3. Explanation of Model VC-H818U with Supplement Photo

(1) The full name and complete address of the manufacturer of the device.

(a) Name

SHARP CORPORATION

(b) Address

174 Hayakawa-cho, Yaita-shi, Tochigi, 329-2193, Japan.

(2) Trade Name, if any, under which the device will be marketed.

SHARP

(3) Model Number

VC-H818U

(4) List any additional model number and/or trade names under which the device will be marketed.

N / A

(5) For a device other than an FM or TV broadcast receiver, attach a copy of the installation and operating instruction furnished to the user.

Attached

(6) For a device used in decoding the Emergency Broadcast System Attention Signals defined in "73.906" the value of the necessary voltage (RMS) or range of voltages of the attention signal to be applied to the input terminals of the decoder which will cause the desired response of the device shall be submitted to the commission with the certification data.

Attached

(7) This model has converter so that playback is possible through ordinary TV sets without any additional accessory.

* Refer to photo 1 ~~~~~ a : RF Converter of type No. VTUENG56712G1
(This tuner and the converter are built in one body.)

(a) "VHF OUT" channel selection

RF converter channel selection is pre-set to channel 3 at factory.
Reset the channel to 4 if channel 3 is used for the TV broadcasting in your area.

* Refer to photo 2 ~~~~~ a : RF Converter Channel Select Switch

(b) "TV / VCR" Select Switch
The select VIDEO (VCR) mode or TV mode can be made by "TV / VCR" that is provided at the remote control unit, and further, when play mode is pushed, it selects automatically the VIDEO (VCR) mode.

* Refer to photo 3 ~~~~~ a : TV / VCR Selector

(c) Antenna circuit block diagram

* Refer to Attachment 1

(d) RF Converter Block diagram

* Refer to Attachment 2 ~~~~~~~~ RF Converter Type No. VTUENG56712G1

(8) RF Converter (Type No. : VTUENG56712G1, Mfr's name : Matsushita Elec.) (This tuner and the RF Converter are built in one body.)

(a) Type of Emission

Video Modulation Type :	A5
Polarity of Video modulation :	Negative
Audio Modulation Type :	F3, ± 25 kHz, 75 μsec. pre-emphasis
Color Standard :	NTSC standard

(b) Frequency range

US CH. No. 3 :	60 MHz - 66 MHz
US CH. No. 4 :	66 MHz - 72 MHz

(c) Range of operating power and description of means provided for variation of operating power

Not Applicable

(d) Maximum power rating as defined in applicable rules :

US CH. No. 3 :	69.5 dB μ
US CH No. 4 :	69.5 dB μ

(e) The voltage and current to converter : 5 V DC 40 mA

(f) Function of each electron tube, semiconductor or other active circuit device :

Q1 - Q3 : Switching ~~~~~~~~ 2SC4965 (Hitachi Ltd.)
2SC4774 (Rohm Co., Ltd.)

ICI : Video Clamp ~~~~~ LA7166 (Sanyo Corp.)

Video Carrier OSC.
Video Carrier Limiter
Video Modulation
Audio CH. Converter
Audio Amplifier
4.5 MHz OSC. (Frequency Modulation)
CH. Switching

Description of circuit function

Refer to Attachment and RF converter circuit diagram. Video signal comes from the "VIDEO IN" terminal, which then passes through the resistance divider (R10) and goes into pin No.5 on IC1. The pin No.5 on IC1 is an input gate for Video als; The video signal hence passes through the clamper and white clip, and is supplies to the Video Modulator.
The Video Carrier is made by the oscillator (a transistor for which is in cooperated to the IC1), using the crystal (X101).

The video carrier is supplied, through the carrier limiter inside IC1, to the video modulator, where the modulator also is incorporated to IC1.

The modulated signal comes out from the pin No.15 with C15 in series, and is supplied to "VHF OUT" through the attenuator (R13), the band pass filter (L7, C17 and C18) and the switching transistor (Q3).

Audio signal comes from the "AUDIO IN" terminal, followed by R5, C9, C10, and R7 which has 75μsec. pre-emphasis time constant, and is supplied to the pin No.2 on IC1.

The pin No. 2 on IC1 is an audio input terminal; the audio signal having 75μsec. pre-emphasis time constant is supplied to 4.5 MHz oscillator after being amplified in the audio amp.
The oscillator of 4.5 MHz consists of T1 and a transistor integrated in IC1.

The 4.5MHz signal, having been modulated, forms an audio carrier by going through the frequency converter and comes out from the pin No.15 on IC1, and is mixed with the video modulated signal through the attenuator (R13).

The power supply is regulated by the IC1. Channel selection is done by the slide switch (S101) in main PWB, that selects the video carrier by either impressing a voltage on the pin No. 8 or shorting the same, since there is a switching circuit inside the IC1.

(g) Complete Schematic Diagram : Attached

(h) Operation Manual : Attached

(i) Tune up procedure over the power range or at specific operating power level :

Not Adjustable

(j) A description of all circuit and devices provided for determining and stabilizing frequency :

In order to perform a good regulation of the video carrier, the oscillator employs a crystal (X101). An inter-carrier is formed by a LC oscillator, since the capacitor in T1 has the temperature constant RH (N220 $\pm$ 60 PPM / deg C), drift due to temperature change is small. To protect effects from the outside power source, the internal circuits are supplied their power through a regulator.

(k) A description of any circuit or devices employed for suppression of spurious radiation, for limiting modulation, and limiting the operation power.

Suppression of spurious radiation

The oscillator circuit are designed to get oscillator power as small as possible.
And on the "VHF OUT", there is a band pass filter (C17, C18, L7 and C16), to suppress spurious.
Also on the input circuit of "VIDEO", and on the input circuit of "AUDIO", there are buffer amplifier, which is incorporated to IC1.
These buffer amplifier are used for suppressing spurious radiation.

Limiting modulation

The modulation is set with resistors (R10, R11 and R12).

Limiting the operation power

The output power is set with resistors R13.

(9) Identification photo or label : Attached

Enclosure rear