

4. Explanation on Mechanism and Tuning Method of VHF and UHF Tuner for Model VC-H818U with Supplemental photos

(1) Mechanism of channel selection :

This model is employed Phase Locked Loop (PLL) type frequency synthesizer circuit systems.

The local oscillation frequency of selected channel is detected by this circuit and compared with the correct local oscillation frequency which is generated by the standard crystal oscillation circuit.

The different frequency from the correct one is detected by the detector circuit and feedback to the local oscillation circuit of tuner for correcting frequency.

The tuning accuracy by this PLL circuit system is within ± 10 kHz to the correct local oscillation frequency allocated by FCC.

Therefore, this accurate frequency control system eliminates the need of fine tuning.

This model is required with both random access selection system and up / down system for channel selection, and possible to receive midband, superband and hyperband channels (CATV).

- Photo 4
- a. Channel $\blacktriangle$ / $\blacktriangledown$ button
 - b. Channel number display

- Photo 5
- Remote control unit
- a. MENU button
 - b. $\blacktriangle$ / $\blacktriangledown$ button (To select "CHANNEL PRESET" mode)
 - c. SET button
 - d. $\blacktriangleleft$ / $\blacktriangleright$ button
 - e. Random access channel selector buttons (0 – 9 • 100)

- Photo 6
- Control Part
- a. MENU button
 - b. SET button
 - c. FF / REW switch

- Photo 7
- Remote control Unit
- a. Channel $\blacktriangle$ / $\blacktriangledown$ button

(2) Setting the channels

When setting using the “MENU” button on the Remote Control Unit.

(1) Press the “POWER” button

(2) Press the “MENU” button

After the above setting, operate according to the procedure displayed on the TV screen.

Concerning the details of setting, please refer “SETTING THE CHANNELS” in the Operation manual.

When setting using the “MENU” button on the main unit.

(1) Press the “POWER” button

(2) Press the “MENU” button

After the above setting, operate according to the procedure displayed on the TV screen.

Concerning the details of setting, please refer “SETTING THE CHANNELS” in the Operation manual.

(3) Channel Read out :

This model is employed Digital Sign System which selected channel number is indicated on the display (Photo 4 – b) and TV screen.

<u>Mode</u>	<u>Covered channel</u>		
“CH” display	: VHF	;	2 - 3 CH
	UHF	;	14 - 69 CH
“CH” display	: CATV	;	2 - 125 CH (Standard)
“CH” display ;	: CATV	;	1 - 125 CH (HRC / IRC) (Refer to Operation Manual)

Channel selection up / down system can be performed by pushing channel up / down buttons (please refer 4 – a and 7 - a).

This directional channel selection is capable selecting from low CH to high CH (up “▲” button) and from high CH to low CH (down “▼” button).

“▲” and “▼” buttons employ both function (Channel up / down function and Auto Tracking function).

Channel up / down function operate only EE (stop) Mode and “REC + PAUSE” mode. Auto Tracking Function operate only playback Mode.

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With the above explanation, we believe that this model complies with the requirement of FCC comparable tuning rules.

5. TV RECEIVER APPLICATION CHECK LIST for model VC-H818U

- (X) (1). A statement identifying the production run plan you will be using to show compliance in meeting the 14 dB UHF noise figure – reference “TV Receiver, UHF noise figure – Certification and Compliance Criteria” second issue, January 1981).

We will use the same “plan C” of the “TV Receiver UHF noise figure - Certification and Compliance Criteria” for production.

- (X) (2). A statement that NF measurement was made pursuant to OST Measurement Procedure MP-2, Second Issue, January 1980. Departure from then procedures of the OST Measurement Procedure MP-2 must be approved by the Chief Scientist or his designate. Details of any departures from OST Measurement Procedure from MP-2 must accompany the certificate application.

Our measurement were made pursuant to OST Measurement Procedure MP-2 Second Issue, July 1982 for measuring the UHF noise figure.

- (X) (3). The name of all manufacturing sources for the VHF and UHF tuners as well as the tuner Manufacturer’s Nos.

Parts name : ENG56712G1 (VHF & UHF combined in one unit)

Manufacturer’s name : Matsushita Electronic Components (M). Sdn. Bhd.

- (X) (4). UHF and VHF tuner part numbers assigned by the receiver manufacturer.

Parts name : VTUENG56712G1 (VHF & UHF combined in one unit)

- (X) (5). Frequency bands tuned by the receiver (i.e., UHF, VHF, midband, superband, AM / FM, etc.)

VHF (L)	54 - 88 MHz	UHF including CATV (ULTRA) 470 - 806 MHz
UHF (H)	174 - 216 MHz	CATV (LOW / MID) 72 - 174 MHz
		CATV (SUPER) 216 - 300 MHz
		CATV (HYPER) 300 - 474 MHz

- (X) (6). Pursuant to Section 15.117 of the rules, a statement specifying for the receiver design noise figure, in dB.
- Refer to Attachment 4.
- (X) (7). The length of the UHF lead, from antenna input terminals to the tuner.
- None
- (X) (8). Schematic Diagram for the receiver
- Attached
- (X) (9). The exact chassis number
- None
- (X) (10). Picture tube size in inches
- None
- (X) (11). Type of receiver - color of black and white
- None
- (X) (12). A description of the cabinet material
- Plastic
- (X) (13). Copy of all the information submitted with the original copy certification for basic receiver (for application for FCC ID numbers other than initial application submittals with a report of measurement).
- None

(X) (14). The IF noise figure contribution that was added to the measured value for each UHF channels noise figure in the report of measurements, or a statement that the contribution is not exceeded 0.25 dB for the channel.

We measured the UHF noise figure on the ten (10) production units of the samples for this application and the IF noise figure contribution. As a result of this measurement, at least 97.5 % of all production units have a noise figure not exceeding 14dB and the IF noise figure contribution is not exceed 0.25 dB. Please refer to the attached UHF noise figure measurement report.

With the above explanation, we believe that this model complies with the requirement of the FCC rules and regulations, Section 15.117.