

Description of RF Converter Circuit

1) Type(s) of emission

Not applicable

2) Frequency range

USA standard broadcasting signal CHANNEL 3 & 4

3) Range of operating power and description of means provided for Variation of operating power

Not applicable

4) Maximum power rating as defined in the applicable rules

Not applicable

5) Tune up procedure over the power range or at specific operating power levels

Not applicable

6) A description of all circuitry and devices provided for determining and stabilizing frequency

Video Carrier Frequency

Frequency of video carrier output is determined by output of PLL1(4MHz).Consequently, the frequency stability is determined by PLL1 (4MHz) which is nominally $\pm 0.2\%$.

Audio Carrier Frequency

Audio Carrier Frequency is generated by mixing of video carrier and output signal of the FM-OSC circuit in the RF-MIXER circuit of IC201.

The output signal of the FM-OSC circuit is generated by modulating of audio input signal and output signal of PLL2(4.5MHz).

Frequency of audio carrier output is determined by output of PLL2.

The frequency stability is determined by PLL2 and maintained within $\pm 0.2\%$.

7) A description of any circuits or devices employed for suppression of spurious radiation, for limiting modulation, and for limiting the operating power.

a. Limit of Modulation

Modulations for video carrier and audio carrier are limited, because both inputs supplied from VCR are maintained constant.

b. Limit of Operating Power

Not applicable

Description of RF Converter Circuit

8) Function of each electron tube, semiconductor or other active circuit device

RF oscillator (IC201)

The video carrier frequency is generated by RF oscillator circuit and controlled by PLL1 circuit. Generated video carrier frequency is supplied to RF MIXER circuit through the Buffer Amplifier.

RF MIXER (IC201)

The output of RF oscillator and video signal from white clip circuit are supplied to RF MIXER. Amplitude modulated video carrier is obtained as RF output through the buffer amplifier. FM modulated audio signal is supplied to RF MIXER from FM oscillator. The output of RF oscillator is made both side-band modulation by FM modulated audio signal, as result, audio carrier is obtained as RF output through the buffer amplifier.

Clamp and White Clip (IC201)

The video input is clamped by Sync-Chip. It prevents from over-modulation.

RF MIXER (IC201)

The oscillated frequency is adjusted to 4.5MHz by PLL2. Audio signal is supplied to the FM oscillator FM modulated audio carrier is obtained as an output.

REF oscillator (IC201)

Each reference frequency that generated in REF oscillator circuit is supplied to PLL1 and PLL2 for control of RF oscillator and FM oscillator.

Carrier OFF SW

When TV side selected by TV/VCR SW, carrier OFF SW circuit shut off power of the RF oscillator circuit and RF MIXER circuit.

RF Converter Block Diagram

