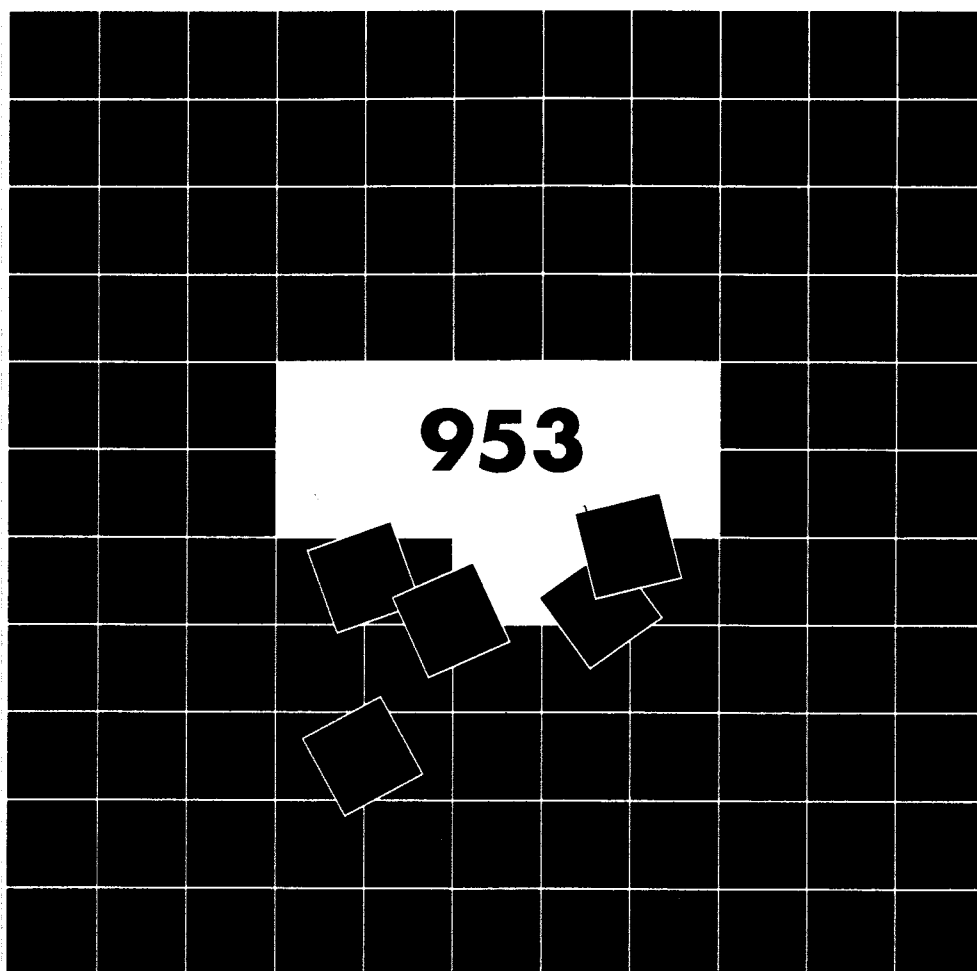


LEADER

1 GHz SIGNAL LEVEL METER

RS-232C Remote Control/Frequency Table

INSTRUCTION MANUAL



LEADER ELECTRONICS CORP.

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1. REMOTE CONTROL

The Model 953 can transfer measurement data and remotely control front panel operations when combined with a personal computer via the RS-232C interface. Since most personal computers have an RS-232C interface, no extra interface board is required for these purposes.

1.1 RS-232C Interface Specifications

Connector	9-pin D-sub connector
Communication System	Full duplex
Synchronous System	Asynchronous
Parameter	
X Parameter	Enable, disable
Data Bit Length	7 bits, 8 bits
Parity	None, even, odd
Start Bit	1 bit,
Stop Bit	1 bit, 2 bits
Baud Rate	300, 600, 1200, 2400, 4800, 9600 bps

Pin Configuration

Pin Number	Signal Name
1	-
2	RXD
3	TXD
4	-
5	GND
6	-
7	RTS
8	CTS
9	-

1.2 Connecting a Computer

(1) Connecting PC-9801

PC-9801

25-pin D-sub connector

953

9-pin D-sub connector

(2) Connecting IBM-PC

IBM-PC

9-pin D-sub connector

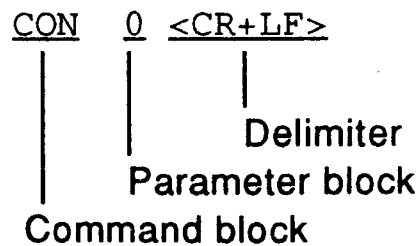
953

9-pin D-sub connector

1.3 Command Format

The remote control commands used for the 953 consists of a command and parameter blocks in ASCII code, and delimiter.

- Example



(1) Command Block

This is a three-character ASCII code. Insert at least one space code between the command and parameter blocks.

(2) Parameter Block

This block consists of ASCII characters.

When there are several parameters, each is delimited by a period ".".

The set status of some commands can be read by sending "?".

(3) Delimiter

The delimiter for the 953 is <CR+LF>(0DH, 0AH).

1.4 Command Table

- Basic Control Command

Command	Parameter	Function
C/S	p1	Selects the CHANNEL or SPECTRUM.
PRG	p1 - p2	Reads/writes PRG.
DAT	p1 - p2	Reads/writes DAT.
TIT	p1	Sets the title.
BAT		Outputs battery voltage.
REF	p1	Sets the reference level.
DB/	p1	Sets the level range.
AUD	p1 - p2	Turns sound demodulation on or off, sets sound volume.
DPL	p1	Turns display hold on or off.
MAX	p1	Turns maximum hold on or off.
CON	p1	Sets the contrast.
DTE	p1 - p6	Sets date and time.
MDT		Outputs measurement date and time.
BEP	p1	Turns beeper on or off.
TIM	p1	Turns automatic power-off function on or off.
PRT	p1	Selects printout type.
UNT	p1	Selects measurement unit.
COF	p1	Sets the calibration offset.
BLT	p1	Turns backlight on or off.
DLG	p1 - 4	Sets the data logger.
IMP	p1	Sets the impedance.
CPR		Outputs PRG contents being selected.
GTL		Cancels remote control.
BLK	p1	Turns block light on or off.

- Level Measurement Control Command

Command	Parameter	Function
CHN	p1	Sets the measurement channel.
CST	p1 - p3	Recalls channel table.
SAR		Channel search.
M/S	p1	Selects the MULTI or SINGLE.
AUT	p1	Turns automatic ranging on or off.
CHD	p1 - p3	Sets channel data.
ASN	p1	Adds SOUND/NICAM frequency (TV).
INS		Inserts channel.
DEL		Deletes channel.
SPI	p1	Sets the step insertion.
CRO	p1	Sets the reference offset.
MST	p1 - p2	Sets the measurement item (V-S, C/N, etc.).
CDA	p1	Outputs measurement value.
CDP	p1	Outputs measurement value (same as printer output).

- Spectrum Measurement Control Command

Command	Parameter	Function
CTR	p1	Sets the center frequency.
SPN	p1	Sets the frequency span.
VFL	p1	Sets the video filter.
MKR	p1	Sets the marker frequency.
MTP		Moves marker to peak.
MTC		Sets the marker frequency to center.
PTC		Sets the peak frequency to center.
SRO	p1	Sets the reference offset.
MLV	p1	Outputs marked measurement value.
WAV	p1	Outputs waveform data.

1.5.1 Basic Command

p1 : 0 CHANNEL
: 1 SPECTRUM
: ? Reads the setting.

Number of write-enable PRG
PRG number being recalled
(0 for TMP, + for DAT)

1-6

3. DAT p1 [,p2]

Controls reading/writing of measurement data.

p1 : Selects DAT number.

1 to 512

: 0 Terminates data recall.

: ? Reads the setting. Parameter p2 is not required.

- **Output example**

"DAT 4, 98<CR+LF>"

Number of write-enable DAT
DAT number being recalled
(0 for TMP, - for PRG)

p2 : 0 Selects the recall.

: 1 Selects the write.

: 2 Selects the delete.

: ? Checks the number specified by p1 for write-enable/disable, and reads the result.

- **Output example (p1 is 21)**

"DAT 21, 0" (Write enable)

"DAT 21, 1" (Written)

4. TIT p1

Sets the title.

p1 : Up to 10 ASCII characters

: ? Reads the setting.

*** Deletes without parameter.**

5. BAT

Outputs the battery voltage with unit in [V].

- **Output example**

"BAT 12.1"

6. REF p1

Sets the reference level.

p1 : 20 to 120 [dB μ V], 1 dB steps
: ? Reads the setting.

*1 Reference level value range depends on the measurement unit.
Example shown above is for [dB μ V]. See below for other units.

[dB μ V (EMF)] 26 to 126

[dBmV] -40 to 60

[dBmW] -87 to 13

*2 Reference level value range depends on the reference offset value.

Example When the reference offset value is +11 dB, the value range is 31 to 131 [dB μ V].

7. DB/ p1

Sets the level range.

p1 : 2, 5, or 10 [dB/DIV]
: ? Reads the setting.

8. AUD p1 [,p2]

Sets the sound demodulation on or off, and sets sound volume. (p2 can be omitted.)

p1 : 0 Turns sound demodulation OFF.
: 1 Turns sound demodulation ON.
: ? Reads the setting. Parameter p2 is not required.
p2 : 0 Sets the sound volume.
0 to 25

9. DPL p1

Controls display hold on or off.

p1 : 0 Turns display hold OFF.
: 1 Turns display hold ON.
: ? Reads the setting.

* This function is automatically turned off when other command is input.

10. MAX p1

Controls maximum hold on or off.

- p1 : 0 Turns maximum hold OFF.
- : 1 Turns maximum hold ON.
- : ? Reads the setting.

11. CON p1

Sets the contrast.

- p1 : -20 to 20 (- for thinner, + for darker)
- : ? Reads the setting.

12. DTE p1 to p6

Sets the date and time.

- p1 : Year
- : ? Reads the setting. Parameter p2 to p6 are not required.
- p2 : Month
- p3 : Date
- p4 : Hour (24-hour system)
- p5 : Minute
- p6 : Second

13. MDT

Outputs the measurement date and time.

- Output example

November 20, 1994, 1:3:25 pm

"MDT 1994,11,20,13,3,25"

- * The date and time of measurement are output when data is recalled.

14. BEP p1

Controls the beeper on or off.

- p1 : 0 Turns beeper OFF.
- : 1 Turns beeper ON.
- : ? Reads the setting.

- * When error occurs, beeper sounds even it is turned off.

15. TIM p1

Controls the automatic power-off function on or off.

- p1 : 0 Turns automatic power-off function OFF.
- : 1 Turns automatic power-off function ON.
- : 2 Turns automatic power-off function [OFF].
- : ? Reads the setting.

* When the automatic power-off function is set to on, power is automatically turned off 5 minutes after the last command is received.

16. PRT p1

Selects the printout type.

- p1 : 0 Graph only
- : 1 Data only
- : 2 Graph and data
- : ? Reads the setting.

17. UNT p1

Selects the measurement unit.

- p1 : 0 dB μ V
- : 1 dB μ V (EMF)
- : 2 dBmV
- : 3 dBmW
- : ? Reads the setting.

18. COF p1

Sets the calibration offset.

- p1 : -2.0 to 2.0 [dB]
- : ? Reads the setting.

19. BLT p1

Controls the backlight on or off.

- p1 : 0 Turns backlight OFF.
- : 1 Turns backlight ON.
- : ? Reads the setting.

20. DLG p1 [, to p5]

Sets the data logger. (p2 to p5 can be omitted.)

p1 : START/END

: 0 Data logger END

: 1 Data logger START

: ? Reads the setting. Parameters p2 to p5 are not required.

- Output example

"DLG 1,1,1, 1, 1, 98

Outputs setting values of p1 to p5 and remaining memory capacities (98 for example) at the end.

p2 : Selects output destination.

: 0 Printer

: 1 Memory

- When the printer is selected for output destination, the data logger mode cannot be used.

p3 : Selects write type into memory.

: 0 Overwrite

: 1 Insertion

p4 : Sets the time interval.

: 0 to 999 minutes

p5 : Sets the number of measurements.

: 0 to 999, endless (0)

* In the data logger mode, the power supply is automatically turned on or off to save the battery power. However, in the remote control mode, the power is always turned on to communicate with a personal computer.

21. IMP p1

Sets the input impedance.

p1 : 0 75 [Ω]

: 1 50 [Ω]

: ? Reads the setting.

22. CPR

Outputs the setting being used for measurement.

- Example 1 (CHANNEL)

```
"BLK 1<CR+LF>"
"C/S 0<CR+LF>"
"CST 1,2, 2<CR+LF>"
"CRO -10.1"
"TIT JAPAN      <CR+LF>"
"CHD ,  1:V,  91.2500<CR+LF>"
"CHD ,  3:V, 103.2500<CR+LF>"
"CHD ,  4:V, 171.2500<CR+LF>"
"CHD ,  6:V, 183.2500<CR+LF>"
"CHD ,  8:V, 193.2500<CR+LF>"
"CHD , 10:V, 205.2500<CR+LF>"
"CHD , 12:V, 217.2500<CR+LF>"
"CHD , 42:V, 645.2500<CR+LF>"
"BLK 0<CR+LF>"
"<EOF>"
```

* EOF is 1AH.

- Example 2 (SPECTRUM)

```
"BLK 1<CR+LF>"
"C/S 1<CR+LF>"
"SRO  0.0"
"TIT JAPAN      <CR+LF>"
"CTR  500.0000<CR+LF>"
"SPN  200<CR+LF>"
"REF  100<CR+LF>"
"DB/ 10<CR+LF>"
"VFL  1<CR+LF>"
"MKR  500.0000<CR+LF>"
"BLK 0<CR+LF>"
"<EOF>"
```

* EOF is 1AH.

23. GTL

Cancels the remote control mode.

24. BLK p1

Controls the block light on or off.

- p1 : 0 Turns block light OFF.
- : 1 Turns block light ON.
- : ? Reads the setting.

* When setting a large amount of continuous data (e.g., channel data), time is required to display each item of received data. By turning the block light on, the setting time is reduced since data is not displayed. After setting is completed, turn the block light off.

1.5.2 Level Measurement Control Commands

1. CHN p1

Specifies the channel cursor.

- p1 : Sets the cursor number.
 - 1 to upper limit being set. (128 maximum)
- : + Increments by one from present position.
- : - Decrements by one from present position.
- : ? Reads the setting.

• Output example

```
"CHN  5, 128"
      |   |
      |   | Upper limit being set
      |   | Number set
```

2. CST p1 to p3

Reads the channel table.

p1 : Selects data contents.

: 0 Reads all channel table.

: 1 Reads VIDEO/SOUND frequency data.

: ? Reads the setting. Parameters p2 and p3 are not required.

• Output example

"CST 1, 2, 2"
 | | |
 | | | Table
 | | | Table type
 | | | Always "1"

p2 : Specifies the table type.

: 1 Blank

: 2 CATV

: 3 VHF ONLY

: 4 UHF ONLY

: 5 VHF+UHF

: 6 RADIO MIC

p3 : Specifies the table.

(Blank)

1 Blank (no frequency data)

2 VIDEO/SOUND frequency data (3.5 MHz)

3 VIDEO/SOUND frequency data (4.5 MHz)

4 VIDEO/SOUND/NICAM frequency data (5.5 MHz)

5 VIDEO/SOUND/NICAM frequency data (6.0 MHz)

6 VIDEO/SOUND frequency data (6.5 MHz)

(CATV)

1 Blank

2 JAPAN-CATV

3 SUB BAND A

: :

: :

17 SIEMENS-CATV

(VHF ONLY)

- 1 Blank**
- 2 JAPAN**
- 3 USA**

: :

: :

- 17 UK**

(UHF ONLY)

- 1 Blank**
- 2 JAPAN**
- 3 USA**

: :

: :

- 8 UK/HK**

(VHF+UHF)

- 1 Blank**
- 2 JAPAN**
- 3 USA**

: :

: :

- 13 UK**

(RADIO MIC)

- 1 Blank**
- 2 AL BAND**
- 3 AH BAND**

: :

: :

- 5 C BAND**

3. SAR

Searches the channel.

4. M/S p1

Selects the MULTI or SINGLE measurement mode.

- p1 : 0 Selects MULTI measurement mode.**
- : 1 Selects SINGLE measurement mode.**
- : ? Reads the setting.**

5. AUT p1

Selects the AUTO or MANUAL ranging.

- p1 : 0 Selects the MANUAL.
- : 1 Selects the AUTO.
- : ? Reads the setting.

6. CHD [p1],p2, p3

Sets channel data.

- p1 : Number to specify the channel (When this setting is omitted, input channel is added at the end of channel in the PRG.)
1 to 128
- : ? Reads the setting. Parameters p2 and p3 are not required.
- p2 : Channel name (Up to 4 ASCII characters. Up to 5 characters when ":" is included.)
- p3 : Channel frequency
5 to 1030 [MHz], 0.0125 MHz steps

7. ASN p1

Sets the SOUND/NICAM frequency.

- p1 : 0 Deletes the SOUND and NICAM.
- : 1 Adds the SOUND.
- : 2 Adds the NICAM.
- : 3 Adds the SOUND and NICAM.

8. INS

Inserts a new channel to the selected channel position.

9. DEL

Deletes the selected channel.

10. SPI p1

Sets the step insertion.

- p1 : Sets the frequency interval.
The value should be smaller than the frequency difference between the selected channel (STOP) and previous channel (START).

11. CRO p1

Sets the reference offset.

- p1 : -30.0 to +30.0 [dB], 0.1 [dB] steps
- : ? Reads the setting.

12. MST p1 [,p2]

Selects the measurement functions shown below.

The measurement time can only be set in the stability measurement mode.

- p1 :
- 0 Level measurement (*1)
 - 1 V-S measurement (*1)
 - 2 V-N measurement (*1, *2)
 - 3 C/N measurement (*1)
 - 4 HUM measurement (*1)
 - 5 AC/DC voltage measurement (*1)
 - 6 Stability measurement
 - ? Reads the setting.

*1: Do not set the parameter p2.

*2: V-N can only be measured when the NICAM is set.

- p2 :
- In the stability measurement mode, the measurement time can be set.

1 to 300 [second] (When setting is omitted, the measurement is made using the present setting condition.)

13. CDA p1

Outputs the measurement result.

- p1 :
- 0 Outputs the result measured before command is input.
 - 1 Outputs all results measured after command is input.
 - ? Outputs the results in unit of blocks (of eight data items) after command entry.

• Output format 1 (except AC/DC voltage measurement)

"□□□□ AAAA □□ BBBB.BBBB BBBB.B BBBB.B BBBB.B <CR+LF>"

"<EOF>"

or

AAA:A

Channel name

Frequency

Measurement value 1

Measurement value 2

Measurement value 3

* EOF is 1AH.

- : ☐ Space
- : A Alphanumeric characters
- : B Numerical value
- * Table below shows the measurement value format.
"None" requires <CR+LF>.

Measurement Item	Measurement Value		
	1	2	3
Level	Level	None	None
V-S	Level	V-S	None
V-N	Level	V-N	None
C/N	Level	C/N	None
HUM	Level	HUM	None
Stability	Stability	Max level	Min level

- Output format 2 (AC/DC voltage measurement)

"VOLTAGE☐ CCC.C,D<CR+LF>"

"<EOF>"

* EOF is 1AH.

- : ☐ Space
- : C Numerical value
- : D 0 for DC, 1 for AC

- Output example 1 (Level measurement, MULTI)

```
"      1:V   91.2500   88.9<CR+LF>"
"      3:V  103.2500   86.5<CR+LF>"
"      4:V  171.2500   89.6<CR+LF>"
"      6:V  183.2500   87.1<CR+LF>"
"      8:V  193.2500   84.7<CR+LF>"
"     10:V  205.2500   88.2<CR+LF>"
"     12:V  217.2500   88.4<CR+LF>"
"     42:V  645.2500   81.3<CR+LF>"
"<EOF>"
```

- Output example 2 (C/N measurement)

```
"          1:V    91.2500    88.9    39.8<CR+LF>"
"<EOF>"
                        |      |
                        Level  C/N
```

- Output example 3 (Stability measurement)

```
"          1:V    91.2500    0.5    101.6    101.1<CR+LF>"
"<EOF>"
                        |      |      |
                        Stability Maximum Minimum
```

- Output example 4 (AC/DC voltage measurement)

```
"VOLTAGE  25.5,0<CR+LF>"
"<EOF>"
```

14. CDP p1

Outputs PRG contents being selected. (Since this format is the same as the printer, the delimiter is different from others.)

p1 : 0 Outputs the result measured before command is input.
 : 1 Outputs all results measured after command is input.

- Output example 1 (Level measurement, MULTI)

```
"<LF>"
":JAPAN      : / +2.0dB 50ohm<CR>"
"-----<CR>"
"          CH   FREQ   LEVEL <CR>"
"          [MHz] [dBμV] <CR>"
"=====<CR>"
"(JAPAN      )          <CR>"
"          1:V   91.2500   88.9<CR>"
"          3:V  103.2500   86.5<CR>"
"          4:V  171.2500   89.6<CR>"
"          6:V  183.2500   87.1<CR>"
"          8:V  193.2500   84.7<CR>"
"         10:V  205.2500   88.2<CR>"
"         12:V  217.2500   88.4<CR>"
"         42:V  645.2500   81.3<CR>"
"-----<CR>"
"<LF>"
```

- Output example 2 (C/N measurement)

```
"<LF>"
":JAPAN      : / +2.0dB 50ohm<CR>"
"-----<CR>"
"  CH      FREQ      LEVEL  C/N <CR>"
"          [MHz]    [dBμV] [dB]<CR>"
"=====<CR>"
"(JAPAN      )                <CR>"
"  1:V    91.2500    88.9 39.8<CR>"
"-----<CR>"
"<LF>"
```

- Output example 3 (Stability measurement)

```
"<LF>"
":JAPAN      : / +2.0dB 50ohm<CR>"
"-----<CR>"
"  CH      FREQ      LEVEL  STB <CR>"
"          [MHz]    [dBμV] [dB]<CR>"
"=====<CR>"
"(JAPAN      )                <CR>"
"  1:V    91.2500                0.5<CR>"
"          MAX   101.6            <CR>"
"          MIN   101.1            <CR>"
"-----<CR>"
"<LF>"
```

- Output example 4 (AC/DC voltage measurement)

```
"<LF>"
"VOLTAGE  25.5 DC<CR>"
"<LF>"
```

1.5.3 Spectrum Measurement Control Commands

1. CTR p1

Sets the center frequency.

p1 : 5 to 1030 [MHz], 0,0125 [MHz] steps
: ? Reads the setting.

2. SPN p1

Sets the frequency span.

p1 : 5 to 1025 [MHz], 1 [MHz] steps
: ? Reads the setting.

3. VFL p1

Sets the video filter.

p1 : 0.1, 1, or 100 [kHz]
: ? Reads the setting.

4. MKR p1

Sets the marker frequency.

p1 : 5 to 1030 [MHz], 0,0125 [MHz] steps
: ? Reads the setting.

5. MTP

Moves the marker to the waveform peak.

6. MTC

Sets the marker frequency to the center frequency.

7. PTC

Sets the waveform peak frequency to the center frequency.

8. SRO p1

Sets the reference offset.

p1 : -30.0 to +30.0 [dB], 0.1 [dB] steps
: ? Reads the setting.

9. MLV p1

Outputs the measurement result at the marker point.

- p1 : 0 Outputs the result measured before command is input.
- : 1 Outputs all results measured after command is input.

- Example

```
"MLV 90.2 dBμV<CR+LF>"
```

10. WAV p1

Outputs the waveform data.

- p1 : 0 Outputs the result measured before command is input.
- : 1 Outputs all results measured after command is input.
- : ? Outputs the results in unit of blocks (of eight data items) after command entry.

* There are 101 waveform data. Each data is delimited by <CR+LF>, and <EOF> is output at the end.

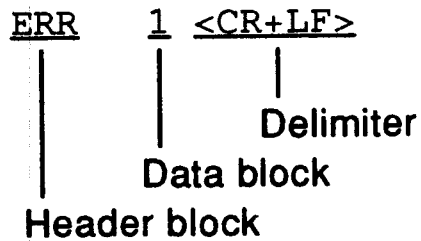
- Output example 4 (AC/DC voltage measurement)

```
" 90.2<CR+LF>"
" 90.4<CR+LF>"
" 90.2<CR+LF>"
:
:
" ++ <CR+LF>"
" ++ <CR+LF>"
" 90.0<CR+LF>"
:
:
" 88.0<CR+LF>"
" 90.2<CR+LF>"
" -- <CR+LF>"
"<EOF>"
```

1.6 Transferring Error Information

The error information is output when error occurs in the 953.

- Example



(1) Header Block

The ASCII character to indicate error.

(2) Data Block

Data to indicate error contents.

- 1 : RS-232C communication error.
- 2 : Unreadable command is input.
- 3 : Unusable command is input.
- 4 : The parameter is incorrect.

(3) Delimiter

The delimiter for the 953 is <CR+LF>(0DH, 0AH).

1.7 Setting the RS-232C Interface On

To save battery power, the RS-232C interface function is set off at the factory. Turn the RS-232C function on in either of the two modes described below.

- **Temporary On Mode**

The RS-232C is set off when power is turned off; it cannot be set on when power is turned on. Therefore, it should be set on every time power is turned on.

- **Normal On Mode**

The RS-232C is set on or off by turning power on or off.

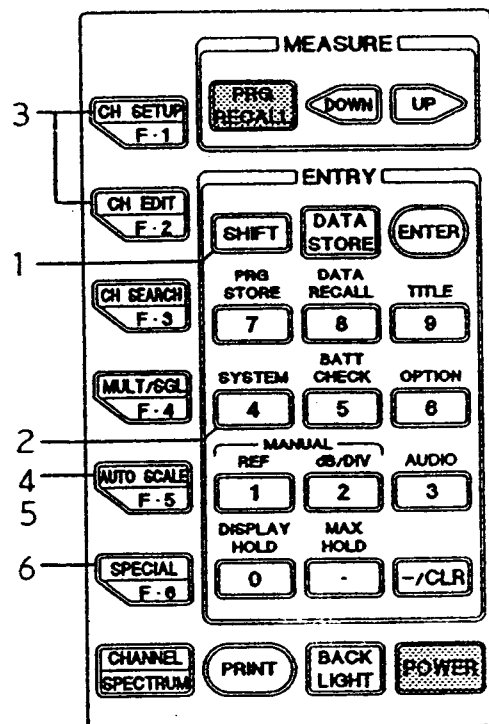
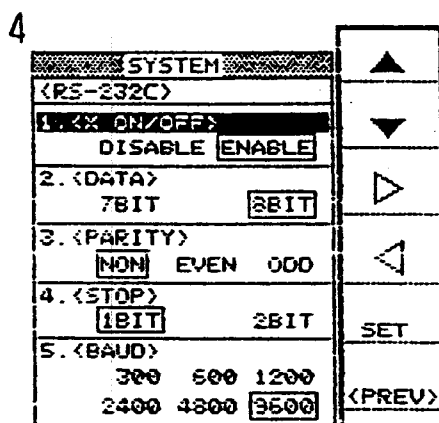
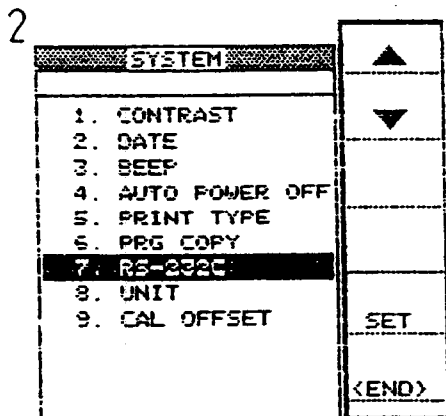
1.7.1 Temporary On Mode

• Operating Procedure

1. Press the SHIFT key.
2. Press the SYSTEM (4) key to display SYSTEM setting screen.
3. Press the F•1 (▲) or F•2 (▼) key to position the cursor to the RS-232C.
4. Press the F•5 (SET) key. The RS-232C screen is displayed.
5. Check the displayed parameter for correct, then press the F•5 (SET) key. The screen returns to the SYSTEM screen.
 - Refer to Section 1.8 "Parameter Setting" for parameter setting.
6. To return to the measurement screen, press the F•6 (END) key.

• Screen Display

• Keys Used

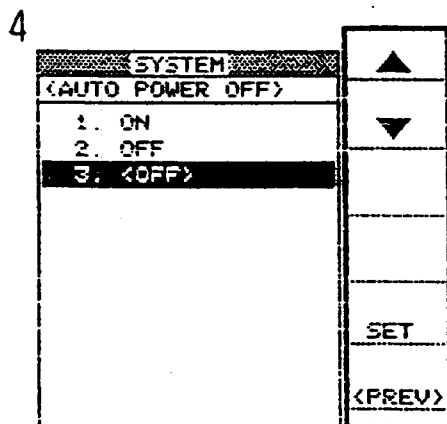
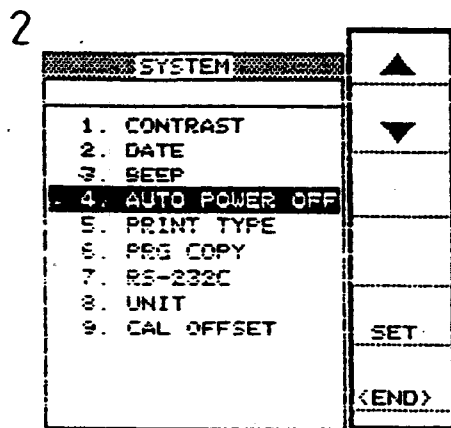


1.7.2 Normal On Mode

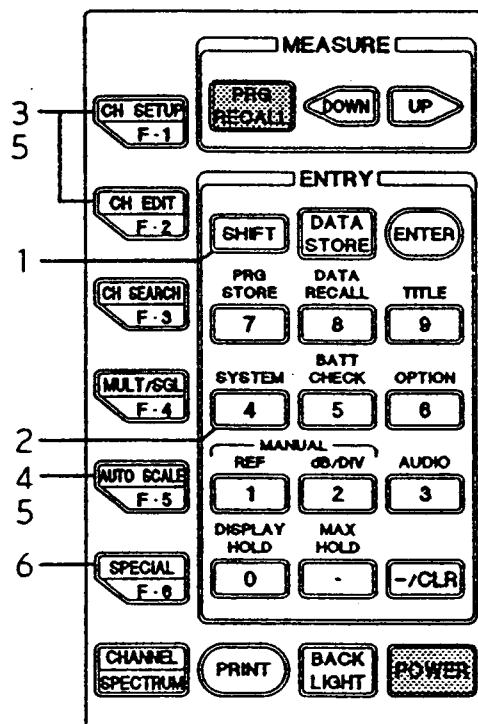
• Operating Procedure

1. Press the SHIFT key.
2. Press the SYSTEM (4) key to display SYSTEM setting screen.
3. Press the F•1 (▲) or F•2 (▼) key to position the cursor to the AUTO POWER OFF.
4. Press the F•5 (SET) key. The AUTO POWER OFF screen is displayed.
5. Press the F•1 (▲) or F•2 (▼) key to select the "3.<OFF>", then press the F•5 (SET) key. The screen returns to the SYSTEM screen.
6. To return to the measurement screen, press the F•6 (END) key.

• Screen Display



• Keys Used



1.8 Parameter Setting

This section describes the RS-232C parameter setting procedure.

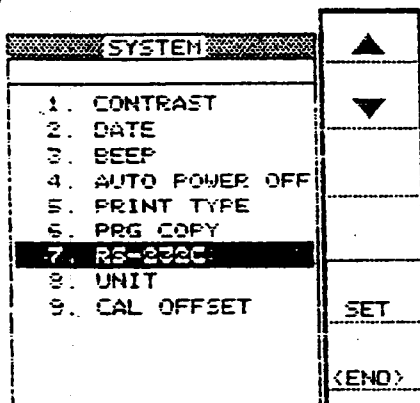
• Operating Procedure

1. Press the SHIFT key.
2. Press the SYSTEM (4) key to display SYSTEM setting screen.
3. Press the F•1 (▲) or F•2 (▼) key to position the cursor to the RS-232C.
4. Press the F•5 (SET) key. The RS-232C screen is displayed.
5. Press the F•1 (▲) or F•2 (▼) key to select the to be set. Press the F•3 (▷) or F•4 (◁) key to select the same item as the personal computer. The selected parameter is displayed in a box.
The screen returns to the SYSTEM screen.
6. After all parameters are set, press the F•5 (SET) key.
7. To return to the measurement screen, press the F•6 (END) key.

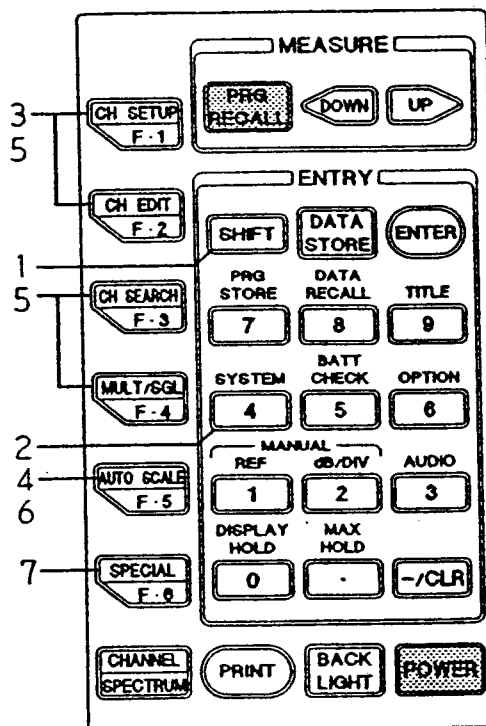
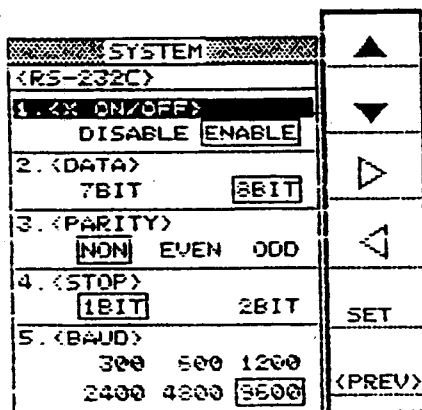
• Screen Display

• Keys Used

2



4



1.9 Example of the Program

The following program requests measurement data output to the 953, then fetches and displays the data on the computer. [For PC-9801 (NEC) • N88-BASIC (86)]

```
10 DIM D$(300)
20 FOR I=0 TO 300:D$(I)="":NEXT I
30 CLS
40 OPEN "COM1:N81XN" AS #1
50 PRINT #1,"CDA 0"
60 I=0
70 *LOOP
80 IF LOC(1)=0 THEN *LOOP
90 A$=INPUT$(1,1)
100 D$(I)=D$(I)+A$
110 IF A$=CHR$(&HA) THEN PRINT D$(I);:I=I+1
120 IF A$<>CHR$(&H1A) THEN GOTO *LOOP
130 CLOSE #1
140 END
```

2 FREQUENCY TABLE

2.1 Frequency Assignments

● CATV Channel Frequency Assignments

1. JAPAN-CATV

CH	VIDEO (MHz)	SOUND (MHz)
1	91.25	95.75
2	97.25	101.75
3	103.25	107.75
C13	109.25	113.75
C14	115.25	119.75
C15	121.25	125.75
C16	127.25	131.75
C17	133.25	137.75
C18	139.25	143.75
C19	145.25	149.75
C20	151.25	155.75
C21	157.25	161.75
C22	163.25	167.75
4	171.25	175.75
5	177.25	181.75
6	183.25	187.75
7	189.25	193.75
8	193.25	197.75
9	199.25	203.75
10	205.25	209.75
11	211.25	215.75
12	217.25	221.75
C23	223.25	227.75
C24	231.25	235.75
C25	237.25	241.75
C26	243.25	247.75
C27	249.25	253.75
C28	253.25	257.75
C29	259.25	263.75
C30	265.25	269.75

CH	VIDEO (MHz)	SOUND (MHz)
C31	271.25	275.75
C32	277.25	281.75
C33	283.25	287.75
C34	289.25	293.75
C35	295.25	299.75
C36	301.25	305.75
C37	307.25	311.75
C38	313.25	317.75
C39	319.25	323.75
C40	325.25	329.75
C41	331.25	335.75
C42	337.25	341.75
C43	343.25	347.75
C44	349.25	353.75
C45	355.25	359.75
C46	361.25	365.75
C47	367.25	371.75
C48	373.25	377.75
C49	379.25	383.75
C50	385.25	389.75
C51	391.25	395.75
C52	397.25	401.75
C53	403.25	407.75
C54	409.25	413.75
C55	415.25	419.75
C56	421.25	425.75
C57	427.25	431.75
C58	433.25	437.75
C59	439.25	443.75
C60	445.25	449.75

2. SUB BAND A

CH	VIDEO (MHz)	SOUND (MHz)
T1	13.25	17.75
T2	19.25	23.75
T3	25.25	29.75
T4	31.25	35.75
T5	37.25	41.75
PL	48.00	

$F_s = F_v + 4.5 \text{ MHz}$

3. SUB BAND B

CH	VIDEO (MHz)	SOUND (MHz)
T1	13.25	17.75
T2	19.25	23.75
T3	25.25	29.75
T4	31.25	35.75
T5	37.25	41.75
T6	43.25	47.75
T7	49.25	53.75
T8	55.25	59.75
T9	61.25	65.75
PL	74.00	

$F_s = F_v + 4.5 \text{ MHz}$

● CATV Channel Frequency Assignments

4. U.S.A. STD HIS

CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)
2	55.25	59.75	N	241.25	245.75	UU	421.25	425.75	87	601.25	605.75	122	781.25	785.75	152	961.25	965.75
3	61.25	65.75	O	247.25	251.75	VV	427.25	431.75	88	607.25	611.75	123	787.25	791.75	153	967.25	971.75
4	67.25	71.75	P	253.25	257.75	WW	433.25	437.75	89	613.25	617.75	124	793.25	797.75	154	973.25	977.75
5	77.25	81.75	Q	259.25	263.75	XX	439.25	443.75	90	619.25	623.75	125	799.25	803.75	155	979.25	983.75
6	83.25	87.75	R	265.25	269.75	YY	445.25	449.75	91	625.25	629.75	126	805.25	809.75	156	985.25	989.75
A-5	91.25	95.75	S	271.25	275.75	ZZ	451.25	455.75	92	631.25	635.75	127	811.25	815.75	157	991.25	995.75
A-4	97.25	101.75	T	277.25	281.75	AAA	457.25	461.75	93	637.25	641.75	128	817.25	821.75	158	997.25	1001.75
A-3	103.25	107.75	U	283.25	287.75	BBB	463.25	467.75	94	643.25	647.75	129	823.25	827.75	Fs=Fv+4.5MHz		
A-2	109.25	113.75	V	289.25	293.75	CCC	469.25	473.75	100	649.25	653.75	130	829.25	833.75			
A-1	115.25	119.75	W	295.25	299.75	DDD	475.25	479.75	101	655.25	659.75	131	835.25	839.75			
A	121.25	125.75	AA	301.25	305.75	EEE	481.25	485.75	102	661.25	665.75	132	841.25	845.75			
B	127.25	131.75	BB	307.25	311.75	FFF	487.25	491.75	103	667.25	671.75	133	847.25	851.75			
C	133.25	137.75	CC	313.25	317.75	GGG	493.25	497.75	104	673.25	677.75	134	853.25	857.75			
D	139.25	143.75	DD	319.25	323.75	HHH	499.25	503.75	105	679.25	683.75	135	859.25	863.75			
E	145.25	149.75	EE	325.25	329.75	III	505.25	509.75	106	685.25	689.75	136	865.25	869.75			
F	151.25	155.75	FF	331.25	335.75	JJJ	511.25	515.75	107	691.25	695.75	137	871.25	875.75			
G	157.25	161.75	GG	337.25	341.75	KKK	517.25	521.75	108	697.25	701.75	138	877.25	881.75			
H	163.25	167.75	HH	343.25	347.75	LLL	523.25	527.75	109	703.25	707.75	139	883.25	887.75			
I	169.25	173.75	II	349.25	353.75	MMM	529.25	533.75	110	709.25	713.75	140	889.25	893.75			
7	175.25	179.75	JJ	355.25	359.75	NNN	535.25	539.75	111	715.25	719.75	141	895.25	899.75			
8	181.25	185.75	KK	361.25	365.75	000	541.25	545.75	112	721.25	725.75	142	901.25	905.75			
9	187.25	191.75	LL	367.25	371.75	PPP	547.25	551.75	113	727.25	731.75	143	907.25	911.75			
10	193.25	197.75	MM	373.25	377.75	QQQ	553.25	557.75	114	733.25	737.75	144	913.25	917.75			
11	199.25	203.75	NN	379.25	383.75	RRR	559.25	563.75	115	739.25	743.75	145	919.25	923.75			
12	205.25	209.75	OO	385.25	389.75	SSS	565.25	569.75	116	745.25	749.75	146	925.25	929.75			
13	211.25	215.75	PP	391.25	395.75	TTT	571.25	575.75	117	751.25	755.75	147	931.25	935.75			
J	217.25	221.75	QQ	397.25	401.75	UUU	577.25	581.75	118	757.25	761.75	148	937.25	941.75			
K	223.25	227.75	RR	403.25	407.75	VVV	583.25	587.75	119	763.25	767.75	149	943.25	947.75			
L	229.25	233.75	SS	409.25	413.75	WWW	589.25	593.75	120	769.25	773.75	150	949.25	953.75			
M	235.25	239.75	TT	415.25	419.75	XXX	595.25	599.75	121	775.25	779.75	151	955.25	959.75			

● CATV Channel Frequency Assignments

5. U.S.A. STD EIA

CH	VIDEO (MHz)	SOUND (MHz)
2	55.25	59.75
3	61.25	65.75
4	67.25	71.75
5	77.25	81.75
6	83.25	87.75
95	91.25	95.75
96	97.25	101.75
97	103.25	107.75
98	109.25	113.75
99	115.25	119.75
14	121.25	125.75
15	127.25	131.75
16	133.25	137.75
17	139.25	143.75
18	145.25	149.75
19	151.25	155.75
20	157.25	161.75
21	163.25	167.75
22	169.25	173.75
7	175.25	179.75
8	181.25	185.75
9	187.25	191.75
10	193.25	197.75
11	199.25	203.75
12	205.25	209.75
13	211.25	215.75
23	217.25	221.75
24	223.25	227.75
25	229.25	233.75
26	235.25	239.75

CH	VIDEO (MHz)	SOUND (MHz)
27	241.25	245.75
28	247.25	251.75
29	253.25	257.75
30	259.25	263.75
31	265.25	269.75
32	271.25	275.75
33	277.25	281.75
34	283.25	287.75
35	289.25	293.75
36	295.25	299.75
37	301.25	305.75
38	307.25	311.75
39	313.25	317.75
40	319.25	323.75
41	325.25	329.75
42	331.25	335.75
43	337.25	341.75
44	343.25	347.75
45	349.25	353.75
46	355.25	359.75
47	361.25	365.75
48	367.25	371.75
49	373.25	377.75
50	379.25	383.75
51	385.25	389.75
52	391.25	395.75
53	397.25	401.75
54	403.25	407.75
55	409.25	413.75
56	415.25	419.75

CH	VIDEO (MHz)	SOUND (MHz)
57	421.25	425.75
58	427.25	431.75
59	433.25	437.75
60	439.25	443.75
61	445.25	449.75
62	451.25	455.75
63	457.25	461.75
64	463.25	467.75
65	469.25	473.75
66	475.25	479.75
67	481.25	485.75
68	487.25	491.75
69	493.25	497.75
70	499.25	503.75
71	505.25	509.75
72	511.25	515.75
73	517.25	521.75
74	523.25	527.75
75	529.25	533.75
76	535.25	539.75
77	541.25	545.75
78	547.25	551.75
79	553.25	557.75
80	559.25	563.75
81	565.25	569.75
82	571.25	575.75
83	577.25	581.75
84	583.25	587.75
85	589.25	593.75
86	595.25	599.75

CH	VIDEO (MHz)	SOUND (MHz)
87	601.25	605.75
88	607.25	611.75
89	613.25	617.75
90	619.25	623.75
91	625.25	629.75
92	631.25	635.75
93	637.25	641.75
94	643.25	647.75
100	649.25	653.75
101	655.25	659.75
102	661.25	665.75
103	667.25	671.75
104	673.25	677.75
105	679.25	683.75
106	685.25	689.75
107	691.25	695.75
108	697.25	701.75
109	703.25	707.75
110	709.25	713.75
111	715.25	719.75
112	721.25	725.75
113	727.25	731.75
114	733.25	737.75
115	739.25	743.75
116	745.25	749.75
117	751.25	755.75
118	757.25	761.75
119	763.25	767.75
120	769.25	773.75
121	775.25	779.75

CH	VIDEO (MHz)	SOUND (MHz)
122	781.25	785.75
123	787.25	791.75
124	793.25	797.75
125	799.25	803.75
126	805.25	809.75
127	811.25	815.75
128	817.25	821.75
129	823.25	827.75
130	829.25	833.75
131	835.25	839.75
132	841.25	845.75
133	847.25	851.75
134	853.25	857.75
135	859.25	863.75
136	865.25	869.75
137	871.25	875.75
138	877.25	881.75
139	883.25	887.75
140	889.25	893.75
141	895.25	899.75
142	901.25	905.75
143	907.25	911.75
144	913.25	917.75
145	919.25	923.75
146	925.25	929.75
147	931.25	935.75
148	937.25	941.75
149	943.25	947.75
150	949.25	953.75
151	955.25	959.75

CH	VIDEO (MHz)	SOUND (MHz)
152	961.25	965.75
153	967.25	971.75
154	973.25	977.75
155	979.25	983.75
156	985.25	989.75
157	991.25	995.75
158	997.25	1001.75

Fs=Fv+4.5MHz

● CATV Channel Frequency Assignments

6. U.S.A. HRC EIA

CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)	CH	VIDEO (MHz)	SOUND (MHz)
2	54	58.5	26	234	238.5	56	414	418.5	86	594	598.5	121	774	778.5	151	954	958.5
3	60	64.5	27	240	244.5	57	420	424.5	87	600	604.5	122	780	784.5	152	960	964.5
4	66	70.5	28	246	250.5	58	426	430.5	88	606	610.5	123	786	790.5	153	966	970.5
1	72	76.5	29	252	256.5	59	432	436.5	89	612	616.5	124	792	796.5	154	972	976.5
5	78	82.5	30	258	262.5	60	438	442.5	90	618	622.5	125	798	802.5	155	978	982.5
6	84	88.5	31	264	268.5	61	444	448.5	91	624	628.5	126	804	808.5	156	984	988.5
95	90	94.5	32	270	274.5	62	450	454.5	92	630	634.5	127	810	814.5	157	990	994.5
96	96	100.5	33	276	280.5	63	456	460.5	93	636	640.5	128	816	820.5	158	996	1000.5
97	102	106.5	34	282	286.5	64	462	466.5	94	642	646.5	129	822	826.5	Fs=Fv+4.5MHz		
98	108	112.5	35	288	292.5	65	468	472.5	100	648	652.5	130	828	832.5			
99	114	118.5	36	294	298.5	66	474	478.5	101	654	658.5	131	834	838.5			
14	120	124.5	37	300	304.5	67	480	484.5	102	660	664.5	132	840	844.5			
15	126	130.5	38	306	310.5	68	486	490.5	103	666	670.5	133	846	850.5			
16	132	136.5	39	312	316.5	69	492	496.5	104	672	676.5	134	852	856.5			
17	138	142.5	40	318	322.5	70	498	502.5	105	678	682.5	135	858	862.5			
18	144	148.5	41	324	328.5	71	504	508.5	106	684	688.5	136	864	868.5			
19	150	154.5	42	330	334.5	72	510	514.5	107	690	694.5	137	870	874.5			
20	156	160.5	43	336	340.5	73	516	520.5	108	696	700.5	138	876	880.5			
21	162	166.5	44	342	346.5	74	522	526.5	109	702	706.5	139	882	886.5			
22	168	172.5	45	348	352.5	75	528	532.5	110	708	712.5	140	888	892.5			
7	174	178.5	46	354	358.5	76	534	538.5	111	714	718.5	141	894	898.5			
8	180	184.5	47	360	364.5	77	540	544.5	112	720	724.5	142	900	904.5			
9	186	190.5	48	366	370.5	78	546	550.5	113	726	730.5	143	906	910.5			
10	192	196.5	49	372	376.5	79	552	556.5	114	732	736.5	144	912	916.5			
11	198	202.5	50	378	382.5	80	558	562.5	115	738	742.5	145	918	922.5			
12	204	208.5	51	384	388.5	81	564	568.5	116	744	748.5	146	924	928.5			
13	210	214.5	52	390	394.5	82	570	574.5	117	750	754.5	147	930	934.5			
23	216	220.5	53	396	400.5	83	576	580.5	118	756	760.5	148	936	940.5			
24	222	226.5	54	402	406.5	84	582	586.5	119	762	766.5	149	942	946.5			
25	228	232.5	55	408	412.5	85	588	592.5	120	768	772.5	150	948	952.5			

● CATV Channel Frequency Assignments

7. U.S.A. IRC EIA

CH	VIDEO		SOUND		CH	VIDEO		SOUND		CH	VIDEO		SOUND		CH	VIDEO		SOUND		CH	VIDEO		SOUND	
	(MHz)	(MHz)	(MHz)	(MHz)		(MHz)	(MHz)	(MHz)	(MHz)		(MHz)	(MHz)	(MHz)	(MHz)		(MHz)	(MHz)	(MHz)	(MHz)		(MHz)	(MHz)	(MHz)	(MHz)
2	55.25		59.75		26	235.25		239.75		56	415.25		419.75		86	595.25		599.75		121	775.25		779.75	
3	61.25		65.75		27	241.25		245.75		57	421.25		425.75		87	601.25		605.75		122	781.25		785.75	
4	67.25		71.75		28	247.25		251.75		58	427.25		431.75		88	607.25		611.75		123	787.25		791.75	
1	73.25		77.75		29	253.25		257.75		59	433.25		437.75		89	613.25		617.75		124	793.25		797.75	
5	79.25		83.75		30	259.25		263.75		60	439.25		443.75		90	619.25		623.75		125	799.25		803.75	
6	85.25		89.75		31	265.25		269.75		61	445.25		449.75		91	625.25		629.75		126	805.25		809.75	
95	91.25		95.75		32	271.25		275.75		62	451.25		455.75		92	631.25		635.75		127	811.25		815.75	
96	97.25		101.75		33	277.25		281.75		63	457.25		461.75		93	637.25		641.75		128	817.25		821.75	
97	103.25		107.75		34	283.25		287.75		64	463.25		467.75		94	643.25		647.75		129	823.25		827.75	
98	109.25		113.75		35	289.25		293.75		65	469.25		473.75		100	649.25		653.75		130	829.25		833.75	
99	115.25		119.75		36	295.25		299.75		66	475.25		479.75		101	655.25		659.75		131	835.25		839.75	
14	121.25		125.75		37	301.25		305.75		67	481.25		485.75		102	661.25		665.75		132	841.25		845.75	
15	127.25		131.75		38	307.25		311.75		68	487.25		491.75		103	667.25		671.75		133	847.25		851.75	
16	133.25		137.75		39	313.25		317.75		69	493.25		497.75		104	673.25		677.75		134	853.25		857.75	
17	139.25		143.75		40	319.25		323.75		70	499.25		503.75		105	679.25		683.75		135	859.25		863.75	
18	145.25		149.75		41	325.25		329.75		71	505.25		509.75		106	685.25		689.75		136	865.25		869.75	
19	151.25		155.75		42	331.25		335.75		72	511.25		515.75		107	691.25		695.75		137	871.25		875.75	
20	157.25		161.75		43	337.25		341.75		73	517.25		521.75		108	697.25		701.75		138	877.25		881.75	
21	163.25		167.75		44	343.25		347.75		74	523.25		527.75		109	703.25		707.75		139	883.25		887.75	
22	169.25		173.75		45	349.25		353.75		75	529.25		533.75		110	709.25		713.75		140	889.25		893.75	
7	175.25		179.75		46	355.25		359.75		76	535.25		539.75		111	715.25		719.75		141	895.25		899.75	
8	181.25		185.75		47	361.25		365.75		77	541.25		545.75		112	721.25		725.75		142	901.25		905.75	
9	187.25		191.75		48	367.25		371.75		78	547.25		551.75		113	727.25		731.75		143	907.25		911.75	
10	193.25		197.75		49	373.25		377.75		79	553.25		557.75		114	733.25		737.75		144	913.25		917.75	
11	199.25		203.75		50	379.25		383.75		80	559.25		563.75		115	739.25		743.75		145	919.25		923.75	
12	205.25		209.75		51	385.25		389.75		81	565.25		569.75		116	745.25		749.75		146	925.25		929.75	
13	211.25		215.75		52	391.25		395.75		82	571.25		575.75		117	751.25		755.75		147	931.25		935.75	
23	217.25		221.75		53	397.25		401.75		83	577.25		581.75		118	757.25		761.75		148	937.25		941.75	
24	223.25		227.75		54	403.25		407.75		84	583.25		587.75		119	763.25		767.75		149	943.25		947.75	
25	229.25		233.75		55	409.25		413.75		85	589.25		593.75		120	769.25		773.75		150	949.25		953.75	

F_S=F_V+4.5MHz

● CATV Channel Frequency Assignments

8. JERROLD STD

CH	VIDEO (MHz)	SOUND (MHz)
2	55.25	59.75
3	61.25	65.75
4	67.25	71.75
54	73.25	77.75
5	77.25	81.75
55	79.25	83.75
6	83.25	87.75
56	85.25	89.75
57	91.25	95.75
58	97.25	101.75
59	103.25	107.75
60	109.25	113.75
61	115.25	119.75
14	121.25	125.75
15	127.25	131.75
16	133.25	137.75
17	139.25	143.75
18	145.25	149.75
19	151.25	155.75
20	157.25	161.75
21	163.25	167.75
22	169.25	173.75
7	175.25	179.75
8	181.25	185.75
9	187.25	191.75
10	193.25	197.75
11	199.25	203.75
12	205.25	209.75
13	211.25	215.75
23	217.25	221.75

CH	VIDEO (MHz)	SOUND (MHz)
62	223.25	227.75
63	229.25	233.75
64	235.25	239.75
65	241.25	245.75
66	247.25	251.75
67	253.25	257.75
68	259.25	263.75
69	265.25	269.75
70	271.25	275.75
71	277.25	281.75
72	283.25	287.75
73	289.25	293.75
74	295.25	299.75
75	301.25	305.75
76	307.25	311.75
77	313.25	317.75
78	319.25	323.75
79	325.25	329.75
80	331.25	335.75
81	337.25	341.75
82	343.25	347.75
83	349.25	353.75
84	355.25	359.75
85	361.25	365.75
86	367.25	371.75
Fs=Fv+4.5MHz		

9. JERROLD HRC

CH	VIDEO (MHz)	SOUND (MHz)
2	54.00	58.50
3	60.00	64.50
4	66.00	70.50
54	72.00	76.50
5	78.00	82.50
6	84.00	88.50
57	90.00	94.50
58	96.00	100.50
59	102.00	106.50
60	108.00	112.50
61	114.00	118.50
14	120.00	124.50
15	126.00	130.50
16	132.00	136.50
17	138.00	142.50
18	144.00	148.50
19	150.00	154.50
20	156.00	160.50
21	162.00	166.50
22	168.00	172.50
7	174.00	178.50
8	180.00	184.50
9	186.00	190.50
10	192.00	196.50
11	198.00	202.50
12	204.00	208.50
13	210.00	214.50
23	216.00	220.50
24	222.00	226.50
25	228.00	232.50

CH	VIDEO (MHz)	SOUND (MHz)
26	234.00	238.50
27	240.00	244.50
28	246.00	250.50
29	252.00	256.50
30	258.00	262.50
31	264.00	268.50
32	270.00	274.50
33	276.00	280.50
34	282.00	286.50
35	288.00	292.50
36	294.00	298.50
37	300.00	304.50
38	306.00	310.50
39	312.00	316.50
40	318.00	322.50
41	324.00	328.50
42	330.00	334.50
43	336.00	340.50
44	342.00	346.50
45	348.00	352.50
46	354.00	358.50
47	360.00	364.50
48	366.00	370.50
49	372.00	376.50
50	378.00	382.50
51	384.00	388.50
52	390.00	394.50
53	396.00	400.50
62	402.00	406.50
63	408.00	412.50

Fs=Fv+4.5MHz

● CATV Channel Frequency Assignments

10. CCIR-CATV

CH	VIDEO (MHz)	SOUND (MHz)
2	48.25	53.75
3	55.25	60.75
4	62.25	67.75
X	69.25	74.75
Y	76.25	81.75
Z	83.25	88.75
Z+1	90.25	95.75
Z+2	97.25	102.75
S1	105.25	110.75
S2	112.25	117.75
S3	119.25	124.75
S4	126.25	131.75
S5	133.25	138.75
S6	140.25	145.75
S7	147.25	152.75
S8	154.25	159.75
S9	161.25	166.75
S10	168.25	173.75
5	175.25	180.75
6	182.25	187.75
7	189.25	194.75
8	196.25	201.75
9	203.25	208.75
10	210.25	215.75
11	217.25	222.75
12	224.25	229.75
S11	231.25	236.75
S12	238.25	243.75
S13	245.25	250.75
S14	252.25	257.75

F_s=F_v+5.5MHz
F_n=F_v+5.85MHz

11. CHINA-CATV

CH	VIDEO (MHz)	SOUND (MHz)
DS1	49.75	56.25
DS2	57.75	64.25
DS3	65.75	72.25
DS4	77.25	83.75
DS5	85.25	91.75
Z1	112.25	118.75
Z2	120.25	126.75
Z3	128.25	134.75
Z4	136.25	142.75
Z5	144.25	150.75
Z6	152.25	158.75
Z7	160.25	166.75
DS6	168.25	174.75
DS7	176.25	182.75
DS8	184.25	190.75
DS9	192.25	198.75
DS10	200.25	206.75
DS11	208.25	214.75
DS12	216.25	222.75
Z8	224.25	230.75
Z9	232.25	238.75
Z10	240.25	246.75
Z11	248.25	254.75
Z12	256.25	262.75
Z13	264.25	270.75
Z14	272.25	278.75
Z15	280.25	286.75
Z16	288.25	294.75
DS13	471.25	477.75
DS14	479.25	485.75

CH	VIDEO (MHz)	SOUND (MHz)
DS15	478.25	493.75
DS16	495.25	501.75
DS17	503.25	509.75
DS18	511.25	517.75
DS19	519.25	525.75
DS20	527.25	533.75
DS21	535.25	541.75
DS22	543.25	549.75
DS23	551.25	557.75
DS24	559.25	565.75
DS25	607.25	613.75
DS26	615.25	621.75
DS27	623.25	629.75
DS28	631.25	637.75
DS29	639.25	645.75
DS30	647.25	653.75
DS31	655.25	661.75
DS32	663.25	669.75
DS33	671.25	677.75
DS34	679.25	685.75
DS35	687.25	693.75
DS36	695.25	701.75
DS37	703.25	709.75
DS38	711.25	717.75
DS39	719.25	725.75
DS40	727.25	733.75
DS41	735.25	741.75
DS42	743.25	749.75
DS43	751.25	757.75
DS44	759.25	765.75

CH	VIDEO (MHz)	SOUND (MHz)
DS45	767.25	773.75
DS46	775.25	781.75
DS47	783.25	789.75
DS48	791.25	797.75
DS49	799.25	805.75
DS50	807.25	813.75
DS51	815.25	821.75
DS52	823.25	829.75
DS53	831.25	837.75
DS54	839.25	845.75
DS55	847.25	853.75
DS56	855.25	861.75
DS57	863.25	869.75
DS58	871.25	877.75
DS59	879.25	885.75
DS60	887.25	893.75
DS61	895.25	901.75
DS62	903.25	909.75
DS63	911.25	917.75
DS64	919.25	925.75
DS65	927.25	933.75
DS66	935.25	941.75
DS67	943.25	949.75
DS68	951.25	957.75

F_s=F_v+6.5MHz

● CATV Channel Frequency Assignments

12. FRANCE-CATV

CH	VIDEO (MHz)	SOUND (MHz)
B	116.75	123.25
C	128.75	135.25
D	140.75	147.25
E	152.75	159.25
F	164.75	171.25
G	176.75	183.25
H	188.75	195.25
I	200.75	207.25
J	212.75	219.25
K	224.75	231.25
L	236.75	243.25
M	248.75	255.25
N	260.75	267.25
O	272.75	279.25
P	284.75	291.25
Q	296.75	303.25
Fs=Fv+6.5MHz		

13. HOLLAND-CATV

CH	VIDEO (MHz)	SOUND (MHz)
K2	48.25	53.75
K3*	55.25	60.75
K4	62.25	67.75
M1	115.25	120.75
M2	123.25	128.75
M3	131.25	136.75
M4	139.25	144.75
M5	147.25	152.75
M6	155.25	160.75
M7	163.25	168.75
K5	175.25	180.75
K6*	182.25	187.75
K7	189.25	194.75
K8*	196.25	201.75
K9	203.25	208.75
K10*	210.25	215.75
K11	217.25	222.75
K12*	224.25	229.75
B1	231.25	236.75
B2	255.25	260.75
B3	263.25	268.75
B4	271.25	276.75
B5	279.25	284.75
B6	287.25	292.75
B7	295.25	300.75
B8	306.25	311.75
B9	314.25	319.75
B10	322.25	327.75
B11	330.25	335.75
B12	338.25	343.75
B13	348.25	353.75

14. IRELAND-CATV

CH	VIDEO (MHz)	SOUND (MHz)
A	49.25	55.25
B	57.25	63.25
C	65.25	71.25
C1	81.25	87.25
C2	161.25	167.25
C3	169.25	175.25
D	177.25	183.25
E	185.25	191.25
F	193.25	199.25
G	201.25	207.25
H	209.25	215.25
I	217.25	223.25
J	225.25	231.25
Fs=Fv+6MHz		
Fn=Fv+6.552MHz		

CH	VIDEO (MHz)	SOUND (MHz)
B14	356.25	361.75
B15	364.25	369.75
B16	372.25	377.75
B17	380.25	385.75
B18	393.25	398.75
B19	401.25	406.75
B20	409.25	414.75
B21	417.25	422.75
B22	425.25	430.75
B23	433.25	438.75
B24	441.25	446.75
Fs=Fv+5.5MHz		
Fn=Fv+5.85MHz		

● CATV Channel Frequency Assignments

15. PHILIPS-CATV

CH	VIDEO (MHz)	SOUND (MHz)
2	48.25	53.75
4	62.25	67.75
5	175.25	180.75
7	189.25	194.75
9	203.25	208.75
11	217.25	222.75
81	231.25	236.75
82	255.25	260.75
83	263.25	268.75
84	271.25	276.75
M1	306.25	-
M2	318.25	-
M3	337.25	-
M4	349.25	-
M5	361.25	-
M6	373.25	-
M7	385.25	-
M8	397.25	-
M9	409.25	-
21	471.25	476.75
23	487.25	492.75
24+	501.00	506.50
26	511.25	516.75
28+	529.00	534.50
29+	541.25	546.75
31+	557.00	562.50
33+	571.00	576.50
34+	581.50	587.00
37	599.25	604.75
38+	611.25	616.75

16. SIEMENS-CATV

CH	VIDEO (MHz)	SOUND (MHz)
2	48.25	53.75
4	62.25	67.75
5	175.25	180.75
7	189.25	194.75
9	203.25	208.75
11	217.25	222.75
21	471.25	476.75
22	481.25	486.75
24	492.25	497.75
25	502.75	508.25
26+	513.25	518.75
28	523.75	529.25
29	534.25	539.75
30+	545.75	551.25
32	556.25	561.75
33	566.75	572.25
34+	577.25	582.75
36	587.75	593.25
37	598.25	603.75
38+	608.75	614.25
40	620.25	625.75
41	630.75	636.25
42+	641.25	646.75
44	651.75	657.25
45	662.25	667.75
46+	672.75	678.25
47+	683.25	688.75
49	694.75	700.25
50+	705.25	710.75
52	715.75	721.25

CH	VIDEO (MHz)	SOUND (MHz)
53	726.25	731.75
54+	736.75	742.25
55+	747.25	752.75
57	757.75	763.25
58+	769.25	774.75
60	779.75	785.25
61	790.25	795.75
62+	800.75	806.25
63+	811.25	816.75
65	821.75	827.25
66+	832.25	837.75
68	843.25	848.75

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

● VHF·UHF TV Channel Frequency Assignments

1. JAPAN

VHF

CH	VIDEO (MHz)	SOUND (MHz)
1	91.25	95.75
2	97.25	101.75
3	103.25	107.75
4	171.25	175.75
5	177.25	181.75
6	183.25	187.75
7	189.25	193.75
8	193.25	197.75
9	199.25	203.75
10	205.25	209.75
11	211.25	215.75
12	217.25	221.75

$F_s = F_v + 4.5 \text{ MHz}$

UHF

CH	VIDEO (MHz)	SOUND (MHz)
13	471.25	475.75
14	477.25	481.75
15	483.25	487.75
16	489.25	493.75
17	495.25	499.75
18	501.25	505.75
19	507.25	511.75
20	513.25	517.75
21	519.25	523.75
22	525.25	529.75
23	531.25	535.75
24	537.25	541.75
25	543.25	547.75
26	549.25	553.75
27	555.25	559.75
28	561.25	565.75
29	567.25	571.75
30	573.25	577.75
31	579.25	583.75
32	585.25	589.75
33	591.25	595.75
34	597.25	601.75
35	603.25	607.75
36	609.25	613.75
37	615.25	619.75
38	621.25	625.75
39	627.25	631.75
40	633.25	637.75
41	639.25	643.75
42	645.25	649.75

CH	VIDEO (MHz)	SOUND (MHz)
43	651.25	655.75
44	657.25	661.75
45	663.25	667.75
46	669.25	673.75
47	675.25	679.75
48	681.25	685.75
49	687.25	691.75
50	693.25	697.75
51	699.25	703.75
52	705.25	709.75
53	711.25	715.75
54	717.25	721.75
55	723.25	727.75
56	729.25	733.75
57	735.25	739.75
58	741.25	745.75
59	747.25	751.75
60	753.25	757.75
61	759.25	763.75
62	765.25	769.75

$F_s = F_v + 4.5 \text{ MHz}$

● VHF·UHF TV Channel Frequency Assignments

2. USA

VHF

CH	VIDEO (MHz)	SOUND (MHz)
2	55.25	59.75
3	61.25	65.75
4	67.25	71.75
5	77.25	81.75
6	83.25	87.75
7	175.25	179.75
8	181.25	185.75
9	187.25	191.75
10	193.25	197.75
11	199.25	203.75
12	205.25	209.75
13	211.25	215.75

$F_s = F_v + 4.5 \text{ MHz}$

UHF

CH	VIDEO (MHz)	SOUND (MHz)
14	471.25	475.75
15	477.25	481.75
16	483.25	487.75
17	489.25	493.75
18	495.25	499.75
19	501.25	505.75
20	507.25	511.75
21	513.25	517.75
22	519.25	523.75
23	525.25	529.75
24	531.25	535.75
25	537.25	541.75
26	543.25	547.75
27	549.25	553.75
28	555.25	559.75
29	561.25	565.75
30	567.25	571.75
31	573.25	577.75
32	579.25	583.75
33	585.25	589.75
34	591.25	595.75
35	597.25	601.75
36	603.25	607.75
37	609.25	613.75
38	615.25	619.75
39	621.25	625.75
40	627.25	631.75
41	633.25	637.75
42	639.25	643.75
43	645.25	649.75

CH	VIDEO (MHz)	SOUND (MHz)
44	651.25	655.75
45	657.25	661.75
46	663.25	667.75
47	669.25	673.75
48	675.25	679.75
49	681.25	685.75
50	687.25	691.75
51	693.25	697.75
52	699.25	703.75
53	705.25	709.75
54	711.25	715.75
55	717.25	721.75
56	723.25	727.75
57	729.25	733.75
58	735.25	739.75
59	741.25	745.75
60	747.25	751.75
61	753.25	757.75
62	759.25	763.75
63	765.25	769.75
64	771.25	775.75
65	777.25	781.75
66	783.25	787.75
67	789.25	793.75
68	795.25	799.75
69	801.25	805.75
70	807.25	811.75
71	813.25	817.75
72	819.25	823.75
73	825.25	829.75

CH	VIDEO (MHz)	SOUND (MHz)
74	831.25	835.75
75	837.25	841.75
76	843.25	847.75
77	849.25	853.75
78	855.25	859.75
79	861.25	865.75
80	867.25	871.75
81	873.25	877.75
82	879.25	883.75
83	885.25	889.75

$F_s = F_v + 4.5 \text{ MHz}$

● VHF·UHF TV Channel Frequency Assignments

3. CCIR

VHF

CH	VIDEO (MHz)	SOUND (MHz)
2	48.25	53.75
3	55.25	60.75
4	62.25	67.75
5	175.25	180.75
6	182.25	187.75
7	189.25	194.75
8	196.25	201.75
9	203.25	208.75
10	210.25	215.75
11	217.25	222.75
12	224.25	229.75

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
21	471.25	476.75
22	479.25	484.75
23	487.25	492.75
24	495.25	500.75
25	503.25	508.75
26	511.25	516.75
27	519.25	524.75
28	527.25	532.75
29	535.25	540.75
30	543.25	548.75
31	551.25	556.75
32	559.25	564.75
33	567.25	572.75
34	575.25	580.75
35	583.25	588.75
36	591.25	596.75
37	599.25	604.75
38	607.25	612.75
39	615.25	620.75
40	623.25	628.75
41	631.25	636.75
42	639.25	644.75
43	647.25	652.75
44	655.25	660.75
45	663.25	668.75
46	671.25	676.75
47	679.25	684.75
48	687.25	692.75
49	695.25	700.75
50	703.25	708.75

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

4. CHINA

VHF

CH	VIDEO (MHz)	SOUND (MHz)
1	49.75	56.25
2	57.75	64.25
3	65.75	72.25
4	77.25	83.75
5	85.25	91.75
6	168.25	174.75
7	176.25	182.75
8	184.25	190.75
9	192.25	198.75
10	200.25	206.75
11	208.25	214.75
12	216.25	222.75

Fs=Fv+6.5MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
13	471.25	477.75
14	479.25	485.75
15	487.25	493.75
16	495.25	501.75
17	503.25	509.75
18	511.25	517.75
19	519.25	525.75
20	527.25	533.75
21	535.25	541.75
22	543.25	549.75
23	551.25	557.75
24	559.25	565.75
25	607.25	613.75
26	615.25	621.75
27	623.25	629.75
28	631.25	637.75
29	639.25	645.75
30	647.25	653.75
31	655.25	661.75
32	663.25	669.75
33	671.25	677.75
34	679.25	685.75
35	687.25	693.75
36	695.25	701.75
37	703.25	709.75
38	711.25	717.75
39	719.25	725.75
40	727.25	733.75
41	735.25	741.75
42	743.25	749.75

Fs=Fv+6.5MHz

● VHF·UHF TV Channel Frequency Assignments

5. AUSTRALIA

VHF

CH	VIDEO (MHz)	SOUND (MHz)
0	46.25	51.75
1	57.25	62.75
2	64.25	69.75
3	86.25	91.75
4	95.25	100.75
5	102.25	107.75
5A	138.25	143.75
6	175.25	180.75
7	182.25	187.75
8	189.25	194.75
9	196.25	201.75
10	209.25	214.75
11	216.25	221.75

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
28	527.25	532.75
29	534.25	539.75
30	541.25	546.75
31	548.25	553.75
32	555.25	560.75
33	562.25	567.75
34	569.25	574.75
35	576.25	581.75
36	583.25	588.75
37	590.25	595.75
38	597.25	602.75
39	604.25	609.75
40	611.25	616.75
41	618.25	623.75
42	625.25	630.75
43	632.25	637.75
44	639.25	644.75
45	646.25	651.75
46	653.25	658.75
47	660.25	665.75
48	667.25	672.75
49	674.25	679.75
50	681.25	686.75
51	688.25	693.75
52	695.25	700.75
53	702.25	707.75
54	709.25	714.75
55	716.25	721.75
56	723.25	728.75
57	730.25	735.75

6. INDONESIA

VHF

CH	VIDEO (MHz)	SOUND (MHz)
1A	44.25	49.75
2	55.25	60.75
3	62.25	67.75
4	175.25	180.75
5	182.25	187.75
6	189.25	194.75
7	196.25	201.75
8	203.25	208.75
9	210.25	215.75
10	217.25	222.75
11	224.25	229.75

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
21	471.25	476.75
22	479.25	484.75
23	487.25	492.75
24	495.25	500.75
25	503.25	508.75
26	511.25	516.75
27	519.25	524.75
28	527.25	532.75
29	535.25	540.75
30	543.25	548.75
31	551.25	556.75
32	559.25	564.75
33	567.25	572.75
34	575.25	580.75
35	583.25	588.75
36	591.25	596.75
37	599.25	604.75
38	607.25	612.75
39	615.25	620.75
40	623.25	628.75
41	631.25	636.75
42	639.25	644.75
43	647.25	652.75
44	655.25	660.75
45	663.25	668.75
46	671.25	676.75
47	679.25	684.75
48	687.25	692.75
49	695.25	700.75
50	703.25	708.75

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

CH	VIDEO (MHz)	SOUND (MHz)
51	711.25	716.75
52	719.25	724.75
53	727.25	732.75
54	735.25	740.75
55	743.25	748.75
56	751.25	756.75
57	759.25	764.75
58	767.25	772.75
59	775.25	780.75
60	783.25	788.75
61	791.25	796.75
62	799.25	804.75
63	807.25	812.75
64	815.25	820.75
65	823.25	828.75
66	831.25	836.75
67	839.25	844.75
68	847.25	852.75
69	855.25	860.75

VHF·UHF TV Channel Frequency Assignments

7. IRELAND

VHF

CH	VIDEO (MHz)	SOUND (MHz)
A	45.75	51.75
B	53.75	59.75
C	61.75	67.75
D	175.25	181.25
E	183.25	189.25
F	191.25	197.25
G	199.25	205.25
H	207.25	213.25
J	215.25	221.25

Fs=Fv+6MHz

Fn=Fv+6.552MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
21	471.25	477.25
22	479.25	485.25
23	487.25	493.25
24	495.25	501.25
25	503.25	509.25
26	511.25	517.25
27	519.25	525.25
28	527.25	533.25
29	535.25	541.25
30	543.25	549.25
31	551.25	557.25
32	559.25	565.25
33	567.25	573.25
34	575.25	581.25
35	583.25	589.25
36	591.25	597.25
37	599.25	605.25
38	607.25	613.25
39	615.25	621.25
40	623.25	629.25
41	631.25	637.25
42	639.25	645.25
43	647.25	653.25
44	655.25	661.25
45	663.25	669.25
46	671.25	677.25
47	679.25	685.25
48	687.25	693.25
49	695.25	701.25
50	703.25	709.25

Fs=Fv+6MHz

Fn=Fv+6.552MHz

8. ITALY

VHF

CH	VIDEO (MHz)	SOUND (MHz)
A	53.75	59.25
B	62.25	67.75
C	82.25	87.75
D	175.25	180.75
E	183.75	189.25
F	192.25	197.75
G	201.25	206.75
H	210.25	215.75
H1	217.25	222.75
H2	224.25	229.75

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
21	471.25	476.75
22	479.25	484.75
23	487.25	492.75
24	495.25	500.75
25	503.25	508.75
26	511.25	516.75
27	519.25	524.75
28	527.25	532.75
29	535.25	540.75
30	543.25	548.75
31	551.25	556.75
32	559.25	564.75
33	567.25	572.75
34	575.25	580.75
35	583.25	588.75
36	591.25	596.75
37	599.25	604.75
38	607.25	612.75
39	615.25	620.75
40	623.25	628.75
41	631.25	636.75
42	639.25	644.75
43	647.25	652.75
44	655.25	660.75
45	663.25	668.75
46	671.25	676.75
47	679.25	684.75
48	687.25	692.75
49	695.25	700.75
50	703.25	708.75

Fs=Fv+5.5MHz

Fn=Fv+5.85MHz

CH	VIDEO (MHz)	SOUND (MHz)
51	711.25	716.75
52	719.25	724.75
53	727.25	732.75
54	735.25	740.75
55	743.25	748.75
56	751.25	756.75
57	759.25	764.75
58	767.25	772.75
59	775.25	780.75
60	783.25	788.75
61	791.25	796.75
62	799.25	804.75
63	807.25	812.75
64	815.25	820.75
65	823.25	828.75
66	831.25	836.75
67	839.25	844.75
68	847.25	852.75
69	855.25	860.75

● VHF·UHF TV Channel Frequency Assignments

9. NEW FRANCE

10. OIRT

VHF

UHF

CH	VIDEO (MHz)	SOUND (MHz)
A	47.75	41.25
B	55.75	49.25
C1	60.50	54.00
C	63.75	57.25
1	176.00	182.50
2	184.00	190.50
3	192.00	198.50
4	200.00	206.50
5	208.00	214.50
6	216.00	222.50

Fs=Fv-6.5MHz

Fs=Fv+6.5MHz

VHF

CH	VIDEO (MHz)	SOUND (MHz)
51	711.25	717.75
52	719.25	725.75
53	727.25	733.75
54	735.25	741.75
55	743.25	749.75
56	751.25	757.75
57	759.25	765.75
58	767.25	773.75
59	775.25	781.75
60	783.25	789.75
61	791.25	797.75
62	799.25	805.75
63	807.25	813.75
64	815.25	821.75
65	823.25	829.75
66	831.25	837.75
67	839.25	845.75
68	847.25	853.75
69	855.25	861.75

Fs=Fv+6.5MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
1	49.75	56.25
2	59.25	65.75
3	77.25	83.75
4	85.25	91.75
5	93.25	99.75
6	175.25	181.75
7	183.25	189.75
8	191.25	197.75
9	199.25	205.75
10	207.25	213.75
11	215.25	221.75
12	223.25	229.75

Fs=Fv+6.5MHz

CH	VIDEO (MHz)	SOUND (MHz)
21	471.25	477.75
22	479.25	485.75
23	487.25	493.75
24	495.25	501.75
25	503.25	509.75
26	511.25	517.75
27	519.25	525.75
28	527.25	533.75
29	535.25	541.75
30	543.25	549.75
31	551.25	557.75
32	559.25	565.75
33	567.25	573.75
34	575.25	581.75
35	583.25	589.75
36	591.25	597.75
37	599.25	605.75
38	607.25	613.75
39	615.25	621.75
40	623.25	629.75
41	631.25	637.75
42	639.25	645.75
43	647.25	653.75
44	655.25	661.75
45	663.25	669.75
46	671.25	677.75
47	679.25	685.75
48	687.25	693.75
49	695.25	701.75
50	703.25	709.75

Fs=Fv+6.5MHz

CH	VIDEO (MHz)	SOUND (MHz)
51	711.25	717.75
52	719.25	725.75
53	727.25	733.75
54	735.25	741.75
55	743.25	749.75
56	751.25	757.75
57	759.25	765.75
58	767.25	773.75
59	775.25	781.75
60	783.25	789.75
61	791.25	797.75
62	799.25	805.75
63	807.25	813.75
64	815.25	821.75
65	823.25	829.75
66	831.25	837.75
67	839.25	845.75
68	847.25	853.75
69	855.25	861.75

● VHF·UHF TV Channel Frequency Assignments

11. SOUTH AFRICA

VHF

CH	VIDEO (MHz)	SOUND (MHz)
4	175.25	181.25
5	183.25	189.25
6	191.25	197.25
7	199.25	205.25
8	207.25	213.25
9	215.25	221.25
10	223.25	229.25
11	231.25	237.25
12	-	-
13	*247.43	*253.43

*: Actual tuning freq.

13. PTURE=247.425MHz

13. SOUND=253.425MHz

13. NICAM=253.9875MHz

Fs=Fv+6MHz

Fn=Fv+6.552MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
21	471.25	477.25
22	479.25	485.25
23	487.25	493.25
24	495.25	501.25
25	503.25	509.25
26	511.25	517.25
27	519.25	525.25
28	527.25	533.25
29	535.25	541.25
30	543.25	549.25
31	551.25	557.25
32	559.25	565.25
33	567.25	573.25
34	575.25	581.25
35	583.25	589.25
36	591.25	597.25
37	599.25	605.25
38	607.25	613.25
39	615.25	621.25
40	623.25	629.25
41	631.25	637.25
42	639.25	645.25
43	647.25	653.25
44	655.25	661.25
45	663.25	669.25
46	671.25	677.25
47	679.25	685.25
48	687.25	693.25
49	695.25	701.25
50	703.25	709.25

Fs=Fv+6MHz

Fn=Fv+6.552MHz

12. UK

VHF

CH	VIDEO (MHz)	SOUND (MHz)
2	51.75	48.25
3	56.75	53.25
4	61.75	58.25
5	66.75	63.25
6	71.75	68.25
7	76.75	73.25
8	81.75	78.25
9	86.75	83.25
10	91.75	88.25
11	96.75	93.25
12	101.75	98.25
13	106.75	103.25

Fs=Fv-3.5MHz

UHF

CH	VIDEO (MHz)	SOUND (MHz)
21	471.25	477.25
22	479.25	485.25
23	487.25	493.25
24	495.25	501.25
25	503.25	509.25
26	511.25	517.25
27	519.25	525.25
28	527.25	533.25
29	535.25	541.25
30	543.25	549.25
31	551.25	557.25
32	559.25	565.25
33	567.25	573.25
34	575.25	581.25
35	583.25	589.25
36	591.25	597.25
37	599.25	605.25
38	607.25	613.25
39	615.25	621.25
40	623.25	629.25
41	631.25	637.25
42	639.25	645.25
43	647.25	653.25
44	655.25	661.25
45	663.25	669.25
46	671.25	677.25
47	679.25	685.25
48	687.25	693.25
49	695.25	701.25
50	703.25	709.25

Fs=Fv+6MHz

Fn=Fv+6.552MHz

● VHF · UHF TV Channel Frequency Assignments

13. ANGOLA

CH	VIDEO (MHz)	SOUND (MHz)
1	43.25	49.25
2	52.25	58.25
3	60.25	66.25
4	175.25	181.25
5	183.25	189.25
6	191.25	197.25
7	199.25	205.25
8	207.25	213.25
9	215.25	221.25
10	223.25	229.25

$F_s = F_v + 6\text{MHz}$

$F_n = F_v + 6.552\text{MHz}$

14. IVORY COAST

CH	VIDEO (MHz)	SOUND (MHz)
1	43.25	49.75
2	52.25	58.75
3	60.25	66.75
4	175.25	181.75
5	183.25	189.75
6	191.25	197.75
7	199.25	205.75
8	207.25	213.75
9	215.25	221.75

$F_s = F_v + 6.5\text{MHz}$

15. MOROCCO

CH	VIDEO (MHz)	SOUND (MHz)
4	163.25	168.75
5	171.25	176.75
6	179.25	184.75
7	187.25	192.75
8	195.25	200.75
9	203.25	208.75
10	211.25	216.75

$F_s = F_v + 5.5\text{MHz}$

$F_n = F_v + 5.85\text{MHz}$

16. NEW ZEALAND

CH	VIDEO (MHz)	SOUND (MHz)
1	45.25	50.75
2	55.25	60.75
3	62.25	67.75
4	175.25	180.75
5	182.25	187.75
6	189.25	194.75
7	196.25	201.75
8	203.25	208.75
9	210.25	215.75
10	217.25	222.75
11	224.25	229.75

$F_s = F_v + 5.5\text{MHz}$

$F_n = F_v + 5.85\text{MHz}$

● RADIO MIC Channel Frequency Assignments

1. A1 BAND

CH	FREQ. (MHz)
AL11	797.125
AL21	797.250
AL12	797.375
AL22	797.500
AL31	797.625
AL41	797.750
AL32	797.875
AL23	798.000
AL13	798.125
AL61	798.250
AL33	798.375
AL42	798.500
AL51	798.625
AL14	798.750
AL24	798.875
AL43	799.000
AL52	799.125
AL34	799.250
AL53	799.375
AL25	799.500
AL35	799.625
AL54	799.750
AL26	799.875
AL15	800.000
AL44	800.125
AL36	800.250
AL45	800.375
AL16	800.500
AL55	800.625
AL46	800.750

2. A4 BAND

CH	FREQ. (MHz)
AH11	801.625
AH21	801.750
AH12	801.875
AH22	802.000
AH31	802.125
AH41	802.250
AH32	802.375
AH23	802.500
AH13	802.625
AH61	802.750
AH33	802.875
AH42	803.000
AH51	803.125
AH14	803.250
AH24	803.375
AH43	803.500
AH52	803.625
AH34	803.750
AH53	803.875
AH25	804.000
AH35	804.125
AH54	804.250
AH26	804.375
AH15	804.500
AH44	804.625
AH36	804.750
AH45	804.875
AH16	805.000
AH55	805.125
AH46	805.250

3. B BAND

CH	VIDEO (MHz)
B11	806.125
B21	806.250
B12	806.375
B22	806.500
B31	806.625
B41	806.750
B32	806.875
B23	807.000
B13	807.125
B61	807.250
B33	807.375
B42	807.500
B51	807.625
B14	807.750
B24	807.875
B43	808.000
B52	808.125
B34	808.250
B53	808.375
B25	808.500
B35	808.625
B54	808.750
B26	808.875
B15	809.000
B44	809.125
B36	809.250
B45	809.375
B16	809.500
B55	809.625
B46	809.750

4. C BAND

CH	VIDEO (MHz)
C11	322.050
C12	322.100
C13	322.250
C14	322.350

2.2 List of Channel Area Names and Countries/Districts

NO	COUNTRY	国名	AREA NAME	*NICAM
1	Afghanistan	アフガニスタン	C.C.I.R.	○
2	Albania	アルバニア	ITALY	○
3	Algeria	アルジェリア	C.C.I.R.	○
4	Angola	アンゴラ	ANGOLA	△
5	Antigua	アンティグア	U.S.A.	
6	Argentina	アルゼンチン	U.S.A.	
7	Aruba	アルバ	U.S.A.	
8	Australia	オーストラリア	AUSTRALIA	○
9	Austria	オーストリア	C.C.I.R.	○
10	Bahamas	バハマ	U.S.A.	
11	Bahrain	バーレーン	C.C.I.R.	○
12	Bangladesh	バングラデシュ	C.C.I.R.	○
13	Barbados	バルバドス	U.S.A.	
14	Belgium	ベルギー	C.C.I.R.	○
15	Benin	ベニン	OIRT	
16	Bermuda	バミューダ	U.S.A.	
17	Bolivia	ボリビア	U.S.A.	
18	Brazil	ブラジル	U.S.A.	
19	Brunei	ブルネイ	C.C.I.R.	○
20	Bulgaria	ブルガリア	OIRT	
21	Burkina Faso	ブルキナファソ	OIRT	
22	C.I.S.	独立国家共同体	OIRT	
23	Canada	カナダ	U.S.A.	
24	Canarias Islands	カナリア諸島	C.C.I.R.	○
25	Ceuta	セウタ	C.C.I.R.	○

*NICAM : ○...f=5.85MHz, △...f=6.552MHz.

NO	COUNTRY	国名	AREA NAME	*NICAM
26	Chile	チリ	U.S.A.	
27	China(People's Rep.of)	中国	CHINA	
28	Colombia	コロンビア	U.S.A.	
29	Congo	コンゴ	OIRT	
30	Costa Rica	コスタリカ	U.S.A.	
31	Cote d'Ivoire	コートジボワール	IVORY COAST	
32	Cuba	キューバ	U.S.A.	
33	Cyprus	キプロス	C.C.I.R.	○
34	Czecho/Slovakia	チェコ/スロバキア	OIRT	
35	Denmark	デンマーク	C.C.I.R.	○
36	Diego Garcia	ディエゴガルシア	U.S.A.	
37	Djibouti	ジブチ	OIRT	
38	Dominican Republic	ドミニカ共和国	U.S.A.	
39	Ecuador	エクアドル	U.S.A.	
40	Egypt	エジプト	C.C.I.R.	○
41	El Salvador	エルサルバドル	U.S.A.	
42	Ethiopia	エチオピア	C.C.I.R.	○
43	Finland	フィンランド	C.C.I.R.	○
44	France	フランス	NEW FRANCE	
45	Gabon	ガボン	OIRT	
46	Germany	ドイツ	C.C.I.R.	○
47	Ghana	ガーナ	C.C.I.R.	○
48	Gibraltar	ジブラルタル	C.C.I.R.	○
49	Greece	ギリシャ	C.C.I.R.	○
50	Greenland	グリーンランド	U.S.A.	
51	Guadalupe	グアドループ島	OIRT	
52	Guam	グアム	U.S.A.	
53	Guatemala	グアテマラ	U.S.A.	

*NICAM : ○...f=5.85MHz, △...f=6.552MHz.

NO	COUNTRY	国名	AREA NAME	*NTICAM
54	Guiana(French)	仏領ギナ	OIRT	
55	Guyana	ガイアナ	OIRT	
56	Haiti	ハイチ	U.S.A.	
57	Holland	オランダ	C.C.I.R.	○
58	Honduras	ホンジュラス	U.S.A.	
59	Hong Kong	香港	U.K.	△
60	Hungary	ハンガリー	OIRT	
61	Iceland	アイスランド	C.C.I.R.	○
62	India	インド	C.C.I.R.	○
63	Indonesia	インドネシア	INDONESIA	○
64	Iran(Islamic Rep.of)	イラン	C.C.I.R.	○
65	Iraq	イラク	C.C.I.R.	○
66	Ireland	アイルランド	IRELAND	△
67	Israel	イスラエル	C.C.I.R.	○
68	Italy	イタリア	ITALY	○
69	Jamaica	ジャマイカ	U.S.A.	
70	Japan	日本	JAPAN	
71	Johnstone Islands	ジョンストン島	U.S.A.	
72	Jordan	ヨルダン	C.C.I.R.	○
73	Kampuchea	カンボジア	U.S.A.	
74	Kenya	ケニア	C.C.I.R.	○
75	Korea(Dem. People's Rep.of)	北朝鮮	OIRT	
76	Korea(Rep.of)	韓国	U.S.A.	
77	Kuwait	クウェート	C.C.I.R.	○
78	Lebanon	レバノン	C.C.I.R.	○
79	Liberia	リベリア	C.C.I.R.	○
80	Libya	リビア	C.C.I.R.	○
81	Luxembourg	ルクセンブルグ	C.C.I.R.	

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NO	COUNTRY	国名	AREA NAME	*NICAM
82	Madagascar	マダガスカル	OIRT	
83	Madeira Islands	マデライラ島	C.C.I.R.	○
84	Malaysia	マレーシア	C.C.I.R.	○
85	Maldives	モルジブ	C.C.I.R.	○
86	Malta	マルタ	C.C.I.R.	○
87	Martinique	マルチニーク島	OIRT	
88	Mauritius	モーリシャス	C.C.I.R.	○
89	Mexico	メキシコ	U.S.A.	
90	Micronesia	ミクロネシア	U.S.A.	
91	Midway Islands	ミッドウェイ島	U.S.A.	
92	Monaco(Principality of)	モナコ	C.C.I.R.	○
93	Mongolia	モンゴル	OIRT	
94	Morocco	モロッコ	MOROCCO	○
95	Myanmar(Union of)	ミャンマー連邦	U.S.A.	
96	Netherlands Antilles	オランダ領アンティル	U.S.A.	
97	New Caledonia	ニューカレドニア	OIRT	
98	New Zealand	ニュージーランド	NEW ZEALAND	○
99	Nicaragua	ニカラガ	U.S.A.	
100	Niger	ニジェール	OIRT	
101	Nigeria	ナイジェリア	C.C.I.R.	○
102	Norway	ノルウェー	C.C.I.R.	○
103	Oman	オマーン	C.C.I.R.	○
104	Pakistan	パキスタン	C.C.I.R.	○
105	Panama	パナマ	U.S.A.	
106	Paraguay	パラグアイ	U.S.A.	
107	Peru	ペルー	U.S.A.	
108	Philippines	フィリピン	U.S.A.	
109	Poland	ポーランド	OIRT	

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NO	COUNTRY	国名	AREA NAME	*NICAM
110	Polynesia(French)	仏領ポリネシア	OIRT	
111	Portugal	ポルトガル	C.C.I.R.	○
112	Puerto Rico	プエルトリコ	U.S.A.	
113	Qatar	カタール	C.C.I.R.	○
114	Reunion	リュウシュアン	OIRT	
115	Rumania	ルーマニア	OIRT	
116	Saint Lucia	セントルシア	U.S.A.	
117	Samoa(American)	米領サモア	U.S.A.	
118	Samoa(Western)	西サモア	U.S.A.	
119	San Marino	サンマリノ	ITALY	○
120	Saudi Arabia	サウジアラビア	C.C.I.R.	○
121	Senegal	セネガル	OIRT	
122	Sierra Leone	シエラレオネ	C.C.I.R.	○
123	Singapore	シンガポール	C.C.I.R.	○
124	South Africa(Rep.of)	南アフリカ共和国	SOUTH AFRICA	△
125	Spain	スペイン	C.C.I.R.	○
126	Sri Lanka	スリランカ	C.C.I.R.	○
127	St.Kits	セントキッツ島	U.S.A.	
128	St.Pierre et Miquelon	セントピエール・ミケロン島	OIRT	
129	Sudan	スーダン	C.C.I.R.	○
130	Surinam	スリナム	U.S.A.	
131	Sweden	スウェーデン	C.C.I.R.	○
132	Switzerland	スイス	C.C.I.R.	○
133	Syrian Arab Republic	シリア	C.C.I.R.	○
134	Tahiti Islands	タヒチ島	OIRT	
135	Taiwan	台湾	U.S.A.	
136	Tanzania(United Rep.of)	タンザニア	C.C.I.R.	△
137	Thailand	タイ	C.C.I.R.	○

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NO	COUNTRY	国名	AREA NAME	*NICAM
138	Togo	トゴ	OIRT	
139	Trinidad and Tobago	トリニダード・トバゴ	U.S.A.	
140	Tunisia	チュニジア	C.C.I.R.	○
141	Turkey	トルコ	C.C.I.R.	○
142	Turks & Caicos Islands	タークス & カイコス 諸島	U.S.A.	
143	U.S.A.	アメリカ合衆国	U.S.A.	
144	Uganda	ウガンダ	C.C.I.R.	○
145	United Arab Emirates	アラブ首長国連邦	C.C.I.R.	○
146	United Kingdom	イギリス	U.K.	△
147	Venezuela	ベネズエラ	U.S.A.	
148	Virgin Islands	バージン諸島	U.S.A.	
149	Yemen	イエメン	C.C.I.R.	○
150	Yugoslavia	ユーゴスラビア	C.C.I.R.	○
151	Zaire	ザイール	OIRT	
152	Zambia	ザンビア	C.C.I.R.	○
153	Zimbabwe	ジンバブエ	C.C.I.R.	○

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LEADER ELECTRONICS CORP.

2-6-33 Tsunashima-Higashi, Kohoku-ku, Yokohama 223-8505, Japan
PHONE: 81-45-541-2123 FAX: 81-45-541-2823
