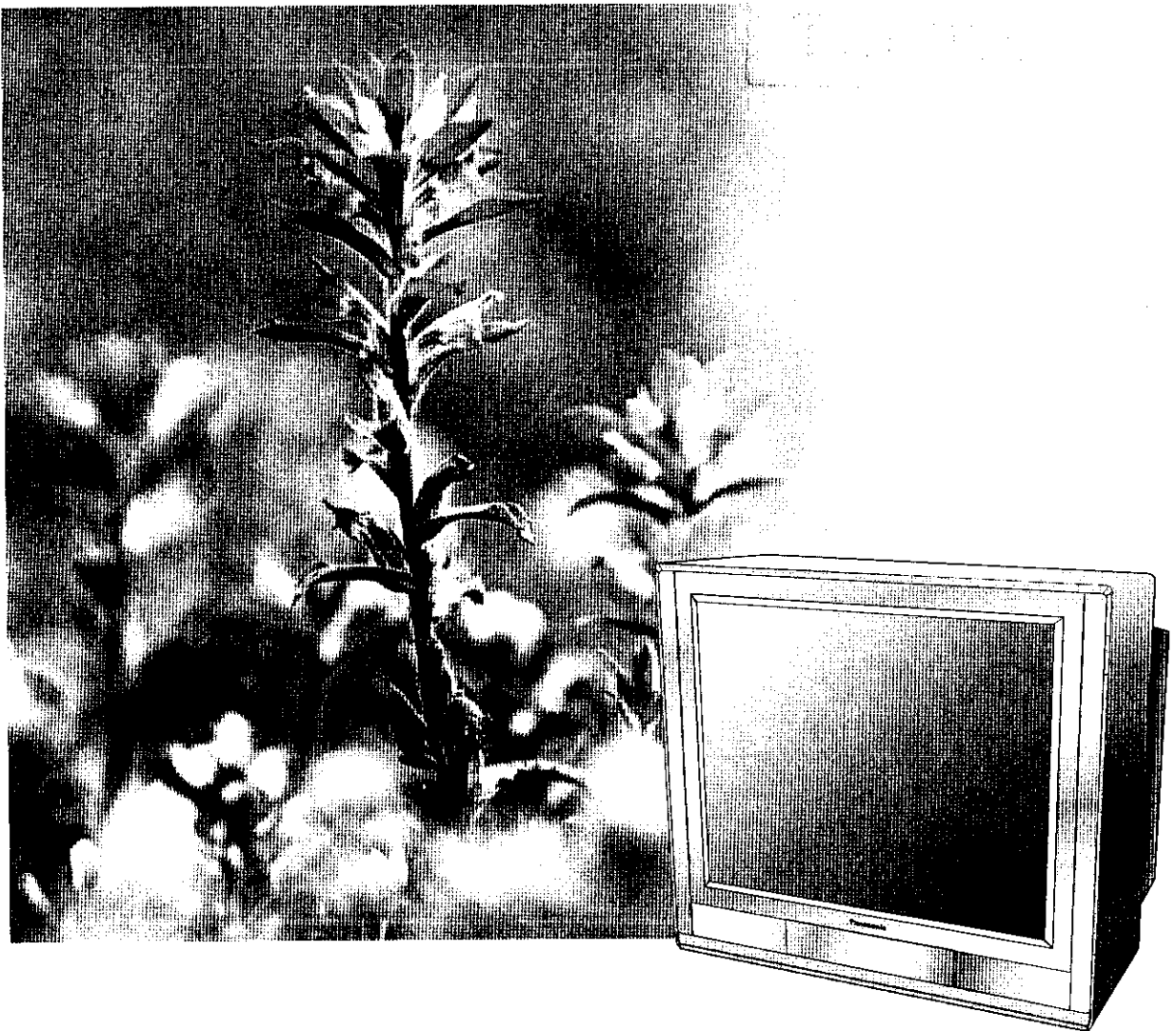# Panasonic

Operating Instruction
Colour Television

TX-68P150Z

Please read the operating instructions completely before operating this set.

Dear Panasonic Customer

Welcome to the Panasonic family of customers. We hope that you will have many years of enjoyment from your new colour television set.

To obtain maximum benefit from your set, please read these Instructions before making any adjustments, and retain them for future reference. Retain your purchase receipt also, and note down the Model Number and Serial Number of your set in the space provided on the rear cover of these Instructions.
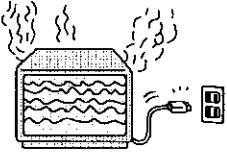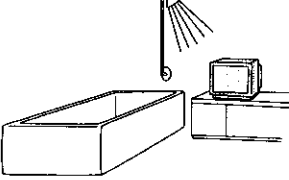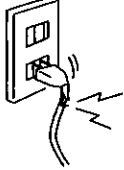
Table of Contents

Table of Contents

3

Warnings and Cautions

⚠ Warnings

	Unplug the power cord in the event of any malfunction (screen goes blank, no sound, odd sounds, smoke or unusual odours coming from the unit). Unplug the power cord if foreign matter or water falls into the unit, or if the unit is dropped or the cabinet is damaged.		DO NOT use this unit near water. (near a bath tub, etc.)
	DO NOT place any of the following on the unit: Flower vases, flower pots, cups, small metal objects, or cosmetics containers, chemicals or water.		DO NOT use if the power cord or power plug is damaged, or if the plug does not fit tightly into the socket.
	DO NOT insert foreign objects (metal or easily flammable objects).		DO NOT use at a voltage other than indicated.
	TAKE CARE NOT to damage the power cord.		DO NOT remove the rear cover as live parts and High Voltage components are accessible when the rear cover is removed.
	DO NOT touch the aerial cable and this unit when there is lightning.		DO NOT place in an unstable location.

⚠ Cautions
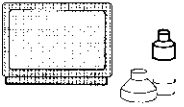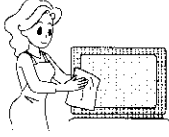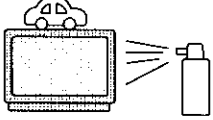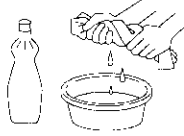
	DO NOT place in humid or dusty location, or areas exposed to smoke or steam. DO NOT place in direct sunlight and other sources of direct heat.		DO NOT touch the power plug if your hands are wet.

4

Warnings and Cautions

⚠ Cautions

	DO NOT stand, or place heavy objects on the unit. Particular care should be taken by families with small children.		Place in a safe location.
	Adequate ventilation is essential to prevent failure of electrical components, we recommend that a gap of at least 10 cm (◀▶) is left all around this unit even when it is placed inside a cabinet or between shelves.		Turn the power "Off" before connecting other electrical equipment.
	Before cleaning, unplug the power plug from the socket.		DO NOT jolt the unit.
	Unplug the power plug from the socket if you are not going to use the unit for an extended period.		Ask your sales outlet to install the aerial.

Cleaning

	The unit contains many plastic parts. For this reason DO NOT use benzine, thinner or other chemicals to clean the unit.		Dust will accumulate on the picture screen. Please wipe with a soft cloth from time to time. If you use a chemically treated cloth, please be careful to follow the instructions that come with the cloth.
	DO NOT bring into contact with insecticide or other volatile substances. DO NOT allow the unit to come into contact for extended periods with rubber or vinyl products.		Remove dirt and soiling by wiping with a light cloth. Even if the unit is heavily soiled, do not apply cleaner directly to the unit. Soak a cloth in a solution of neutral cleanser thinned with water. Then wring out the cloth, wipe the unit clean, and finish by wiping with a dry cloth.

Before Operating This Set

Battery Installation

1
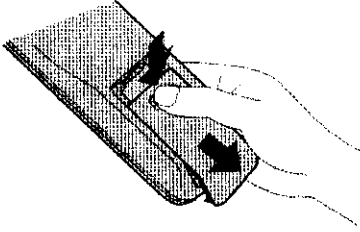
Open the cover.
Apply slight downward pressure while pulling towards the bottom.

2   Two "R6 (AA)" size
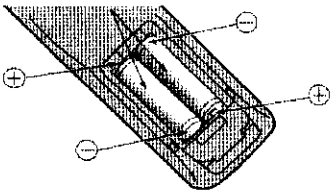
Batteries: Use two "R6 (AA)"size batteries.
Insert the batteries ensuring correct polarity.
This is identifiable by the "+" and "–" symbols on both the batteries
and inside the battery compartment.

3
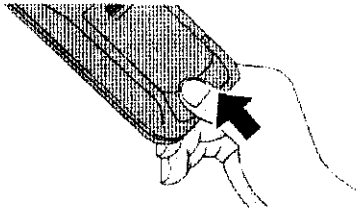
Replace the cover.

Do not use rechargeable (Ni-Cd) batteries.
They are different in shape and performance and may fail to ensure correct operation.

⚠ Battery cautions

The incorrect use of batteries can cause electrolyte leakage which will corrode the Remote Control or cause the
batteries to burst.

Old Batteries   New Batteries

Replace both batteries at the same time.   Don't mix battery types.   Don't recharge.
(alkaline with carbon zinc, etc.)
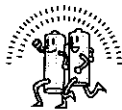
Connecting the Aerial cable to the RF In Terminal
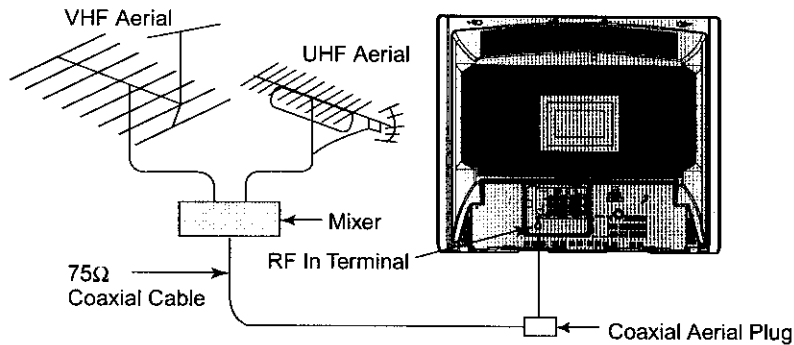
To obtain the best quality picture and sound, an external antenna, the correct cables (75 Ohm coaxial) and the correct terminating plug will be required.

If a communal antenna system is used, you may require the correct connection cable and plugs between the wall antenna socket and your television receiver.

Your local Television Service Dealer may be able to assist you in obtaining the correct antenna system for your particular area and accessories required.

Any matters about antenna installation, upgrading of existing systems or accessories required, and the cost incurred, are the responsibility of the customer.

Note :

If your existing antenna system uses 300 Ohm to 75 Ohm Balun, see Below.
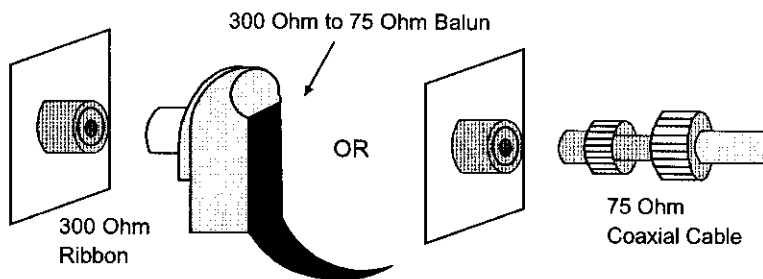
Connecting the Plug to the Wall Outlet
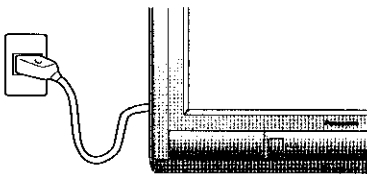
Note:
• Mains plug types vary between countries. The mains plug shown at left may therefore not be the type fitted to your set.

How to Turn the Power On

Press the Power switch on Television to turn the set on. (See page 35)
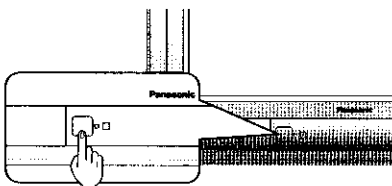
Before Operating This Set

Geomagnetism Correction

Automatic setting from the "PRESET" menu.

Operation from remote control
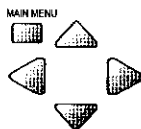
1 Press the Main Menu button.

2 Select the "PRESET" menu by pressing the Position Up or Down button.

```
1
CH1

PICTURE                           EXIT
SOUND                             ACCESS
FEATURES
PRESET                            SELECT
LANGUAGE
  ENGLISH  中文 Русский العربية
```

3 Select the "PRESET" menu by pressing the Position Left " < " or Right " > " button.

```
1
CH1
PRESET
CH SELECT            POSITION
SYS SELECT           ASIA/M. EAST
AUTO TUNE            ACCESS
MANUAL TUNE          ACCESS
POS. SETUP           ACCESS
TEXT SELECT          ENGLISH
GEOMAGNETIC          ▮▮▮▮▮▮▮▮▮▮▮
```

4 Press Position Up " ∧ " or Down " ∨ " button to select Geomagnetic.

```
1
CH1
PRESET
CH SELECT            POSITION
SYS SELECT           ASIA/M. EAST
AUTO TUNE            ACCESS
MANUAL TUNE          ACCESS
POS. SETUP           ACCESS
TEXT SELECT          ENGLISH
GEOMAGNETIC          8
```

5 Press the Position Left " < " or Right " > " button to adjust the geomagnetic level, so that the colour patches in the four corners of the screen do not appear.

8

Before Operating This Set

Operation from the TV

(TV set)

1, 2, 4   3

1 PRE. Press the "PRE." (PRESET) button.

```
1
CH1

PRESET
CH SELECT              POSITION
SYS SELECT             ASIA/M. EAST
AUTO TUNE              ACCESS
MANUAL TUNE            ACCESS
POS. SETUP             ACCESS
TEXT SELECT            ENGLISH
GEOMAGNETIC
```

2 PRE. Press the "PRE." (PRESET) button 6 times.

```
1
CH1

PRESET
CH SELECT              POSITION
SYS SELECT             ASIA/M. EAST
AUTO TUNE              ACCESS
MANUAL TUNE            ACCESS
POS. SETUP             ACCESS
TEXT SELECT            ENGLISH
GEOMAGNETIC           6
```
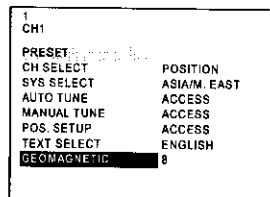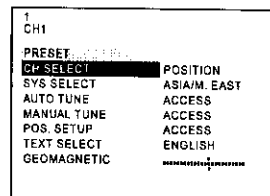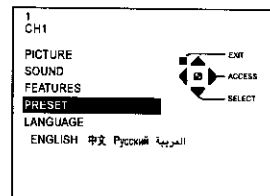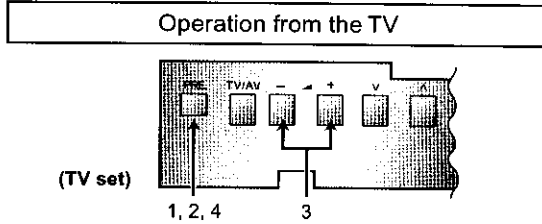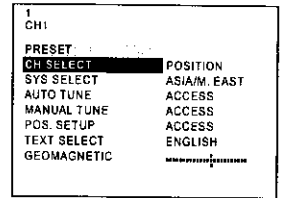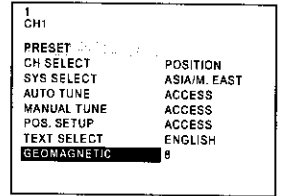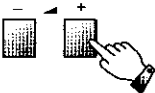
3 – ◢ + Press the Volume Up "+" or Down "–" button to adjust the Geomagnetic level, so that the colour patches in the four corners of the screen do not appear.

```
GEOMAGNETIC                       1
```

4 PRE. Press the "PRE." (PRESET) button once.

```
1
CH1



            Normal
            Viewing
```
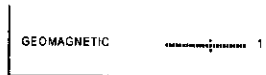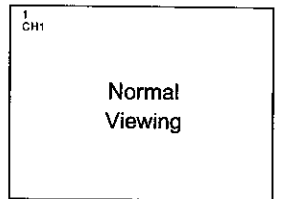
🔆 Helpful Hint

(1) If geomagnetic changes still cause colour patches on the screen even after the TV is installed, turn the power off and turn on again after about 30 minutes.

(2) Adjustment for geomagnetism should be performed every time the location of the TV is changed.

(3) In some cases, colour patches will not be completely eliminated even after adjustment, particularly in ferro-concrete buildings and other structures susceptible to geomagnetism. In these cases adjust by changing the installation location.

Location of Controls

Remote Control
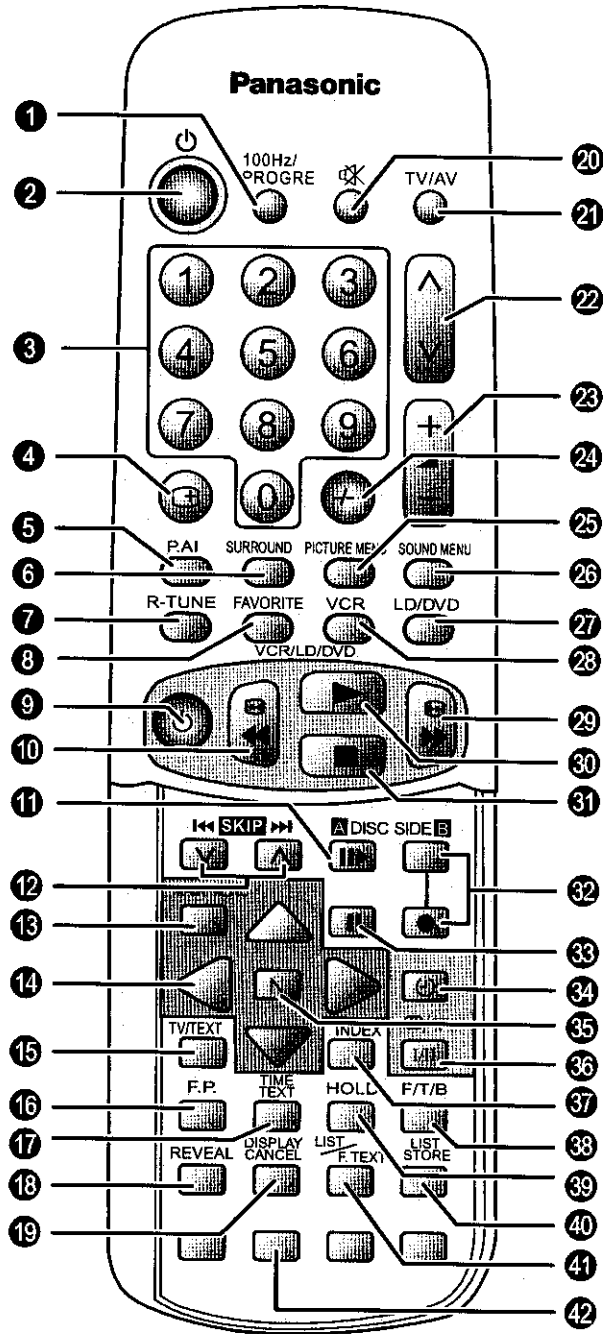
Location of Controls

Item No.	Function	Refer to Page	Item No.	Function	Refer to Page
❶	100Hz/PROGRE	43	㉒	Programme Number Up/Down	35
❷	Power Stand-by	35	㉓	Volume Up/Down	35
❸	Direct Programme Number	35	㉔	Two Digit-Programme Number Selection	35
❹	Recall	36			
❺	P.AI	43	㉕	Picture Menu	36
❻	Surround	37	㉖	Sound Menu	36
❼	R-Tune	36	㉗	LD/DVD	55
❽	Favorite	48	㉘	VCR	55
❾	VCR/LD/DVD Power	56	㉙	VCR/LD/DVD Fast Forward/Cue	56
❿	VCR/LD/DVD Rewind/Review	56	㉚	VCR/LD/DVD Play	56
⓫	VCR Still / Advance (VCR)/ Disc side A Selection (LD/DVD)	56	㉛	VCR/LD/DVD Stop	56
⓬	Programme Number Up/Down (VCR)/ Programme Number Skip (LD/DVD)	56	㉜	VCR Record (VCR)/ Disc side B Selection (LD/DVD)	56
⓭	Main Menu	16, 17	㉝	VCR/LD/DVD Pause Still	56
⓮	Position Button	16, 17	㉞	Off Timer Selection	36
⓯	TV/TEXT Selection	53	㉟	Normalisation	45, 46
⓰	TEXT Favourite Page Selection	53	㊱	Stereo/Bilingual Sound Selection	42
⓱	Time Text	54	㊲	TEXT INDEX	53
⓲	TEXT Reveal	53	㊳	Text Full/Top/Bottom Selection	53
⓳	DISPLAY CANCEL	53	㊴	Text Hold	53
⓴	Sound Mute	36	㊵	List/Store	53
㉑	TV/AV Mode Selection	36	㊶	List/Fast Text	53
			㊷	TEXT Colour-Coded Buttons	53

Location of Controls

Controls and Terminals on the TV
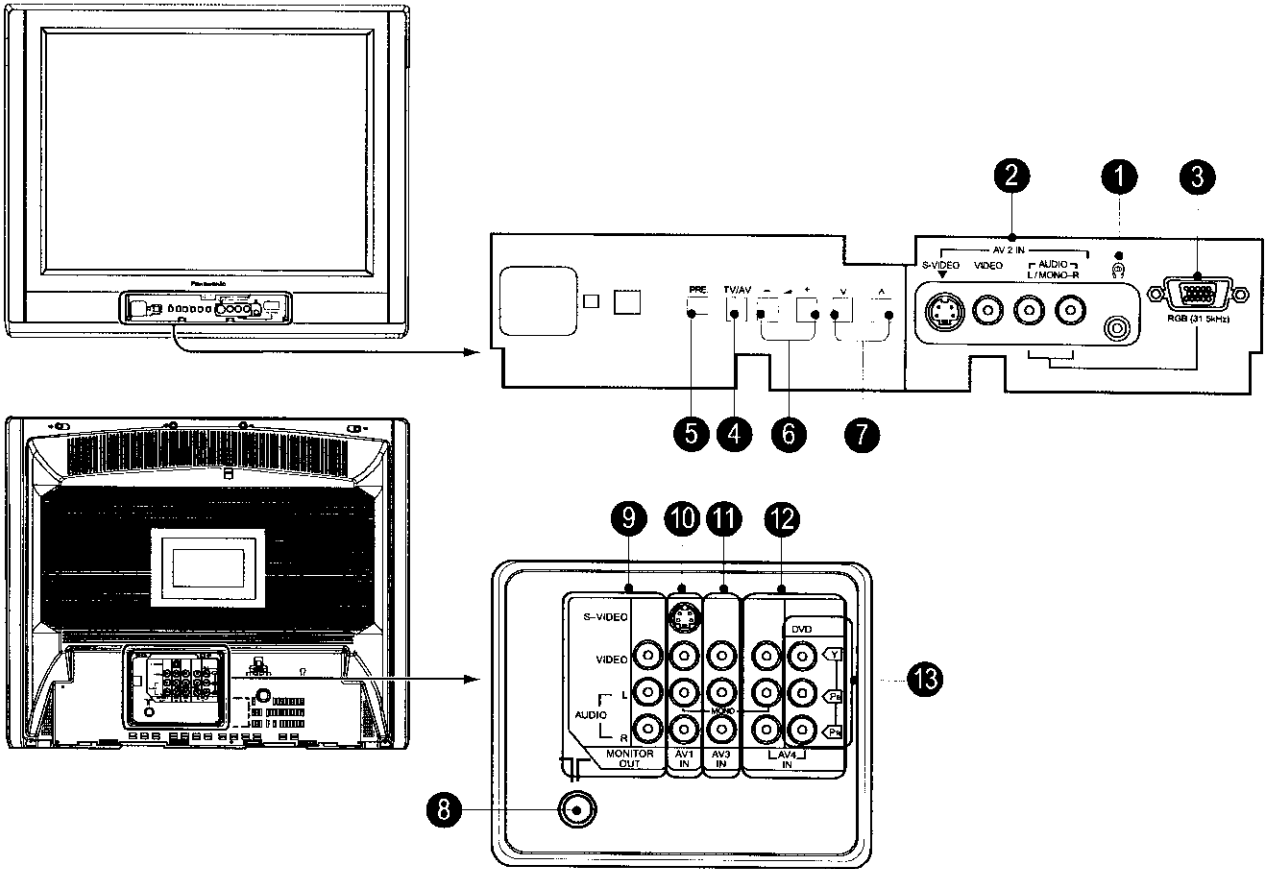
Item No.	Function	Refer to Page	Item No.	Function	Refer to Page
❶	Headphones	15	❽	Aerial Terminal (RF In Terminal)	7
❷	AV2 Input Terminals	13	❾	Monitor Output Terminals	14
❸	RGB Input Terminal	15	❿	AV1 Input Terminals	13
❹	TV/AV	36	⓫	AV3 Input Terminals	13
❺	Preset	19	⓬	AV4 Input Terminals	13
❻	Volume Up (+) and Down (−)	35	⓭	DVD (Y • PB • PR) Input	14
❼	Programme Number Up (∧) and Down (∨)	35			

12

Connections

How to connect the "AV1, 2, 3 or 4" Input Terminals

(Super-VHS VCR)

(VHS VCR)
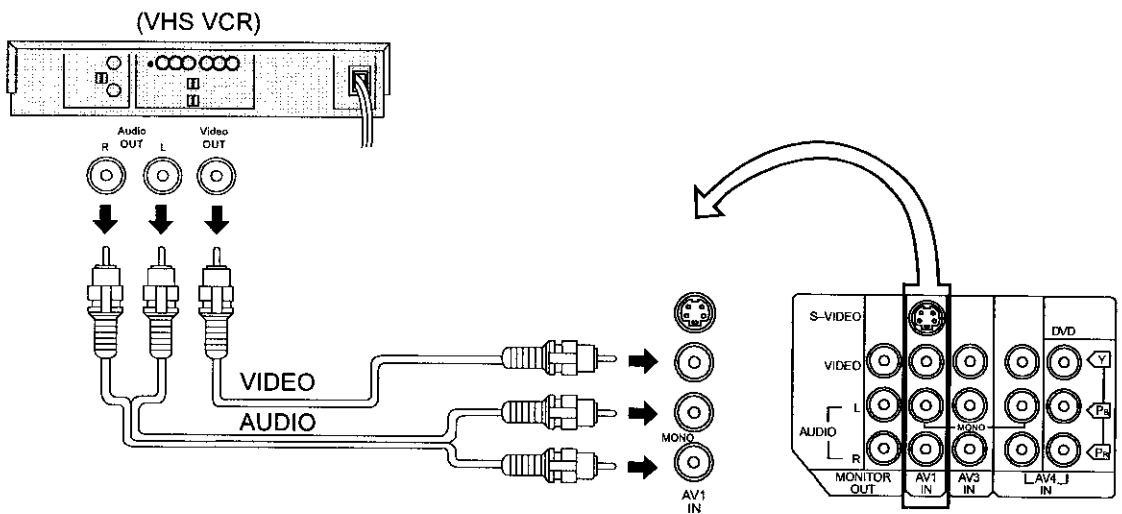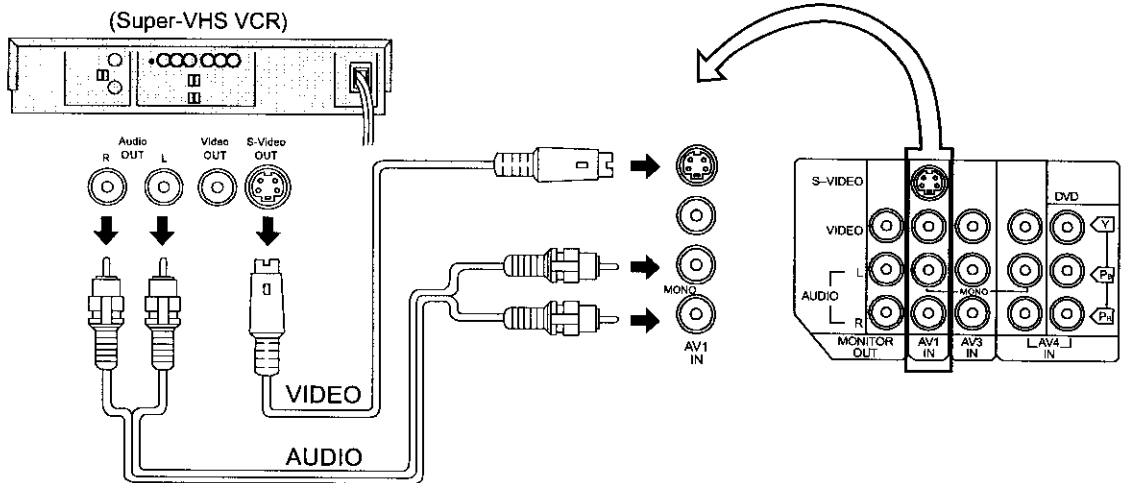
Notes:

(1) When AV1, AV2, AV3 or AV4 is selected, and that AV mode has no input picture signal, the background colour of the TV screen will change. (This only occur if the Blue-Back function is set to the ON condition; refer to page 47 for details).

(2) When an S-Video cable is connected to the S-Video terminal, the Video input will be automatically switched off for the AV mode.

(3) When a Monaural VCR is used, connect the Monaural Audio cable to the Audio "L" (Left) terminal.

(4) Similar connections are available at the AV1, AV2, AV3 and AV4 input terminals. Select the desired AV input position by pressing the "TV/AV" button. (Refer to page 36)

(5) The AV2 and AV4 audio input terminals serves as the audio input terminal for both the video input and for the DVD input.

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Connections

How to connect the DVD Input Terminals
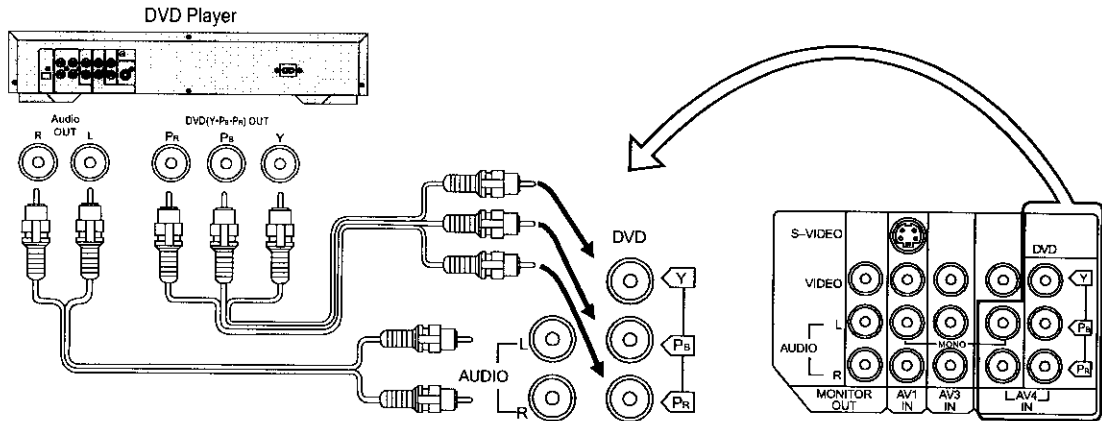
Notes:
- The AV4 audio signal is common for both AV4 and DVD input signal terminals.
- The DVD signal input terminal takes priority over the AV4 video signal input terminal.

How to connect the AV Monitor Output Terminals to other equipment

The "Monitor Out" Terminals output the same signals as main picture on the TV screen and sound from the speaker at that time, e.g. TV programmes or signals from AV1, AV2, AV3 or AV4 input.
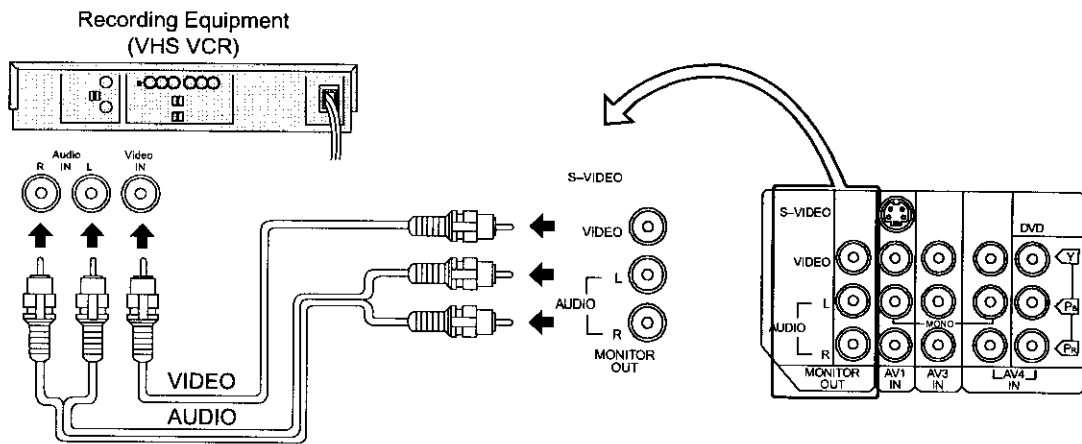
Notes:
- Never connect the same video recorder with both the VIDEO IN and MONITOR OUT terminals on this TV set, as this could cause incorrect operation.
- The monitor output emits the main picture normal video and audio signals.
- Teletext display on screen will not be output at the MONITOR OUT terminals.
- The RGB mode signal and DVD signal (Y • PB• PR) are not output at the MONITOR OUT terminals.
- The DVD signal (Y • PB• PR) is not output at the MONITOR OUT terminals.
- The DVD signal input terminal takes priority over the AV4 video input terminal.

How to connect the RGB Input Terminals

COMPUTER

Conversion adaptor (if necessary)

D-SUB 15P

RGB
PC cable
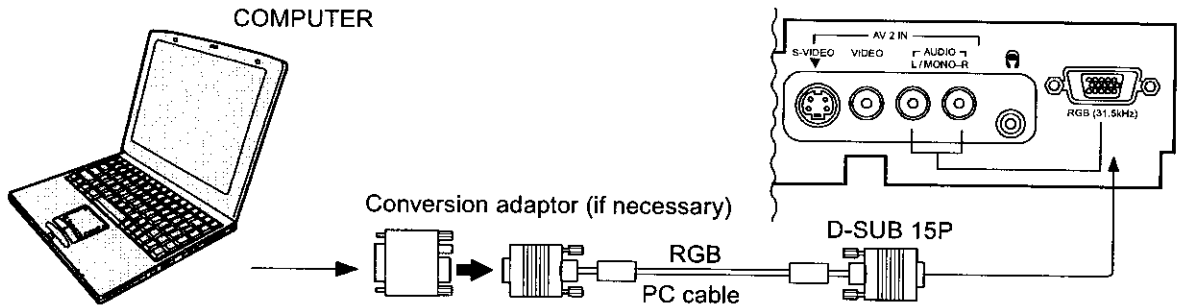
Notes:
- This unit can be connected to PCs with 640 × 480 (31.5 kHz / 60 Hz) or 640 × 400 (31.5 kHz / 70 Hz) pixel.
- In some cases other PCs may not work with this TV set.
- There is no audio signal in RGB input.
- The sound of the RGB mode is combined with the Audio signal of AV2.
- Some PC models cannot be connected to the TV set.
- A commercially sold adaptor is required to use the RGB cable (D-sub 15P) to connect a PC-98 series computer (which has a D-sub 15P terminal) or a Macintosh computer to the TV set.
- There is no need to use an adaptor for computers with DOS/V compatible D-sub 15P terminal.

■ Signal Names for D-sub 15P Connector
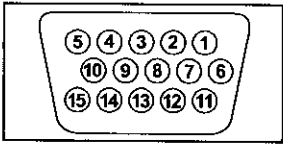
Pin Layout for RGB Input Terminal

Pin No.	Signal Name	Pin No.	Signal Name	Pin No.	Signal Name
①	R	⑥	GND(Ground)	⑪	GND(Ground)
②	G	⑦	GND(Ground)	⑫	NC
③	B	⑧	GND(Ground)	⑬	HD/SYNC
④	GND(Ground)	⑨	NC(not connected)	⑭	VD
⑤	GND(Ground)	⑩	GND(Ground)	⑮	NC(not connected)

Connecting Headphones

Connect headphones as follows.
When a Headphone plug is inserted into the Headphones socket, all speakers will be automatically disconnected; only the Headphones will function.

Use Volume Up "+" or Down "−" button to control volume level.

(3.5mm Plug)
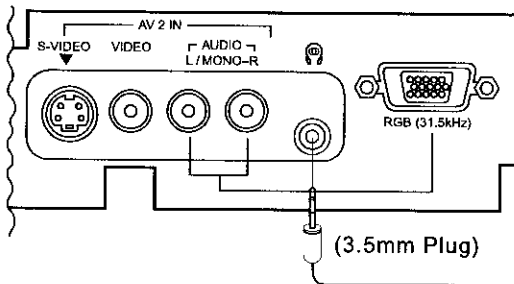
(Optional)
(not supplied)

15

Flow Chart of Main Menu (Remote Control)
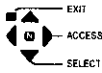
When the "MAIN MENU" (EXIT) button is pressed at the Main Menu screen, the screen display will return to the normal viewing condition.
When the "MAIN MENU" (EXIT) button is pressed at each MENU screen (Picture, Sound, Features, Preset, Language), the screen display will return to the Main Menu screen.

Menu	On Screen Indication	
Picture	**PICTURE** SOUND FEATURES PRESET LANGUAGE ENGLISH 中文 Русский العربية	PICTURE **MENU** — DYNAMIC COLOUR NTSC-TINT BRIGHTNESS CONTRAST SHARPNESS C.TEMP — STANDARD P-NR — OFF AI — OFF
Sound	PICTURE **SOUND** FEATURES PRESET LANGUAGE ENGLISH 中文 Русский العربية	SOUND **MENU** — MUSIC BASS — AUTO TREBLE — AUTO BALANCE BASS BOOST — OFF LOUDNESS — OFF SURROUND — OFF
Features	PICTURE SOUND **FEATURES** PRESET LANGUAGE ENGLISH 中文 Русский العربية	FEATURES BLUE BACK — ON **CHILD LOCK** — OFF VCR/GAME — OFF FAVORITE CH — ACCESS RGB SKIP — OFF WAKE UP TIMER — OFF SCAN MODE — AUTO 16:9 — OFF 3D-COMB — ON
Preset	PICTURE SOUND FEATURES **PRESET** LANGUAGE ENGLISH 中文 Русский العربية	PRESET **CH SELECT** — POSITION SYS SELECT — ASIA/M. EAST AUTO TUNE — ACCESS MANUAL TUNE — ACCESS POS. SETUP — ACCESS TEXT SELECT — ENGLISH GEOMAGNETIC
Language	PICTURE SOUND FEATURES PRESET **LANGUAGE** ENGLISH 中文 Русский العربية	

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Flow Chart of Main Menu (Remote Control)

RGB Mode

Menu	On Screen Indication
Screen	PICTURE EXIT SOUND ACCESS FEATURES SELECT SCREEN LANGUAGE ENGLISH 中文 Русский العربية SCREEN H-SIZE V-SIZE H-POS. V-POS. PARABOLA

17

Tuning Procedure

Channel Selection

Select the most easily viewed channel selection method.
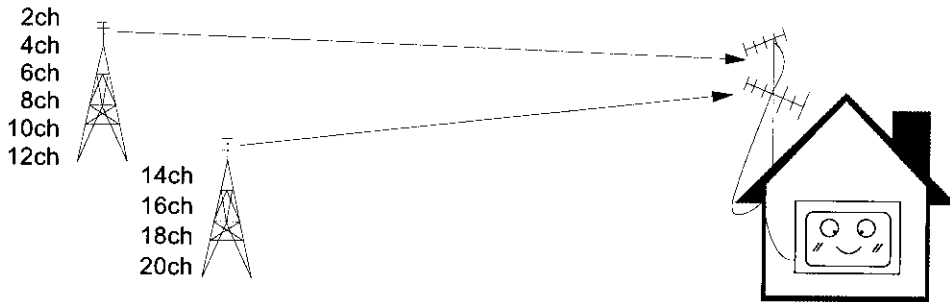
Example

Programme Number	Channel Display	Received Channel
1	2	2
2	4	4
3	6	6
4	8	8
5	10	10
6	12	12
7	14	14
8	16	16
9	18	18
10	20	20

POSITION SELECT

When the Channel Selection is on POSITION, and Auto Tune is performed, the unit memories the channels tuned in order from Programme No. 1.

Press the button ⊕ to view channel 2.

Press the button ⊕ to view channel 4.

Press the button ⊕ to view channel 6.

During Position mode various reception channels can be viewed.

Example

Programme Number	Channel Display	Received Channel
1	–	–
2	2	2
3	–	–
4	4	4
5	–	–
6	6	6
7	–	–
8	8	8
9	–	–
10	10	10
⋮	⋮	⋮
20	20	20
⋮	⋮	⋮

DIRECT SELECT

When the Channel Selection is on DIRECT, and Auto Tune is performed, the unit memorise the programme number which is the same as the channel tuned.

This method allows you to select the desired channel by pressing the Programme Number directly on the remote control to select the channel. The channel display numbers for the broadcast stations in each region are listed on page 21.

(TV set)

1, 3   2
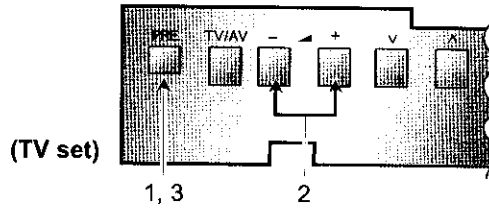
Before Country System Selection and AUTO tuning, set the "CHANNEL SELECT" mode, as detailed below.

1	PRE	Press the "PRE." (PRESET) button, setting the Preset Menu to "CH SELECT".	2 CH2 PRESET CH SELECT ──── POSITION SYS SELECT ──── ASIA/M. EAST AUTO TUNE ──── ACCESS MANUAL TUNE ──── ACCESS POS. SETUP ──── ACCESS TEXT SELECT ──── ENGLISH GEOMAGNETIC	"CH SELECT" condition.
2	− +	Select the "CH SELECT" (Channel Select) mode by pressing the Volume Up "+" or Down "−" button.	2 CH2 PRESET CH SELECT ──── POSITION SYS SELECT ──── ASIA/M. EAST AUTO TUNE ──── ACCESS MANUAL TUNE ──── ACCESS POS. SETUP ──── ACCESS TEXT SELECT ──── ENGLISH GEOMAGNETIC	Setting the range when the "POSITION" has been selected: Position 0-99. Setting range when the "DIRECT" has been selected: Channel 1-125. The channel select indicator will change as follows: DIRECT ↔ POSITION
3	PRE	Press the "PRE." (PRESET) button 7 times.		This returns the set to the normal viewing condition.
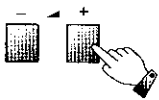
Country System Selection

(TV set)

1, 3   2

Before AUTO tuning and MANUAL tuning, set the "SYSTEM SELECT" mode, as detailed below.
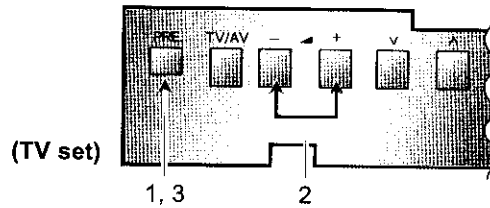
---

1 PRE.

Press the "PRE." (PRESET) button twice, setting the Preset Menu to "SYS SELECT".

```
1
CH1
PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC        ░░░░░░░░░░░░░
```

"SYS SELECT" condition.

---

2 − ◄ +

Select the appropriate system by pressing the Volume Up "+" or Down "−" button.

```
1
CH1
PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC        ░░░░░░░░░░░░░
```
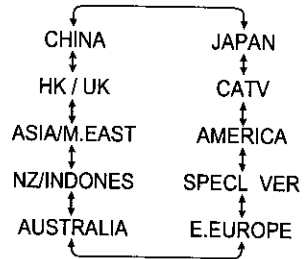
The system select indicator will change as follows.

CHINA ⟷ JAPAN
↕ ↕
HK / UK ⟷ CATV
↕ ↕
ASIA/M.EAST ⟷ AMERICA
↕ ↕
NZ/INDONES ⟷ SPECL VER
↕ ↕
AUSTRALIA ⟷ E.EUROPE

---

3 PRE.

Press the "PRE." (PRESET) button 6 times.

This returns the set to the normal viewing condition.

System Select by Country

| SYSTEM SELECT	COUNTRY
CHINA	China
HK/UK	Hong Kong, United Kingdom
ASIA/M.EAST	Malaysia, Singapore, Thailand, Asia countries, Kuwait, Saudi Arabia, United Arab Emirates, Middle East countries, etc.
NZ/INDONES	New Zealand, Indonesia, etc.
AUSTRALIA	Australia
E.EUROPE	CIS, Poland, etc.
SPECL VER	South Africa
AMERICA	U.S.A., Chile, Mexico, Panama, Peru, Philippines, Taiwan, Venezuela, etc.
CATV	USA CATV
JAPAN	Japan

20

Channel Allocation

- CATV (USA CATV) channel numbers as recommended by the joint EIA/NCTA Engineering committee and published as EIA INTERIM STANDARD No.6-CABLE TELEVISION CHANNEL IDENTIFICATION PLAN-MAY 1983.
- The receiving channels are as follows:

SYS SELECT CH DISPLAY	CHINA	HK/UK	ASIA/M.E	NZ/INDONES	AUSTRALIA	E.EUROPE	SPECL VER	AMERICA	CATV	JAPAN
				RECEIVE CHANNEL						
0	—	—	—	—	0	—	—	—	—	—
1	1	—	—	1	1	1	1	—	1	1
2	2	—	2	2	2	2	2	2	2	2
3	(	—	(	(	3	(	(	(	(	(
4		—			4					
5		—			5					
6		—			S2					
7	(	—	(	(	(	(	(	(	(	(
11		—	11	11		11	11			
12	12	—	12	—		12	12			12
13	13	—	—	—		—	13	13		13
14	(	—	—	—		—	—	14		(
15		—	—	—	S10	—	—			
16		—	—	—	6	—	—			
19		—	—	—	9	—	—			
20		—	—	—	9A	—	—			
21	(	21	21	21	10	21	21	(	(	(
22					11					
23					12					
24					S11					
28					(					
57	57				S44					
58	—				20					
59	—				21					
62	—	62	62	62	(	62	62	62	62	62
63	—	63	63	63		63	63	63	63	C13
69	—	69	69	69		69	69	69	(	(
70	—	—	—	—	(	—	—	—	(	(
73	—	—	—	—		—	—	—		
74	—	S'1	S'1	S'1		S'1	S'1	—		
75	—	S'2	S'2	S'2		—	S'2	—		
76	—	S'3	S'3	S'3		—	S'3	—		
77	—	—	—	—		—	—	—		
78	—	—	—	—		—	—	—		
79	—	—	—	—		—	—	—		
80	—	S1	S1	S1	(	S1	S1	—	(	(
81	Z1	S2	S2	S2		S2	S2	—		
89	Z9	S10	S10	S10		S10	S10	—		
90	Z10	S11	S11	S11	(	S11	—	—	(	(
91	Z11	S12	S12	S12		S12	—	—		
92	Z12	S13	S13	S13		S13	—	—		
93	Z13	S14	S14	S14		S14	S14	—		
94	Z14	S15	S15	S15		S15	S15	—		
95	Z15	S16	S16	S16		S16	S16	—		
96	Z16	S17	S17	S17		S17	S17	—		
97	Z17	S18	S18	S18		S18	S18	—		
98	Z18	S19	S19	S19		S19	S19	—		
99	Z19	S20	S20	S20		S20	S20	—	99	C49
100	Z20	S21	S21	S21	(	S21	S21	—	100	—
117	Z37	(	(	(	80	(	(	—	(	—
118	—				—			—		—
120	—	S41	S41	S41	—	S41	S41	—		—
125	—	—	—	—	—	—	—	—	125	—

Tuning Procedure

Automatic Tune (Channel Select and Country System must already been set; refer to pages 18 to 21)

(TV set)

1, 4, 9, 10   2, 5, 7   6
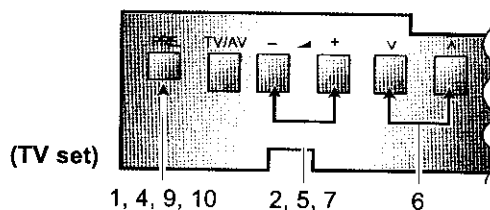
This TV uses automatic tuning to determine whether or not a broadcast signal is being sent which it can receive, and automatically prepares so that the channel selection can respond to both the position select and direct select modes.
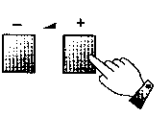
1	PRE	Press the "PRE." (PRESET) button 3 times.	Automatic Search "AUTO TUNE" condition.

```
1
CH1

PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

2	– ◄ +	Press the Volume Up "+" or Down "–" button.	Search starts. The best tuning position is automatically memorised.

```
AUTO TUNE
```

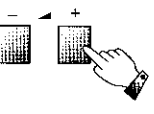|		
3	After all stations are tuned, the on-screen display will automatically change from "AUTO TUNE" to "CH SELECT" mode.	

```
1
CH1

PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

4	PRE	Press the "PRE." (PRESET) button 4 times, setting the Preset Menu to "POS. SETUP".

```
1
CH1

PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

5	– ◄ +	Press the Volume Up "+" or Down "–" button, setting the "POS. SETUP" menu to "SOUND SYS".	"SOUND SYS" condition.

```
1
CH1

POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

22

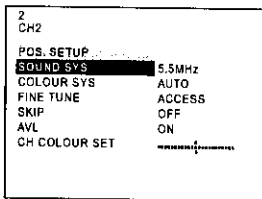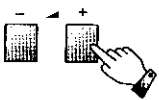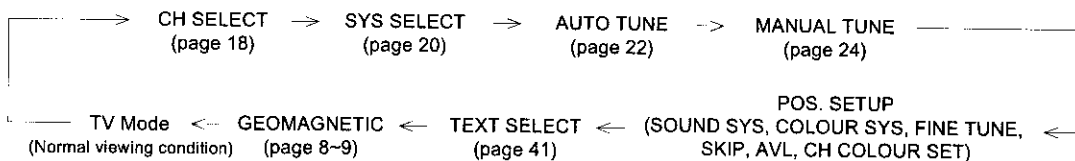| 6	Press the Channel Up "∧" or Down "∨" button to confirm the sound condition of each Programme Number.	2 CH2 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL ON CH COLOUR SET	If the sound is not clear or no sound is produced on a programme number position, follow the next step. **Note:** When sound volume is too small to confirm, turn it up by using the sound volume button on the remote control.
7	If necessary, press the Volume Up "+" or Down "−" button to improve the sound quality.	2 CH2 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL ON CH COLOUR SET	The sound indicator will change as follows. 4.5 MHz ⟷ 5.5 MHz ↑ ↓ ↑ 6.5 MHz ⟷ 6.0 MHz
8	Use the Programme Number Up "∧" or Down "∨" button sequentially to check each station. If necessary, repeat steps 6 and 7 for each Programme Number.		
9	After all stations are tuned, press the "PRE." (PRESET) button 6 times, setting it back to "POS. SETUP".		
10	Press the "PRE." (PRESET) button 3 times.		This returns the set to the normal viewing condition. Programme Number memory locations.
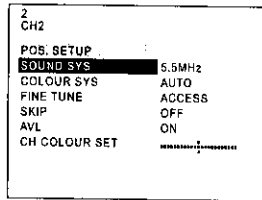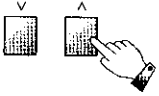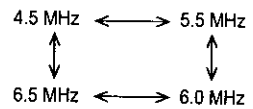
ꙅ Helpful Hint

(1) To tune, press the Main Menu button and Position button on the Remote Control. By following the display in the Preset Menu, setting can only be performed using the Remote Control.

(2) If a clear picture with correct colours cannot obtained when a broadcast of AV signal is received, refer to the "Colour System Selection" operation on page 39.

(3) After the Automatic Tune is finished, press the Programme Number Up "∧" button to confirm the tuning condition for each programme number. If some programme numbers are unused, it is possible to skip such programme numbers. Please refer to the "Programme Number Skip" operation on page 29.

(4) Repeatedly pressing the "PRE." (PRESET) button changes the Preset Menu as follows:

```
    ┌─────→  CH SELECT  →  SYS SELECT  →  AUTO TUNE  ─→  MANUAL TUNE  ─── ──────────┐
    │          (page 18)      (page 20)      (page 22)       (page 24)              │
    │                                                                               │
    │                                                    POS. SETUP                 │
    └──── TV Mode  ←─ GEOMAGNETIC ←  TEXT SELECT  ←  (SOUND SYS, COLOUR SYS, FINE TUNE, ←┘
    (Normal viewing condition)  (page 8~9)     (page 41)        SKIP, AVL, CH COLOUR SET)
```

23

Tuning Procedure

Manual Tune (Channel Select and Country System must already been set; refer to pages 18 to 21)
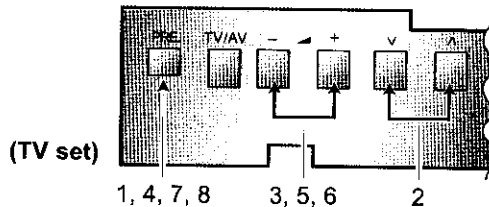
(TV set)

1, 4, 7, 8   3, 5, 6   2
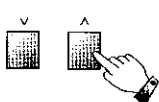
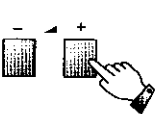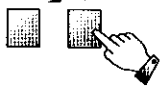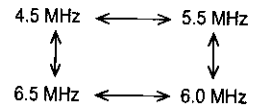| 1	Press the "PRE." (PRESET) button 4 times.	CH1 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	Manual Search "MANUAL TUNE" condition.
2	Press either the Programme Number Up "∧" or Down "∨" button.	CH2 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	Select the desired programme number.
3	Press the Volume Up "+" or Down "−" button. Volume "+": Next higher channel. Volume "−": Next lower channel.	MANUAL TUNE CH2 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	Search starts. The best tuning position is automatically memorised.
4	Press the "PRE." (PRESET) button once, setting the Preset Menu to "POS. SETUP".	CH2 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	
5	Press the Volume Up "+" or Down "−" button, setting the "POS. SETUP" menu to "SOUND SYS".	CH2 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL ON CH COLOUR SET	"SOUND SYS" condition.
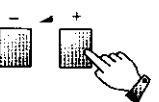
24

Tuning Procedure

6

If the sound is not clear or no sound is produced on a programme number position, press the Volume Up "+" or Down "–" button.

```
2
CH2

POS. SETUP
SOUND SYS        5.5MHz
COLOUR SYS       AUTO
FINE TUNE        ACCESS
SKIP             OFF
AVL              ON
CH COLOUR SET    
```

You may improve the sound quality.

The sound indicator will change as follows.

4.5 MHz ⟷ 5.5 MHz

6.5 MHz ⟷ 6.0 MHz

Note:
When sound volume is too small to confirm, turn it up by using the sound volume button on the remote control.

7

PRE.

Press the "PRE." (PRESET) button 6 times, setting it back to "POS. SETUP".

```
1
CH1

PRESET
CH SELECT        POSITION
SYS SELECT       ASIA/M. EAST
AUTO TUNE        ACCESS
MANUAL TUNE      ACCESS
POS. SETUP       ACCESS
TEXT SELECT      ENGLISH
GEOMAGNETIC      
```

8

PRE.

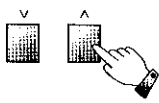Press the "PRE." (PRESET) button 3 times.

This returns the set to the normal viewing condition.

᪷ Helpful Hint

(1) If a clear picture cannot be obtained even when a broadcast of AV signal is received, refer to the "Colour System Selection" operation on page 39.

(2) After the Manual Tune is finished, press the Programme Number Up "∧" button to confirm the tuning condition for each programme number. If some programme numbers are unused, it is possible to skip such Programme Numbers. Please refer to the "Programme Number Skip" operation on page 29.

(3) When using a VCR without video and audio input/output terminals, it is convenient to connect the aerial cable as indicated in the instruction manual of VCR and to set the designated channel to programme number "0". In that case, perform manual tune after setting the colour system and sound system in advance. Further, in multi-system VCR, it is more convenient to set the designated channel to several programme numbers.

Fine Tuning

(TV set)

2, 4, 6, 7   3, 5   1
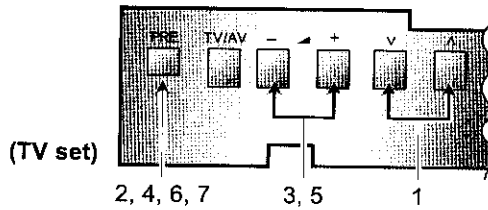
Under normal reception conditions, this function is not required or necessary. However, in areas of poor reception or constant interference, a slight adjustment of the tuning may improve the picture and sound quality.

1	Select the channel which you want to improve using the Programme Number Up "∧" or Down "∨" button.	2 CH2	Select the desired Programme Number.

2	PRE.	Press the "PRE." (PRESET) button 5 times, setting the Preset Menu to "POS. SETUP".	2 CH2 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	"POS. SETUP" condition.

3	Press the Volume Up "+" or Down "–" button, setting to "POS. SETUP" mode.	2 CH2 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	2 CH2 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL ON CH COLOUR SET

4	PRE.	Press the "PRE." (PRESET) button twice, setting to "FINE TUNE".	2 CH2 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL ON CH COLOUR SET	"FINE TUNE" condition.

5	Press and hold the Volume Up "+" or Down "–" button until the clear picture is received.	FINE TUNE ■2 CH2 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL ON CH COLOUR SET	Fine tuning starts. The AFC function is deactivated. The "■" symbol appears on the left of the programme number.

Tuning Procedure

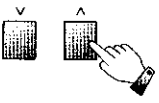| 6	PRE.	Press the "PRE." (PRESET) button 4 times, setting it back to "POS. SETUP".	 2 CH2 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	
7	PRE.	Press the "PRE." (PRESET) button 3 times.		This returns the set to the normal viewing condition.

How to Cancel the Fine Tuning

(TV set)

2, 4   3   1
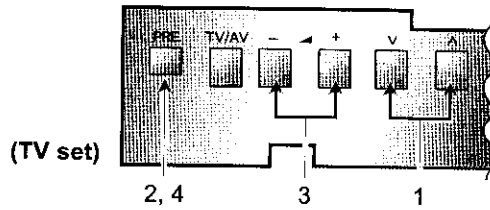
Cancelling previously adjusted (manually) fine tuning, means reactivating the AFC (Automatic Frequency Control) function, also known as AFT (Automatic Fine Tuning). Reactivating the Automatic Fine Tuning means allowing the set automatically tune to the optimum tuning position, for that programme number.

1 — Select the "AFC OFF" Programme Number which you want to return to Automatic Frequency Control (cancel the manual fine tuning).
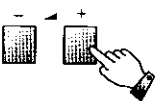
"AFC OFF" programme numbers are indicated to you by the "■" symbol to the left of the programme number in the on-screen display.

2 PRE. — Press the "PRE." (PRESET) button 4 times, setting the Preset Menu to "MANUAL TUNE".

Manual Search condition.

3 — Press the Volume Up "+" or Down "–" button, briefly.

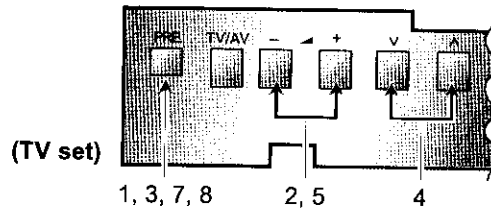The best tuning position is automatically memorised. (In other words, manually tune away from the transmission, and then back to it.)

4 PRE. — Press the "PRE." (PRESET) button 4 times.

This returns the set to the normal viewing condition.

Tuning Procedure

Programme Number Skip

(TV set)

1, 3, 7, 8   2, 5   4
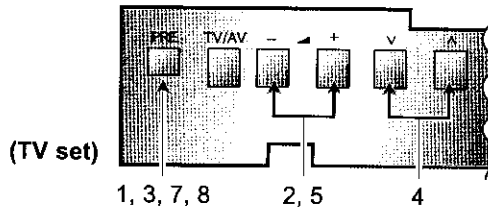
It is possible to skip Program Number on which no TV stations are tuned appearing on the screen. The function is only effective when selecting Program Numbers by pressing the Program Number Up "∧" or Down "∨" button either on the TV set or the remote control.
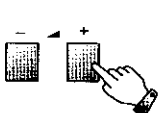
1	Press the "PRE." (PRESET) button 5 times, setting the Preset Menu to "POS. SETUP".		"POS. SETUP" condition.

```
1
CH1

PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC        
```

2	Press the Volume Up "+" or Down "−" button, setting to "POS. SETUP" mode.		

```
1
CH1

PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

```
1
CH1

POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

3	Press the "PRE." (PRESET) button 3 times, setting to "SKIP".		Channel Skip condition.

```
1
CH1

POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

4	Select a Programme Number you want to skip by pressing the Programme Number Up "∧" or Down "∨" button.		

```
2
CH2

POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

5	Press the Volume Up "+" or Down "−" button.		The displayed "OFF" condition changes to "ON".

```
2
CH2

POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               ON
AVL                ON
CH COLOUR SET
```

29

6

4 ⟲ 5

Repeat Steps 4 and 5 for the remaining programme numbers for which the Skip function is desired.

7
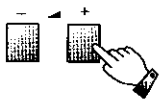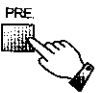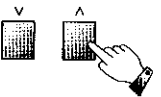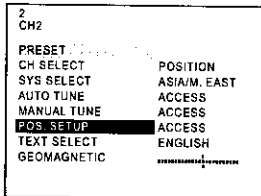
PRE.

After the Skip operation is completed, press the "PRE." (PRESET) button 3 times, setting it back to "POS. SETUP".

```
2
CH2
PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC        ■■■■■■┊■■■■
```

"POS. SETUP" condition.

8

PRE.

Press the "PRE." (PRESET) button 3 times.

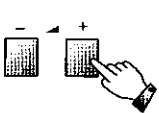This returns the set to the normal viewing condition.
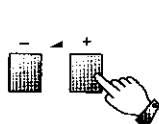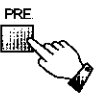

Tuning Procedure

How to Cancel the Skip Function

(TV set)

1, 3, 7, 8   2, 5   4

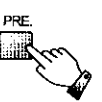| 1			
1 PRE.	Press the "PRE." (PRESET) button 5 times, setting the Preset Menu to "POS. SETUP".	1 CH1 PRESET CH SELECT — POSITION SYS SELECT — ASIA/M. EAST AUTO TUNE — ACCESS MANUAL TUNE — ACCESS **POS. SETUP** — ACCESS TEXT SELECT — ENGLISH GEOMAGNETIC	"POS. SETUP" condition.
2 — +	Press the Volume Up "+" or Down "—" button, setting to "POS. SETUP" mode.	1 CH1 PRESET CH SELECT — POSITION SYS SELECT — ASIA/M. EAST AUTO TUNE — ACCESS MANUAL TUNE — ACCESS **POS. SETUP** — ACCESS TEXT SELECT — ENGLISH GEOMAGNETIC → 1 CH1 POS. SETUP **SOUND SYS** — 5.5MHz COLOUR SYS — AUTO FINE TUNE — ACCESS SKIP — OFF AVL — ON CH COLOUR SET	
3 PRE.	Press the "PRE." (PRESET) button 3 times, setting to "SKIP".	1 CH1 POS. SETUP SOUND SYS — 5.5MHz COLOUR SYS — AUTO FINE TUNE — ACCESS **SKIP** — OFF AVL — ON CH COLOUR SET	Channel Skip condition.
4 v ∧	Select a Programme Number you want to skip by pressing the Programme Number Up "∧" or Down "∨" button.	2 CH2 POS. SETUP SOUND SYS — 5.5MHz COLOUR SYS — AUTO FINE TUNE — ACCESS **SKIP** — ON AVL — ON CH COLOUR SET	
5 — +	Press the Volume Up "+" or Down "—" button.	2 CH2 POS. SETUP SOUND SYS — 5.5MHz COLOUR SYS — AUTO FINE TUNE — ACCESS **SKIP** — OFF AVL — ON CH COLOUR SET	The displayed "ON" condition changes to "OFF".
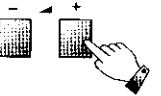
Tuning Procedure

6 Repeat Steps 4 and 5, if you wish to cancel the Skip function on any other Programme Number.

7 After the Skip Cancel operation is completed, press the "PRE." (PRESET) button 3 times, setting it back to "POS. SETUP".

```
2
CH2
PRESET
CH SELECT            POSITION
SYS SELECT           ASIA/M. EAST
AUTO TUNE            ACCESS
MANUAL TUNE          ACCESS
POS. SETUP           ACCESS
TEXT SELECT          ENGLISH
GEOMAGNETIC          ▮▮▮▮▮▮▮▮▮▮▮▮▮▮
```
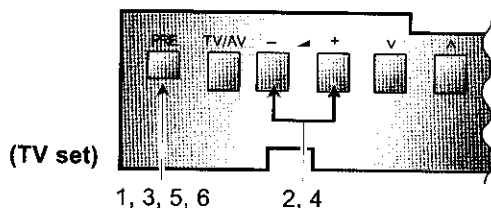
"POS. SETUP" condition.

8 Press the "PRE." (PRESET) button 3 times.
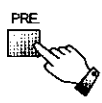
This returns the set to the normal viewing condition.

AVL (Auto Volume Limiter)

(TV set)

1, 3, 5, 6   2, 4
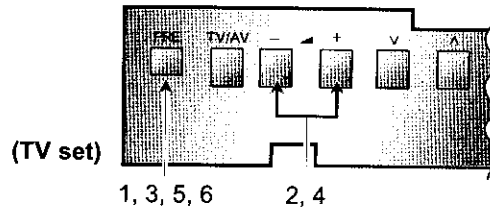
The AVL function will limit the volume output for music, speech and movie at preset level when it is on.

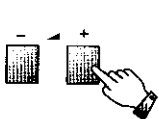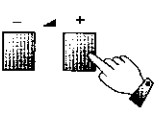| 1	PRE.	Press the "PRE." (PRESET) button 5 times, setting the Preset Menu to "POS. SETUP".	1 CH1 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	"POS. SETUP" condition.
2	– ◄ +	Press the Volume Up "+" or Down "–" button, setting to "POS. SETUP" mode.	1 CH1 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC ➡ 1 CH1 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL ON CH COLOUR SET	
3	PRE.	Press the "PRE." (PRESET) button 4 times, setting to "AVL".	1 CH1 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL ON CH COLOUR SET	"AVL" condition.
4	– ◄ +	Press the Volume Up "+" or Down "–" button.	1 CH1 POS. SETUP SOUND SYS 5.5MHz COLOUR SYS AUTO FINE TUNE ACCESS SKIP OFF AVL OFF CH COLOUR SET	The displayed "ON" condition changes to "OFF".
5	PRE.	Press the "PRE." (PRESET) button twice, setting it back to "POS. SETUP".	1 CH1 PRESET CH SELECT POSITION SYS SELECT ASIA/M. EAST AUTO TUNE ACCESS MANUAL TUNE ACCESS POS. SETUP ACCESS TEXT SELECT ENGLISH GEOMAGNETIC	"POS. SETUP" condition.
6	PRE.	Press the "PRE." (PRESET) button 3 times.		This returns the set to the normal viewing condition.

33

CH Colour Set

(TV set)

1, 3, 5, 6   2, 4

1

PRE.

Press the "PRE." (PRESET) button 5 times, setting the Preset Menu to "POS. SETUP".

```
1
CH1

PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

"POS. SETUP" condition.

2

– ◄ +

Press the Volume Up "+" or Down "–" button, setting to "POS. SETUP" mode.

```
1
CH1

PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

➤

```
1
CH1

POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

3

PRE.

Press the "PRE." (PRESET) button 5 times, setting to "CH COLOUR SET".

```
1
CH1

POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

"CH COLOUR SET" condition.

4

– ◄ +

Colour density varying between broadcast channels can be adjusted to three levels of each reception channel by pressing the Volume Up "+" or Down "–" button.

```
1
CH1

POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

5

PRE.

Press the "PRE." (PRESET) button once.

```
1
CH1

PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

"POS. SETUP" condition.

6

PRE.

Press the "PRE." (PRESET) button 3 times.

This returns the set to the normal viewing condition.

34

General Operation

1
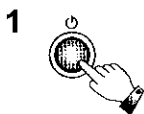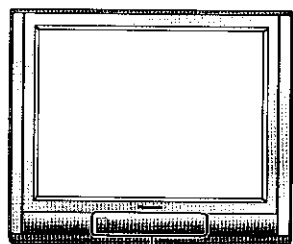
How to switch the power ON or OFF

The TV set must first be switched on at the wall outlet and at the Power Switch (refer to page 7).
Press this button to turn the TV set ON, from STANDBY mode.
Press it again to turn the TV set OFF, STANDBY mode.

Note:
It is also possible to turn the TV set on STANDBY by pressing the "Direct Programme Number Selection" buttons (0–9) and the "Programme Number Up or Down" button, either on the set or on the Remote Control.

(TV set)   5   4   2

2
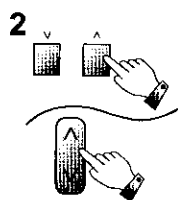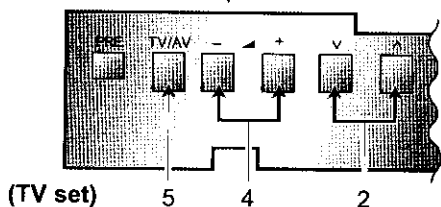
Programme Number Selection

Press the Programme Number Up "∧" or Down "∨" button to select the next higher or lower programme number.

3
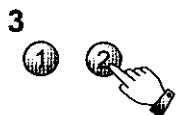
Direct Programme Number Selection (CH SELECT = POS.)

You can select the numbers directly by pressing "0–9" buttons and the two digit numbers by pressing "Two Digit" and "Programme Number" buttons.

Programme Number 8 .... ⑧
Programme Number 12 ...... ⊕, ①, ②

Direct Programme Number Selection (CH SELECT = DIRECT)

You can select the number directly by pressing the corresponding programme number button.

Programme Number 8 .... ⑧
Programme Number 36 .... ③, ⑥
Programme Number 124 ..... ①, ②, ④

Note:
When the Skip setting for Programme Number 100 through 125 is on, the channel selection time will be shortened, and thus you cannot input three digits at a time.

4
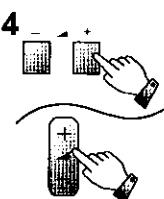
Volume Adjustment

Press the Volume Up "+" or Down "–" button to increase or decrease the sound volume level.

VOLUME	......·.............. 12
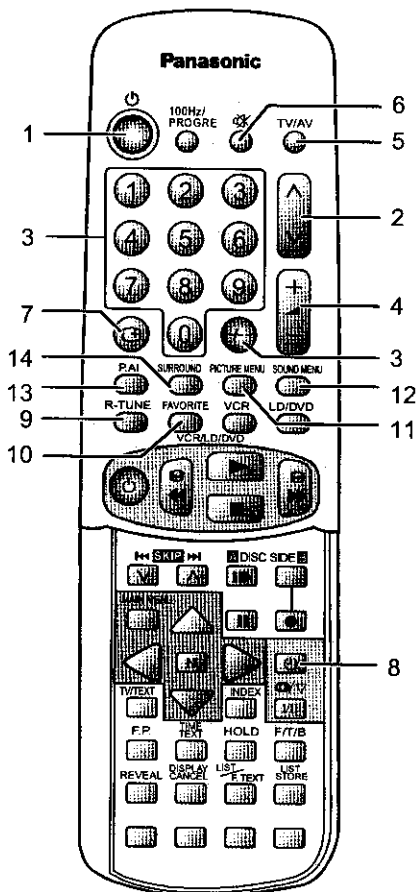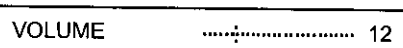
5 TV/AV

TV/AV Mode Selection

Press the "TV/AV" button to select TV, AV1, AV2, AV3, AV4, RGB input signal modes sequentially.

TV/AV
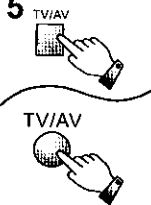
6 🕸

Mute Button

Press this button to mute the sound completely. The "MUTE" symbol will appear. (Colour will change to red.)
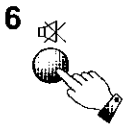
Press the button once again to restore the previous sound level and cancel the mute.

7

Recall Button

Press the "Recall" button to display the current system status. Press again to cancel.

❶ ─── ►4
❷ ─── ►CD

❸ ─── ► MOVIE
❹ ─── ► DYNAMIC
☐30 ─── ❺
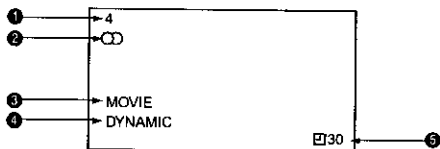
❶ Programme Number
❷ Audio Mode
❸ Sound Menu
❹ Picture Menu
❺ Off Timer

8

Off Timer Button

The TV set may be preset to switch to stand-by after a fixed period.
By pressing "OFF-Timer" button, you can select the preset time; either "30", "60", "90" minutes or AUTO mode.

☐ 30 → ☐ 60 → ☐ 90 → ☐ AUTO
⬆ ┗─── ☐ 0 ◄───┘
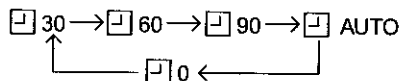
Setting Off-Timer to AUTO mode. If the set is not switched off when the TV station stops broadcasting, it will automatically go to Stand-by Mode after 5 minutes.

Note:
Off-Timer setting will not operate in AUTO mode when the Television set is in AV mode.

9 R-TUNE

Rapid Tune Button

Press the button to access previously viewed channel.

Present Channel   Last Viewed
Being Viewed   Channel

[TV] ◄ ─── 🌐
       ─── ►
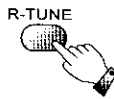
10 FAVORITE

How to use FAVORITE CH mode
Refer to page 48.

11 PICTURE MENU

Picture Menu Operation

By pressing the PICTURE MENU button, you can sequentially select the Picture menus as shown below:
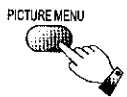
On-screen	Function
DYNAMIC	For watching in brighter environments. This menu selects a higher than normal level of contrast.
STANDARD	For watching in normal (evening) environments. This menu selects normal level of contrast.
SOFT	For watching in dark environments. This menu selects reduced level of contrast.

12 SOUND MENU

Sound Menu Operation

By pressing the SOUND MENU button, you can sequentially select the Sound menus as shown below:
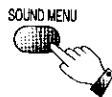
On-screen	Function
MUSIC	For music programme for example.
SPEECH	For news programme for example.
MOVIE	For movie programme for example.

36

13
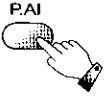
P.AI Mode
(No indication in RGB input mode)
The P.AI continuously detects fine differences in the picture signal, with great precision and including the picture brightness, black level and contrast.
This function automatically adjusts the picture to the best quality for the scene and reproduces images that provide a sense of depth.
The Picture AI mode will change as shown:

ON ↔ OFF

14

Surround Sound Operation
The benefit of surround sound are enormous. With additional speakers you can be completely enveloped in sound; just as if you were at a concert hall or cinema. The surround effect does operate without external surround speakers, but is enhanced when they are connected. Such near surround speakers should not be sited in direct proximity to the listeners.

On-screen display during surround mode.

Type of broadcast	On-screen display
TV/AV MODE	OFF ↓ VIRTUAL ↓ SPATIAL

VIRTUAL
A Virtual Surround System attempts to create the same surround effect produced by a multichannel system using only the left and right speakers.

Phantom Center
Left front speaker   Right front speaker

Listening Area
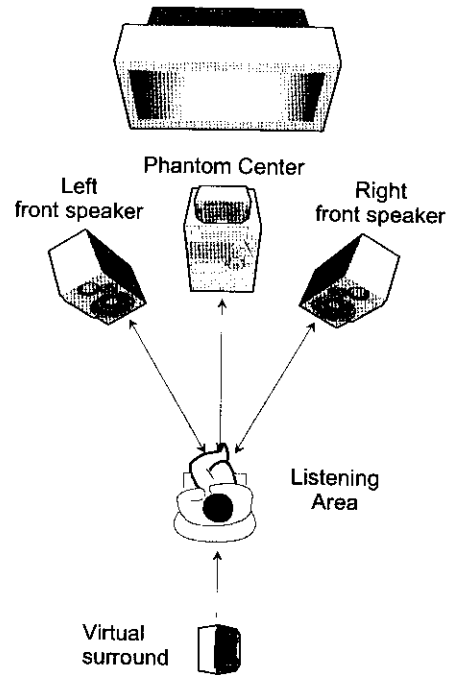
Virtual surround

(Virtual Surround System)

The general conceptual model of a Virtual Surround System employs two steps to reduce the L,C,R and S (or LS, RS) channels to two channels:
1. Divide the center signal equally between the left and right speakers to achieve a Phantom Center Image.
2. Process the S (or LS, RS) signal via Virtual Dolby Surround system before sending it to the L, R speakers, creating a virtualized image around the listener.

SPATIAL
Spatial Surround modes allow various types of surround effects to be produced by mimicking both the direct sound, as heard by the audience.

Sound System Selection (Different countries use differing systems)

(TV set)

1, 4, 5   2, 3
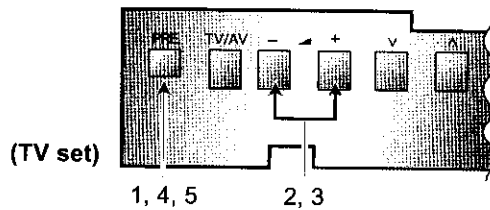
This function is used only in the TV mode, and is not applicable in AV Mode when the sound is not clear or no sound is produced on a programme number.
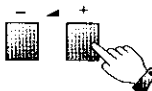
1 PRE

Press the "PRE." (PRESET) button 5 times, setting the Preset Menu to "POS. SETUP".

```
2
CH2
PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

"POS. SETUP" condition.

2 – ◀ +

Press the Volume Up "+" or Down "–" button, setting to "POS. SETUP" mode.

```
2
CH2
POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```
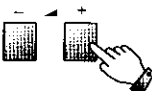
"SOUND SYS" condition.

3 – ◀ +
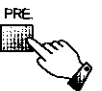
Press the Volume Up "+" or Down "–" button repeatedly until the optimum sound is obtained.

```
2
CH2
POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

The sound system will change as shown.
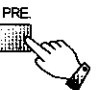
4.5 MHz ⟷ 5.5 MHz
↓   ↑
6.5 MHz ⟷ 6.0 MHz

Note:
These are different sound broadcast transmission systems applicable to differing countries.

4 PRE

Press the "PRE." (PRESET) button 6 times, setting to "POS. SETUP" in Preset Menu.

```
2
CH2
PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

5 PRE

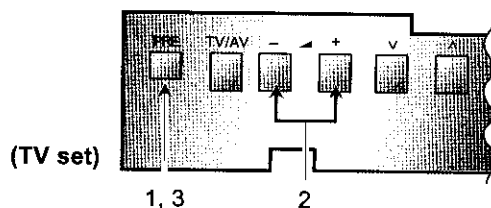Press the "PRE." (PRESET) button 3 times.

This returns the set to the normal viewing condition.

The selected sound system is automatically memorised.

38

Colour System Selection (Different countries use differing systems)

(TV set)

1, 3, 5, 6   2, 4
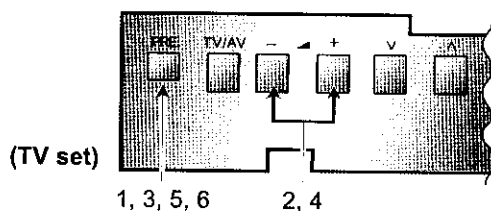
If a clear picture with current colours cannot be obtained when a broadcast or AV signal is received.

1 PRE.

Press the "PRE." (PRESET) button 5 times, setting the Preset Menu to "POS. SETUP". (In AV mode, it is only necessary to press the "PRE." (PRESET) button once.)

```
2
CH2
PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```

"POS. SETUP" condition.

2 − ◀ +

Press the Volume Up "+" or Down "−" button, setting to "POS. SETUP" mode.

```
2
CH2
POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```
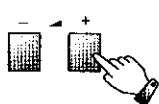
3 PRE.

Press the "PRE." (PRESET) button once, setting to "COLOUR SYS".

```
2
CH2
POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

"COLOUR SYS" condition.

4 − ◀ +

Press the Volume Up "+" or Down "−" button repeatedly until the optimum image is produced.
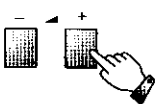
```
2
CH2
POS. SETUP
SOUND SYS          5.5MHz
COLOUR SYS         AUTO
FINE TUNE          ACCESS
SKIP               OFF
AVL                ON
CH COLOUR SET
```

The colour system will change as shown.

AUTO ⟷ PAL ⟷ SECAM
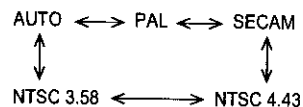
NTSC 3.58 ⟷ NTSC 4.43

Note:

(1) The Preset mode of DVD main picture (Y, P$_B$, P$_R$) is the setting for AV4.

(2) PAL, SECAM and NTSC 3.58 are different colour signal broadcast transmission systems applicable to differing countries NTSC 4.43 is a trick playback mode used in special VCRs to playback NTSC recorded video tapes through PAL television equipment.

5

Press the "PRE." (PRESET) button 5 times, setting it back to "POS. SETUP". (In AV mode, press the "PRE." (PRESET) button 5 times.)

```
2
CH2

PRESET
CH SELECT        POSITION
SYS SELECT       ASIA/M. EAST
AUTO TUNE        ACCESS
MANUAL TUNE      ACCESS
POS. SETUP       ACCESS
TEXT SELECT      ENGLISH
GEOMAGNETIC
```

6

Press the "PRE." (PRESET) button 3 times.

This returns the set to the normal viewing condition.

The selected colour system is automatically memorised.

Text Select

(TV set)

1, 3   2

#		Instruction	Screen	Result
1	PRE.	Press the "PRE." (PRESET) button 6 times, setting the Preset Menu to "TEXT SELECT".	(menu display)	"TEXT SELECT" condition.

```
2
CH2
PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```
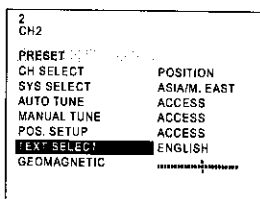
2 Press the Volume Up "+" or Down "−" button repeatedly to select option matching the text signal being received.

```
2
CH2
PRESET
CH SELECT          POSITION
SYS SELECT         ASIA/M. EAST
AUTO TUNE          ACCESS
MANUAL TUNE        ACCESS
POS. SETUP         ACCESS
TEXT SELECT        ENGLISH
GEOMAGNETIC
```
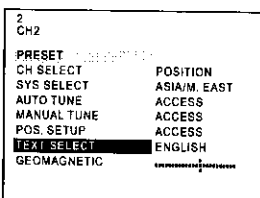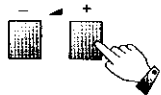
The Text Select mode will change as shown:

ENGLISH ⟷ C.I.S.
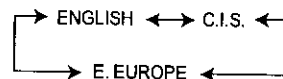
E. EUROPE

DISPLAY	LANGUAGE
ENGLISH	English
C.I.S.	Russian, Estonian, Lithuanian, Ukraine
E. EUROPE	Polish, Czech, Serbian, Rumanian

3 PRE. Press the "PRE." (PRESET) button twice.

This returns the set to the normal viewing condition.

41

Advanced Remote Control Operation

Stereo Reception

1
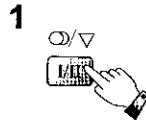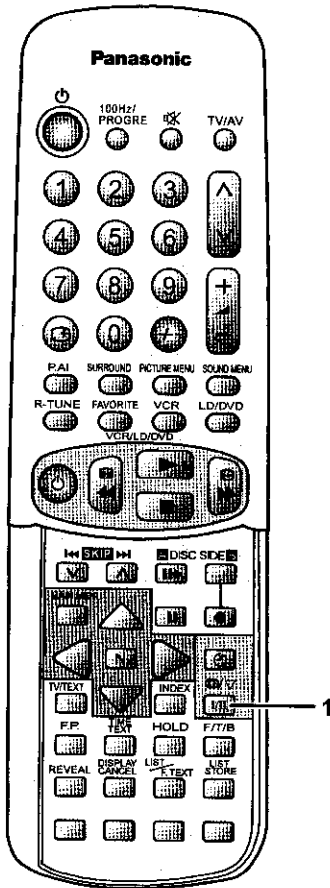
When you receive the stereo/bilingual sound system, sound output modes can be selected by pressing the stereo/bilingual sound selection button.

Audio Signal	Mode Indicator
STEREO	⟨⟨⟩⟩
MAIN I	I
SUB II	II
MONO	▽

	Type of broadcast	Mode Indicator
NICAM	Regular broadcast (Standard Audio)	No Indicator
NICAM	Regular + NICAM MONO I (MAIN I)	I ◄─► ▽
NICAM	NICAM STEREO	⟨⟨⟩⟩ ◄─► ▽
NICAM	NICAM DUAL MONO (MAIN I / SUB II)	I ─► II ↑__▽__↲
A2 (German)	Regular broadcast (Standard Audio)	No Indicator
A2 (German)	BILINGUAL or DUAL MONO : MAIN I / SUB II	I ◄─► II
A2 (German)	STEREO	⟨⟨⟩⟩ ◄─► ▽

Note:
(1) The "A2 (German)" stereo/bilingual TV sound transmission system is used in the following countries; Australia, Malaysia, Thailand, Indonesia, etc.
The "NICAM" stereo TV sound transmission system is used in the following countries; New Zealand, Singapore, Hong Kong and China.
(2) If the stereo signal is poor or the receiving conditions are not optimum or if STEREO: MONO automatic switching occurs, it is recommended you switch from STEREO to MONO.
When the broadcasting mode changes to "STEREO", or "MONO" after you have selected "MONO" mode, change over "STEREO" mode will be made automatically.

Note:
(1) Even when the contents of the receiving signal undergo changes, selection mode is kept intact.
(2) When the receiving conditions deteriorate, listening will be easier if the mode is set to the "MONO" position, using the stereo/bilingual sound selection button.
(3) "DUAL", also known as "DUAL MONO" or as "BILINGUAL" is not currently transmitted in some countries.

P.AI and 100Hz/PROGRE Operation

1

P.AI
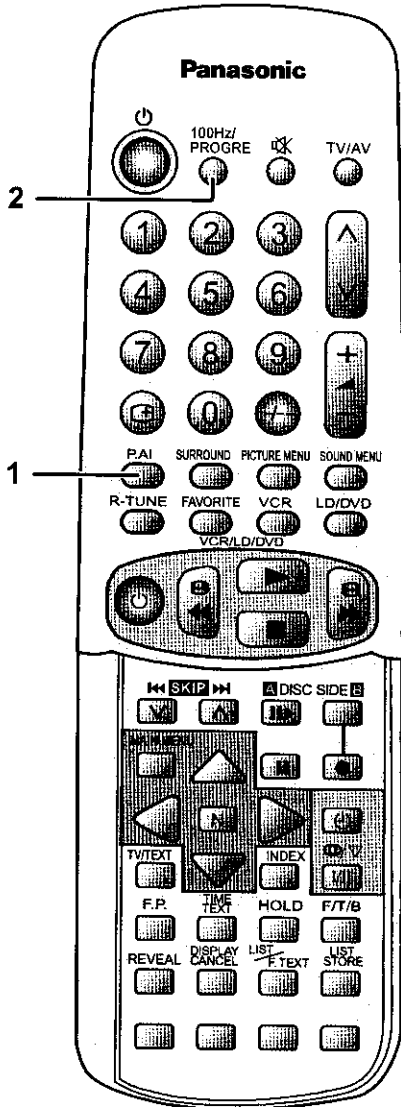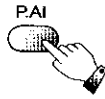
P.AI (Picture-Artificial Intelligence)

The P.AI continuously detects fine difference in the picture signal, with great precision, and including the picture brightness, black level and contrast. This function automatically adjusts the picture to the best quality for the scene, and reproduces images that provide a sense of depth.

2

100Hz/
PROGRE

100Hz/PROGRE

Refer to page 49.

Main Menu Operation

Picture Menu Operation

```
1
CH1
┌─────────────────────┐
│ PICTURE      ┌──── EXIT
│ SOUND        │ ──── ACCESS
│ FEATURES     │ ──── SELECT
│ PRESET       └────
│ LANGUAGE
│  ENGLISH  中文  Русский  العربية
└─────────────────────┘
```

```
1
CH1
┌─────────────────────┐
│ PICTURE  ·····
│ MENU          DYNAMIC
│ COLOUR        ············
│ NTSC-TINT     ············
│ BRIGHTNESS    ············
│ CONTRAST      ············
│ SHARPNESS     ············
│ C.TEMP        STANDARD
│ P-NR          OFF
│ AI            OFF
└─────────────────────┘
```
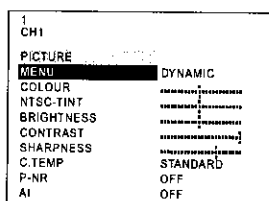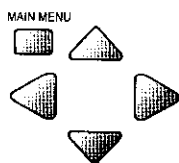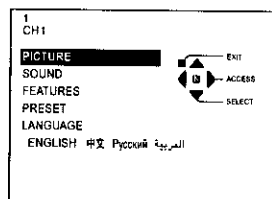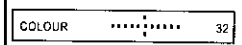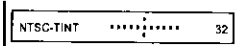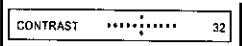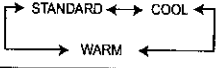
MAIN MENU

1 Press the "Main Menu" button.

2 Select the "PICTURE" Menu by pressing the Position Up "∧" or Down "∨" button and access the "PICTURE" Menu by pressing the Position Left "<" or Right ">" button.

3 Choose the option and adjust by pressing the Position Up "∧" or Down "∨" button, and by setting with the Position Left "<" or Right ">" button.

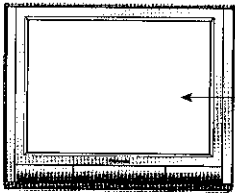| Picture Menu	Function
DYNAMIC	For viewing in brighter environments. This menu selects a higher than normal levels of Brightness and Contrast.
STANDARD	For viewing in normal (evening lighting) environments. This menu selects the normal levels of Brightness and Contrast.
SOFT	For viewing in a dark room. This menu selects reduced levels of Brightness and Contrast.

1 You can change the level of each Function (COLOUR, NTSC-TINT, BRIGHTNESS, CONTRAST, SHARPNESS, C.TEMP, P-NR, AI) for each picture Menu.

2 Picture menu mode will be memorized for each TV, AV1, AV2, AV3 and AV4 mode.

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Item	Effect	Indicator
COLOUR	◁◗ Less More	COLOUR ·····:····· 32
NTSC-TINT	◁◗ Reddish Greenish	NTSC-TINT ·····:····· 32
BRIGHTNESS	◁◗ Darker Brighter	BRIGHTNESS ·····:····· 32
CONTRAST	◁◗ Less More	CONTRAST ·····:····· 32
SHARPNESS	◁◗ Less More	SHARPNESS ·····:····· 32
C.TEMP	STANDARD ↔ COOL ↔ WARM	C.TEMP
P-NR	◁◗ ON ↔ OFF	P-NR
AI	◁◗ ON ↔ OFF	AI

Note:

1 Even if the TV is not set to "NTSC" mode, "NTSC-TINT" will be displayed and level adjustment would be possible. But it will not function.

2 When the RGB/TEXT mode, NTSC/TINT and SHARPNESS will not displayed.

💡 Helpful Hint (🅽 Normalisation)

By pressing the Normal "N" button on the Remote Control while the Picture Menu is displayed, the selected menu will be changed to the Normal Mode.

Normalization will not occur if the menu is not displayed when the "N" button is pressed. The Normal mode is the factory preset condition.

Returning to this original condition is called "Normalization".

Sound Menu Operation

```
1
CH1
PICTURE                        EXIT
SOUND                          ACCESS
FEATURES                       SELECT
PRESET
LANGUAGE
  ENGLISH  中文 Русский العربية
```

```
1
CH1
SOUND
MENU            MUSIC
BASS            AUTO
TREBLE          AUTO
BALANCE
BASS BOOST      OFF
LOUDNESS        OFF
SURROUND        VIRTUAL
```
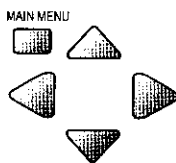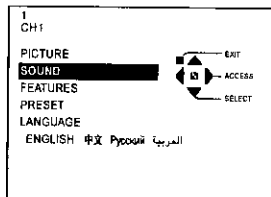
MAIN MENU

1 Press the "Main Menu" button.

2 Select the "SOUND" Menu by pressing the Position Up "∧" or Down "∨" button and access the "SOUND" Menu by pressing the Position Left "<" or Right ">" button.

3 Choose the option and adjust by pressing the Position Up "∧" or Down "∨" button, and by setting with the Position Left "<" or Right ">" button.
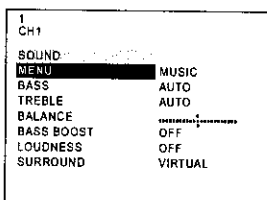
Sound Menu	Function
MUSIC	For music programme for example.
SPEECH	For News programme for example.
MOVIE	For movie programme for example.

Press	Item	Effect	Indicator
Select	BASS	Less More	BASS ·····¦····· 32
Select	TREBLE	Less More	TREBLE ·····¦····· 32
Select	BALANCE	Left Sp. Right Sp.	BALANCE ·····¦····· 32
Select	BASS BOOST	ON ↔ OFF	BASS BOOST
Select	LOUDNESS	ON ↔ OFF	LOUDNESS
Select	SURROUND	VIRTUAL ↔ SPATIAL / OFF	SURROUND

Helpful Hint ([N] Normalisation)

By pressing the Normal "N" button on the Remote Control while the Sound Menu is displayed, the selected menu will be changed to the Normal Mode.

Normalization will not occur if the menu is not displayed when the "N" button is pressed. The Normal mode is the factory preset condition.

Returning to this original condition is called "Normalization".

Main Menu Operation

Features Menu Operation
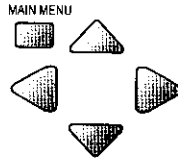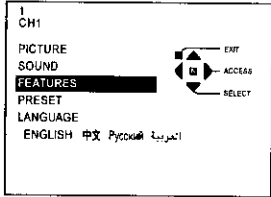
```
1
CH1
PICTURE          ───── EXIT
SOUND        ◄ □ ►─ ACCESS
FEATURES         ───── SELECT
PRESET
LANGUAGE
  ENGLISH 中文 Русский العربية
```

```
1
CH1
FEATURES
BLUE BACK        ON
CHILD LOCK       OFF
VCR/GAME         OFF
FAVORITE CH      ACCESS
RGB SKIP         OFF
WAKE UP TIMER    OFF
SCAN MODE        AUTO
16:9             OFF
3D-COMB          ON
```

MAIN MENU

1 Press the "Main Menu" button.

2 Select the "FEATURES" Menu by pressing the Position Up "∧" or Down "∨" button and access the "FEATURES" Menu by pressing the Position Left "<" or Right ">" button.

3 Choose the option and adjust by pressing the Position Up "∧" or Down "∨" button, and by setting with the Position Left "<" or Right ">" button.
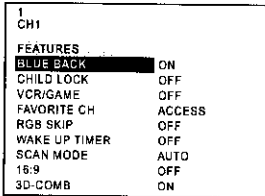
BLUE BACK Mode

When no picture signal is received, or the signal is weak, the screen reverts to a blue background colour and the sound is muted.
Disable this features to continue watching very weak signals.

```
1
CH1
FEATURES
BLUE BACK        ON
CHILD LOCK       OFF
VCR/GAME         OFF
FAVORITE CH      ACCESS
RGB SKIP         OFF
WAKE UP TIMER    OFF
SCAN MODE        AUTO
16:9             OFF
3D-COMB          ON
```

Blue background colour if no input picture signal or input signal is weak.
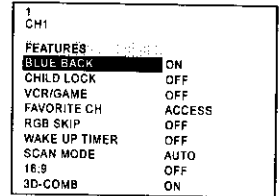
Note:
If "BLUE BACK" Mode is set on while a VCR signal is being viewed, selecting CUE or REVIEW may cause the screen to revert to blue background colour. Disable this feature to view correctly.

CHILD LOCK Mode

To child lock any channel, press the Position Left "<" or Right ">" button.
1) When channel is "LOCK", sound is muted and screen becomes blue colour.
2) If any of the channels is Child Locked, the "PRE." (PRESET) button on the front panel will not function. If the "PRE." (PRESET) button is pressed, message "CHILD LOCK ON" will appear.
3) Main power ON in child locked channel will display "CHILD LOCK ON" on screen to remind user that the Child Lock is On and is in child locked channel.
4) Each channel has its own memory for channels to be child locked.

```
1
CH1
FEATURES
BLUE BACK        ON
CHILD LOCK       OFF
VCR/GAME         OFF
FAVORITE CH      ACCESS
RGB SKIP         OFF
WAKE UP TIMER    OFF
SCAN MODE        AUTO
16:9             OFF
3D-COMB          ON
```
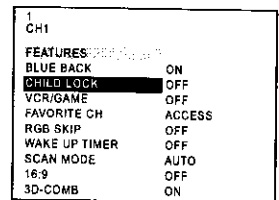
VCR/GAME Mode

Reproduction of irregular signals, such as TV games and rental video tapes, may be improved.

The VCR/GAME mode will change as shown:

ON ↔ OFF

```
1
CH1
FEATURES
BLUE BACK        ON
CHILD LOCK       OFF
VCR/GAME         OFF
FAVORITE CH      ACCESS
RGB SKIP         OFF
WAKE UP TIMER    OFF
SCAN MODE        AUTO
16:9             OFF
3D-COMB          ON
```
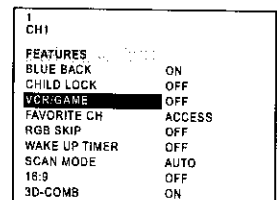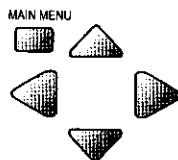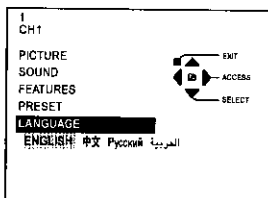
Main Menu Operation

FAVORITE CH Mode

After Auto Search, this feature allows you to store up to 9 programmes in preferred channel positions without researching again.

```
1
CH1
FEATURES
BLUE BACK          ON
CHILD LOCK         OFF
VCR/GAME           OFF
FAVORITE CH        ACCESS
RGB SKIP           OFF
WAKE UP TIMER      OFF
SCAN MODE          AUTO
16:9               OFF
3D-COMB            ON
```
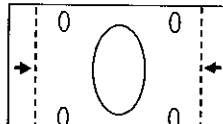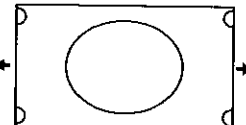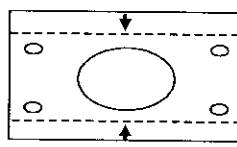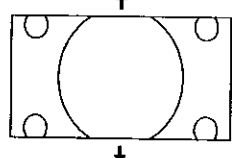
How to use FAVORITE CH Mode
1) Press "Main Menu" button once, setting to "FEATURES" mode.
2) Press Position Left "<" or Right ">" button, setting to "FAVORITE CH" mode.
3) Press Position Up "∧" or Down "∨" button, to select "FAVORITE CH" indication.
4) Press Position Left "<" or Right ">" button to store up to 9 channels that you preferred (0~99).
5) Key in the preferred channel number as follows:

```
FAVORITE CH
1---    2---    3---
4---    5---    6---
7---    8---    9---
```

6) After completed storing the prefered channels, press "Main Menu" button 3 times.
7) To view FAVORITE CH, press FAVORITE button on the remote control.
8) Press the direct programme number on the remote control (0~9) to display the preferred channels that have been stored.
9) After completed the preferred channels, press FAVORITE button once or press "Main Menu" button twice to return the set to the normal viewing condition.

To Cancel Setting
1) Press "Main Menu" button once, setting to FEATURES mode.
2) Press Position Left "<" or Right ">" button on the remote control, setting to FEATURES mode.
3) Select the stored programme numbers that need to be cancelled and press NORMAL button.
4) Press Position Left "<" or Right ">" button and select the programmme numbers that need to be cancelled.
5) Press "Main Menu" button 3 times.

Note:
1) FAVORITE CH is not available in text mode.

RGB SKIP Mode

When RGB Skip Mode is set ON, this step is skipped.
RGB Skip Mode will change as shown:

ON ↔ OFF

```
1
CH1
FEATURES
BLUE BACK          ON
CHILD LOCK         OFF
VCR/GAME           OFF
FAVORITE CH        ACCESS
RGB SKIP           OFF
WAKE UP TIMER      OFF
SCAN MODE          AUTO
16:9               OFF
3D-COMB            ON
```
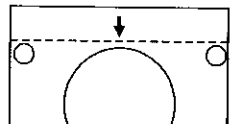
Main Menu Operation

WAKE UP TIMER Mode

1) Press "Main Menu" button.
2) Select the "FEATURES" menu by pressing the Position Up "∧" or Down "∨" button.
3) Select the "FEATURES" menu by pressing the Position Left "<" or Right ">" button.
4) Select the WAKE UP TIMER by pressing the Position Up "∧" or Down "∨" button.
5) Press the Position Left "<" or Right ">" button to select the "WAKE UP TIMER". (Wake Up Timer will increase or decrease by 10 minutes when Position Left "<" or Right ">" button is pressed.)
   Note:
   Wake Up Timer can be set up to 12 hours.
6) After setting the Wake Up Timer, switch the TV set to Stand-by mode. (LED light will blink ON and OFF during Stand-by mode.)
7) When the time Wake Up Timer has elapsed in the set, it will automatically switch ON. (Press any button to cancel the Wake Up Timer on screen display.)
   Note:
   i) After the Wake Up Timer is set and the TV is still not switched off, the Wake Up Timer will continue to count down until the timer is off.
   ii) When Wake Up Timer switch ON the TV set, the off-timer is set to 90 minutes mode automatically. Press any button to cancel the off-timer. If no button is pressed, the TV set will switch off automatically after 90 minutes.
8) To cancel the Wake Up Timer, you can choose any of the following:
   i) Switch off the main power.
   ii) Press the Position Left "<" or Right ">" button, until OFF is reached.
   iii) Press the Normalize button when Wake Up Timer OSD is displayed.
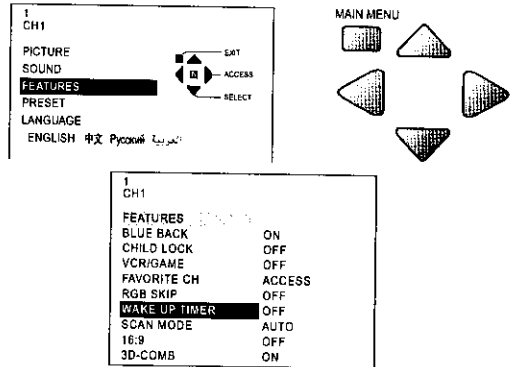
SCAN MODE

Lets you choose the screen refresh method:

Press ◁ or ▷ to switch between modes

AUTO ⟷ 100 Hz MODE ⟷ PROGRESSIVE

MODE	Function
AUTO	The TV software will select the best mode for the signal being viewed.
100 Hz MODE	100Hz will give a steady picture for most signal transmission.
PROGRESSIVE 1	Recommended when receiving NTSC signals.
PROGRESSIVE 2	

Switching is also possible using ⊕ (100Hz/PROGRE) on the remote control.

Note:

We recommend that you set **Scan Mode** to **Progressive 1** and **Progressive 2** when viewing a PAL 60 or NTSC transmission. When viewing a PAL transmission (other than PAL 60) with **Scan Mode** set to **Progressive**, the screen will flicker, this is not a fault. **Progressive 1:** Progressive with flicker reduction function ON.
Progressive 2: Progressive with no flicker reduction function.

49
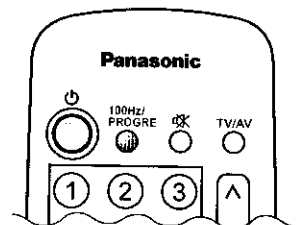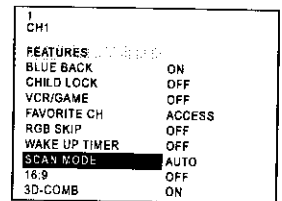
16:9 MODE

(No indication in RGB input mode)

When the 16:9 mode is ON, the screen ratio becomes 16:9.

```
CH1
FEATURES
BLUE BACK          ON
CHILD LOCK         OFF
VCR/GAME           OFF
FAVORITE CH        ACCESS
RGB SKIP           OFF
WAKE UP TIMER      OFF
SCAN MODE          AUTO
16:9               OFF
3D-COMB            ON
```

3D-COMB Mode

This feature provides clearer picture when receiving NTSC signals.
The 3D-COMB mode will change as shown:

$$ON \leftrightarrow OFF$$

```
CH1
FEATURES
BLUE BACK          ON
CHILD LOCK         OFF
VCR/GAME           OFF
FAVORITE CH        ACCESS
RGB SKIP           OFF
WAKE UP TIMER      OFF
SCAN MODE          AUTO
16:9               OFF
3D-COMB            ON
```

Language Menu Operation

```
CH1
PICTURE              EXIT
SOUND
FEATURES             ACCESS
PRESET               SELECT
LANGUAGE
ENGLISH  中文 Русский العربية
```
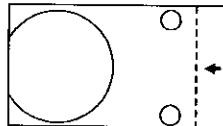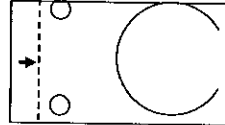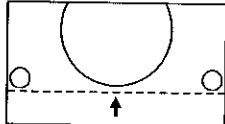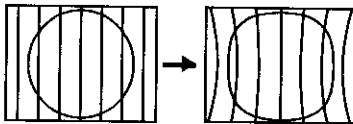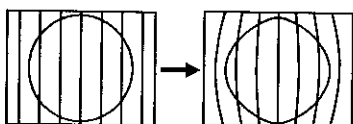
1 Press the "Main Menu" button.

2 Select the "LANGUAGE" Menu by pressing the Position Up "∧" or Down "∨" button.

3 Press the Position Left "<" or Right ">" button. The on-screen language display will change.

During "RGB" input signal modes

The display during RGB connection. Details on each functions are as follows:

H-SIZE	When the Position ◁ is pressed	When the Position ▷ is pressed
V-SIZE	When the Position ◁ is pressed	When the Position ▷ is pressed
H-POS	When the Position ◁ is pressed	When the Position ▷ is pressed
V-POS	When the Position ◁ is pressed	When the Position ▷ is pressed
PARABOLA	When the Position ◁ is pressed	When the Position ▷ is pressed
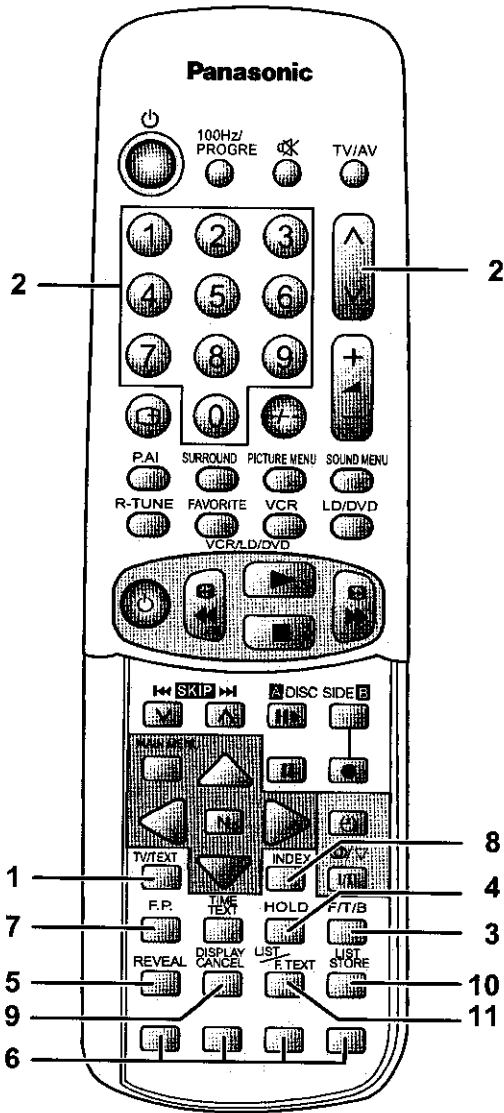
- Teletext features may vary depending on the Broadcasting Companies and is only available if the channel selected is transmitting Teletext.
- When in teletext mode, the volume may still be altered to the desired listening level.

What is LIST mode?

In LIST mode, four different coloured page numbers are situated at the bottom of the screen. Each of these numbers can be altered and stored in the TV's memory.

What is FASTEXT?

In FASTEXT mode, four differently coloured subjects are situated at the bottom of the display. To access more information about one of these subjects, press the appropriately coloured button. This facility enables fast access to information of the subjects shown.
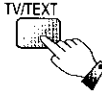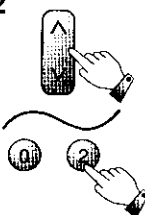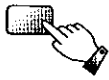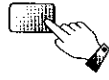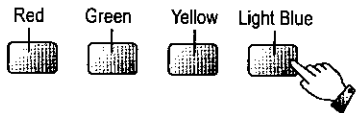
What are the advantages?

- Page selection at the touch of a Colour-coded button.
- Easy to use step-by-step selection of the topics subject.
- Reduction of waiting time.
- Page status line at bottom of screen so you always know which button will take you to the desired information.

Note:

Characters will be illegible unless you select the Text Language which matches the text being received.
Select the correct Text Language (Refer to page 41).

Teletext Operation

1 TV/TEXT

TV/Teletext mode
By pressing the "TV/TEXT" button, to change the TV/Teletext mode as follows.

TV ↔ TEXT

2

Page Selection
Pages can be selected in two ways:
a) Press the Up "+" or Down "–" button to increase or decrease the page number by one.
b) By entering the page number, using 0~9 on the remote control.

3 F/T/B

Full/Top/Bottom
Press to expand the Top half of the page.
Press again to expand the Bottom half.
Press again to return to normal (FULL) size.

4 HOLD

Hold
Press to hold the current page.
Press again to cancel the hold.

5 REVEAL

Reveal
Press to reveal hidden words e.g. quiz page answers.
Press again to hide.

6

Colour-Coded Buttons
In FASTEXT mode these correspond to the differently coloured subjects.
In LIST mode they correspond to the differently coloured page numbers.

Red   Green   Yellow   Light Blue

7 F.P.

Favourite Page (F.P.)
Stores a favourite page in memory for instant recall. To store such a page, the TV must be in LIST mode, press the Light Blue button, select the page number, then press List Store. The page number is now stored. Press F.P. to recall this page.

8 INDEX

INDEX
Press INDEX to return to the main index page.

9 DISPLAY CANCEL

Display Cancel
Press the "DISPLAY CANCEL" button to view the normal TV programme. When the desired sub-page is received, the "TEXT" message appears at the top left of the screen.

10 LIST STORE

List Store
In the List mode, the four page numbers can be altered for channel position. To do this, press one of the Colour-Coded buttons and enter the new page number. Press and hold "LIST STORE", the page number will change colour.

11 LIST/F.TEXT

List/F.Text
Press to change from FASTEXT model to LIST mode and vice versa. In FASTEXT mode, four differently coloured subjects are displayed at the bottom of the page.
Press the appropriate coloured button to access more information about one of these subjects.

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Sub Coded Page Access

The TEXT Menu will be displayed in TEXT mode. When teletext information exceeds more than one page, it may take some time for the automatic changing of the sub pages to reach the sub page you require. It is possible to enter your required sub page and continue watching the normal programme until the correct sub page is found. Select the required page number using buttons "0~9".

1 Press the TIME TEXT button.
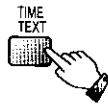
2 Enter desired sub page number. To select page 6, enter 0,0,0 and 6.
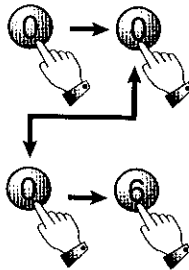
3 Press the TIME TEXT button.

Operation of the VCR/LD/DVD

Manufacturer setting
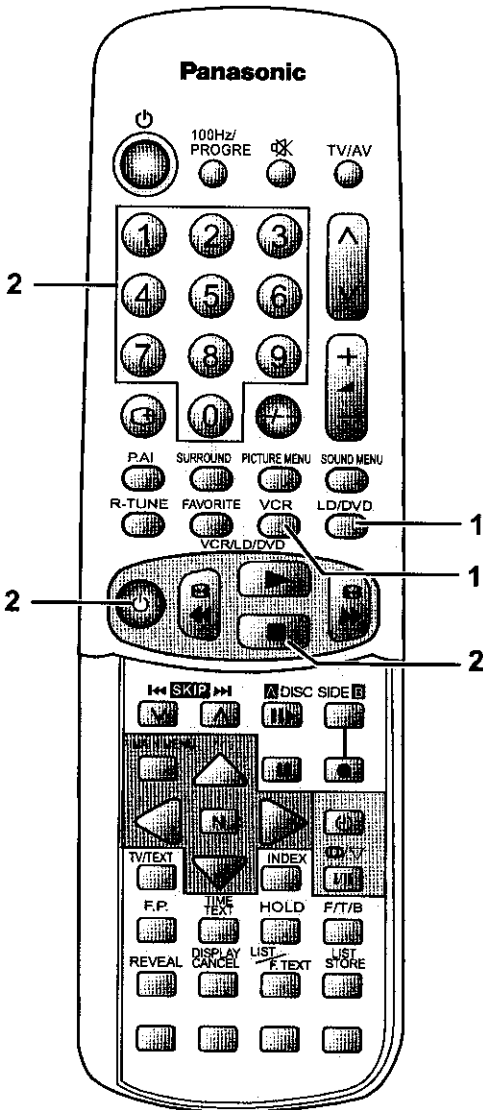
Remote Control Operation is possible for the VCR's, LD's and DVD's of the various manufacturers.
After completion of setting, execute the various operations after pressing the VCR or the LD/DVD button.
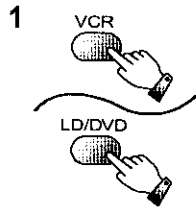
1 VCR / LD/DVD
Press the button of the unit to be set (VCR or LD/DVD).
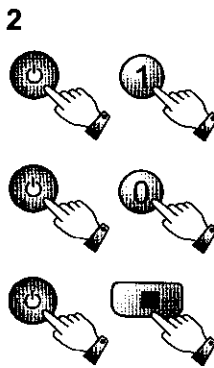
2 While pressing the VCR/LD/DVD Power button, press the manufacturer code setting (enter the two digit code), and press the VCR/LD/DVD Stop button.

VCR

Manufacturer	Code	Manufacturer	Code
Panasonic/ National	10,11,12,13	NEC	40,41,42,43
		ORION	45,46
AIWA	15,16	PHILIPS	50
FUJITSU	20	SANYO	55,56,57,58
HITACHI	25,26,27	SHARP	60,61
JVC	30,31,32	SONY	65,66,67
MITSUBISHI	35,36	TOSHIBA	70,71

LD

Manufacturer	Code	Manufacturer	Code
Panasonic	10,11,12,13	SAMSUNG	30
KENWOOD	15,16	SHARP	35
PHILIPS	20	SONY	40,41,42,43
PIONEER	25		

DVD

Manufacturer	Code
Panasonic	70

Note:
After setting, execute operation confirmation.
If there is no operation, set a different code.

🔆 Helpful Hint

(1) The respective VCR/LD/DVD manufacturer code is cancelled when battery has been exchanged. Please set again.
(2) Depending on the model, operation of VCR's, LD's or DVD's of the manufacturers listed above may not be possible.
(3) In some cases, new products may not be operative.
(4) It will not operate with other than the above manufactures.

Operation of the VCR/LD/DVD
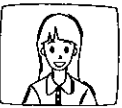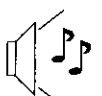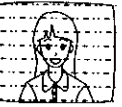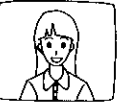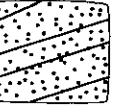
Execute the various operations after pressing the VCR or LD/DVD button.
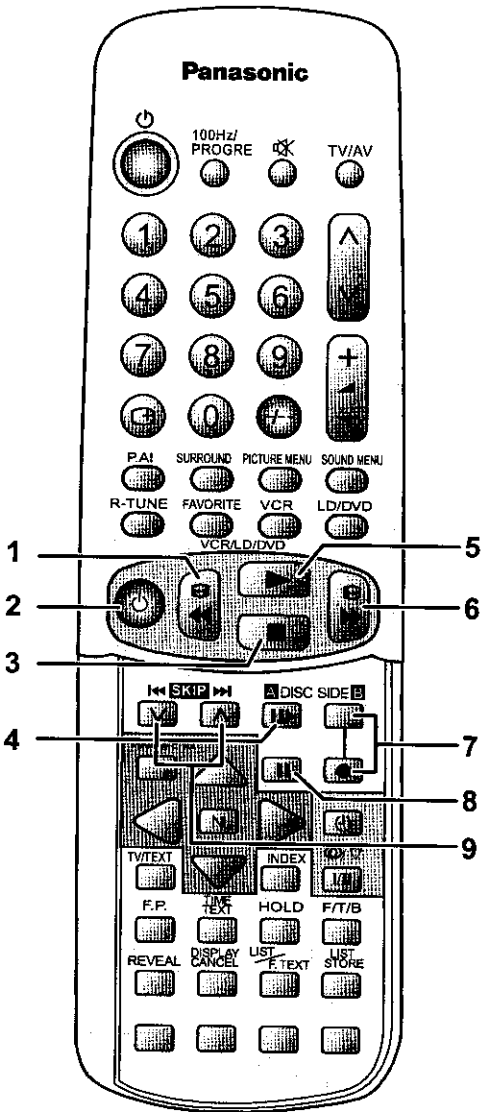
Button		Function	
		VCR	LD/DVD
1	◄◄	Rew (Rewind) / Review Button	Rew (Rewind) / Review Button
2	⏻	VCR Power	LD/DVD Power Button
3	■	Stop Button	Stop Button
4	A ▐▐►	Still Advance Button	DISC SIDE A Selection Button
5	►	Play Button	Play Button
6	►►	FF (Fast Forward) / Cue Button	FF (Forward) / Cue Button
7	B ●	Rec (Record) Button	DISC SIDE B Selection Button
8	❚❚	Pause/Still Button	Pause/Still Button
9	◄◄ SKIP ∨ SKIP ►► ∧	Programme Number Up and Down Buttons for VCR	Programme Skip Button

Troubleshooting

Symptoms		Checks
Picture	**Sound**	
Snowy picture	Noisy sound	Aerial location, direction or connections
Multiple image	Normal sound	Aerial location, direction or connections
Interference	Noisy sound	Electrical appliances Cars/Motorcycles Fluorescent lamps
Normal picture	No sound	Volume (Check whether the mute function has been activated on the Remote Control.)
No picture	No sound	Not plugged into AC outlet Not switched on Contrast and Brightness/Volume setting (Check by pressing the Power Switch or Stand-by button on the Remote Control.)
No colour	Normal sound	Colour control
Scrambled	Normal or weak sound	Retune channels
Coloured patches	Normal sound	Magnetic interference from unshielded equipment; TV set moved while "ON". Turn the TV set off for 30 minutes, using the Power Switch on the TV set.
No colour	Noisy sound	Sound System (Refer to page 38) Colour System (Refer to page 39)

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Specifications

Power Source	AC Single 230 – 240 V, 50 Hz
Power Consumption	197 W

Receiving System		21 Systems	Function
	1	PAL B, G, H	
	2	PAL I	
	3	PAL D, K	Reception of broadcast transmissions and Playback from Video Cassette Tape Recorders
	4	SECAM B, G	
	5	SECAM D, K	
	6	SECAM K1	
	7	NTSC M (NTSC 3.58/4.5 MHz)	
	8	NTSC 4.43/5.5 MHz	
	9	NTSC 4.43/6.0 MHz	
	10	NTSC 4.43/6.5 MHz	
	11	NTSC 3.58/5.5 MHz	Playback from Special VCR's
	12	NTSC 3.58/6.0 MHz	
	13	NTSC 3.58/6.5 MHz	
	14	SECAM I	
	15	PAL 60 Hz/5.5 MHz	
	16	PAL 60 Hz/6.0 MHz	
	17	PAL 60 Hz/6.5 MHz	
	18	SECAM 60 Hz/5.5 MHz	Playback from Special Disc Players and Special VCR's
	19	SECAM 60 Hz/6.0 MHz	
	20	SECAM 60 Hz/6.5 MHz	
	21	NTSC 50 Hz/4.5 MHz	

Receiving Channels	Regular TV

VHF BAND
2-12 (PAL/SECAM B, K1)
0-12 (PAL B AUST.)
1-9 (PAL B N.Z.)
1-12 (PAL/SECAM D)
1-12 (NTSC M Japan)
2-13 (NTSC M U.S.A.)

UHF BAND
21-69 (PAL G, H, I/SECAM G, K, K1)
28-69 (PAL B AUST.)
13-57 (PAL D, K)
13-62 (NTSC M Japan)
14-69 (NTSC M U.S.A.)

CATV
S1-S20 (OSCAR)
1-125 (U.S.A. CATV)
C13-C49 (JAPAN)
S21-S41 (HYPER)
Z1-Z37 (CHINA)
5A,9A (AUST.)

Specifications

Tuning System	Frequency synthesizer
	Auto Search Tuning
	    POS (Position) : 100 Position
	    DIRECT : 125 Position		

Picture Tube	Overall Picture tube measured diagonally 73 cm Viewable Picture tube measured diagonally 68 cm CRT Deflection 104°		
Audio Output	8 W × 2 (Speaker) 14 W (Woofer)		
Headphones	3.5 mm Plug		
Aerial Impedance	75 Ω Unbalanced coaxial		
Video/Audio Terminals	AV 1, 2, 3, 4	S-Video In	Y:1 Vp-p, 75 Ω C:0.3 Vp-p, 75 Ω
	DVD	Y P$_B$ P$_R$ Video In Audio In	1.0 Vp-p, 75 Ω 0.7 Vp-p, 75 Ω 0.7 Vp-p, 75 Ω 1 Vp-p, 75 Ω Approx. 0.5 V, 47 kΩ
	Monitor Out	Video Out Audio Out	1 Vp-p, 75 Ω Approx. 0.5 V, 1 kΩ
Accessories Supplied	Remote Control Transmitter EUR511046 R6 (AA) Battery × 2		
Dimensions (W × D × H)	699 mm × 509 mm × 584 mm		
Weight (Mass)	53 kg (Net)		

Note:

Design and Specifications are subject to change without notice. Weight and Dimensions shown are approximate.

Customer's Record

The model number and serial number of this product can be found on its cabinet. You should note this serial number in the space provided below and retain this book plus your purchase receipt as a permanent record of your purchase to aid in identification in the event of theft or loss and for Warranty Service purposes.

Model Number _____   Serial Number _____

Matsushita Electric Industrial Co.,Ltd.
Central P.O. Box 288, Osaka 530-8692, Japan