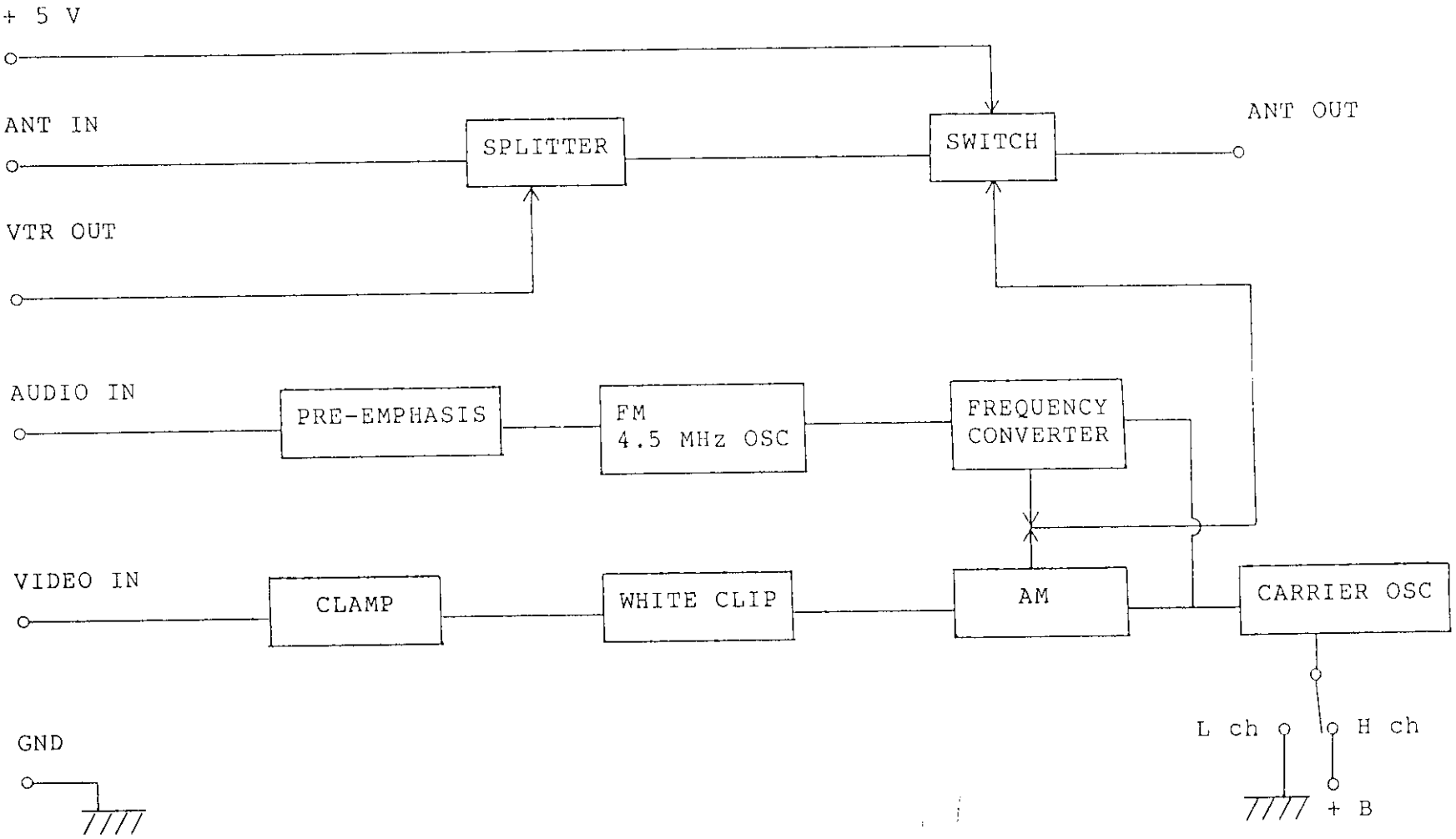
# - BLOCK DIAGRAM OF RF CONVERTER/SWITCH TYPE QAU0142-x -



**Victor Company of Japan Limited**
Video division
12, 3-chome, Moriya-cho, Kanagawa-ku
Yokohama 221-8528 Japan

FCC ID: ASIP9K045
Model : HR-VP674U
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# ***Description of block diagrams***

Type: QAU0142-x

A: Circuit description

1. SPLITTER
   The signal from ANT IN is distributed to VIDEO OUT (= VTR OUT) and TV OUT (= ANT OUT = RF OUT).
   [Eb1 and Eb2]

2. SWITCH
   Either the signal distributed from ANT IN by the splitter or the RF converter output is selected and delivered to TV OUT (= ANT OUT = RF OUT).
   [TR1, TR2 and TR3]

3. PRE-EMPHASIS
   To prevent degradation of the signal-to-noise ratio in a high band of frequencies in frequency modulation by audio signal, this circuit lifts the high band according to the pre-emphasis characteristics specified by the NTSC standard.
   [R12, R13, R16 and C18]

4. FM 4.5MHz OSC. (= Audio Frequency Modulator)
   This circuit generates a sound sub-carrier and, at the same time, frequency modulates the carrier according to the audio input signal.
   [T01, C16, pin 4 and pin5 of IC101]

5. AMP (= Amplifier)
   This circuit amplifies the signal supplied from the IC 101 pin 7 to provide a sufficient FM modulation factor.
   [Internal circuit of IC101]

6. CLAMP
   This circuit holds the video sync end at a specified fixed DC level to amplitude modulate the picture carrier according to the video. Without this circuit, the reference (DC) level varies with a varying input signal level, resulting in an unstable modulation.
   [Internal circuit of IC101]

7. WHITE CLIP
   This circuit clips the video to a specified fixed level to avoid over-modulation due to excessive video input.
   [Internal circuit of IC101]

8. OSC (= Oscillator)
   An oscillator that generates the picture carrier.
   [C24, C25 and C26, pin9, pin10, pin11 and pin12 of IC101]

9. AM (= Amplifier Modulator = Video Modulator)
   This circuit amplitude modulates the picture carrier according to the video signal.
   [Internal circuit of IC101]

10. FREQUENCY CONVERTER (= Modulator)
    This circuit performs frequency conversion through mixing of the picture carrier with the 4.5 MHz sound sub-carrier for frequency conversion to offer the sound carrier.
    [Internal circuit of IC101]

B: AUDIO SIGNAL PROCESS

The signal applied to AUDIO IN is boosted to a specified level by the pre-emphasis circuit and then fed to the FM modulator through the amp. The 4.5MHz sound subcarrier subjected to frequency modulation according to the audio signal is applied to the frequency converter to obtain a normal sound carrier. The signal is mixed with the signal from the picture carrier generator for conversion to a frequency 4.5MHz higher than the picture carrier frequency. The output of this frequency converter is added to the picture carrier through resistors.

C: VIDEO SIGNAL PROCESS

The signal applied to VIDEO IN is sent to the clamp circuit to hold the sync end to a specified fixed DC level. The resulting signal is sent to the AM after clipped by the white clip circuit to avoid over-modulation.
AT the same time, the signal generated by the picture carrier oscillator is applied to the AM, and amplitude modulated according to the video signal from the white clip. The output of the AM modulator is mixed with the frequency modulated sound carrier by resistors.