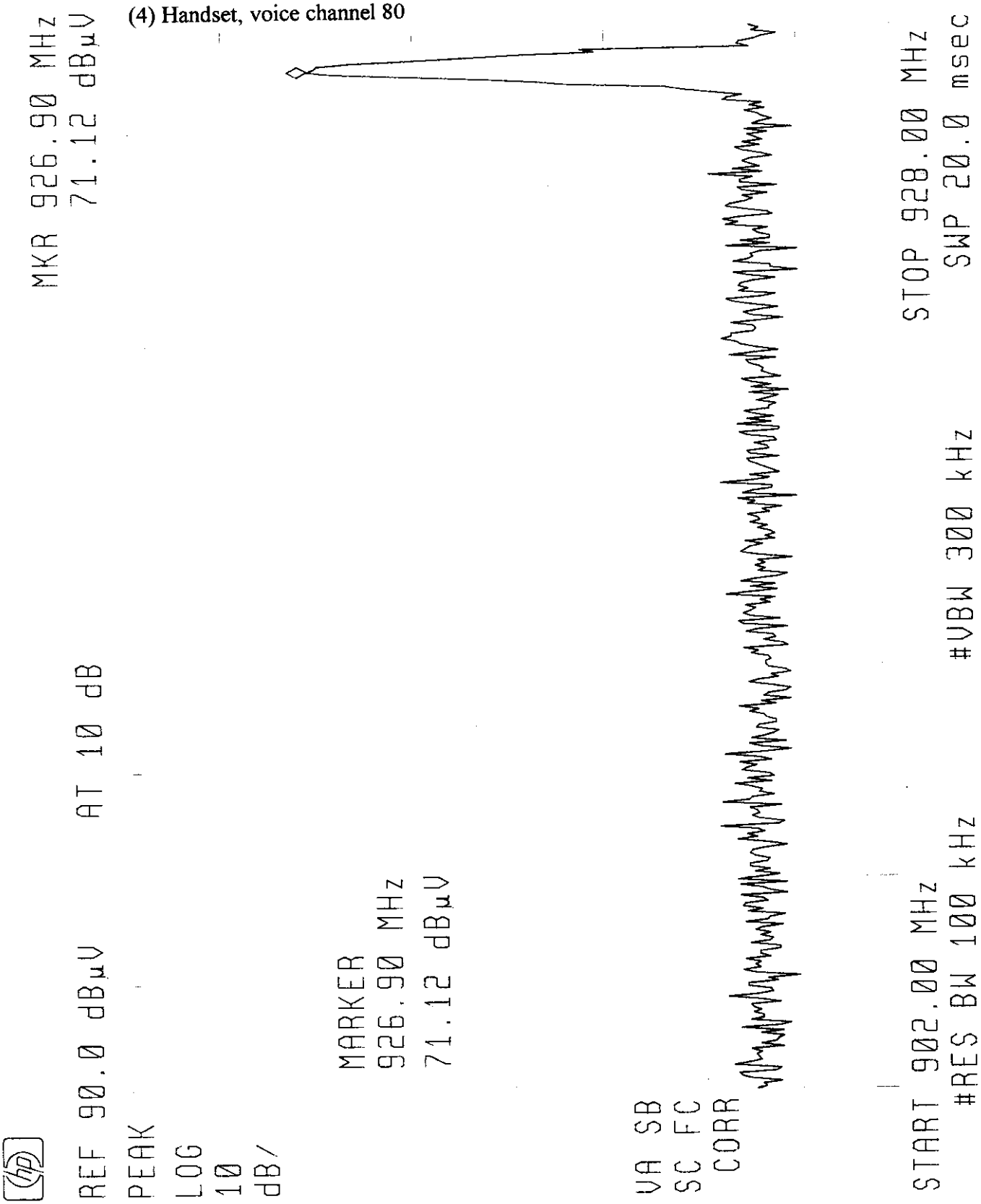
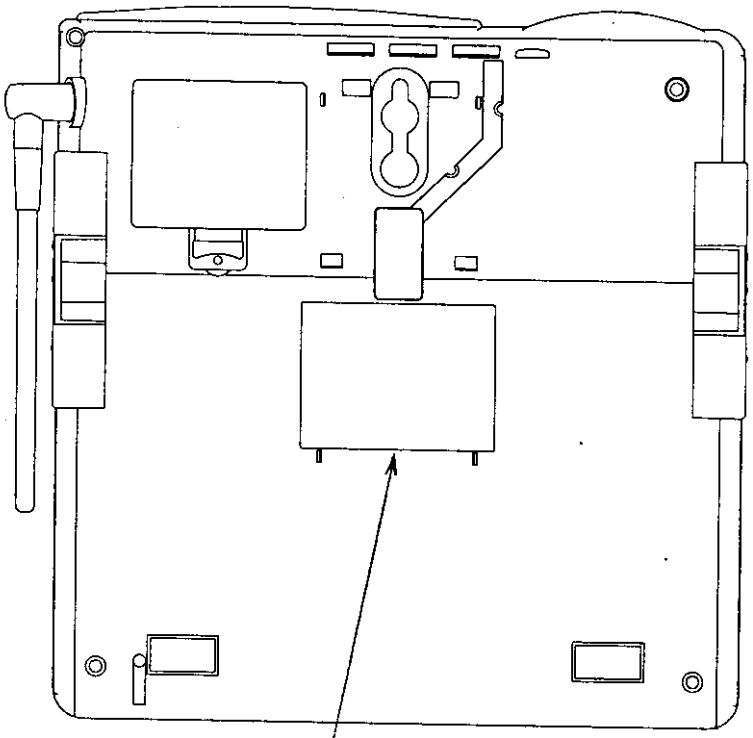


Exhibit D ..... Equipment ID. Label

1. A label of FCC ID. in the next page will be affixed to the appropriate side of the device.



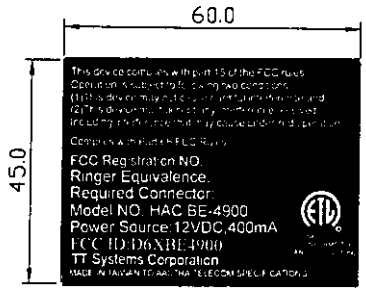
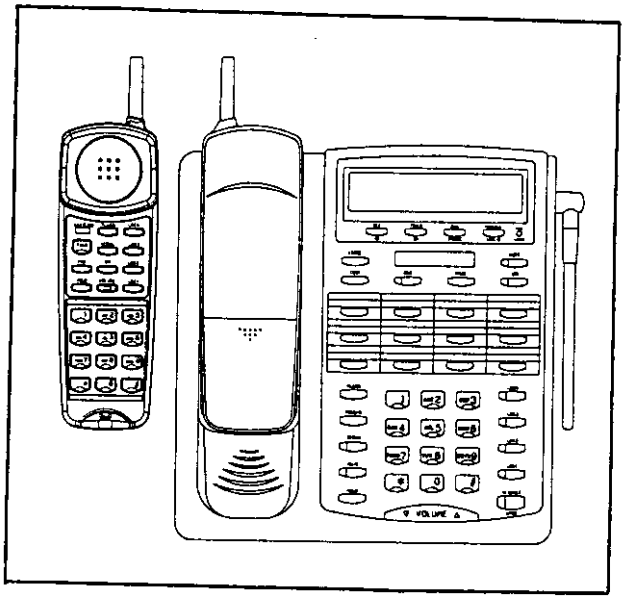

60.0
45.0
FCC Registration NO.
Ringer Equivalence.
Required Connector:
Model NO. HAC BE-4900
Power Source: 12VDC,400mA
FCC ID:D6XBE4900
TT Systems Corporation

Exhibit E ..... User's Manual

Bell EQUIPMENT

BE-4900

4 LINE NOKSU WITH CORDLESS HANDSET



OWNER'S MANUAL

TT Systems Corporation

WARNING

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THE UNIT TO RAIN OR MOISTURE.

TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER OR BACK. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED PERSONNEL.

IMPORTANT SAFETY INSTRUCTIONS

When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electrical shock, and injury to persons, including the following:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a dry cloth for cleaning.
4. Do not use this product near water: for example, near a sink or in a wet area.
5. Do not place this product on an unstable cart, stand, or table. The telephone may fall, causing serious damage to the unit.
6. To protect the product from overheating, do not block or cover any slots or openings in the unit. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.
7. This product should be operated only from the type of power source indicated on the marking label.
8. Do not allow anything to rest on the power cord. Do not locate this product where the cord will be damaged by persons walking on it.
9. Do not overload wall outlets and extension cords, as this can result in the risk of fire or electrical shock.
10. Never push objects of any kind into this product through the slots, as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.
11. To reduce the risk of electric shock, do not disassemble this product. Contact qualified service personnel when some service or repair work is required. Opening or removing covers may expose you to dangerous voltages or other risks. Incorrect reassembly can cause electric shock when the product is subsequently used.

12. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power supply cord is damaged or frayed.
    b. If liquid has been spilled into the product.
    c. If the product has been exposed to rain or water.
    d. If the product does not operate normally when following the operating instructions. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal operation.
    e. If the product has been dropped or the cabinet has been damaged.
    f. If the product exhibits a distinct change in performance.
13. Do not use the telephone to report a gas leak in the vicinity of the leak.

CAUTION

To reduce the risk of fire or injury to persons by the batteries, read and follow these instructions:

1. Use only three (3) AAA batteries with this product as specified in this manual.
2. Do not dispose of the batteries in a fire.
3. Do not open or mutilate the batteries. Released electrolyte is corrosive and may cause damage to the eyes or skin. It may be toxic if swallowed.
4. Exercise care in handling the batteries in order not to short out the batteries with conducting materials such as rings, bracelets, and keys. The batteries or conductor may overheat and cause burns.
5. Observe proper polarity orientation when installing batteries.

SAVE THESE INSTRUCTIONS

FCC INFORMATION

This telephone has been tested and found to comply with all applicable UL and FCC standards. This product's design enables it to be connected to most telephone lines. However, each device you connect to the telephone line draws power. This power draw is known as the Ringer Equivalence Number (REN) which is identified on the bottom of the telephone. If you use more than one telephone or other device on the line, add up all the RENs. If the total is more than 5.0, your telephone(s) may not ring and your answering machine might not answer. When used behind a PBX, the total number of devices that may be connected will be dependent on the PBX used. If the telephone doesn't ring, remove one of the devices from the line.

This telephone complies with Part 68 of FCC Rules. Upon request by your telephone company, you must provide the FCC registration number and the REN. These numbers are both located on the bottom of your telephone. The telephone must not be connected to: 1) coin-operated systems, 2) party-line systems, and 3) electronic key telephone systems that do not have standard analog telephone extension ports.

TABLE OF CONTENTS

INDICATIONS

1. Indicator(s) on the Base unit

1.1 Lamps

-- SHIFT

dark: in first(lower) mode.
lit: in second(upper) mode.

-- ICM

dark: intercom link idle.
fast: you're receiving an intercom call.
lit: intercom link busy.
Wink1: you're using the intercom.

-- SPKR

dark: you're idle or in handset mode.
lit: you're in handsfree mode.

-- CO1, 2, 3, 4

lit: CO line using by other station.
dark: CO line idle.
slow: CO incoming call ring.
fast: CO line held by you.
wink1: you're using the CO line.
wink2: CO line held by other station.
wink3: CO line transferred to you by other station.

-- MUTE

dark: you aren't muted.
lit: you're muted.

-- DND

dark: you're turn off the DND.
lit: you're turn on the DND.

-- REDIAL

fast: you're using auto redial.
slow: you're in auto redial mode wait cycle.
dark: you don't use auto redial.

-- MSG/CALLS

dark: you don't have any new call.
lit: you have the new calls.
fast: some one has left message for you.

1.2 Lamp Cadence

Lit:	solid lit.
Slow:	1 sec on, 1 sec off, repeatedly.
Fast:	0.125 sec on, 0.125 sec off, repeatedly.
Wink1:	1.875 sec on, 0.125 sec off, repeatedly.
Wink2:	0.875 sec on, 0.125 sec off, repeatedly.
Wink3:	0.125 sec on, 0.875 sec off, repeatedly.

1.3 Buzzer Cadence

Beep:	0.25 sec on.
Double beep:	0.25 sec on, 0.25 sec off, 0.25 sec on, 0.25 sec off.
ICM ring:	0.25 sec on, 0.25 sec off, 0.25 sec on, 1.25 sec off, repeatedly.
Transfer ring:	1 sec on, 1sec off, repeatedly.
ID-error ring:	0.25 sec on, 0.25 sec off, repeatedly.

1.4Intercom Tone Plant

Dial tone:	continuous tone.
Busy tone:	0.25 sec on, 0.25 sec off, repeatedly.
DND tone:	0.5 sec on, 0.5 sec off, repeatedly.
Ring back tone:	1 sec on, 1sec off, repeatedly.

2. Indicator(s) on the Handset unit

Sync. Error:	0.125 sec on, 0.375 sec off, repeatedly. (*Priority 1.*)	%
Battery low:	0.125 sec on, 0.875 sec off, repeatedly. (*Priority 2.*)	%
Headset On:	0.125 sec on, 1.875 sec off, repeatedly. (*Priority 3.*)	%

Note: if the headset is in standby mode, the indicator will be dark.

II PROGRAMMING

A. Handset Unit

1. Programming Headset On/Off

- In idle.
- Press [**HOLD**].
- Press [**0**] for *disable* headset, or [**1**] for *enable* headset.
- A beep will be heard to signal a successful programming.

Note: The default value is *disable*.

2. Programming the Security Code

- In idle.
- Press [**HOLD**].
- Press [#], [#].
- Enter *6* digits for new security code.
- Press [**HOLD**].
- A beep will be heard to signal a successful programming.

Note: The default value is *empty*.

3. Resetting the Headset

- In idle.
- Press [**HOLD**], [*], [**HOLD**].

Note: The default parameter list:

1. Security Code: *empty*.

4. Changing the Security Code

- Power-up the base unit, and be sure the S.C has been programmed in the handset.
- Press [**HOLD**].
- Press [#].
- Press and hold [*].
- Keep holding [*] until a confirmation beep is heard.

Note: 1. After the about *15* seconds, if you still do not get the confirmation, then it means that the changing fail.

2. The base unit can not do this operation.

B. Base Unit

1. Tone/Pulse mode programming

- Press [**STORE**]
- Press [**0**], [**0**]
- Press [**0**], [**0**] for *Pulse* mode, or [**0**], [**1**] for *Tone* mode.
- Press [**MUTE**].
- A beep will be heard to signal a successful programming.

Note: The default value is *Tone* mode.

2. Programming Station ID Number

When you use 2 or more telephones, each must be named a different station number. The same station number can't be repeated. If two of them are set to the same station number, continuous warning will occur, and it is necessary to program another station number for the ringing telephone.

- Press **[STORE]**.
- Press **[1]**, **[0]**.
- Enter 2 digits **XX**. Where **XX**: *11 – 22*.
- Press **[MUTE]**.
- A beep will be heard to signal a successful programming.

Note: The default value is *11*.

3. Programming Ringer On/Off for CO Lines

- Press **[STORE]**.
- Press **[2]**.
- Press a digit **X**, where **X**: CO Line number.
- Press **[0]**, **[0]** for *Off*, or **[0]**, **[1]** for *On*.
- Press **[MUTE]**.
- A beep will be heard to signal a successful programming.

Note: The default value is *On*.

4. Programming Line Connection On/Off

- Press **[STORE]**.
- Press **[5]**.
- Press a digit **X**, where **X**: CO Line number.
- Press **[0]**, **[0]** for *Off*, or **[0]**, **[1]** for *On*.
- Press **[MUTE]**.
- A beep will be heard to signal a successful programming.

Note: The default value is *On*.

5. Set the Clock and Calendar

The time and date appear on the display screen when the phone is not in use.

- Press **[SHIFT]**.
- Press **[SET]**.
- Enter 2 digits for **MONTH**, *01 – 12*.
- Enter 2 digits for **DAY**, *01 – 31*.
- Enter day of **week**, *1 – 7*. *1* for *SUN*, *2* for *MON*, etc.
- Enter 2 digits for **HOUR**, *01 – 12*.
- Enter 2 digits for **MINUTE**, *00 – 59*.
- Enter **[*]** for *AM*, or **[#]** for *PM*.
- A beep will be heard to signal a successful programming.

Note: The default value is *Jan 01 FRI 12:00 AM*.

6. Area code programming

The CID area code can be up to *5* digits, and the default is empty. If a call from the same CID area code, then the area code will be deleted automatically, and won't be stored in the CID data base. So the call can be dial back as a local call without the leading area code.

6.1 Setting the Area Code for Caller ID

- Press [**STORE**].
- Press [7], [**1**].
- Key in *1* to *5* digits as the area code.
- Press [**MUTE**]
- A beep will be heard to signal a successful programming

6.2 Erasing the Area Code

- Press [**STORE**].
- Press [7], [1].
- Press [*].
- Press [**MUTE**].
- A beep will be heard to signal a successful programming.

7. Programming the Speed Dial

There are *24* memory locations (2 groups) to store speed dial numbers. Each memory location can store up to *24* digits, include *PAUSE*, *TONE* and *FLASH*.

7.1 Store Phone Numbers into Speed Dial Memory

- Press [**STORE**].
- Enter the digits to be stored.
- If you want to store second group speed dial numbers, you must press [**SHIFT**] now.
- Press Speed Dial Key.
- A beep will be heard to signal a successful programming.

7.2 Store the Last Number Dialed into Speed Dial Memory

- Press [**STORE**].
- Press [**REDIAL**].
- If you want to store second group speed dial numbers, you must press [**SHIFT**] now.
- Press Speed Dial Key.
- A beep will be heard to signal a successful programming.

7.3 Erasing the Speed Dial Memory

- Press [**STORE**].
- Press [*].
- If you want to erase the second group speed dial numbers, you must press [**SHIFT**] now.
- Press Speed Dial Key.
- A beep will be heard to signal a successful programming.

8. Back to Default value

You may clear all the programmed data, all parameters will back to the default value.

- Press [**STORE**].
- Press [*], [#], [*], [#].
- Press [**MUTE**]

- A beep will be heard to signal a successful programming.

Note: The all default item and value as follows:

1. Tone/Pulse mode: *Tone* mode.
2. Headset mode (programmed by handset): *disable*.
3. Station ID number: *11*
4. CO lines Ringer: *On*.
5. Line Connection: *On*.
6. Speaker Volume: *4th large* level.
7. Handset volume: *minimum* level.
8. Headset volume: *middle* level.
9. Ringer volume: *middle* level.
10. SPD: *empty*
11. Area Code: *empty*.
12. Calendar: *Jan 01 FRI 12:00 AM*.
13. Caller ID Database: *empty*.
14. Security code: *empty*.

III BASIC OPERATION

1. Making an Outgoing Call

-- Handset Unit

- Press [**TALK**].
- An available line is automatically selected.
- Dial desired number.

-- Base Unit

- Press [**SPKR**].
- An available line is automatically selected.
- Dial desired number.

2. Answering an Incoming Call

-- Handset Unit

You may press any one of digit keys [**1/2/3/4/5/6/7/8/9/0/*/#**], or [**TALK**] key, or lift the handset from the Base unit to pick up the ringing call. %

-- Base Unit

- Press the flashing CO key to pick up the ringing call.

Or

- Press [**SPKR**] key to pick up the ringing call automatically.

3. Last Number Redial

The telephone set will automatically remember the last phone dialed. This allows you to automatically redial last number dialed until another call is placed.

-- Handset Unit

- Take an available outside line.
- Press [**REDIAL**].

-- Base Unit

- Press [**REDIAL**].
- The station will pick up an available CO, and dial the stored number automatically.

4. Auto Redial

The telephone set can automatically redial a busy number up to *10* times. (*Only on the base unit*) %

- Press an idle line key on Base unit.
- Press [**REDIAL**] on Base unit.
- Once the called party answer or ring back tone is heard, when you lift the handset or press [**SPKR**] to stop auto-redial function and start to talk to the called party. %

Note: 1. Any other operation of the phone wills stop/end the auto-redial function except [**SHIFT**] and [▼ **VOLUME** ▲].

2. The on-line waiting time is about *30* seconds, which is the time after the phone number dialed and hangs up the time.
3. The off-line waiting time is about *30* seconds, which is the time between the hang up and next trial.
4. The handset unit can't do this operation.

5. Speed Dialing

- Press [**SHIFT**], If you want to dial second group's SPD number.
- Press Speed Dial key, the station will pick up an available line, and dial the stored number automatically.

Note: The handset unit can't do this operation.

6. Hold Function

6.1 Placing an outside call on hold

- Press [**HOLD**].

6.2 Releasing Hold

- Press the held CO key.

7. Privacy Function

System will always keep the line privacy, unless the line privacy had released by user.

7.1 Outside Call Privacy Release

- Press the used CO line key, a beep is heard to release line privacy.

7.2 Outside Call Privacy Release Recover

- When you want to recover the line privacy, press the used CO line key again.

Note: The handset unit can't do this operation.

8. Transferring a Call

-- Handset Unit

- On line.
- Press [**HOLD**] or Press [**TRNSFR**] (*only Model C*). %
- Dial a desired transferred station number.

-- Base Unit

- On line.
- Press [**TRNSFR**]. %
- Dial a desired transferred station number, or Press a *DSS* key.
- A signal beep will hear if the CO call is transferred automatically.

Note: 1. The transferred will hear the CO transfer ring. (Both the handset and base unit) %
2. All station can pick up the transferred CO line.
3. The transfer mode will be cancelled after about *10* seconds if nothing is dialed.

9. Intercom Operation

9.1 Making an Intercom Call

- Press [**ICM**].
- Dial desired intercom number, or *DSS* key (*only Base unit*)

Note: 1. If the called is *idle*, you will hear the *ring back tone*.
2. If the called set *DND*, you will hear the *DND tone*.
3. If the called is *busy*, you will hear the *busy tone*.

4. When you direct an intercom call to one station, any station in the system can answer the call.

9.2 Answering an Intercom Call

-- Handset Unit

- Press [*any one of the digit*] key, or [**TALK**] key, or [**ICM**] key, or lift the handset from the Base unit to pick up intercom call automatically. %

-- Base Unit

- Press [**ICM**] key to pick up intercom call.

Or

- Press [**SPKR**] key to pick up intercom call automatically.

9.3 Paging a Specific Station

- Press [**PAGE**].
- Dial desired intercom number, or *DSS* key.

Note: The handset unit can't do this operation.

9.4 Answering a Single Page Call

A beep tone is heard to let you know a voice call is coming. The single paged set will turn on **MUTE** lamp.

- Press [**MUTE**] key.

Note: The handset unit can't do this operation.

9.5 Dial Intercom Call and Single Page Call Interchanging

-- Handset Unit

- Making an intercom call.
- Press [**ICM**] key again, change your intercom call to single paging call.
- Press [**ICM**] key again, change your single paging call to dial intercom call.

-- Base Unit

- Press [**PAGE**] key to change your intercom call to single paging call.
- Press [**ICM**] key to change your single paging call to dial intercom call.

9.6 Voice Page All Station

-- Handset Unit

- Press [**PAGEALL**]. (*Only Model C*)

Or

- Press [**ICM**].
- Press [*].

-- Base Unit

- Press [**PAGE**].
- Press [*].

Or

- Press [**SHIFT**].

• Press [**PAGEALL**] directly.

Note: Your message can be announced to all idle telephone set.

9.7 Meet Me Answer to All Page

• Press [**PAGE**].

Or

• Press [**SHIFT**].

• Press [**PAGEALL**].

Note: The handset unit can't do this operation.

10. Conference Call

A telephone set already involved in a two-way conversation may invite a third party into the same conversation.

10.1 Two CO Lines Conference Call

• On line.

• Press [**HOLD**] and make the second CO line call.

• After third party answers, press the [**CONF**] key.

• Three party conferences established.

10.2 One CO Line and Two Stations Conference Call

• On line

• Press [**HOLD**] and make the intercom call.

• After third party answers, press the [**CONF**] key.

• Three party conferences established.

Note: The handset unit can't do this operation.

11. PAUSE Function

You may use the **PAUSE** function to make a dialing delay between digits during a call, or program the **PAUSE** in the speed dialing numbers for certain banking and long distance service. Each time you press **PAUSE** key, about *3* seconds delay occurs in the dialing sequence. You may press more one **PAUSE** to get a longer delay for you need.

• Press [**PAUSE**] key, to insert a timing delay between digits. (*Only Model C*)

Note: 1. *In Model D*, the [**REDIAL**] key will be used as a PAUSE function after telephone number(s) dialed.

2. The handset unit can't do this operation.

12. FLASH Function

The **FLASH** key lets you access your local telephone company's custom calling features such as call waiting or holding, and when you are notified of another call coming in, to press [**FLASH**] key will let you access the other call.

Note: The flash duration is *600* ms.

13. MUTE Function

The **MUTE** feature allows you to temporarily cut off the voice transmission to the other party, so he can not hear your voice during conversation.

- Press **[MUTE]** to light the **MUTE** lamp and your voice will not be hears by the other party.
- Press **[MUTE]** again to turn off the **MUTE** lamp and 2-way phone conversation will be restored.

Note: The handset unit can't do this operation.

14. TONE Function

If you have **PULSE** telephone service, the [*] key allows you to access some specialized communication services that require **DTMF** signaling.

- Dial the telephone number(s) in **PULSE** mode.
- Press [*], now dial in **TONE** signaling.

15. DND Function

No phone call will be ring in when this feature is activated. %

-- Setting DND

- Press **[DND]** and the *DND* indicator will light.

-- Canceling DND

- Press **[DND]** again, and the *DND* indicator will dark.

Note: The handset unit can't do this operation.

16. Trace the Length of Phone Calls

- Establish an outside call.
- Press **[SHIFT]**.
- Press **[TIMER]**, the LCD display **00:00** starts to counting, and up to **59:59**.
- After reaching **59:59**, the LCD will start counting from **00:00** again.
- Press **[SHIFT]** key first, then press **[TIMER]** key again to stop counting or just hang up. (the display still holds for *6* seconds.)

Note: 1. The call duration will count automatically after the phone number dialed.
2. The handset unit can't do this operation.

17. Adjusting the Speaker Volume

- Press **[SPKR]**.
- Press [▼ **VOLUME** ▲] key to desired volume level.

Note: 1. There are *16* levels, and the default level is the *4th large* level.
2. A warning beep will be heard when the level set at minimum or maximum level.
3. The handset unit can not adjust the speaker volume.

18. Adjust the Ringer Volume of CO Line

- Idle mode.
- Press [▼ **VOLUME** ▲] key to desired volume level.

Note: 1. There are *3* levels (*low, middle, and high*), and the default level is *middle* level.
2. The handset unit can not adjust the ringer volume.

19. Adjusting the Handset Volume

- Press [▼ **VOLUME** ▲] key to desired volume level.

Note: 1. There are *3* levels (*low, middle, and high*), and the default level is *low* level.
2. After reaching high level, the handset volume will return to low level.
3. The base unit can not adjust the handset volume.

20. Adjusting the Headset Volume

- In headset mode.
- Press [▼ **VOLUME** ▲] key to desired volume level.

Note: 1. There are *3* levels (*low, middle, and high*), and the default level is *middle* level.
2. After reaching high level, the handset volume will return to low level.
3. The base unit can not adjust the handset volume.

21. Battery Low Display

- If battery low is detected in the base unit, the LCD on the base unit will show **BATT.** %
- The battery indicator on the handset unit will be *flashing* when the handset battery low is detected. %

%

22. Liquid Crystal Display (LCD)

If more than one message is to be displayed at the same time, the LCD displays according to the following precedence:

- Dialed digits.
- ICM operations.
- Timer.
- Programming.
- Caller ID data.
- Normal LCD display. (**BATT** will be displayed if it is active)

23. Base and Handset Interchanging

-- Change from Handset to Base

- In handset mode.
- Press [**SPKR**].

-- Change from Base to Handset

- In Base mode.
- Put the handset back to cradle. (if necessary) %
- Lift the handset.

Note: After changing to base(/handset), you can't use the handset(/base) until you change to handset(/base) from base(/handset). %

24. Searching the Handset %

When the handset is missed, you can found it by this feature. %

- Press [**PAGE**] on the base unit. %
- Press [#] on the base unit. %
- If the handset is found, it will generate beep about *3* seconds. %

IV CALLER ID OPERATION

1. Incoming Caller ID Display

The idea is to display the phone number of the calling party before a call is answered. Four cases are handled differently follows:

-- Case1. The Phone is idle

Approximately upon the second ring of an incoming call, the LCD will display the caller's information automatically.

1. The phone ring.
2. Display shows the name and phone number of the calling party.
3. This display will disappear and returns to date/time of the day display under 4 conditions.

   a. Rings abandoned – The caller drops the call before the call is answered.
   b. Another set picks up the call.
   c. The set that picked up the call drops the call.
   d. Another feature requiring LCD be accessed, e.g. set time.

-- Case 2.

A feature requiring LCD is accessed when the phone ringed, e.g. programming speed dial key, making an outgoing call, setting clock, etc. Note that you can always review the current call(s) using the **[CALL ID]** function. **[CALL ID]** lets the user walk through callers of all currently active calls.

1. The phone rings while the user is in the middle of programming a speed dial.
2. To view information of the caller, press **[CALL ID]**.
3. Press **[CALL ID]** again to return to date/time of the day display.

-- Case 3. Simultaneous ringing on two or more lines

The caller ID feature can handle up to four calls that start ringing at exactly the same time. E.g.

1. The phone rings on two lines, line 1 and line 3.
2. Assume the phone is idle, the display shows the caller's information of an earlier ringing line. Suppose it is line 1.
3. Press **[CALL ID]** key, the display shows caller of the second ringing line, line 3.
4. Press **[CALL ID]** key again, the display return to date/time of the day.
5. Repeatedly pressing **[CALL ID]** key lets you view caller's information of all *active** lines, namely, line 1, line 3, date/time,...etc.

* *An active line is a ringing line or a line in use.*

-- Case 4. Simultaneous ringing and calls are picked up

1. The phone ring on two lines, line 1 and line3.
2. Phone A pick up line 1 and display caller of line 1.
3. Other phones displays caller of line 3.

In any case, the **[CALL ID]** key can be used to view other callers.

2. Working with Caller's list

2.1 Retrieving the list

1. Press [◀] or [▶]. The LCD displays total CID number and new call number.
2a. Press [▶]. Display shows caller's information of the first call.
3a. Press [▶]. Display shows caller's information of the second call.
4a. Repeatedly press [▶] will guide the user through the list forward.

Or, to go backward:

2b. Press [◀]. Display shows information of the previous call.
3b. Repeatedly press [◀] will guide the user through the list backward.
4b. Press [◀] at the 1st call leads you to top of list.

5. This display mode is either terminated by pressing keys other than [◀], [▶] or time out.

Note: --At any time during review [◀] shows the preceding call while [▶] shows the succeeding call, until top of the list is reached, then the LCD display total CID number and new call number.

--Other possible display:
"*Out of Area*": The call comes from some remote area.
"*Private*": Retrieving the caller's data is limited.
"*Unknown*": Retrieving the caller's data failed.
"*(empty)*": The caller's number or name of the call is empty.

2.2 Erasing a record on the List

1. Reviewing the caller's list and decided to delete a particular record.
2. Press **[ERASE]**, the display indicates "*Deleted*".
3. Press [▶] to view the succeeding record or [◀] to view the preceding record.

Note: You can erase all CID data when you are reviewing top of the list and you press the **[ERASE]**.

2.3 Return a Call on the Caller's List

1. When reviewing the caller's list, the user decides to return the call.
2. Pick up a CO line and dial some leading digits for a long distant call. (*if necessary*)
3. Press **[SHIFT]** key first to light the *SHIFT* lamp.
4. Press **[DIAL]**, and the number is automatically dialed.
5. The display shows the number digit by digit as it is dialed.
6. Proceed as making a phone call.

2.4 Saving a Number from Caller's List to a Speed Dial Key

1. When reviewing the caller's list, the user decides to save the number onto a *SPD* key.
2. Press **[STORE]** key.
3. Press [◀] or [▶] to indicate storing a record from caller's list.
4. Press **[SHIFT]** key. (*if necessary*)
5. Press a *SPD* key and a short confirmation tone will be given.

Note: You can manual insert some leading digits before you press the [◀] or [▶].

3. Message Waiting

If you subscribe to a voice mail service from your telephone company, the *CALL/MSG* led will be flashing when someone has left message for you.

3.1 Accessing the Message Central Office

1. Pick up a CO line.
2. Dial the number for your voice mail service.
3. Enter your password.
4. Operate the feature code as the procedure given by Telephone Company.

3.2 Deleting the Message Waiting Indicator

The Telephone Company will send data to remove the indicator when the entire messages are accessed.
Or, you can remove the indicator by yourself all the message.

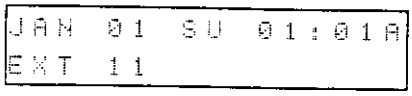
1. Press the **[ERASE]** to try to remove the indicator.
2. Press the **[ERASE]** again to confirm and delete the indicator.

----- END -----

V APPENDIX A: LCD DISPLAY

This product uses a 2*16 Dot Matrix LCD.

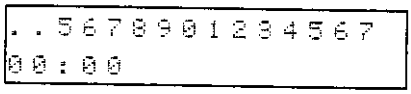
1. Normal



2. Dialing

If you dial *12345*, then the LCD displays:

If you dial more then 15 digits, all the digits will be shifted to left.
For example: Dial *12345678901234567*

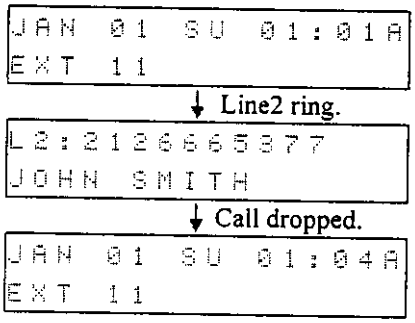


3. Programming

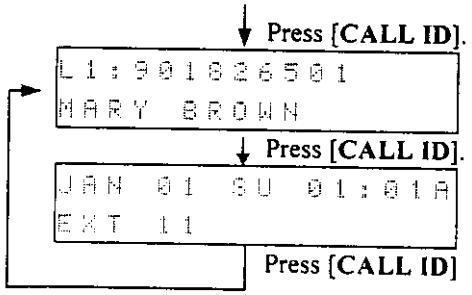
Example: If you program the tone dial mode, the LCD display:

4. Caller ID

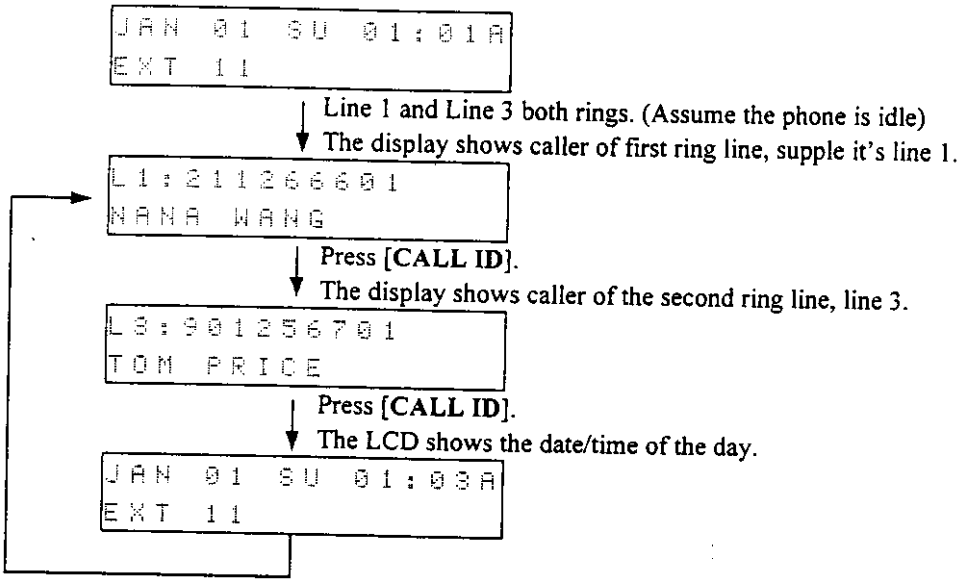
I. The phone is idle.



II. You can review the current calls using the **[CALL ID]** key.

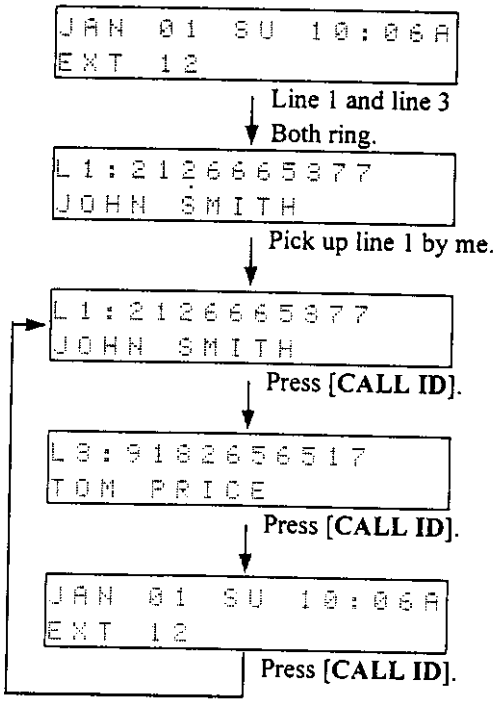


III. Simultaneous ringing on two or more lines.

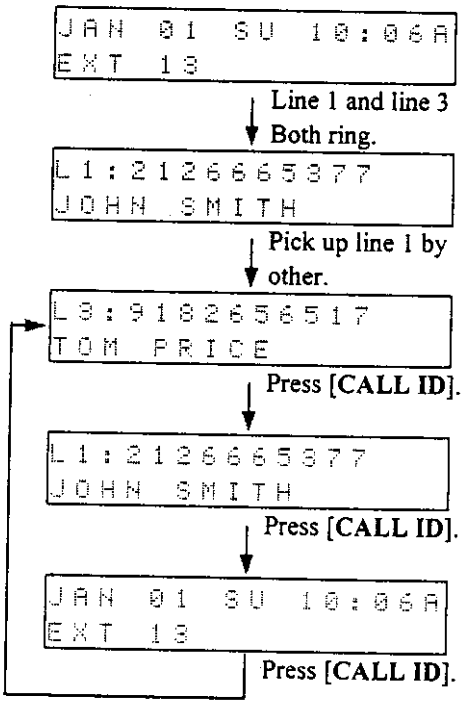


IV. Simultaneous ringing and calls are picked up.

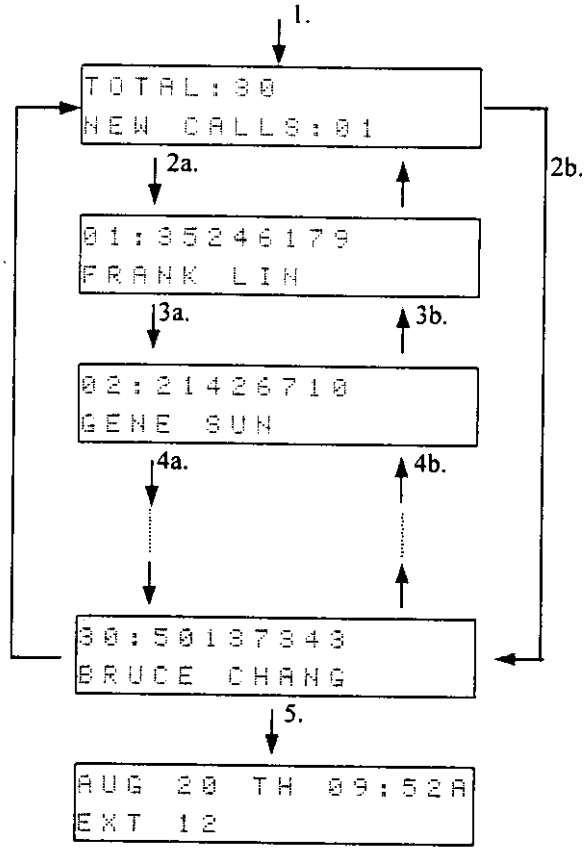
The answered phone. (Phone A)



The answered phone. (Phone B)



5. Review caller's list



1. First time.

2a. Press [▶], show information of first call.
2b. Press [◀], show information of last call.

3a. Press [▶], show information of second call.
3b. Press [◀], show information of first call.

4a. Repeatedly press [▶], will guide the user through the list forward.
4b. Repeatedly press [◀], will guide the user through the list backward.

5. Time-out or press other key.

Note: For each caller's information, the display shows the following: