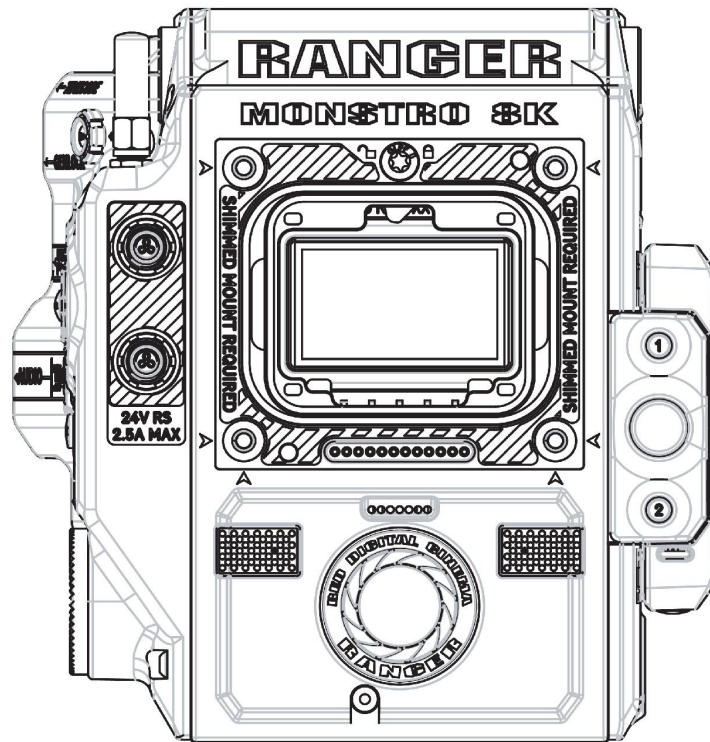




RED RANGER MONSTRO OPERATION GUIDE



MONSTRO 8K VV | V7.2

RED.COM

RED RANGER MONSTRO OPERATION GUIDE

LENS MOUNTS

RED recommends only using the RED RANGER Shimmed PL Mount with the RED RANGER. Other RED lens mounts are mechanically compatible, but may cause focus accuracy issues.

ITEM	PART NUMBER
RED RANGER Shimmed PL Mount	725-0046

INTERCHANGEABLE OLPFs

The camera system includes intelligent, interchangeable optical low pass filters (OLPFs). The camera automatically recognizes the OLPF type installed, eliminating the need to configure OLPF settings in the camera menu.

RED offers the following modular VV interchangeable OLPFs:

ITEM	PART NUMBER
DSMC2 VV Standard OLPF	790-0558
DSMC2 VV Skin Tone-Highlight OLPF	790-0559
DSMC2 VV Low Light Optimized OLPF	790-0560
DSMC2 VV H ₂ O OLPF	790-0601

RED RANGER MONSTRO OPERATION GUIDE

INTERCHANGEABLE OLPF SYSTEM

WARNING: Read these instructions carefully and in their entirety before removing or installing an OLPF. Damage to the OLPF module, camera, or sensor due to improper handling or use is not covered under warranty.

WARNING: Once an interchangeable OLPF is removed from the camera, the sensor is exposed. Improper handling of the OLPF modules or camera during this procedure may compromise the installation or cause irreparable damage to your camera or sensor.

WARNING: DO NOT allow any dirt or debris to enter the optical cavity.

WARNING: Use only VV OLPFs. DO NOT use other OLPFs.

SWAP AN INTERCHANGEABLE OLPF

REQUIRED TOOL(S): T20 TORX driver

1. Turn off the camera.
2. Remove any cables or accessories that may interfere with operations.
3. Loosen and remove the four (4) M4x0.7 x 8 mm lens mount screws in a cross pattern ("X" pattern) using a T20 TORX driver.

NOTE: Some lens mounts have captive screws that are not removable.

NOTE: Screw removal may require a large handle T20 TORX driver and additional leverage.

4. Remove the lens mount.
5. Use a damp, lint-free cloth to gently wipe down the area around the lens mount and OLPF module. Remove as much dust and debris as possible.
6. Use a T20 TORX driver to turn the OLPF lock on the camera counter-clockwise by a third turn to the Unlock position. DO NOT turn the indicator mark past the Unlock icon.

WARNING: DO NOT OVERTIGHTEN.

7. Remove the OLPF module and place it in its protective case.
8. Use an LED light to ensure that the optical cavity is clean and free from dust or debris.
9. Ensure the new OLPF module is clean and free of debris.
10. Install the new OLPF module straight into the optical cavity, keeping the front face of the OLPF module parallel to the front of the camera.

NOTE: Inserting the OLPF module at an angle may cause it to not seat properly.

11. Use a T20 TORX driver to turn the OLPF lock on the camera clockwise by a third turn to the Lock position. DO NOT turn the indicator mark past the Lock icon.

WARNING: DO NOT OVERTIGHTEN.

NOTE: If the lock does not turn easily, gently press down on the OLPF module while turning the lock.

12. Replace the lens mount.
13. Replace and loosely tighten the four (4) M4x0.7 x 8 mm lens mount screws in a cross pattern ("X" pattern) using a T20 TORX driver. DO NOT FULLY TIGHTEN.

NOTE: Some lens mounts have captive screws that are not removable.

14. Fully tighten the four (4) lens mount screws in a cross pattern ("X" pattern) using a T20 TORX driver. DO NOT exceed 350 in-oz, or damage may occur.

WARNING: DO NOT OVERTIGHTEN.

RED RANGER MONSTRO OPERATION GUIDE

RED RANGER MONSTRO

SPECIFICATION	DESCRIPTION
Avid® Codecs	DNxHR HQX at 4K (4096 × 2160) 12-bit up to 30 fps DNxHR HQ and SQ at 4K (4096 × 2160) 8-bit up to 30 fps DNxHR 444 at 2K (2048 × 1080) 12-bit up to 120 fps DNxHR HQ and SQ at 2K (2048 × 1080) 8-bit up to 120 fps DNxHD 444 and HQX (1920 × 1080) 10-bit up to 120 fps DNxHD HQ and SQ (1920 × 1080) 8-bit up to 120 fps
Construction	Aluminum Alloy
Weight	7.30 lbs (with Integrated Media Bay, PL Mount, and Gold Mount) 7.50 lbs (with Integrated Media Bay, PL Mount, and V-Lock)
Operating Temperature	0°C to 40°C (32°F to 104°F)
Storage Temperature	-20°C to 50°C (-4°F to 122°F)
Relative Humidity	0% to 85% non-condensing
Color Management	Supports 33×33×33, 32×32×32, 26×26×26, and 17×17×17 3D LUTs Variable number of 3D LUT outputs User programmable shaper 1D LUTs Tetrahedral interpolation, 16-bit processing
Audio	Integrated dual channel digital stereo microphones, uncompressed, 24-bit 48 kHz Integrated dual channel 5-pin XLR, uncompressed, 24-bit 48 kHz
Remote Control	External R.C.P. WiFi antenna with SMA connector Ethernet, RS232, and GPI Trigger
Monitor Outputs	3G-SDI (HD-SDI) and MON-1 1080p RGB or 4:2:2, 720p RGB or 4:2:2 SMPTE Timecode, HANC Metadata, 24-bit 48 kHz Audio
Monitor Options	DSMC2 Touch 7.0" Ultra-Brite LCD (Direct Mount), DSMC2 RED® Touch 4.7" LCD, DSMC2 RED Touch 7.0" LCD, and DSMC2 RED EVF (OLED) with cable-free connection. RED Touch 9.0" LCD, RED Touch 7.0" LCD, RED Touch 5.0" LCD, RED PRO 7" LCD, DSMC2 Touch 7.0" Ultra-Brite LCD, BOMB EVF (OLED) and BOMB EVF (LCOS) compatible with DSMC2 LCD/EVF Adaptor A or DSMC2 LCD/EVF Adaptor D, and LCD/EVF cable.
REDCINE-X PRO Delivery Formats	4K: DPX, TIFF, OpenEXR (.RED via RREncode plugin) 2K: DPX, TIFF, OpenEXR (.RED via RREncode plugin) 1080p RGB 4:2:2, 720p 4:2:2 : QuickTime®, JPEG, Avid AAF, MXF 1080p 4:2:0, 720p 4:2:0 : H.264, .MP4
Video Editing Software Compatibility ³	Adobe® Premiere® Pro, Avid Media Composer®, DaVinci Resolve®, Edius Pro®, Final Cut Pro®, Vegas Pro®

1. REDCODE values and max frame rates may vary based on selected acquisition format, aspect ratio, project time base, Look Around setting, and SSD. For more information, see the [DSMC Media Operation Guide](http://www.red.com/downloads) at www.red.com/downloads.
2. For more information on available acquisition formats, see the [DSMC Media Operation Guide](http://www.red.com/downloads) at www.red.com/downloads.
3. Third-party non-linear editing (NLE) applications may have limited compatibility with R3D files.

APPENDIX B: MECHANICAL DRAWINGS

RED RANGER MONSTRO WITH V-LOCK

NOTE: Dimensions are shown in mm.

The optical axis height of the camera is 95.90 mm.

FRONT VIEW

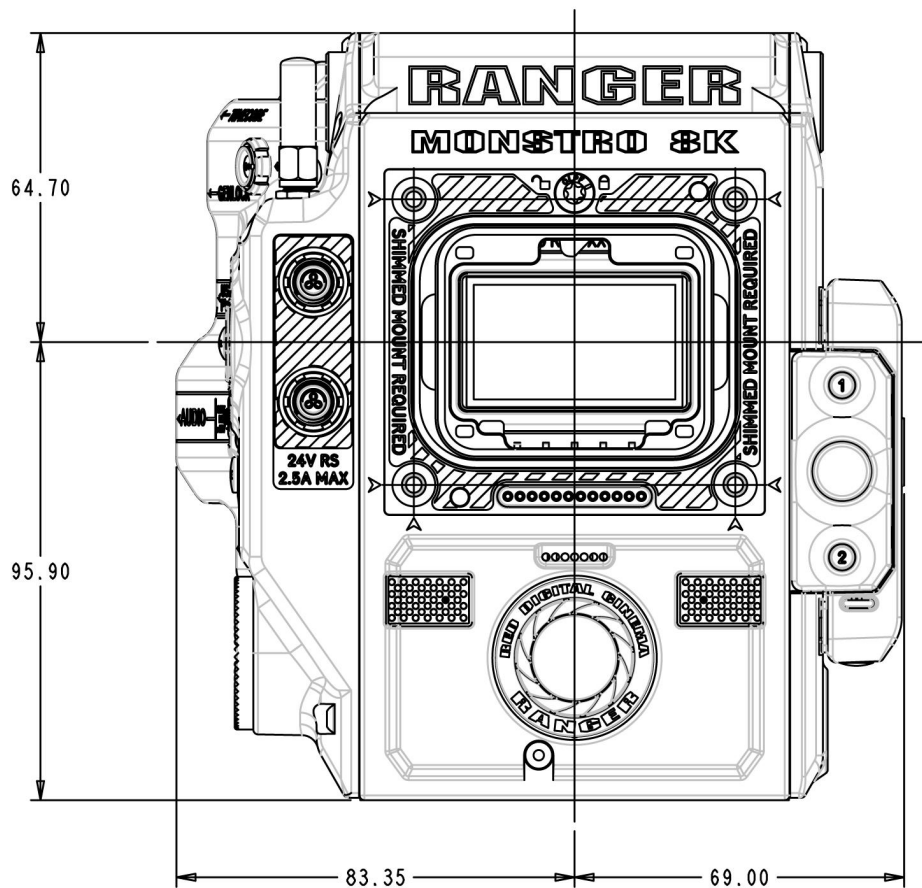


Figure: Camera Front View

RED RANGER MONSTRO OPERATION GUIDE

BACK VIEW

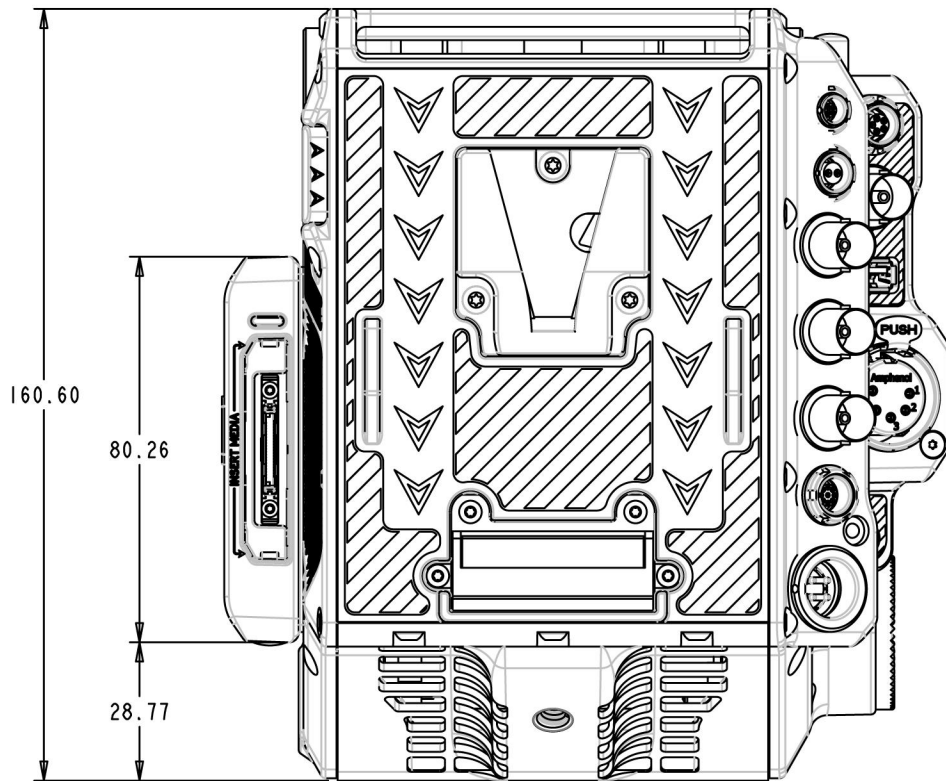


Figure: Camera Back View

RED RANGER MONSTRO OPERATION GUIDE

SIDE VIEW (RIGHT)

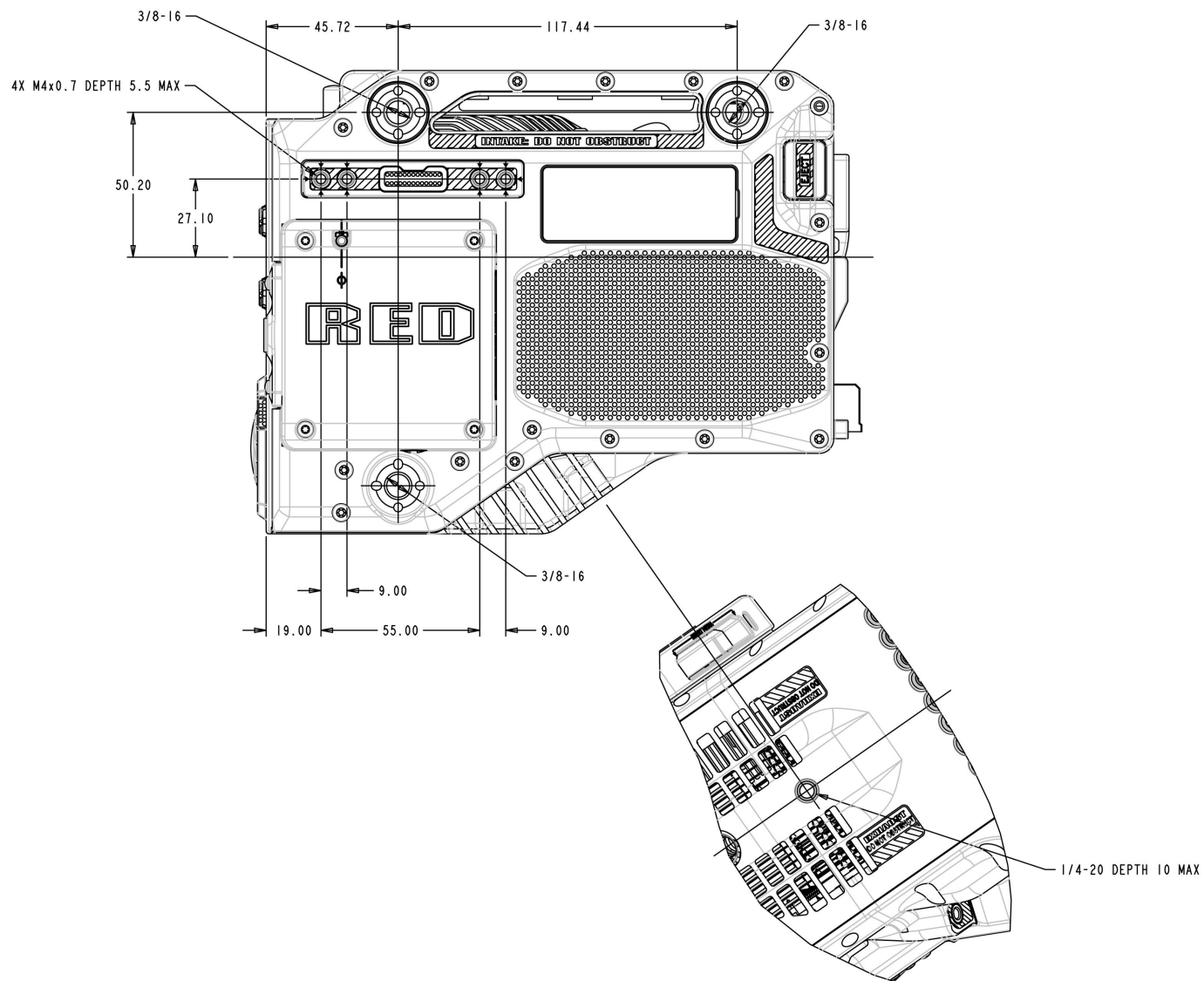


Figure: Camera Side View (Right)

RED RANGER MONSTRO OPERATION GUIDE

SIDE VIEW (LEFT)

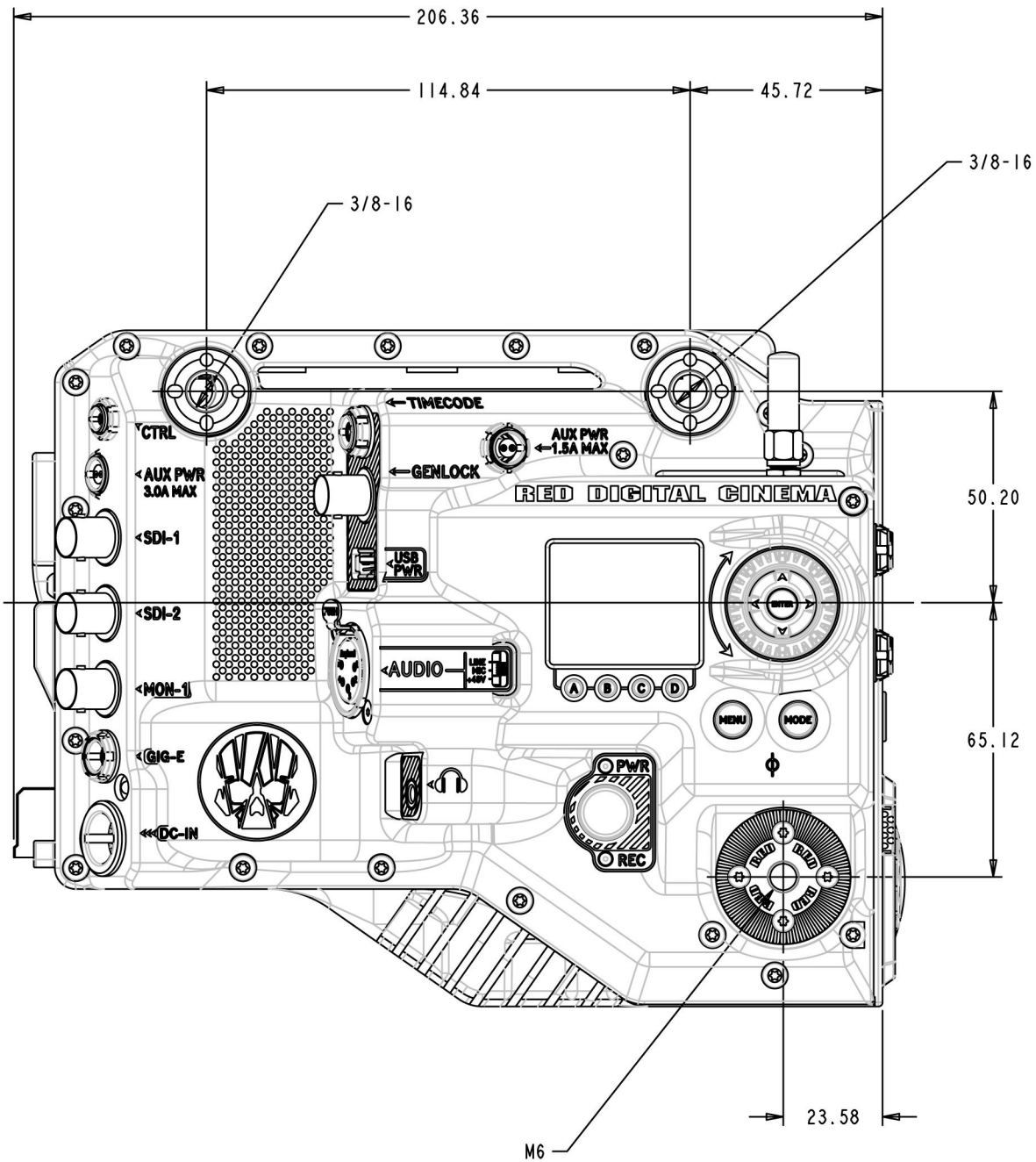


Figure: Camera Side View (Left)

RED RANGER MONSTRO OPERATION GUIDE

TOP VIEW

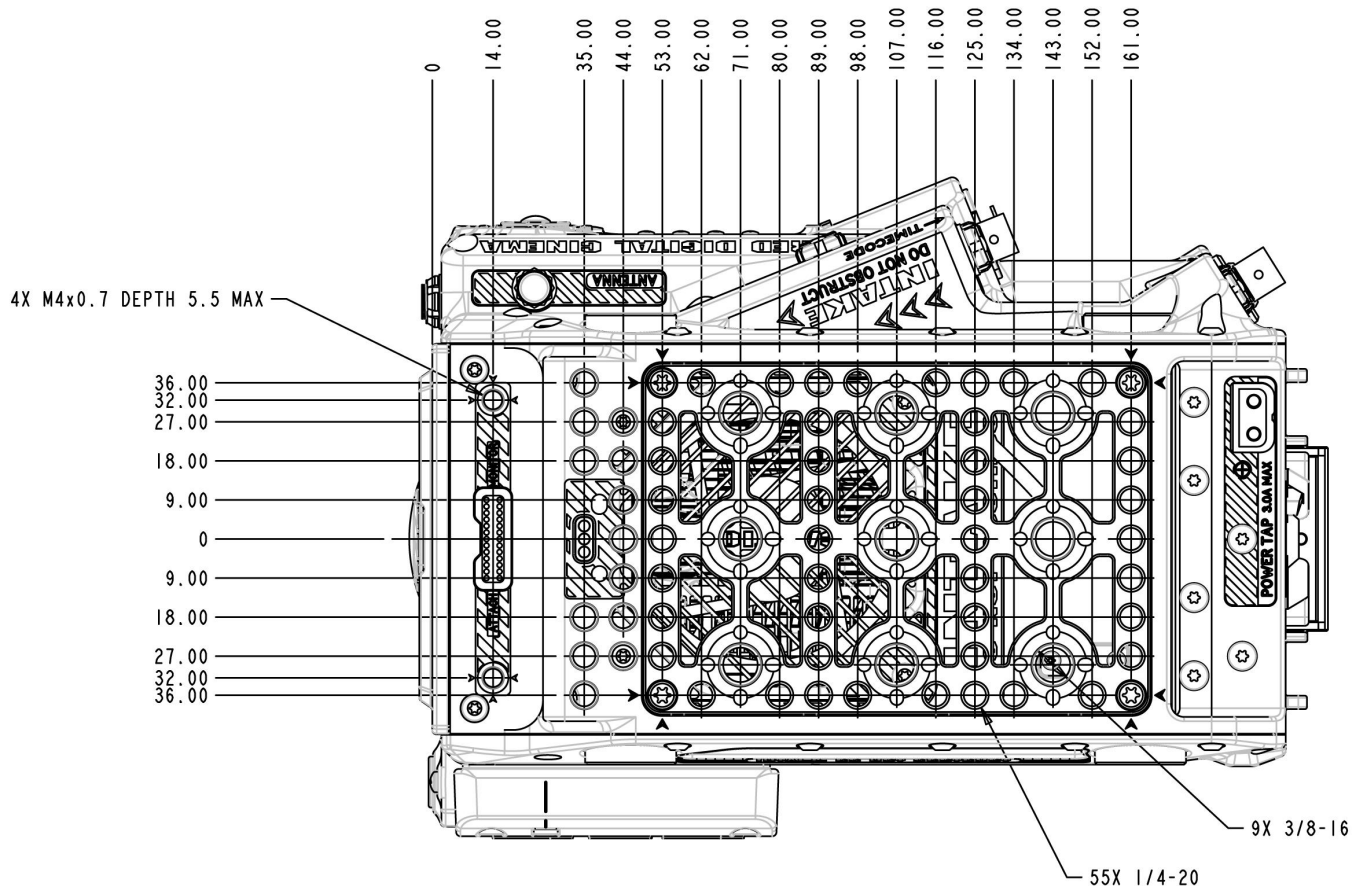


Figure: Camera Top View

RED RANGER MONSTRO OPERATION GUIDE

BOTTOM VIEW

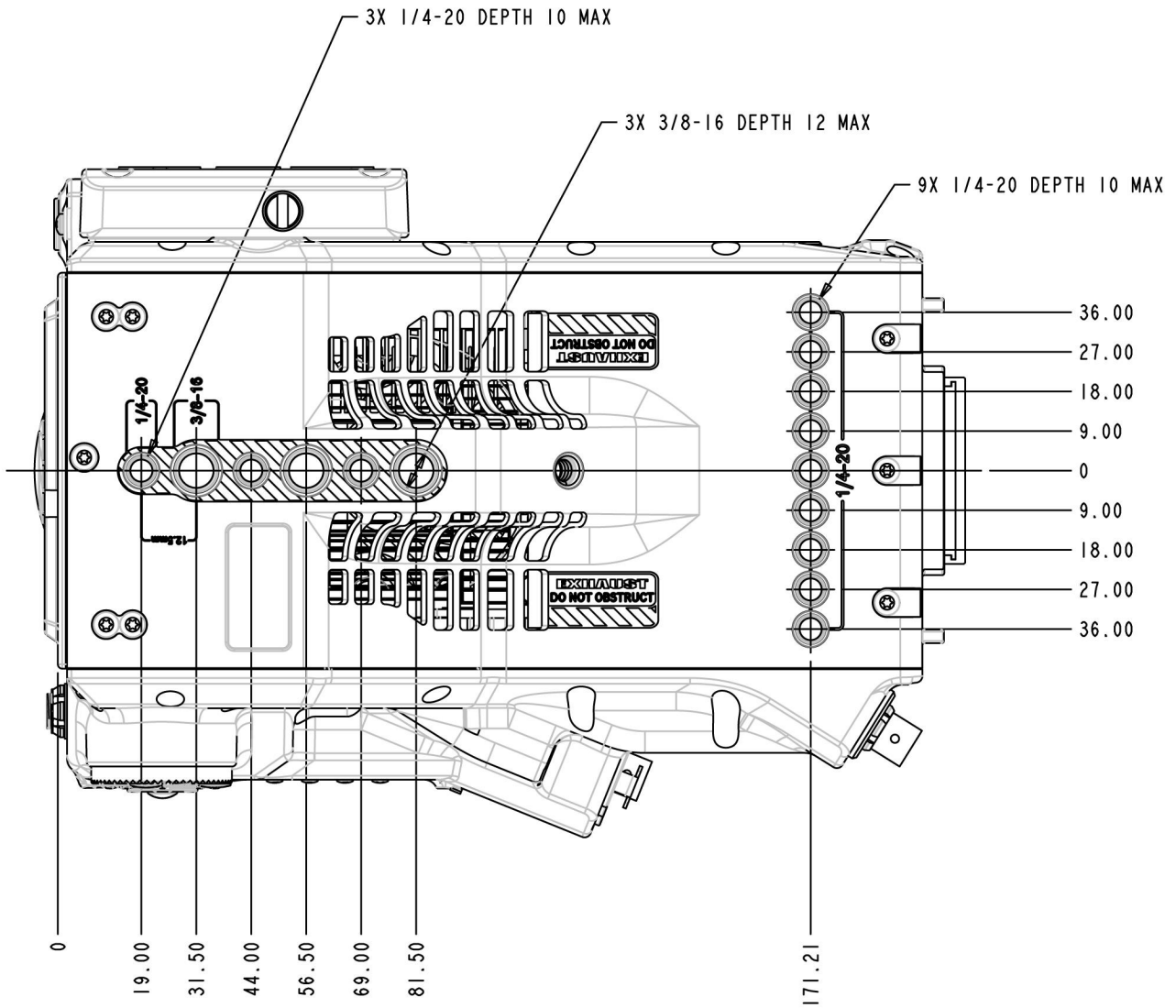


Figure: Camera Bottom View

RED RANGER MONSTRO OPERATION GUIDE

RED RANGER MONSTRO WITH GOLD MOUNT

NOTE: Dimensions are shown in mm.

The optical axis height of the camera is 95.90 mm.

FRONT VIEW

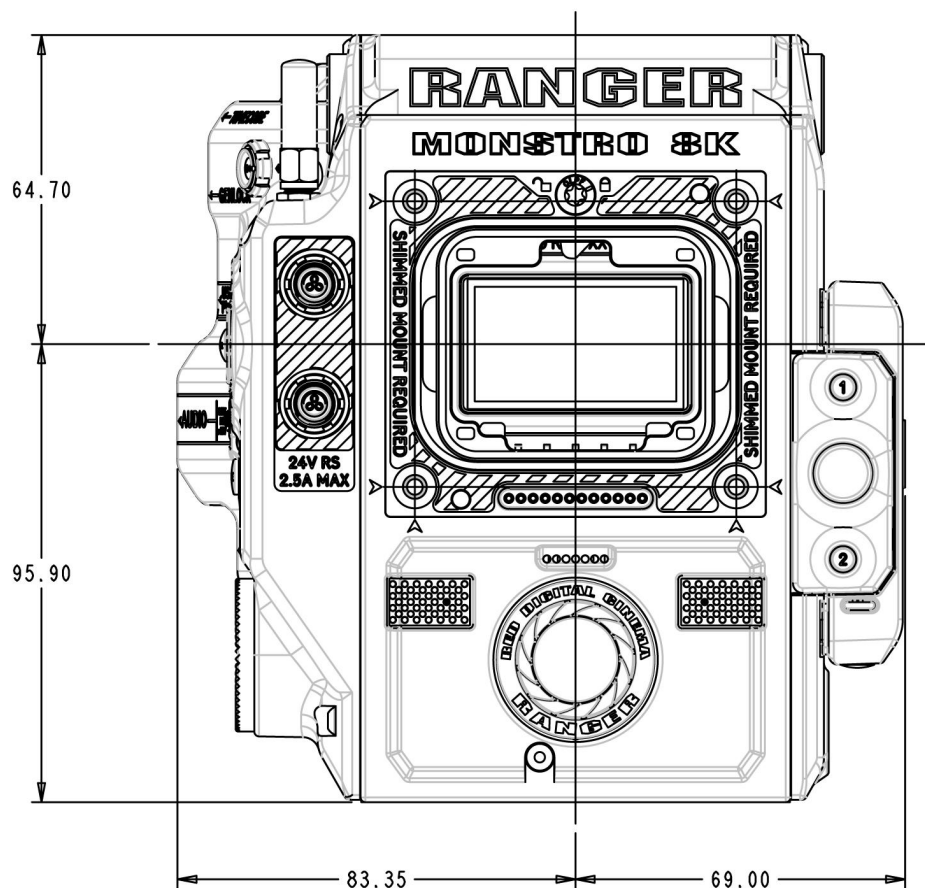


Figure: Camera Front View

RED RANGER MONSTRO OPERATION GUIDE

BACK VIEW

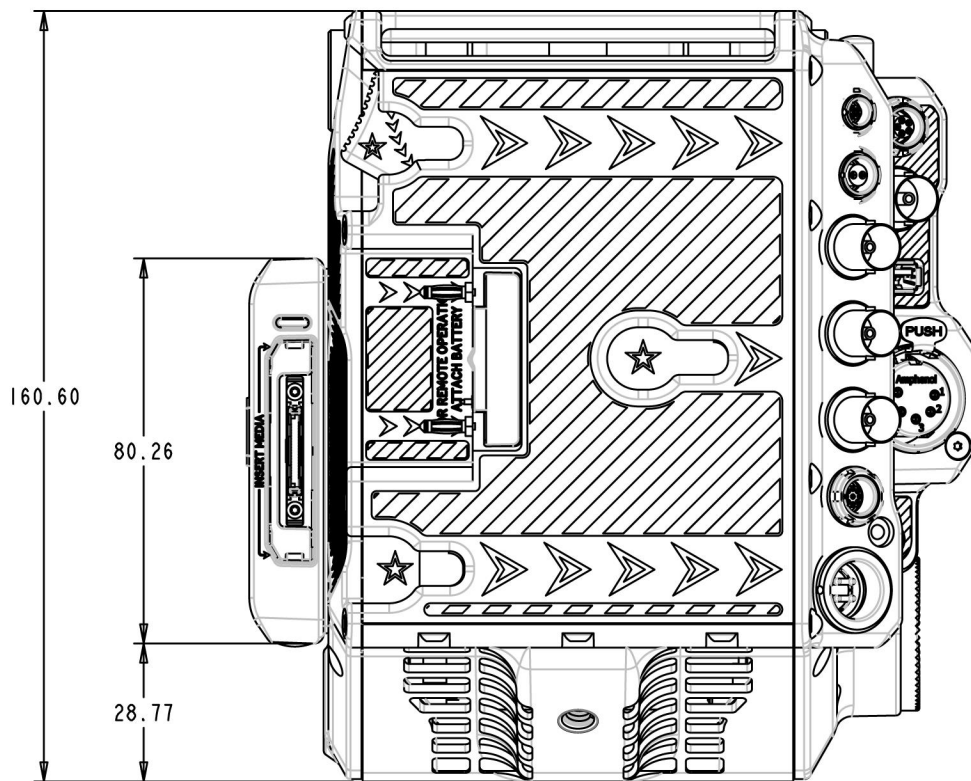


Figure: Camera Back View

RED RANGER MONSTRO OPERATION GUIDE

SIDE VIEW (LEFT)

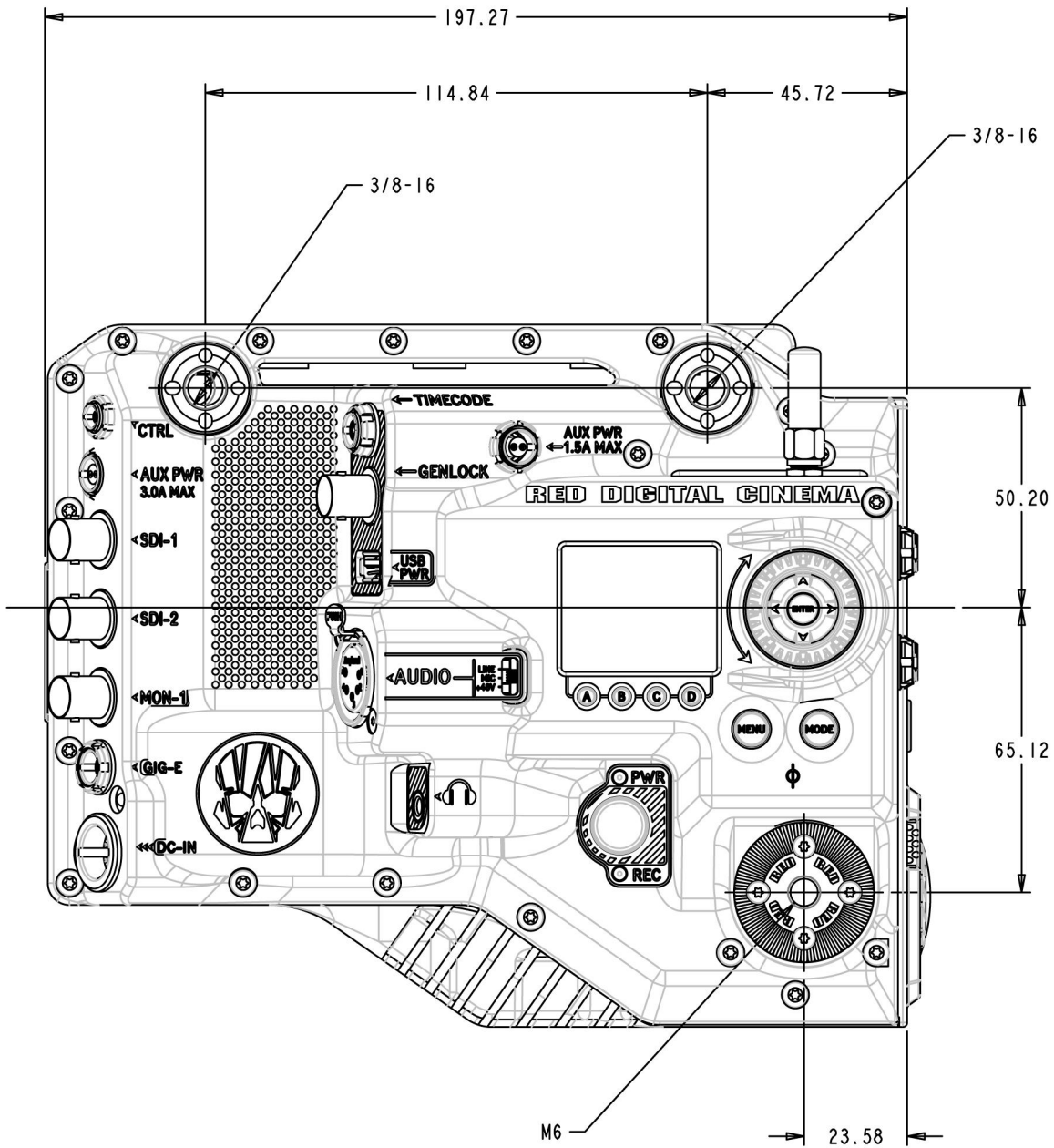


Figure: Camera Side View (Left)

RED RANGER MONSTRO OPERATION GUIDE

TOP VIEW

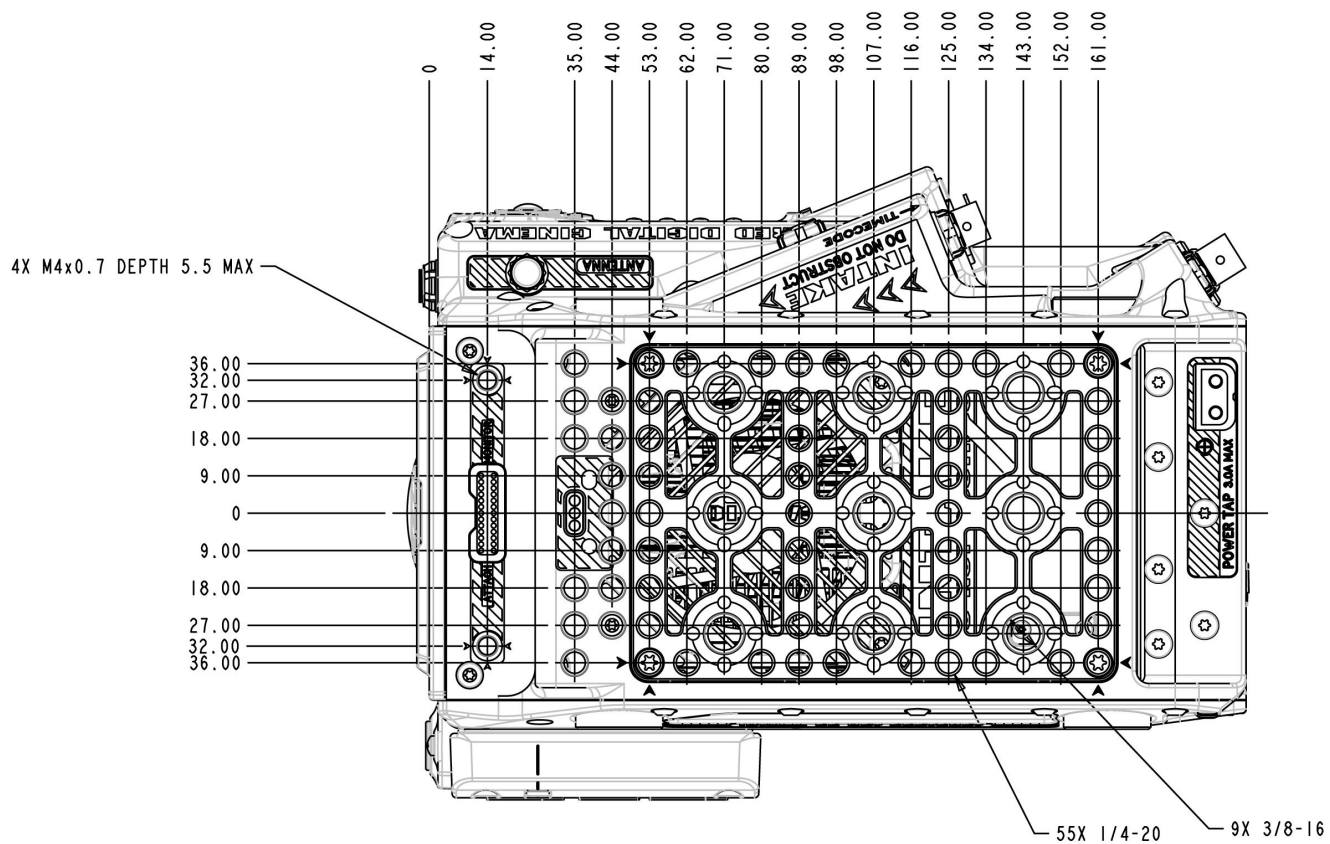


Figure: Camera Top View

RED RANGER MONSTRO OPERATION GUIDE

BOTTOM VIEW

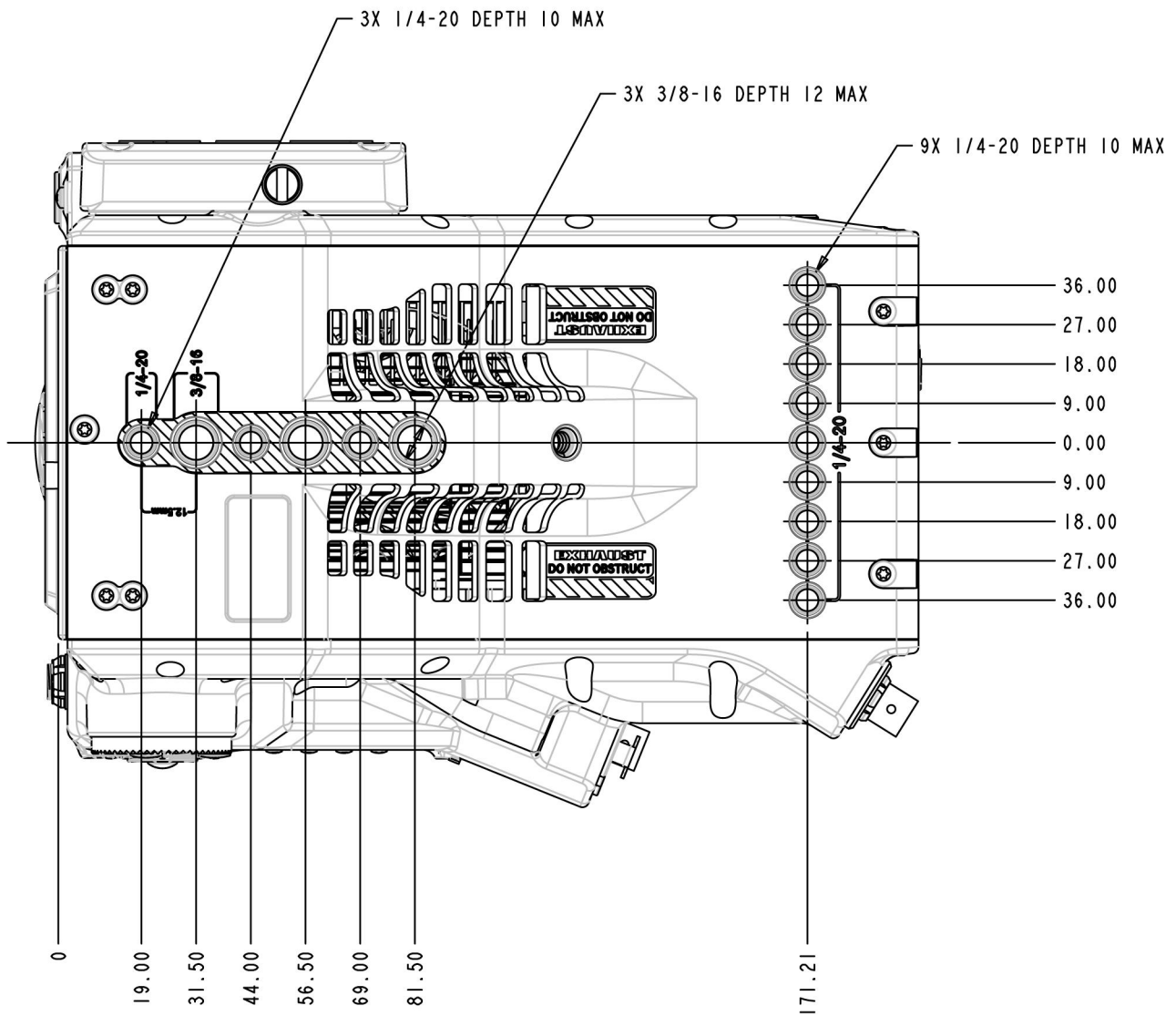


Figure: Camera Bottom View

APPENDIX C: INPUT/OUTPUT CONNECTORS

This appendix provides pinout information for the input/output connectors on the camera.

NOTE: When connecting a cable to a connector, align the key and red marker on the cable connector with the corresponding key and marker on the device connection.

NOTE: Connector diagram images are for reference only. Diagrams are not to scale.

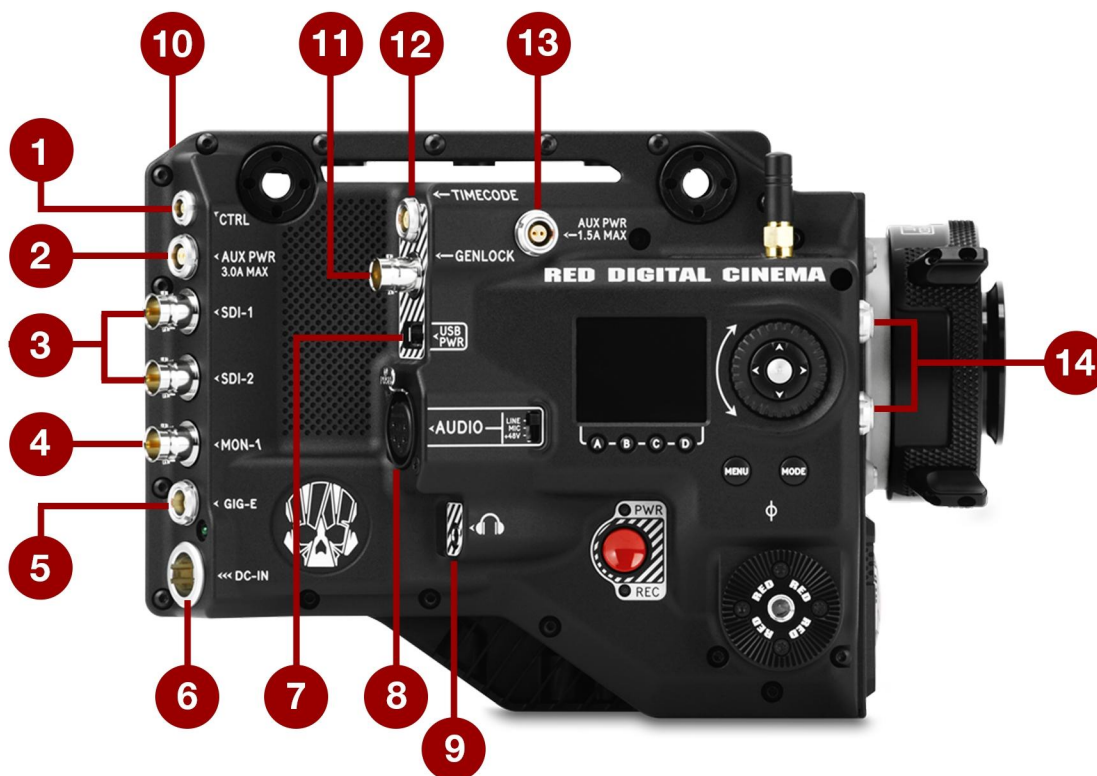


Figure: RED RANGER I/O

#	CONNECTOR	CONNECTOR TYPE	DETAILS
1	CTRL	4-pin 00B	"CTRL (RS232 Control)" on page 192
2	AUX PWR, 3.0A MAX	2-Pin 0B	"AUX Power 2-Pin 0B, 3.0A" on page 197
3	SDI 1 and 2	BNC	"3G-SDI (HD-SDI) Out" on page 190
4	MON-1	BNC	"MON-1" on page 191
5	GIG-E	9-pin 0B	"GIG-E (Ethernet)" on page 194
6	DC IN	4-pin 2B	"DC IN (Power Input)" on page 197
7	USB	USB 2.0 Type A (power only)	"USB Power" on page 198

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#	CONNECTOR	CONNECTOR TYPE	DETAILS
8	AUDIO	5-pin XLR	"Audio" on page 196
9	Headphone Jack	3.5mm stereo	"Headphone" on page 196
10	POWER TAP	P-Tap 2-pin Female	"AUX Power (P-Tap)" on page 198
11	GENLOCK	BNC	"Genlock" on page 192
12	TIMECODE	5-Pin 0B	"Timecode" on page 193
13	AUX PWR, 1.5A MAX	2-Pin 0B	"AUX Power 2-Pin 0B, 1.5A" on page 198
14	24V RS 1 and 2	3-pin Fischer	"24V RS" on page 195

RED RANGER MONSTRO OPERATION GUIDE

RECORD/MONITOR OUT PORTS

3G-SDI (HD-SDI) OUT

SDI-1 and SDI-2 output a cloned 3G-SDI signal.

A standard 75 ohm BNC connector provides the following output:

- ▶ Legal range of HD-SDI signals
- ▶ Broadcast specification 3G-SDI (HD-SDI) video output (default mode is Clean)
- ▶ Two (2) channels of embedded audio
- ▶ Time of Day and Edge timecode
- ▶ Record Tally flag
- ▶ Clip name information (as SMPTE RP-188 VITC2 HANC metadata)

The 3G-SDI (HD-SDI) output provides the formats described in the table below:

3G-SDI (HD-SDI) OUTPUT FORMATS ¹		
VIDEO FEED ²	FREQUENCY (HZ) ³	SMPTE STANDARD
720p	23.98, 24.00, 25.00, 29.97, 30.00, 50.00, 59.94	SMPTE ST 292-1 (1.485 Gbps)
1080p 10-bit 4:2:2	23.98, 24.00, 25.00, 29.97, 30.00	SMPTE ST 292 (1.485 Gbps)
1080p 10-bit 4:2:2	50.00, 59.94, 60.00	3G-SDI SMPTE ST 424 (2.970 Gbps) SMPTE ST 425 (2.970 Gbps)

1. Ensure that you select a frequency supported by your monitor.
2. The output is progressive scan (p); it does not support progressive segmented frame (PsF) or interlaced (i) scan formats.
3. The frequency options depend on project time base. If you have a non-drop frame project time base (such as 24.00), you can select only non-drop frame frequencies. If you have a drop frame project time base (such as 23.98), you can select only drop frame frequencies.

75 OHM BNC CONNECTOR			
PIN	SIGNAL	DESCRIPTION	DIRECTION
Center	3G-SDI	SMPTE ST 424	Out
Shield/Screen	GROUND	Camera ground	N/A

COMPATIBLE CABLE

- ▶ **790-0341**: RED[®] HD-SDI Cable (6')

RED RANGER MONSTRO OPERATION GUIDE

MON-1

The MON-1 port provides an additional monitor feed that is separate from the SDI-1 and SDI-2 cloned feeds.

The MON-1 output provides the formats described in the table below:

MON-1 OUTPUT FORMATS ¹	
VIDEO FEED ²	FREQUENCY (HZ) ³
720p	50.00, 60.00
1080p	24.00, 25.00, 30.00, 50.00, 60.00

1. Ensure that you select a frequency supported by your monitor.
2. The output is progressive scan (p); it does not support progressive segmented frame (PsF) or interlaced (i) scan formats.
3. Supports only non-drop frame frequencies.

75 OHM BNC CONNECTOR			
PIN	SIGNAL	DESCRIPTION	DIRECTION
Center	SDI	SDI out	Out
Shield/Screen	GROUND	Camera ground	N/A

RED RANGER MONSTRO OPERATION GUIDE

COMMUNICATION PORTS

CTRL (RS232 CONTROL)

The 4-Pin 00B CTRL Connector supports RS232 remote control for 3D camera communication and third-party metadata ingest applications. For more information, go to "[BRAIn GPIO](#)" on page 127.

The General Purpose Out (GPO) tally presents 3.3 V at a maximum of 0.04 A between pins 1 and 3. When used as a record tally, the rising edge of the pulse indicates start of record, falling edge represents end of record.

For more information about controlling the camera via RS232, download the [R.C.P.™ SDK](#), available at www.red.com/developers.

Figure: Front Face of the CTRL (RS232) Connector (Looking at the Camera)

4-PIN 00B CTRL CONNECTOR

PIN	SIGNAL	DESCRIPTION	DIRECTION
1	GROUND	Common ground	N/A
2	232 RX	RS232 RX	In
3	SS/GPO	Shutter sync/general purpose output	Out
4	232 TX	RS232 TX	Out

NOTE: Mating connector is FGG.00.304.CLAD.

COMPATIBLE CABLES

- ▶ **790-0154, 790-0643:** 3BNC-to-00 Sync Cable
- ▶ **790-0187, 790-0648:** 4-Pin 00B-to-Flying Lead
 - ▶ **White:** Ground
 - ▶ **Yellow:** RS232 RX
 - ▶ **Blue:** Shutter/sync, general purpose output
 - ▶ **Red:** RS232 TX
 - ▶ **Black:** Shield
- ▶ **790-0415:** RED Start/Stop Cable (14-Pin 1B to SYNC, CTRL, BNC)

GENLOCK

The 75 ohm BNC connector accepts incoming sync and genlock signals.

75 OHM BNC CONNECTOR

PIN	SIGNAL	DESCRIPTION	DIRECTION
Center	SYNC	SMPTE ST 274 RS 170A Tri-Level Sync	In
Shield/Screen	GROUND	Camera ground	N/A

RED RANGER MONSTRO OPERATION GUIDE

TIMECODE

The LEMO EAG.0B.305.CLN connector supports SMPTE timecode input and output. Pins 2 and 3 can be used together to receive a balance SMPTE 12M serial timecode input. Pin 2 can be used by itself (leave pin 3 open) to receive a single-ended SMPTE 12M serial timecode input. Pin 5 is a timecode output.

Figure: Front Face of Timecode (LEMO EAG.0B.305.CLN) Connector (Looking at the Camera)

LEMO EAG.0B.305.CLN CONNECTOR			
PIN	SIGNAL	DESCRIPTION	DIRECTION
1	GROUND	Camera Ground	N/A
2	TIMECODE IN(S)	Timecode input - SMPTE single ended	In
3	N/A	No connection (NC)	N/A
4	+5 V OUT	+5 V out, 200 mA max	Out
5	TIMECODE OUT	SMPTE 12 M Timecode output	Out

NOTE: Mating connector is FHG.0B.305.CLAD.

COMPATIBLE CABLE

- ▶ **790-0212:** Pro I/O Time Code Cable 3'

RED RANGER MONSTRO OPERATION GUIDE

GIG-E (ETHERNET)

The GIG-E 9-pin 0B connector provides a 1000BASE-T (IEEE 802.3ab) gigabit Ethernet connection for remote camera setup, master/slave camera communication, and external metadata ingest. Since the GIG-E connector does not support slower speeds (10BASE-T and 100BASE-T), ensure that any device you connect to supports 1000BASE-T.

Figure: Front Face of the GIG-E Connector (Looking at the Camera)

9-PIN 0B GIG-E CONNECTOR			
PIN	SIGNAL	DESCRIPTION	DIRECTION
1	BI_DC+	Data pair C+	N/A
2	BI_DC-	Data pair C-	N/A
3	BI_DD+	Data pair D+	N/A
4	BI_DD-	Data pair D-	N/A
5	BI_DA-	Data pair A-	N/A
6	BI_DA+	Data pair A+	N/A
7	BI_DB+	Data pair B+	N/A
8	BI_DB-	Data pair B-	N/A
9	N/A	Do not connect	N/A

NOTE: Mating connector is FGG.0B.309.CLAD.

COMPATIBLE CABLES

- ▶ **790-0159:** RED GIG-E Straight-to-CAT5E Ethernet Cable (9')
- ▶ **790-0557, 790-0655:** RED GIG-E Right-to-CAT5E Ethernet Cable (9')
- ▶ **790-0163:** Master/Slave Gig-E Cable (4')

RED RANGER MONSTRO OPERATION GUIDE

24V RS

The two (2) Fischer 3-pin 102 connectors supply a combined 24V power out at a maximum sustained current draw of 2.5A. Each connector also includes a run/stop (R/S) trigger input. To operate the contact closure style trigger, short Pin 3 (R/S) to Pin 1 (ground).

When the camera is powered by an on-board battery or DC-IN with less than 24V input, the connector output is 24V (regulated). When the camera is powered by DC-IN with more than 24V input, the connector output matches the camera input voltage.

WARNING: DO NOT apply voltage to Pin 3 (R/S).

Figure: 24V RS (Looking at the Connector)

FISCHER 3-PIN CONNECTOR			
PIN	SIGNAL	DESCRIPTION	DIRECTION
1	GROUND	Common ground	N/A
2	+24 V OUT	+24 V out, 2.5A max (shared between the connectors)	Out
3	R/S	Active Low to start/stop record (3.3V pull up)	In

CONTACT CLOSURE STYLE TRIGGER BUTTON CIRCUIT (24V RS)

The diagram below shows the contact closure style trigger button circuit on the 24V RS connector.

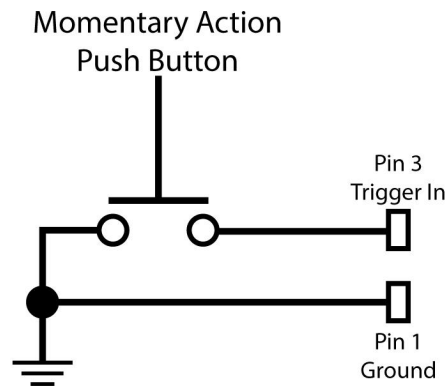


Figure: Contact Closure Style Trigger Button Circuit Diagram (24V RS)

RED RANGER MONSTRO OPERATION GUIDE

AUDIO PORTS

AUDIO

The 5-pin XLR connector provides input for two (2) audio channels. Use the adjacent Audio switch to set the audio channels to line in (Line), Microphone level in (Mic), or microphone level in with 48 V 10mA phantom power (+48V). The switch controls both channels together; the channels cannot be controlled independently.

Figure: Front Face of Audio Input (5-Pin XLR) Connector (Looking at the Camera)

5-PIN XLR CONNECTOR			
PIN	SIGNAL	DESCRIPTION	DIRECTION
1	GROUND	Camera ground	N/A
2	CH1_P	Channel 1 (left), positive voltage	In
3	CH1_N	Channel 1 (left), negative voltage	In
4	CH2_P	Channel 2 (right), positive voltage	In
5	CH2_N	Channel 2 (right), negative voltage	In

HEADPHONE

The 3.5mm stereo jack provides two (2) channels of audio for monitoring. For maximum quality, use high impedance headphones.

HEADPHONE JACK			
PIN	SIGNAL	DESCRIPTION	DIRECTION
TIP	LEFT	Left channel audio	Out
RING	RIGHT	Right channel audio	Out
SLEEVE	GND	Camera ground	N/A

RED RANGER MONSTRO OPERATION GUIDE

POWER PORTS

DC IN (POWER INPUT)

The 4-Pin 2B connector accepts DC input power from 11.5 V DC to 32 V DC. A built-in power conditioner protects against reverse-polarity connections, electrostatic discharge (ESD), undervoltage, overvoltage, and overcurrent.

Figure: Front Face of the DC IN Power Input Connector (Looking at the Camera)

4-PIN 2B DC INPUT CONNECTOR		
PIN	SIGNAL	DESCRIPTION
1	N/A	No connection (NC)
2	N/A	No connection (NC)
3	VIN	Power input, +11.5 to +32 V DC
4	GROUND	Power return (camera ground)

NOTE: The mating connector is FGJ.2B.304.CLLD62Z (LEMO).

COMPATIBLE CABLES

- ▶ **790-0665:** 3-PIN XLR-TO-4-PIN 2B POWER CABLE (10')

AUX POWER 2-PIN 0B, 3.0A

The 2-Pin 0B connector (LEMO EEG.0B.302.CLL) supplies unregulated (+) 11.5 to 17 VDC battery pass-through power. The maximum sustained current draw is 3.0A.

Figure: Front Face of Connector (Looking at the Camera)

LEMO EEG.0B.302.CLL CONNECTOR			
PIN	SIGNAL	DESCRIPTION	DIRECTION
1	GROUND	Common ground	N/A
2	+11.5 to +17 VDC	+11.5 to 17 VDC unregulated battery pass-through power	Out

NOTE: Mating connector is FGG.00.302.CLAD35Z.

COMPATIBLE CABLE

- ▶ **790-0410:** RED W.M.D. Power Cable 2-Pin 1B to 2-Pin 0B (18")

RED RANGER MONSTRO OPERATION GUIDE

AUX POWER 2-PIN 0B, 1.5A

The 2-Pin 0B connector (LEMO EEG.0B.302.CLL) supplies unregulated (+) 11.5 to 17 VDC battery pass-through power. The maximum sustained current draw is 1.5A.

Figure: Front Face of AUX PWR Connector (Looking at the Camera)

LEMO EEG.0B.302.CLL CONNECTOR

PIN	SIGNAL	DESCRIPTION	DIRECTION
1	GROUND	Common ground	N/A
2	+11.5 to +17 VDC	+11.5 to 17 VDC unregulated battery pass-through power	Out

NOTE: Mating connector is FGG.00.302.CLAD35Z.

COMPATIBLE CABLE

- ▶ **790-0410:** RED W.M.D. Power Cable 2-Pin 1B to 2-Pin 0B (18")

USB POWER

The USB power out connector supplies 5 V of power. The maximum sustained current draw is 1.5A.

NOTE: The USB connector only offers power out, and does NOT support USB communication.

AUX POWER (P-TAP)

Figure: P-Tap Connector (Looking at Camera)

The AUX power out connector features an industry-standard P-Tap connector and supplies conditioned VBATT at a maximum of 3.0A of power.

2-PIN P-TAP CONNECTOR

PIN	SIGNAL	DESCRIPTION	DIRECTION
1	GROUND	Common ground	N/A
2	+11.5 to +17 VDC	+11.5 to 17 VDC unregulated battery pass-through power	Out

APPENDIX D: LENS MOUNTS AND LENSES

LENS MOUNTS

This section describes camera lens mounts. Camera mounts may be configured with 19mm rods to accommodate most cinematography lenses, matte boxes, and follow focus systems.

RED recommends only using the RED RANGER Shimmed PL Mount with the RED RANGER. Other RED lens mounts are mechanically compatible, but may cause focus accuracy issues.

WARNING: All lenses are hot swappable. However, lens mounts are NOT HOT SWAPPABLE, meaning you cannot remove or install lens mounts while the camera is turned on. Before installing or removing lens mounts, you MUST turn off the camera. Failure to do so may result in damage to the lens mounts or camera that is not covered under warranty.

REMOVE A LENS MOUNT

NOTE: You can change lens mounts in the field. However, RED® recommends that you change lens mounts only in a dust-free environment.

REQUIRED TOOL(S): T20 TORX® driver

1. Turn off the camera.
2. Attach the camera to a stable platform or position the camera on a clean and level work surface so that the lens mount screws are accessible.
3. Remove the lens and any devices, cables, or other accessories that might interfere with removing the lens mount.
4. Depending on the lens mount, you may need to turn the locking ring slightly counter-clockwise so that you can access the lens mount screws.
5. Loosen and remove the four (4) M4x0.7 x 8 mm lens mount screws in a cross pattern ("X" pattern) using a T20 TORX driver.

NOTE: Some lens mounts have captive screws that are not removable.

NOTE: Screw removal may require a large handle T20 TORX driver and additional leverage.

6. Remove the lens mount from the camera.