

Standard Telemetry Products

Emhiser Research, Inc. designs and manufactures a complete line of airborne and ground-based telemetry equipment designed specifically for harsh military applications. Our tested and proven products are qualified on numerous high profile defense programs.

This catalog contains technical bulletins of many of our more common products. If these products do not meet your exact specifications, give us a call to discuss your requirements.

- Wideband DC Coupled Transmitters and Receivers
- Digital Transmitters and Receivers
- Video Transmitters and Receivers
- Telemetry Transmitters and Receivers
- FSK Transmitters and Receivers



EMHISER RESEARCH, INC.

2705 Old Highway 40 West
P.O. Box 189
Verdi, Nevada 89439-0189

Phone: (775) 345-2705

Fax: (775) 345-2484

E-mail: info@emhiser.com

Web: www.emhiser.com

Video Receiver Model EVR-09DEA Series

Subcarrier De-Emphasis 9 Cubic Inches Signal Strength

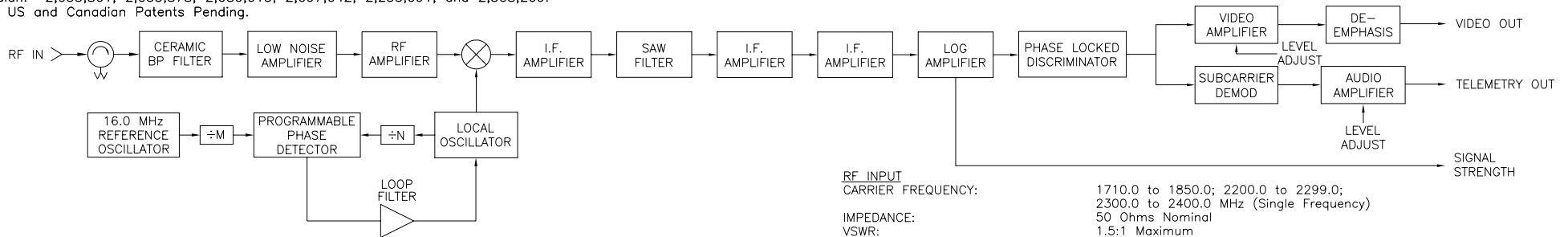
AC Coupled Single Frequency 28 VDC

Protected by One or More of the following Patents:

US: 5,091,706, 5,097,230, 5,311,152, 5,497,509, 5,802,462, 6,404,292, 6,411,237, 6,417,738, 6,650,180, 6,683,499, 6,690,238, 6,747,517, and 6,771,133.

Canadian: 2,033,861, 2,033,878, 2,080,013, 2,097,042, 2,235,091, and 2,308,209.

Other US and Canadian Patents Pending.



RF INPUT
CARRIER FREQUENCY:

1710.0 to 1850.0; 2200.0 to 2299.0;
2300.0 to 2400.0 MHz (Single Frequency)

IMPEDANCE:

50 Ohms Nominal

VSWR:

1.5:1 Maximum

POWER:

+10 dBm Maximum without Damage

NOISE FIGURE:

4 dB Maximum

SIGNAL STRENGTH OUTPUT:

Dependent upon Pre-Detect Bandwidth. +0.3 VDC Nominal at Threshold Sensitivity, +5 VDC Nominal at Threshold Sensitivity + 50 dB

L.O./I.F.

STABILITY:

Within $\pm 0.002\%$ over -20°C to $+70^{\circ}\text{C}$

I.F.:

140 MHz

I.F. BANDWIDTH:

Specify

HARMONIC AND SPURIOUS LEVEL:

-50 dB Maximum

DEMODULATED VIDEO OUTPUT

VIDEO RESPONSE:

2 Hz to 4.5 MHz ± 1.5 dB; 1 Hz to 6.0 MHz ± 3.0 dB

OUTPUT LEVEL:

Factory Set to 1 V Pk-Pk for 8 MHz Pk-Pk at Crossover

DE-EMPHASIS:

Specify

IMPEDANCE:

75 Ohms Nominal

DEMODULATED TELEMETRY SUBCARRIER OUTPUTS

SUBCARRIER FREQUENCY:

4.83, 5.2, 5.8, 6.2, 6.8, 7.5, or 8.5 MHz (Specify)

SUBCARRIER STABILITY:

Within $\pm 0.5\%$ Maximum over -20°C to $+70^{\circ}\text{C}$

FREQUENCY RESPONSE:

Within ± 1 dB 100 Hz to 150 KHz Rate to 300 KHz Pk-Pk Deviation

PEAK DEVIATION:

300 KHz Pk-Pk

OUTPUT LEVEL:

Adjustable up to ± 1.0 VDC/ ± 150 KHz Deviation

OUTPUT IMPEDANCE:

600 Ohms Nominal

POWER REQUIREMENTS

INPUT VOLTAGE:

28 ± 4 VDC, Reverse Polarity Protected

INPUT CURRENT:

550 mA Maximum

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE:

Operating: -20°C to $+70^{\circ}\text{C}$; Storage: -54°C to $+125^{\circ}\text{C}$

VIBRATION:

14 G's, Random, Standard Haystack, 20 Hz to 2 KHz, 3 Axes

SHOCK:

1/2 Sine, 100 G's Pk, 11 mS, 3 Axes

ACCELERATION:

100 G's, 3 Axes

ALTITUDE:

Unlimited

HUMIDITY:

To 95% at any Temperature forming Frost or Condensation

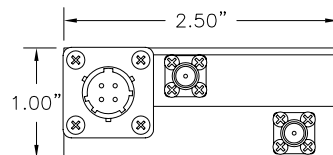
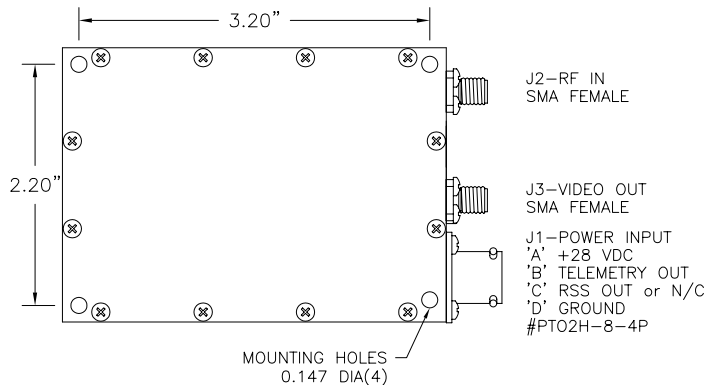
PHYSICAL CHARACTERISTICS

DIMENSIONS:

Per Outline Drawing

WEIGHT:

9 oz. Maximum



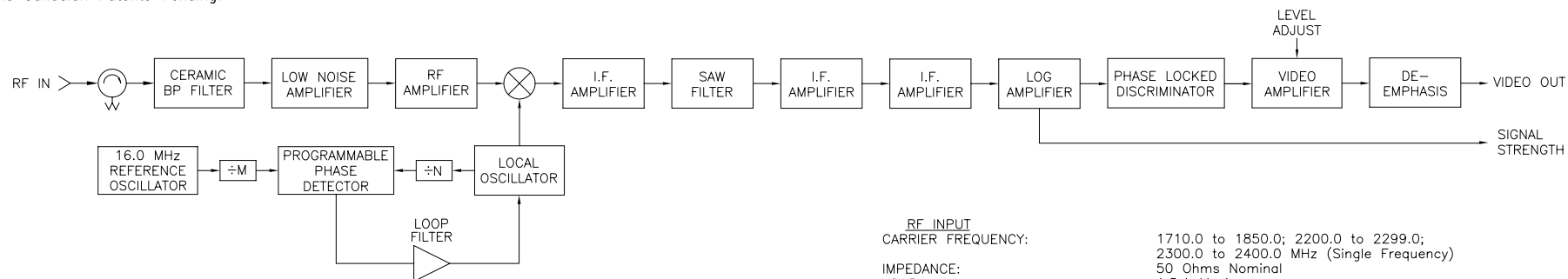
DATE	05 07 10	 EMHISER RESEARCH, INC. 2705 OLD HIGHWAY 40 WEST TEL: 775-345-2705 P.O. BOX 189 VERDI, NEVADA FAX: 775-345-2484 89439-0189 U.S.A. EMAIL: INFO@EMHISER.COM
DWN	L3	
APVD		
QC		
CAGE CODE IDENT NO.	60666	VIDEO RECEIVER/SC/RSS/DE-EMPH SINGLE FREQUENCY, AC COUPLED 1710.0 TO 2400.0 MHZ (3 BANDS)
MODEL NO. EVR-09DEA SERIES		

Video Receiver Model EVR-09DED Series

De-Emphasis 9 Cubic Inches Signal Strength

DC Coupled Single Frequency 28 VDC

Protected by One or More of the following Patents:
 US: 5,091,706, 5,097,230, 5,311,152, 5,497,509, 5,802,462, 6,404,292, 6,411,237,
 6,417,738, 6,650,180, 6,683,499, 6,690,238, 6,747,517, and 6,771,133.
 Canadian: 2,033,861, 2,033,878, 2,080,013, 2,097,042, 2,235,091, and 2,308,209.
 Other US and Canadian Patents Pending.



RF INPUT

CARRIER FREQUENCY:

1710.0 to 1850.0; 2200.0 to 2299.0;
 2300.0 to 2400.0 MHz (Single Frequency)

IMPEDANCE:
 50 Ohms Nominal

VSWR:
 1.5:1 Maximum

POWER:
 +10 dBm Maximum without Damage

NOISE FIGURE:
 4 dB Maximum

SIGNAL STRENGTH OUTPUT:
 Dependent upon Pre-Detect Bandwidth. +0.3 VDC Nominal at Threshold Sensitivity, +5 VDC Nominal at Threshold Sensitivity + 50 dB

L.O./I.F.

STABILITY:

Within $\pm 0.002\%$ over -20°C to $+70^{\circ}\text{C}$

I.F.:

140 MHz

I.F. BANDWIDTH:

Specify

HARMONIC AND SPURIOUS LEVEL:

-50 dB Maximum

DEMODULATED VIDEO OUTPUT

VIDEO RESPONSE:

DC to 4.5 MHz ± 1.5 dB; DC to 6.0 MHz ± 3.0 dB

OUTPUT LEVEL:

Factory Set to 1 V Pk-Pk for 8 MHz Pk-Pk at Crossover

DE-EMPHASIS:

Specify

IMPEDANCE:

75 Ohms Nominal

POWER REQUIREMENTS

INPUT VOLTAGE:

28 ± 4 VDC, Reverse Polarity Protected

INPUT CURRENT:

550 mA Maximum

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE:

Operating: -20°C to $+70^{\circ}\text{C}$; Storage: -54°C to $+125^{\circ}\text{C}$

VIBRATION:

14 G's, Random, Standard Haystack, 20 Hz to 2 KHz, 3 Axes

SHOCK:

1/2 Sine, 100 G's Pk, 11 ms, 3 Axes

ACCELERATION:

100 G's, 3 Axes

ALTITUDE:

Unlimited

HUMIDITY:

To 95% at any Temperature forming Frost or Condensation

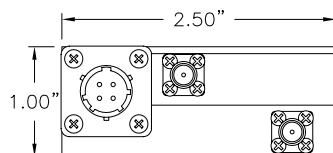
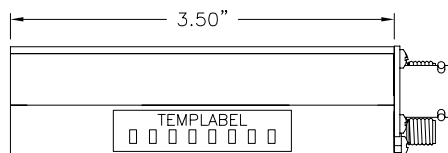
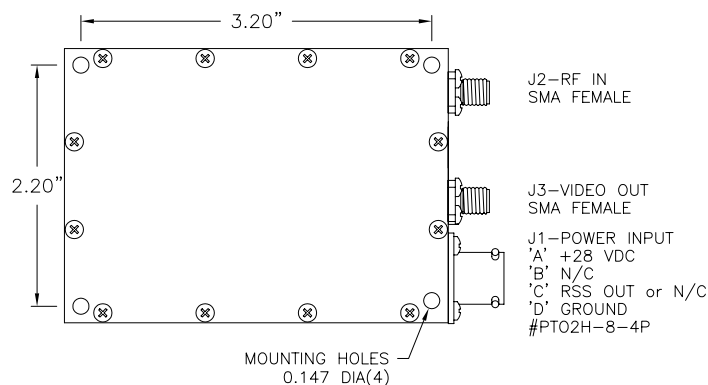
PHYSICAL CHARACTERISTICS

DIMENSIONS:

Per Outline Drawing

WEIGHT:

9 oz. Maximum



DATE	05 07 10	 EMHISER RESEARCH, INC. 2705 OLD HIGHWAY 40 WEST TEL: 775-345-2705 P.O. BOX 189 VERDI, NEVADA FAX: 775-345-2484 89439-0189 U.S.A. EMAIL: INFO@EMHISER.COM
DWN	L3	
APVD		VIDEO RECEIVER/RSS/DE-EMPH SINGLE FREQUENCY, DC COUPLED 1710.0 TO 2400.0 MHZ (3 BANDS)
QC		
CAGE CODE IDENT NO.	60666	MODEL NO. EVR-09DED SERIES 

Video Receiver Model EVRC-09DEA Series

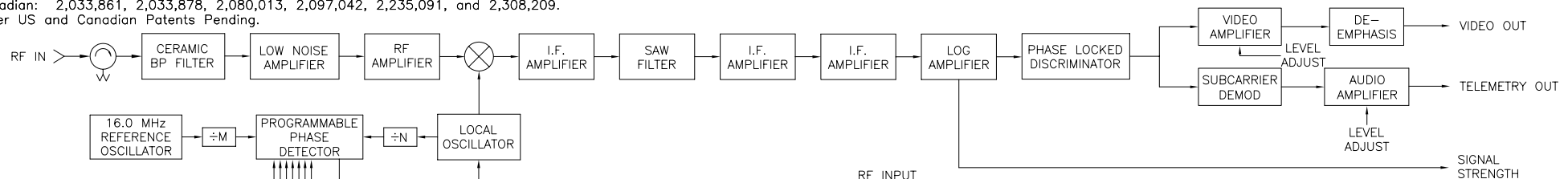
Subcarrier De-Emphasis 9 Cubic Inches Signal Strength AC Coupled Channelized 28 VDC

Protected by One or More of the following Patents:

US: 5,091,706, 5,097,230, 5,311,152, 5,497,509, 5,802,462, 6,404,292, 6,411,237, 6,417,738, 6,650,180, 6,683,499, 6,690,238, 6,747,517, and 6,771,133.

Canadian: 2,033,861, 2,033,878, 2,080,013, 2,097,042, 2,235,091, and 2,308,209.

Other US and Canadian Patents Pending.



RF INPUT

CARRIER FREQUENCY:

1710.0 to 1849.5; 2200.0 to 2299.5;
2300.0 to 2399.5 MHz Channelized in 0.5 MHz Steps
Via MDM-15P Connector

FREQUENCY SELECTION:

IMPEDANCE:

VSWR:

POWER:

NOISE FIGURE:

SIGNAL STRENGTH OUTPUT:

1.5:1 Maximum
+10 dBm Maximum without Damage
4 dB Maximum

Dependent upon Pre-Detect Bandwidth. +0.3 VDC Nominal at Threshold
Sensitivity, +5 VDC Nominal at Threshold Sensitivity + 50 dB

L.O./I.F.

STABILITY:

I.F.:

I.F. BANDWIDTH:

HARMONIC AND SPURIOUS LEVEL:

Within $\pm 0.002\%$ over -20°C to $+70^{\circ}\text{C}$

140 MHz

Specify

-50 dB Maximum

DEMODULATED VIDEO OUTPUT

VIDEO RESPONSE:

OUTPUT LEVEL:

DE-EMPHASIS:

IMPEDANCE:

2 Hz to 4.5 MHz ± 1.5 dB; 1 Hz to 6.0 MHz ± 3.0 dB

Factory Set to 1 V Pk-Pk for 8 MHz Pk-Pk at Crossover

Specify

75 Ohms Nominal

DEMODULATED TELEMETRY SUBCARRIER OUTPUTS

SUBCARRIER FREQUENCY:

SUBCARRIER STABILITY:

FREQUENCY RESPONSE:

PEAK DEVIATION:

OUTPUT LEVEL:

OUTPUT IMPEDANCE:

4.83, 5.2, 5.8, 6.2, 6.8, 7.5, or 8.5 MHz (Specify)

Within $\pm 0.5\%$ Maximum over -20°C to $+70^{\circ}\text{C}$

Within ± 1 dB 100 Hz to 150 KHz Rate to 300 KHz Pk-Pk Deviation

300 KHz Pk-Pk

Adjustable up to ± 1.0 VDC/ ± 150 KHz Deviation

600 Ohms Nominal

POWER REQUIREMENTS

INPUT VOLTAGE:

INPUT CURRENT:

28 ± 4 VDC, Reverse Polarity Protected

550 mA Maximum

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE:

VIBRATION:

SHOCK:

ACCELERATION:

ALTITUDE:

HUMIDITY:

Operating: -20°C to $+70^{\circ}\text{C}$; Storage: -54°C to $+125^{\circ}\text{C}$

14 G's, Random, Standard Haystack, 20 Hz to 2 KHz, 3 Axes

1/2 Sine, 100 G's Pk, 11 ms, 3 Axes

100 G's, 3 Axes

Unlimited

To 95% at any Temperature forming Frost or Condensation

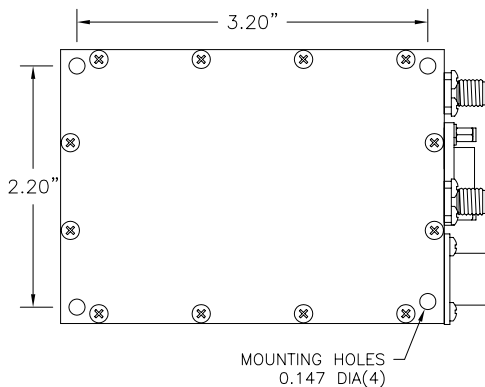
PHYSICAL CHARACTERISTICS

DIMENSIONS:

WEIGHT:

Per Outline Drawing

9 oz. Maximum



J2-RF IN
SMA FEMALE

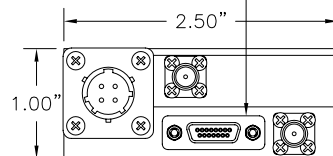
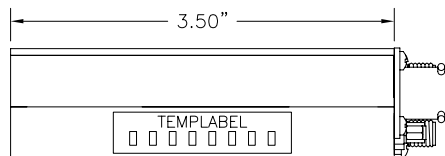
J3-VIDEO OUT
SMA FEMALE

J1-POWER INPUT
'A' +28 VDC
'B' TELEMETRY OUT
'C' RSS OUT or N/C
'D' GROUND
#PT02H-8-4P

MOUNTING HOLES
0.147 DIA(4)

J4-FREQUENCY SELECT
MDM-15P

PIN# 1: GND
2: GND
3: N/C
4: BCD 100 or N/C
5: BCD 80
6: BCD 40
7: BCD 20
8: BCD 10
9: BCD 8
10: BCD 4
11: BCD 2
12: BCD 1
13: BCD 0.5
14: GND
15: GND



DATE	05 07 10	 EMHISER RESEARCH, INC. 2705 OLD HIGHWAY 40 WEST TEL: 775-345-2705 P.O. BOX 189 VERDI, NEVADA FAX: 775-345-2484 89439-0189 U.S.A. EMAIL: INFO@EMHISER.COM
DWN	L3	
APVD		
QC		
CAGE CODE IDENT NO. 60666		VIDEO RECEIVER/SC/RSS/DE-EMPH CHANNELIZED, AC COUPLED 1710.0 TO 2399.5 MHZ (3 BANDS)
MODEL NO. EVRC-09DEA SERIES		

Video Receiver Model EVRC-09DED Series

De-Emphasis 9 Cubic Inches Signal Strength

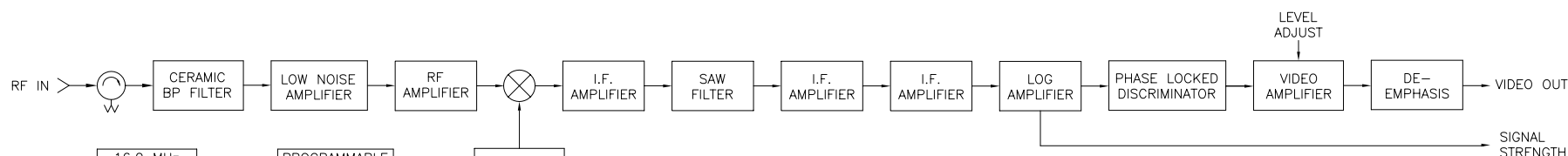
DC Coupled Single Frequency 28 VDC

Protected by One or More of the following Patents:

US: 5,091,706, 5,097,230, 5,311,152, 5,497,509, 5,802,462, 6,404,292, 6,411,237, 6,417,738, 6,650,180, 6,683,499, 6,690,238, 6,747,517, and 6,771,133.

Canadian: 2,033,861, 2,033,878, 2,080,013, 2,097,042, 2,235,091, and 2,308,209.

Other US and Canadian Patents Pending.



RF INPUT

CARRIER FREQUENCY:

FREQUENCY SELECTION:

IMPEDANCE:

VSWR:

POWER:

NOISE FIGURE:

SIGNAL STRENGTH OUTPUT:

1710.0 to 1849.5; 2200.0 to 2299.5;
2300.0 to 2399.5 MHz Channelized in 0.5 MHz Steps
Via MDM-15P Connector
50 Ohms Nominal
1.5:1 Maximum
+10 dBm Maximum without Damage
4 dB Maximum
Dependent upon Pre-Detect Bandwidth. +0.3 VDC Nominal at Threshold
Sensitivity, +5 VDC Nominal at Threshold Sensitivity + 50 dB

L.O./I.F.

STABILITY:

I.F.:

I.F. BANDWIDTH:

HARMONIC AND SPURIOUS LEVEL:

Within $\pm 0.002\%$ over -20°C to $+70^{\circ}\text{C}$
140 MHz
Specify
-50 dB Maximum

DEMODULATED VIDEO OUTPUT

VIDEO RESPONSE:

OUTPUT LEVEL:

DE-EMPHASIS:

IMPEDANCE:

DC to 4.5 MHz ± 1.5 dB; DC to 6.0 MHz ± 3.0 dB
Factory Set to 1 V Pk-Pk for 8 MHz Pk-Pk at Crossover
Specify
75 Ohms Nominal

POWER REQUIREMENTS

INPUT VOLTAGE:

INPUT CURRENT:

28 ± 4 VDC, Reverse Polarity Protected
550 mA Maximum

ENVIRONMENTAL SPECIFICATIONS

TEMPERATURE:

VIBRATION:

SHOCK:

ACCELERATION:

ALTITUDE:

HUMIDITY:

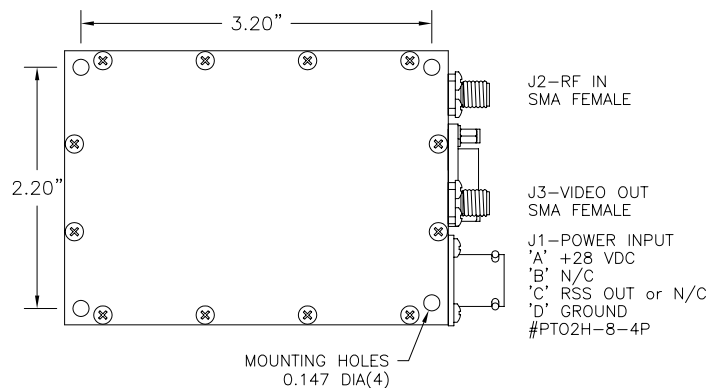
Operating: -20°C to $+70^{\circ}\text{C}$; Storage: -54°C to $+125^{\circ}\text{C}$
14 G's, Random, Standard Haystack, 20 Hz to 2 KHz, 3 Axes
1/2 Sine, 100 G's Pk, 11 ms, 3 Axes
100 G's, 3 Axes
Unlimited
To 95% at any Temperature forming Frost or Condensation

PHYSICAL CHARACTERISTICS

DIMENSIONS:

WEIGHT:

Per Outline Drawing
9 oz. Maximum

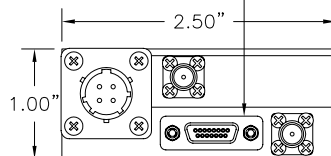
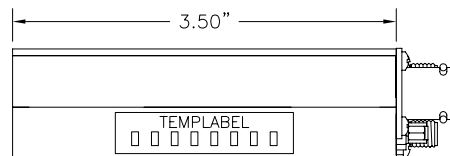


J4-FREQUENCY SELECT

MDM-15P

PIN#

- | | | |
|-----|-----|------------|
| 1: | GND | |
| 2: | GND | |
| 3: | N/C | |
| 4: | BCD | 100 or N/C |
| 5: | BCD | 80 |
| 6: | BCD | 40 |
| 7: | BCD | 20 |
| 8: | BCD | 10 |
| 9: | BCD | 8 |
| 10: | BCD | 4 |
| 11: | BCD | 2 |
| 12: | BCD | 1 |
| 13: | BCD | 0.5 |
| 14: | GND | |
| 15: | GND | |



DATE	05 07 10	 EMHISER RESEARCH, INC. 2705 OLD HIGHWAY 40 WEST TEL: 775-345-2705 P.O. BOX 189 VERDI, NEVADA FAX: 775-345-2484 89439-0189 U.S.A. EMAIL: INFO@EMHISER.COM
DWN	L3	
APVD		
QC		VIDEO RECEIVER/RSS/DE-EMPH CHANNELIZED, DC COUPLED 1710.0 TO 2399.5 MHZ (3 BANDS)
CAGE CODE IDENT NO.	60666	MODEL NO. EVRC-09DED SERIES 