

Technical Specification

EXHIBIT # : 4-1
FCC ID : ACJ927119AHP
OUR REF. : MKS98-F007
MODEL NO. : NV-HD8060PX

Power Source : AC 110/120/220/240 V, 50/60 Hz

Power Consumption : Approx. 23W

Television System : EIA Standard (525 lines, 60 fields) NTSC
Luminance : Frequency modulation
Color Signal : converted sub carrier direct recording

Audio Track : 1 track (Normal) 2 Channels (Hi-fi Sound)

Tape Format : Tape width 1/2" (12.7 mm), high density tape

Tape Speed : 33.35 mm/sec. at SP mode
16.67 mm/sec. at LP mode
11.12 mm/sec. at SLP mode

Record/Playback Time : 480 min. (max.)

FF/REW Time : Less than 5 min.(T-120)

Heads : Video : 4 rotary heads
Audio : 1 stationary head (Normal)
2 rotary heads (HI-FI Sound)
Control : 1 stationary head
Erase : 1 full track

Input Level : Video : Video Input Connector 1.0 V p-p, 75 ohms
Audio : Audio Input Connector -10 dBV, 47k ohms

Output Level : Video : Video Output Connector 1.0 V p-p, 75 ohms
Audio : Audio Output Connector -8 dBV, 600 ohms

RF Modulated Output : Channel 3 and 4 (selective)

RF Input : Same as conventional TV receiver

Video Horizontal Resolution : Color & B/W : More than 230 lines (VHS mode)
(on mono scope test pattern)

Audio Frequency Response : 100 Hz - 8 kHz at SP mode (Normal Audio Sound)
20 Hz-20 kHz (HI-FI Audio Sound)

Signal to Noise Ratio : Video : More than 43 dB at SP mode (VHS)
Audio : More than 42 dB at SP mode (Normal)
More than 60 dB (HI-FI)

Operating Humidity : 10 % - 75 %

Operating Temperature : 41°F - 104°F (5°C - 40°C)

Description of RF Converter Circuit

Page 1/3

EXHIBIT # : 4-2
FCC ID : ACJ927119AHP
OUR REF. : MKS98-F007
MODEL NO. : NV-HD8060PX

1) Type(s) of emission

Not applicable

2) Frequency range

USA standard broadcasting signal CHANNEL 3 & 4

2) 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

A. Video Carrier Frequency

Frequency of video carrier output is determined by the SAW(X1) employed in the VHF oscillator circuit.

Consequently, the frequency stability is determined by accuracy of SAW frequency which is nominally + 0.2 %.

B. Audio Carrier Frequency

Audio carrier output is generated by mixing of video carrier and audio IF carrier in the sound RF modulator circuit of IC1.

Frequency of audio carrier output is determined by inductance of transformer(T1) and capacitor (C1) in the SIF oscillator circuit and the SAW employed in the VHF oscillator circuit.

The frequency stability is determined by T1, C1 and is maintained within + 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. Suppression of Spurious Radiation

Band Pass Filter consisted of FL1

- b. Limit of Modulation
Modulations for video carrier and audio carrier are limited,
because both inputs supplied from VCR are maintained constant.
- c. Limit of Operating Power
Not applicable

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

- a. VHF Oscillator (IC 1)
Video carrier frequency is determined by the SAW (X1).
The SAW (X1) is selected by mechanical switch SW1 to select output channel 3 or 4.
An alignment circuit (capacitor and resistor) included in VHF Oscillator (IC 1) is
tuned the carrier frequency (fv 3 to 4) so than the carrier frequency, fv 3 or fv 4 are
obtained as an output. (fv 3 = 61.25 MHz, fv 4 = 67.25 MHz)
- b. Video RF Modulator (Amplitude Modulator) (IC 1)
The output of VHF oscillator and video signal from the Video clamp circuit are
supplied to Video RF Modulator.
Amplitude modulated video carrier is obtained as an output.
- c. Video Clamp (IC 1)
Video clamp circuit determines a DC level to which the sync tip of Video signal is
fixed. As a resonant of above operation, peak output power of the balanced
modulated video carrier is maintained to a constant regardless the level changes in
the video input signal.
- d. Sound RF Modulator (IC 1)
Carrier signal and FM modulated audio signal are supplied to Sound RF Modulator
circuit.
Carrier signal from the VHF AMP. is made both side-band modulation by FM
modulated audio signal, as a result, Audio carrier is obtained as an output.
- e. FM Modulator (IC 1)
The output of SIF Oscillator and Audio signal are supplied to the FM Modulator.
FM modulated audio carrier is obtained as an output.
- f. SIF Oscillator (IC1)
Oscillated frequency is adjusted to 4.5 MHz by this oscillator with T1 and C1.
Maximum frequency deviation is approx. + 5 kHz.
- g. Band Pass Filter (FL1)
Band pass filter is provided for minimize the spurious radiation in RF signal.