

Platinum Series®

HT Model

VHF TV Transmitters

Platinum Series solid state VHF television transmitters are accepted as the world standard and are in service in over 50 countries. Exemplary reliability, low maintenance requirements and excellent performance are key attributes of this design. Each Platinum system includes a control cabinet and one to six power amplifier cabinets. The control cabinet houses the system controller, exciter, monitoring, control panel and an optional second exciter and driver with automatic changeover.

Features/Benefits

- ▶ Parallel redundancy of major components for maximum on-air reliability.
- ▶ Field-repairable MOSFET power amplifier modules engineered for long life.
- ▶ Regulated linear power supplies capable of handling $\pm 10\%$ variation of incoming AC line voltages.
- ▶ Advanced cooling system ensures each PA module is cooled with equal volume of air at same temperature to maintain low transistor operating temperatures.
- ▶ Exciter ensures high quality visual and aural performance. Dual carrier sound version available.
- ▶ Engineered for easy operation by virtually any user.
- ▶ Available for all worldwide TV standards.



Harris Platinum Series® HT Specifications

Transmitter Model	Visual Power Output (peak, diplexer out)	Aural Power Output (diplexer out)	At Combiner Output		Physical Size W x D x H	Weight	Power Consumption (Typical)	
			Visual Connector Size (50 ohms)	Aural Connector size (50 ohms)			Average	Black
HT5LS	5 kW	500 Watts	1-5/8"	Type N	57" x 61.3" x 72" (145 x 156 x 183 cm)	2,475 lbs 1,122 kg	11.2 kW	13.2 kW
HT5HS	5 kW	500 Watts	1-5/8"	Type N	57" x 61.3" x 72" (145 x 156 x 183 cm)	2,500 lbs 1,134 kg	11.2 kW	13.2 kW
HT10LS/HS	10 kW	1 kW	1-5/8"	Type N	57" x 61.3" x 72" (145 x 156 x 183 cm)	2,720 lbs 1,234 kg	20.5 kW	26 kW
HT15LS	15 kW	1.5 kW, 3kW optional	3-1/8"	1-5/8"	91" x 61.3" x 72" (231 x 156 x 183 cm)	4,200 lbs 1,905 kg	25 kW	32 kW
HT15HS	15 kW	1.5 kW, 3kW optional	3-1/8"	1-5/8"	91" x 61.3" x 72" (231 x 156 x 183 cm)	4,900 lbs 2,223 kg	28 kW	35 kW
HT20LS/HS	20 kW	3 kW	3-1/8"	1-5/8"	91" x 61.3" x 72" (231 x 156 x 183 cm)	5,000 lbs 2,268 kg	40 kW	51 kW
HT30LS	30 kW	3kW, 6 kW optional	3-1/8"	1-5/8"	125" x 61.3" x 72" (318 x 156 x 183 cm)	6,000 lbs 2,860 kg	51.9 kW	65.5 kW
HT30HS	30 kW	3 kW, 6 kW optional	3-1/8"	1-5/8"	125" x 61.3" x 72" (318 x 156 x 183 cm)	6,750 lbs 3,068 kg	55 kW	69 kW
HT30HSP	30 kW	4.5 kW	3-1/8"	1-5/8"	125" x 61.3" x 72" (318 x 156 x 183 cm)	7,040 lbs 3,200 kg	61.6 kW	78 kW
HT33LSP	33 kW	4.5 kW	3-1/8"	1-5/8"	125" x 61.3" x 72" (318 x 156 x 183 cm)	7,040 lbs 3,200 kg	60 kW	76 kW
HT40HSP	40 kW	6 kW	3-1/8"	1-5/8"	159" x 61.3" x 72" (404 x 156 x 183 cm)	9,240 lbs 4,200 kg	79.8 kW	101 kW
HT44LSP	44 kW	6 kW	3-1/8"	1-5/8"	159" x 61.3" x 72" (404 x 156 x 183 cm)	9,240 lbs 4,200 kg	79.8 kW	101 kW
HT45LS	45 kW	4.5 kW, 9 kW optional	3-1/8"	1-5/8"	159" x 61.3" x 72" (404 x 156 x 183 cm)	8,590 lbs 3,896 kg	75.8 kW	96 kW
HT45HS	45 kW	4.5 kW, 9kW optional	4-1/16"	3-1/8"	159" x 61.3" x 72" (404 x 156 x 183 cm)	9,313 lbs 4,224 kg	81 kW	102 kW
HT60LS	60 kW	6 kW, 12 kW optional	3-1/8"	1-5/8"	227" x 61.3" x 72" (577 x 156 x 183 cm)	12,630 lbs 5,606 kg	102.7 kW	130 kW
HT60HS	60 kW	6 kW, 12 kW optional	4-1/16"	3-1/8"	227" x 61.3" x 72" (577 x 156 x 183 cm)	13,760 lbs 6,242 kg	108.2 kW	137 kW

Visual Performance

Frequency Range: LS MODEL: 47-88 MHz (Band I)
 HS MODEL: 170-230 MHz (Band III)
 Carrier Frequency Stability⁽¹⁾: ±100 Hz (maximum variation over 30 days)
 ±2 Hz with optional precise frequency control
 Regulation of Output Power⁽²⁾: 3% or less relative to peak sync
 Variation of Output⁽³⁾: 2% or less
 Frequency Response vs. Brightness⁽⁵⁾: ±0.75 dB
 Modulation Capability: 0%
 Differential Gain⁽⁶⁾: 3% or better
 Differential Phase⁽⁶⁾: 1° or better
 Incidental Carrier Phase Modulation⁽⁶⁾: +1.5° or better relative to blanking
 Differential Gain vs APL⁽⁷⁾: ±5% or better (10% to 90% APL)

Luminance Non-Linearity⁽⁸⁾: 0.5 dB or better
 Signal to Noise: -55 dB RMS or better relative to sync peak
 (Total random and periodic noise unweighted.)
 2t K-Factor: CCIR-M 1.5%; 2.0% for other systems
 20t Gain and Delay Response: 3% or less total baseline distortion
 Equivalent Envelope Delay: Per CCIR system standard
 Video Input Level: 0.7 to 2.0 volts, 75 ohm, -32 dB return loss
 Harmonic Radiation: -70 dB RMS, relative to peak of sync

Visual Sideband Response:⁽⁴⁾

CCIR System M/N

-3.58 MHz -42 dB or better
 -1.25 MHz and below . . . -23 dB or better
 -0.75 to +3.58 MHz ±0.5 dB
 +4.18 MHz +0.5 to -1 dB
 +4.50 MHz -30 dB or better
 +4.75 to +7.75 MHz . . . -40 dB or better

CCIR System B

-1.25 MHz and below . . . -20 dB or better
-0.75 to +4.8 MHz -23 dB or better
+4.8 to +5.0 MHz +0.5 to -1.5 dB
+5.50 MHz -30 dB or better

CCIR System D/K

-1.25 MHz and below . . . -20 dB or better
-0.75 to -0.5 MHz +0.5 to -2.0 dB
-0.5 to +5.5 MHz ±0.5 dB
+5.5 to +6.0 MHz +0.5 to -3 dB
+6.5 MHz -30 dB or better

CCIR System I

-1.75 MHz and below . . . -20 dB or better
-1.25 to -0.75 MHz +0.5 to -2.0 dB
-0.75 to +5.0 MHz ±0.5 dB
+5.0 to +5.5 MHz +0.5 to -2.0 dB
+6.0 MHz -30 dB or better

CCIR System K1

-1.75 MHz and below . . . -20 dB or better
-1.25 to -0.75 MHz +0.5 to -2.0 dB
-0.75 to +5.0 MHz ±0.5 dB
+5.5 to +6.0 MHz +0.5 to -3.0 dB
+6.5 MHz -30 dB or better

Aural Performance

Frequency Stability: ±20 Hz, relative to visual carrier frequency
Modulation Capability: ±120 kHz peak deviation (at any modulation frequency)

Wideband Performance (At +75 kHz deviation)

Input Level: 1 volt RMS nominal into 75 ohms
Frequency Response: ±0.1 dB, 50 Hz to 50 kHz
 ±0.5 dB, 50 kHz to 110 kHz
FM Noise: -70 dB or better after de-emphasis
Distortion (THD): 0.25% or less, 50 Hz to 15 kHz
 0.75% or less, 15 kHz to 50 kHz
Distortion (IMD): 0.5% or less, (SMPTE 4:1 test signal)

Monaural Performance (At ±50 kHz deviation system B/I/K1/D At ±25 kHz deviation system M/N)

Input Level: 0 to +16 dBm (adjustable) into 600 ohms
Pre-emphasis: Flat, 50 µS or 75 µS selectable
Frequency Response: ±0.5 dB, 30 Hz to 15 kHz
Distortion (THD): 0.2% or less, 30 Hz to 15 kHz, after de-emphasis
FM Noise: -60 dB or better, after de-emphasis
AM Noise: -55 dB relative to 100% modulation
AM Synchronous Noise: -40 dB or better, relative to 100% amplitude modulation⁽⁴⁾
Subcarrier (2 inputs)
Input Level: 1 volt RMS nominal (adjustable) into 75 ohms
Frequency Response: ±0.5 dB, 20 kHz to 110 kHz

Multichannel Audio Sound Systems

	BTSC	Dual Carrier	NICAM
Frequency Response:	±0.1 dB (A)	±0.5 dB (B)	±0.5 dB (B)
Harmonic Distortion:	0.5%	0.5%	0.5%
Input Impedance:	75 ohm	600 ohm	600 ohm
Input Level:	1 volt peak	+10 dBm	(C)
Stereophonic S/N (D):	55 dB	(C)	(C)
Signal to Noise: (Either Channel)	N/A	60 dB	(C)
Stereo Separation:	40 dB (E)	40 dB typical; 32 dB minimum(C)	(C)
Main to Sap Crosstalk:	50 dB	N/A	N/A
Stereo to Sap Crosstalk:	50 dB	N/A	N/A
Sap to Stereo Crosstalk:	60 dB	N/A	N/A
Channel Crosstalk:	N/A	60 dB	60 dB
Carrier Levels (F):	-10 dB	-13, -20 dB	-13, -20 dB
Aural Intermodulation Products (G):	N/A	-60 dB	-60 dB

NOTES:

(A) Wideband 50 Hz to 50 kHz. (B) 30 Hz to 15 kHz. (C) Encoder/decoder dependent
(D) Measured in left or right channel. (E) Equivalent mode. (F) Relative to peak visual carrier. (G) Relative to peak visual carrier. Measured using 2-tone test with carrier levels indicated above.

Service Conditions

Ambient Temperature Range⁽⁹⁾: 32 to +122°F; 0 to +50°C
Ambient Humidity Range: 0 to 95% relative humidity, non-condensing
Altitude: Sea level to 10,000 feet 3,048 meters

Electrical Requirements: 208/240 volts, ±10%, 3-phase, 60 Hz,
480 volts, ±10%, 3-phase, 60 Hz, 380/415 volts, ±10%, 3-phase,
50/60 Hz, 4 wire

- (1) After initial aging of 60 days.
- (2) Variation of peak output power with a change in average picture level from black to white (0% to 100%).
- (3) Peak to peak variation of peak sync voltage during one field using a flat field test signal, per EIA-508.
- (4) Response specified for transmitter operating into a resistive load of 1.05:1 VSWR or better with Harris supplied diplexer and diplexer equalizer.
- (5) Measured using a 20% p.p. amplitude swept video modulation with pedestal set at 10%, 50% and 90% APL. All percentages relative to a blanking-to-white excursion.
- (6) Measured with a 5 step staircase signal from 75% to 12.5% of peak sync level. Subcarrier modulation level at 12.5% p.p.
- (7) Average picture level defined as the pedestal level over 4 horizontal lines set to 10%, 50% & 90% of maximum white level with every fifth line activated with standard linearity signal of Note 6.
- (8) Measured with 5 step staircase signal. Test signal #3 CCIR REC. 421-3.
- (9) Derate 2° C per 1,000 ft. (305 meters) above sea level.

Specifications subject to change without notice.



HT 5LS/HS



HT 10LS/HS



HT 15LS/HS



HT 20LS/HS



HT 30LS/HS/HSP/33LSP



HT 40HSP/44LSP/45LS/45HS



HT 60LS/HS



next level solutions

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