

MICROLITE HD FAMILY OF PRODUCTS

Transmitter, Receiver, Antennas,
Elite Kit Accessories

FEATURES:

- One mile line-of-sight range
- HD and SD encoding / decoding
- Up to 200mW RF output power
- V mount, Gold Mount or Hot Shoe transmitter mounting
- Broadcast quality video
- MPEG-4 H.264 Part 10 encoding
- MPEG 2/4 auto detect decoding on receivers
- Embedded Audio
- ASI Output
- Very low power consumption
- Video, audio and telemetry data
- User-friendly controls

OPTIONS:

- Wide selection of antennas
- Range Booster Amplifier
- Elite System Kit
- Encryption BCRYPT 1 & 2 AES 128 or 256



The RF Central *microLite* HD System is a highly portable professional grade MPEG 4 COFDM HD wireless camera transmission link capable of providing high quality video at distances over one mile line of sight*. Demanding videographers choose the RF Central *microLite* HD link when they require the highest quality video without breakup or pixilation. The RF Central *microLite* HD video RF link comes in a portable package and is designed give the operator the ability to set up quickly and to cover wide area with long range wireless transmission. The Elite Kit includes *microLite* HD transmitter, *microLite* HD receiver, antennas and all the accessories chosen specifically to optimize the total system performance.

At the heart of the RF Central *microLite* HD system is the *microLite* HD Transmitter whose size and performance makes it ideal for sports, live newsgathering, reality-based programs, ENG-EFP/OB, point-of-view and any type of live event coverage. The RF Central *microLite* HD Transmitter now comes in three camera mounting options: Gold Mount, V Mount and Hot-Shoe. The RF Central *microLite* HD has a friendly local user interface. Twelve easily selected presets make it simple to change channels and other operating parameters on the fly. The Windows-based graphical user interface simplifies preset programming.

The RF Central *microLite* Receiver is a dual diversity COFDM receiver that uses maximal-ratio combining technology to enable the *microLite* system to support Line-of-Sight (LOS) as well Non-Line-of-Sight (NLOS) applications. The RF Central *microLite* Receiver features MPEG-4/ MPEG-2 auto-detect video and embedded audio decoding. This technology provides a highly reliable decode solution in demanding portable applications.

Developed for the new generation of HD capable compact cameras, the RF Central *microLite* System is available in the 2, 5.8 and 7GHz bands, features superb H.264 SD and HD encoding and operates in the standard 2k DVB-T COFDM mode.

* Many factors affect the operational distance including but not limited to interference and physical environmental obstructions. Further range is also possible with a more directional antenna, change in frequency and power amplifiers.

MICROLITE HD TRANSMITTERS

HD Camera Mount COFDM Transmitters

RF Performance:

Base Model Number	Frequency (GHz)	RF Power (mW)	DC Power (W)
23MLT-23	1.980 to 2.500*	200	12
24MLT-14	2.400 to 2.483	25	11
24MLT-23	2.400 to 2.483	200	12
26MLT-23	2.400 to 2.700*	200	12
56MLT-20	5.600 to 6.000*	100	12
58MLT-20	5.725 to 5.850	100	14
58MLT-14	5.725 to 5.850	25	12
64MLT-20	6.425 to 6.525	100	14
68MLT-20	6.425 to 7.125	100	14
70MLT-20	6.800 to 7.150*	100	14

* Bands may be narrowed by factory installed Frequency plan based on needs or regulations

Tuning Step Size: 250 kHz step size
Frequency Stability: ± 10 ppm

Standby Mode:

Standby: No RF output
Normal: Instant on frequency transmission

Modulation:

Modulation Formats: COFDM (DVB-T)
Carriers: 2k
Constellation: QPSK, 16 QAM
Code Rate: 1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval: 1/32, 1/16, 1/8, 1/4
Bandwidth: 6 MHz, 7 MHz, and 8 MHz

MPEG Encoder:

Video:

Method: MPEG-4 Part 10/H.264
Video Coding: AVC
Video Input: Composite or HD/SD SDI
NTSC: 720 x 480(4:2:0)
PAL: 720 x 576(4:2:0)
GOP Settings: Low Latency – Intra-Refresh P
Simple – IP15
Advanced – IPB
Long GoP -IPB

Formats:

HD (4:2:0): 720p 23.98/24/50/59.94/60
1080i 50/59.94
1080p 23.98/24/25/30/29.97
1080psf 23.98/24/25/29.97
SD(4:2:0): NTSC: 720 x 480
PAL: 720 x 576

Audio:

Audio Coding: MPEG 1 (Layer I or II)
Audio Sample Rate: 48 kHz
Audio Channels: 2 Stereo, 4 Mono Standard,
Audio Input: Embedded

System:

Video Present: Remote Standby/Test Generator Selectable
Latency: < 4 frames for I and p formats
< 5 frames for psf formats
Test Generator (Dynamic): SMPTE CB (NTSC)/100% CB (PAL)
1 KHz Tone/Pulse
Encryption (optional): BCRYPT1 and 2
128 and 256bit
User Data: RS232
300-155k Baud
Remote Control: RS232
ASI In: 5 pin Lemo
ASI Out: 5 pin Lemo
Local Control: Push Button
Preset: 16 user configurable presets through windows GUI

Power Requirements:

Input Range: DC: +9 to +28
Power Consumption: See table above

Environmental:

Temperature Range:

Full Specification: -10° to +50°C ambient
Storage: -40° to +80°C
Humidity: 0 to 95% non-condensing

Physical Characteristics:

Size: See Outlines
Volume: See Outlines
Weight: Product

Optional Transmitter Accessories:

Range Booster Amplifier:

Power Output: 1 Watt
Frequency: 1980 – 2700 MHz
Power Input: 50 – 250mW
Transmit: Auto detect with input power
Operating Voltage: +9 to 30VDC
Voltage Input: 6 pin Lemo to P or D Tap
RF Input center conductor (Bias-T)
Temperature Range: -10° to +50°C Ambient
Size: 4.5" L x 2.5" D

Power Consumption:

Transmit: 15 Watts
Standby: < 1 Watt

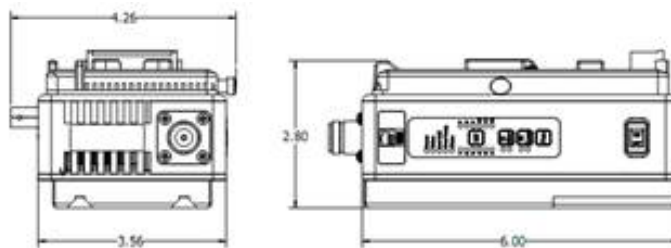


MICROLITE HD TRANSMITTERS

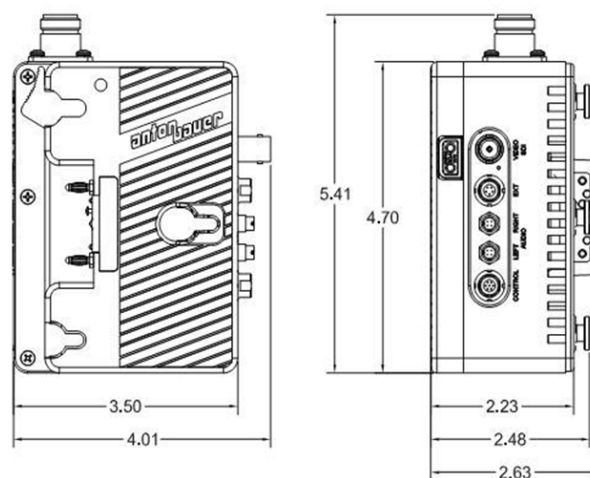
HD Camera Mount COFDM Transmitters

Product Outlines:

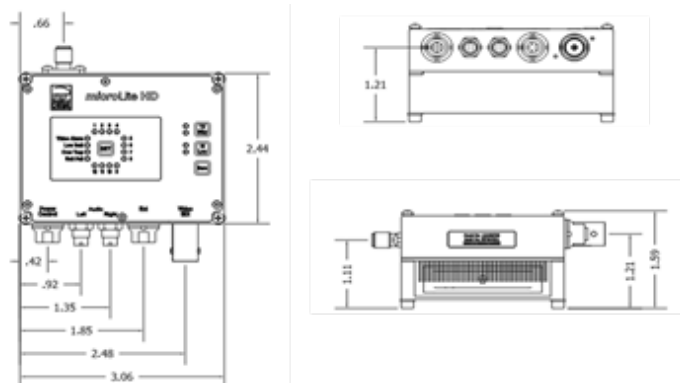
V MOUNT MLT:



GOLD MOUNT MLT



HOT SHOE MLT



MICROLITE HD RECEIVERS

HD COFDM Dual Diversity MPEG-4 / 2 Receivers

RF Performance:

Base Model Number	Frequency (GHz)	DC Power (W)
23MLR	1.980 to 2.500*	9
24MLR	2.400 to 2.483	9
26MLR	2.400 to 2.700*	9
56MLR	5.600 to 6.000*	12
58MLR	5.725 to 5.850	12
64MLT-20	6.425 to 6.525	12
68MLT-20	6.425 to 7.125	12
70MLT-20	6.800 to 7.150*	12

* Bands may be narrowed by factory installed Frequency plan based on needs or regulations

Tuning step size: 250 kHz step size
Frequency stability: ± 10 ppm

Standby Mode:

Standby: No RF output
Normal: Instant on frequency transmission

Modulation:

Modulation 1:

Modulation Formats: COFDM (DVB-T)
Carriers: 2K
Constellation: QPSK, 16QAM
Code Rate: 1/2, 2/3, 3/4, 5/6, 7/8
Guard Interval: 1/32, 1/16, 1/8, 1/4
Bandwidth: 6 MHz, 7 MHz, and 8 MHz

Diversity:

Channels: 2 input maximal ratio combining

MPEG Decoder:

Video:

Method: MPEG-4 Part 10/H.264
Video Coding: AVC
Video Input: Composite or HD/SD SDI
NTSC: 720 x 480(4:2:0)
PAL: 720 x 576(4:2:0)
GOP Settings: Low Latency – Intra-Refresh P
Simple – IP15
Advanced – IPB
Long GoP -IPB

Formats:

HD (4:2:0):	720p	23.98/24/50/59.94/60
	1080i	50/59.94
	1080p	23.98/24/25/30/29.97
	1080psf	23.98/24/25/29.97
SD(4:2:0):	NTSC:	720 x 480
	PAL:	720 x 576

Audio

Audio Coding: MPEG 1 (Layer I or II)
Audio Sample Rate: 48Khz
Audio Channels: 1 Stereo or 2 Mono Standard,
Audio Output: 1Vp-p single ended into 10k Ω
Embedded channels: 4
Embedded output: SDI

System:

ASI Output:	Audio output rate follows modulation or fixed output user selectable (PCR retiming stamp)
Low Latency Mode:	< 4 frames for I and p formats < 5 frames for psf formats BCRYPT1 and 2
Decryption (optional):	RS232 300-155k Baud
User Data:	RS232 or Ethernet
Remote Control:	Stream MPEG-TS over UDP/RTP
Ethernet:	RTSP Unicast and multicast WEB control
ASI In:	5 pin Lemo
ASI Out:	5 pin Lemo
Local Control:	Push Button
Preset:	16 user configurable presets through windows GUI.

Power Requirements:

Input range:	DC: +9 to +28
Power consumption:	See table above

Environmental:

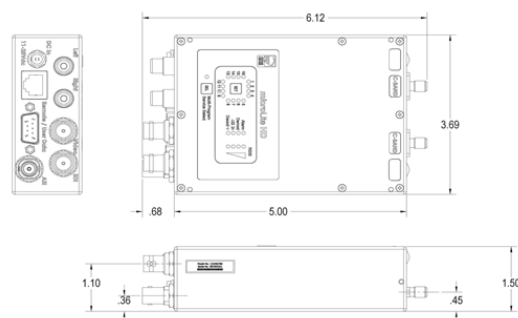
Temperature range:

Full specification:	-10° to +50°C Ambient
Storage:	-40° to +80°C
Humidity:	0 to 95% non-condensing

Physical Characteristics:

Size:	1.5"(H) x 2.7"(W) x 5"(L) (3.1 x 9.4 x 17.7 cm)
Volume:	28 cubic inches
Weight:	1.4 lbs. (620g)

Product Outline:



MICROLITE ELITE KIT

HIGH PERFORMANCE ACCESSORIES



Range Booster Amplifier:

Power Output	1 Watt
Frequency	1980 – 2700 MHz
Power Input	50 – 250mW
Transmit	Auto detect with input power
Operating Voltage	+9 to 30VDC
Voltage Input	6 pin Lemo to P or D Tap
	RF Input center conductor (Bias-T)
Temperature Range	-10° to +50°C Ambient
Size	4.5" L x 2.5" D
Transmit Power Consumption	15 Watts
Standby	< 1 Watt

Optional TX Amplifier



microLite TX Flex Omni SMA Connector Tx Antenna

Frequency	Product band dependent
Gain	4.5dBi (2GHz) 6.0 dBi (5.8 GHz)
Power Input	> 5 Watts
Polarization	Vertical
VSWR	< 2:1
Impedance	50Ω
Connector	SMA - Male
Environmental	-10° to 140° F operational (Minimum)
Finish	Matte black, non-reflective

Standard Elite Kit(Hot Shoe)



microLite TX Flex Omni N Connector Antenna

Frequency	Product band dependent
Gain	4.5dBi (2GHz) 6.0 dBi (5.8 GHz)
Power Input	> 5 Watts
Polarization	Vertical
VSWR	< 2:1
Impedance	50Ω
Connector	N - Male
Environmental	-10° to 140° F operational (Minimum)
Finish	Matte black, non-reflective

Standard Elite Kit
(V Mount and Gold Mount)



Omni Antenna

Frequency	Product band dependent
Gain	2dBi
Power Input	> 5 Watts
Polarization	Vertical
H Beam Width	360°
Impedance	50Ω
Connector	N - Male or SMA—Male
Physical Standalone	2.6"L x .75"D
Environmental	-10° to 140° F operational (Minimum)
Finish	Non-reflective

Optional
Low profile low gain
antennas available as an option



Gooseneck Extension (H)

Connector	N Male to N-Female Or SMA Male to SMA female
Length	3"
Bend Radius	0 to > 180°

Optional

MICROLITE ELITE KIT



microLite Receiver Omni Antennas

Frequency	Product band dependent
Gain	4.5dBi (2GHz Band) 8.0dBi (5.8GHz Band)
Power Input	> 5 Watts
Polarization	Vertical
VSWR	< 2:1
Impedance	50Ω
Connector	N - Male
Environmental	-10° to 140° F operational (Minimum)
Finish	Matte black, non-reflective

Standard Elite Kit
(VCLIP and Gold Mount)



microLite Receiver High Gain Sector Antennas

Frequency	Product band dependent
Gain	12dBi
Power Input	> 5 Watts
Polarization	Vertical
VSWR	< 2:1
Impedance	50Ω
Connector	N - Male
Environmental	-10° to 140° F operational (Minimum)
Finish	Matte black, non-reflective

Standard Elite Kit
(Hot Shoe Only)

Optional
(VCLIP and Gold Mount)



Manfrotto Tripod Magic Arm

Arm Length	20.8 inches
Arm Diameter	7.87
Color	Black
Material	Aluminum
Payload	6.6 lbs.
Weight	2.36 lbs.
Attachments	Type 17 (.66 inches male)

Standard Elite Kit



Manfrotto Super Clamp

Attachment	.63 inches hexagonal + M5 & 1/4 inch threads
Clamp Range Max	2.165 inches
Clamp Range Min	.0.511 inches
Color	Black
Material	Aluminum
Payload	35.27 lbs.
Weight	0.9 lbs.
TV81	Yes

Standard Elite Kit



Receiver Power Supply AC Power Supply (I3)

Input Voltage	100 - 260 VAC
AC Connector	3 prong standard
DC Connector	4 pin XLR – Female
Certification	FCC and CE
Cord Length	15 ft.

Standard Elite Kit

MICROLITE HD RECEIVER



Anton Bauer Dionic 90 Battery

Optional

Chemistry	Lithium Ion
Voltage	14.4 VDC
Watt/Hours	90 Wh
Physical	2.12 x 5.25 x 3.50" inches
Weight	1.8 lbs.
Environment	0° to 40° F Operational
Display	Smart Display LCD



Varizoom V Mount Battery

Optional

Chemistry	Lithium Ion
Voltage	14.4 VDC
Watt/Hours	88 Wh
Physical	6.50 x 3.5 x 6.0" inches
Weight	1.8 lbs.
Environment	0° to 40° C Operational
Display	None
Compatibility	Sony and IDX VCLIP



Anton Bauer Dual Charger - Twin

Optional

Charger	Dual Charger Simultaneous
Recharge time	< 3 HRS.
AC Input	100 - 240VAC 50/60Hz
Size	2.30 x 5.70 x 5.00 inches
Weight	1.1 lbs.
Certifications	FCC, CE



V Mount Dual Charger

Optional

Charger	Dual Charger Sequential
Recharge time	< 3 HRS.
AC Input	100 - 240VAC 50/60Hz
Size	9.00 x 5.50 x 3.50 inches
Weight	2.0 lbs.
Certifications	FCC, CE

Ruggedized Carrying Case

Standard Elite Kit

Kit - Inclusion

- 1 *micro*Lite HD Tx
- 1 *micro*Lite HD Rx with receiver mounting bracket
- 1 Omni Directional Tx antenna
- 2 Rx antennas
- 1 Manfrotto Magic Arm
- 1 Manfrotto Super Clamp
- 1 AC/DC power supply for *micro*Lite Receiver (4 pin XLR)
- 1 Receiver power cable set (2.5mm power connector to 4 pin XLR)
- 1 Transmitter power cable set
- 2 USB-Serial adapters for configuring units (USB to RS-232)
- 1 Null Modem cable for MLR configuration (between MLR and USB serial adapter)
- 1 USB/Power software update cable for system software updates for the MLT
- 3 Instruction Manuals and NanoController Software on USB stick

