

System Specifications

The specifications below are subject to change with notice.

Image Quality

Uniformity:	2:1 (Center to Edge)
Resolution:	Horizontal, Greater than 1600 pixels Vertical, Greater than 1200 pixels
RGB Video Bandwidth:	100 MHz
Contrast Ratio:	200:1 Center (Model 310=150:1)
Color Temperature:	5600° K (-200/+500°)
Color Coordinates:	Exceeds SMPTE Specification 240M
Video Time Response:	Less than 16.6 ms
Brightness:	Model 310E/315=2000 Lumens Model 320=2300 Lumens Model 335=3500 Lumens

Input Compatibility

Scan Frequency:	Horizontal, 15 KHz to 90 KHz Vertical, 45 Hz to 120 Hz
Blanking:	Horizontal, Less than 2.6 μ s Vertical, Less than 500 μ s
Parameter Storage:	29 Memories/Channels
Video Decoder:	PAL/SECAM/NTSC (3.58/4.43)

Video Inputs

1 & 2 = RGB:	BNC Sync = H/V, H & V or Sync on Green
Video Level	.5 - 1.2V p-p/Offset: +/- 2VDC
Sync Level	.3 - 4V p - peak (Sync level not less than -.5v)
3 = Video:	BNC
Video Level	1V p - p with Sync
4 = S-Video:	Y-C (DIN)
Luminance Level	Y: 1V p - p with sync
Chroma Level	C: 300mV p - p
Termination:	75 Ohm - All Inputs

Control Inputs

Terminal IN: (RS232 # 1)	Technician Remote/VT 100 Terminal (DB9/Male) Pin Out: 1=NC, 2=RECV-1, 3=XMIT 1, 4=NC, 5=GND, 6=NC, 7=RTS1, 8=CTS1, 9=+5VDC
Control OUT: (RS232 #2)	Switcher/System Controller (DB9/Male) Pin Out 1=NC, 2=RECV-2, 3=XMIT 2, 4=NC, 5=GND, 6=NC, 7=RTS2, 8=CTS 2, 9=+5VDC
IR Repeater IN:	Control Codes available on request RJ-11 (Modular Phone Plug) Pin Out: 1=Plus Pulse, 2=Minus Pulse, 3=NC, 4=NC, 5=+5VDC, 6=GND
IR Receivers (2):	One Front and One Rear

See Communications Specifications in Appendix 1 for control codes and additional information.

Operating Parameters

Projection:	Front or Rear
Operating Temperature:	0° C to 40° C
Full Performance Range:	20° C to 30° C
Storage Temperature:	-10° C to 50° C
Humidity:	10 to 90 % (Non Condensing)
Light Modulator:	3 Image Light Amplifiers
CRT:	3 IR Phosphor 7" by Hughes Display Products. Voltage=32KV
Power Requirements:	208-254 VAC, 50/60 Hz, 20 Amp (Models 310E, 315 and 320), 30 Amp (Model 335) Single Phase
Safety and Emission:	UL, CSA, TUV and FCC Class A Model 335 Certifications pending

	<u>Model 310E/315/320</u>	<u>Model 335</u>
Heat Dissipation:	9200 Btu/hr	12950 Btu/hr
Noise Level ("A" weighted):	< 59 dB	To be determined
Xenon Arc Lamp:	1500 watt	2500 watt
Power Consumption:	2700 watts	3800 watts
Size (H x W x L):	20.6" x 27.5" x 53.37"	25" x 28.5" 53.37"
Weight:	(52 x 70 x 136)cm 362 Lbs ((164.3kg)	(64 x 70 x 136)cm 377 Lbs (171 kg)

Installation

Floor or Ceiling:	Projector always upright (Never upside down!)
Keystone Correction:	Horizontal=0°(Model 315), 0° to ±2° (Models 310E, 320, 335) (left or right) Vertical=0° to ±15° (up or down)
Projection Angle:	0° (Light path is parallel to base of projector)
Operating Angle:	Up=0° to 15° and 23° to 85° Down= 0° to 85°
Air Flow (Rear View):	Intake on right, exhaust on left (Model 335-on top). For Models 310E, 315 and 320, 475CFM is required so that no greater than a 10° temperature rise occurs from inlet to outlet. (For Model 335, 651CFM is needed).
Maintenance Access:	See Figure 3-1 for information on clearances needed to remove front or rear cover for access to interior assemblies.

Accessories (Included)

Lenses:	Choice of one lens set (1.5:1, 3:1, 5:1 or 7:1)
Remotes:	One (1) Wireless Infrared full function remote One (1) Wireless Executive remote
Manuals:	One (1) Operators Manual

Accessories (Optional)

Ceiling Mount:	Hughes-JVC: Manual lift (Specs available), SVS: Electric Lift (Model SVS7-IISE)303-766-9505
Tethered Technician Remote:	Custom Termiflex HD2000 with 25' cable Cable: flat, 6 wire, 20 gauge, requires 9 pin (D shell) shielded cable
Switcher:	Extron System 8 and 10 switchers
IR Repeater:	For use with infrared remotes on rear projection systems or distances of 50', or more from the projector.
Line Doubler:	HJT-Faroudja LD 100
Shipping Case:	HJT Reusable shipping case
Extra Lens Set:	1.5:1, 3:1, 5:1, 7:1
Service Manual:	

Power Plugs

Model 310E, 315, 320:	20 amp Hubbell Twist Lock # 2321 (NEMA # L6-20P). Plugs into Hubbell #2323 (NEMA # L6-20R)
Model 335:	30 amp Hubbell Twist Lock #2621 (NEMA # L6-30P)Plugs into Hubbell # 2623 (NEMA # L6-30R)

NOTE: Projecting Through Glass: When projecting through glass, (as in a projection booth), a reflection off the glass back into the lenses and onto the ILA[®] assemblies can cause a double image on the screen. Changing the angle between the glass and the lenses can correct the problem by causing the reflection to be directed either over or under the lenses. If this can not be achieved, optional filters can be purchased to prevent the reflection from causing a double image.

Lens Options

MODELS 315, 320, 335			
Lens Type	Throw*	Screen Width	Length**
.885:1	7'-11.8'	8'-13.33'	0.5"
.885:1	11.8'-17.7'	13.33'-20'	0.5"
1.5:1	9.6'-67.5'	6.4'-45" ***	2.0"
3:1	15.7'-135"	5.2'-45" ***	2.2"
5:1	21.2'-210"	4.2'-45" ***	0.5"
7:1	25'-200"	3.6'-28.7'	5.5"
MODEL 310E			
Lens Type	Throw*	Screen Width	Length**
1.1:1	8.8'-14.66'	8'-13.33'	0.5"
1.1:1	14.66'-22'	13.33'-20'	0.5"
1.875:1	9.6'-67.5'	5.1'-40'	2.0"
3.75:1	15.7'-135'	4.2'-36'	2.2"
6.25:1	21.2'-210'	3.4'-33.6'	0.5"
8.75:1	24.9'-201'	2.8'-23'	5.5"

*Throw=Distance from center lens to nearest point on screen.

**Length=Maximum distance lens extends beyond front of projector case.

*** Maximum screen width for Projector Model 335 is 50'.

Lens Parameters

Lens Diameter:	4.45" (3:1=5.5")
Width:	Less than 18.2" (Across 3 lenses)
Lens Position:	Always parallel to each other (not adjustable for angle)
Lateral Adjustment:	Via access ports in projector case
Speed:	f=4.8