



**Installation and Operation Manual
FD CONV-HDS DI-D VER SW
FD CONV-HDS DI-S VER SW
HDS DI Converter**





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General Information

Functionality

The FDCONV-HDSI-D VER SW is a dual channel converter and will accept two HDSI, HDMI, VGA, or composite inputs. There are two HDSI outputs. When selected, the HDMI, VGA, or composite input is converted to HDSI/SDI and switched to the corresponding SDI output. The FDCONV-HDSI-D is hardwired to convert composite on channel 1 and VGA on channel 2. The HDSI input can be selected by enabling the loop through feature.

The FDCONV-HDSI-S is a single channel converter, it is hard wired to convert composite to HDSI only. The FDCONV-HDSI-S VER SW can convert composite, VGA and HDMI to HDSI (There is also a HDSI loop thru).



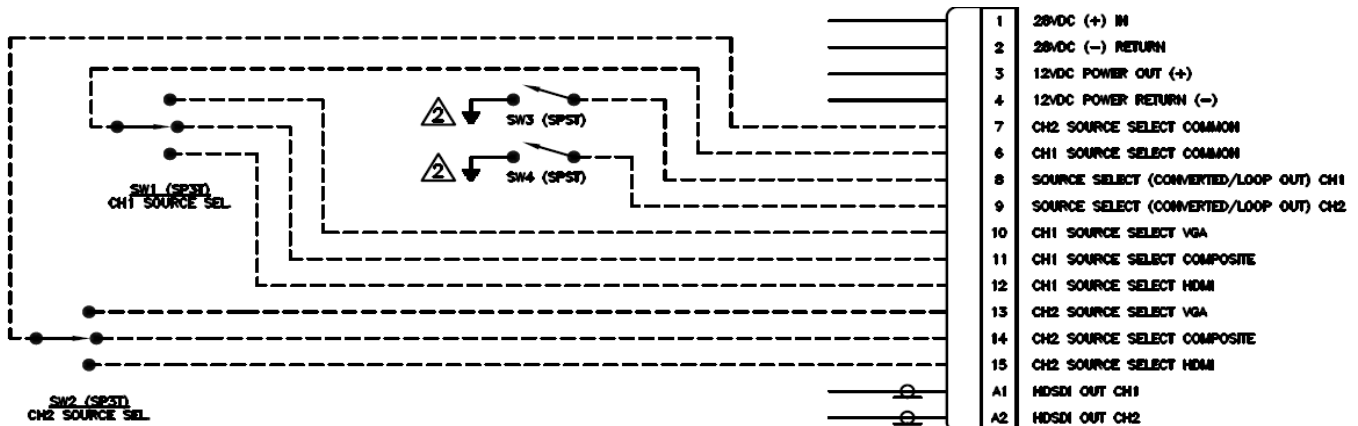
Front View

J1	VGA Input (CH 1)
J2	COMP Input
J3	HDMI Input (CH 1)
J4	HDSI Input (CH 1)
J5	HDSI Output/Power Input
J6	VGA Input (CH 2) (not available with FDCONV-HDSI-S VER SW)
J7	HDMI Input (CH 2) (not available with FDCONV-HDSI-S VER SW)
J8	HDSI Input (CH 2) (not available with FDCONV-HDSI-S VER SW)



Specifications

Dimensions	8.890'' x 2.020'' x 5.830''	
Weight	FDCONV-HDSI-D VER SW - 1 lbs. 12oz.	
	FDCONV-HDSI-S VER SW - 1 lbs. 08oz	
Power	28V DC @ 1AMP	
Inrush Current	FDCONV-HDSI-D VER SW	19 Amps @ 50µS
		7.0 Amps @ 500µS
		500mA continuous
Operating Temperature	-20 C to 60 C	
PC & Video Input	FDCONV-HDSI-D VER SW	(2)HDMI, (2)VGA, (2)HDSI and (2)Composite
Video Output	(2) HDSI	
Control	Ground Switching (see diagram below)	
VGA	Supports 3 Resolutions (640x480, 800x600, 1024 x768) all at 60 hz Refresh Rate	



NOTES:

1. THIS DIAGRAM IS ONE EXAMPLE FOR VIDEO SELECTION/CONTROL, OTHER VARIATIONS ARE POSSIBLE UTILIZING DIFFERENT SWITCHES AND/OR JUMPERS.
2. GROUND WILL OUTPUT CONVERTED VIDEO OPEN WILL OUTPUT HDSI LOOPTHROUGH VIDEO
3. SW1 THRU SW4 NOT SUPPLIED





Installation Instructions

All cabin electronic equipment that is not required for flight, such as the FDCONV-HDSI-D/S VER SW, should be installed on a non-essential bus and have a dedicated circuit breaker.

Mechanical Installation

The unit may be mounted in a horizontal or vertical position on an equipment rack or inside a cabinet. It is recommended to install with at least 1 inch of space around the top and left & right sides of the unit to allow circulation of air for cooling.

HDSI

HDSI Input is a panel mounted BNC receptacle that mates with a standard BNC plug (RG179 Connector supplied).

HDMI

HDMI Input is a flush mounted HDMI Type A Female Receptacle that mates with a HDMI Type A Male Connector(not supplied). All other mating connectors are provided by FDS Avionics Corp..

Video Selection

Video selection is made by enabling or disabling a ground circuit. An open circuit on the loop outsource select (P2 pin 8 for CH1 & P2 pin 9 for CH2) will enable the HDSI loop through. When switched to ground the VGA, HDMI or Composite input can be enabled by applying a ground to the corresponding source select pin (pin 10, 11, 12 for CH1 and 13,14, 15 for CH2).

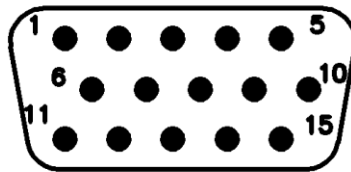


Pinout

P1 & P6 – Standard VGA (Supplied)

Connector
 Crimp Contacts

P/N: M24308/4-264 or Equivalent
 P/N: M39029/58-360 or Equivalent



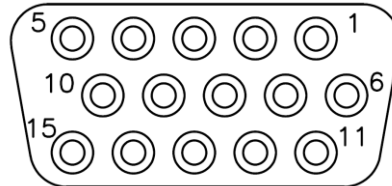
MATING FACE

Pin Number	Description
1	Red
2	Green
3	Blue
4	RES
5	GND
6	RGND
7	GGND
8	BGND
9	KEY
10	SGND
11	IDO
12	SDA
13	HSYNC OR CSYNC
14	VSYNC
15	SCL

P2 - High Density DB-15 Receptacle (Supplied)

Connector
 Crimp Contacts

P/N: M24308/2-286 or Equivalent
 P/N: M39029/57-354 or Equivalent



MATING FACE

Pin Number	Description
1	Composite Video Signal CH1 IN
2	Composite Video Return CH1
3	Composite Video Signal CH2 IN
4	Composite Video Return CH2
5	N/C
6	J3 Right Audio -
7	J3 Left Audio -
8	J7 Right Audio -
9	J7 Left Audio -
10	N/C
11	J3 Right Audio +
12	J3 Left Audio +
13	J7 Right Audio+
14	J7 Left Audio +
15	N/C

P3 & P7 - HDMI Type A Male Plug (Not supplied)

P4 & P8 - Standard 75Ω BNC Plug (RG179 connector supplied)

Pin	Description
Center	Video Signal
Shell	Video Return

P5 - 17W2 Combo-D Receptacle (Supplied w/ RG179 contacts)

Connector

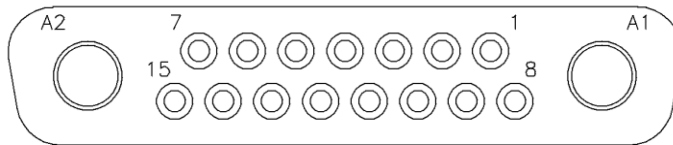
Conec P/N: 3017W2SCM99A10X

Coax Contacts

Conec P/N: 132J30019X

Signal Contacts

Solder Cups



17W2 FEMALE

Pin Number	Description
1	28VDC Power IN
2	28V Power Return
3	12VDC Power OUT
4	12VDC Power Return
5	N/C
6	CH1 Source Select Common
7	CH2 Source Select Common
8	Source Select (Converted/Loop Out) CH1
9	Source Select (Converted/Loop Out) CH2
10	CH1 Source Select VGA
11	CH1 Source Select Composite
12	CH1 Source Select HDMI
13	CH2 Source Select VGA
14	CH2 Source Select Composite
15	CH2 Source Select HDMI
A1	HDSI OUT CH1
A2	HDSI OUT CH2

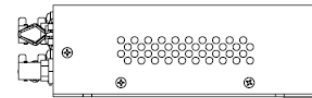
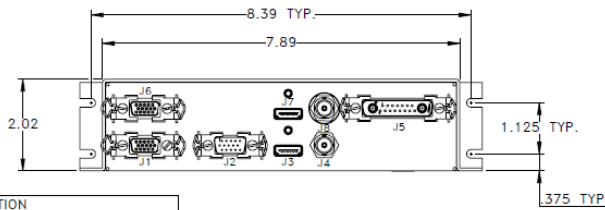
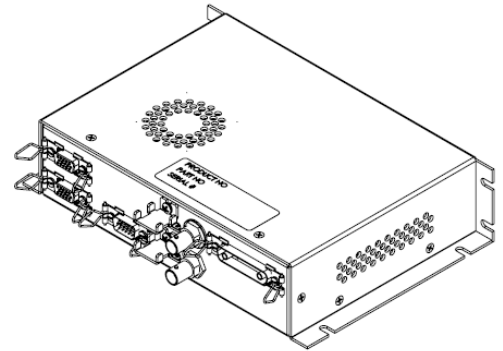
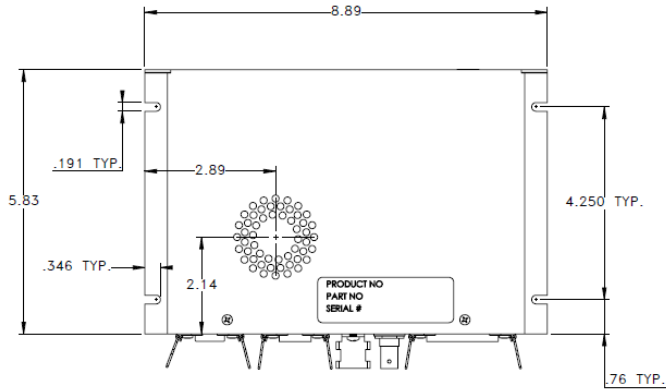


Technical Drawing

NOTES:

1. FDCONV-HDSI-D VER SW SHOWN, FDCONV-HDSI-S VER SW IS THE SAME, EXCEPT WITHOUT CH2 INPUTS AND OUTPUTS.
2. REFER TO MSD-217 FOR INTERFACE DRAWING

REV	DESCRIPTION	DATE	BY	APD
O.I.	ORIGINAL ISSUE	10-29-12	DMC	ELH
A	ADDED CONNECTOR TABLE & NOTE 2; UPDATED REFERENCE DESIGNATORS	11-24-14	DMC	RDK



REF DES	FUNCTION
J1	VGA INPUT CH1
J2	COMPOSITE IN & HDMI AUDIO OUT CH1 & CH2
J3	HDMI INPUT CH1
J4	HDSI INPUT CH1
J5	POWER/SWITCHING/VIDEO OUT CH1 & CH2
J6	VGA INPUT CH2
J7	HDMI INPUT CH2
J8	HDSI INPUT CH2

UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE IN INCHES. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY. DIMENSIONS IN MILLIMETERS ARE FOR INFORMATION ONLY. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY.

OWN	DATE	FLIGHT DISPLAY SYSTEMS
D.M.C.	10-29-12	8486 SHILOH ROAD • ALPHARETTA, GA 30706
APD	DATE	978.887.8717 • WWW.FLIGHTDISPLAY.COM
E.L.H.	10-29-12	
TOLERANCES:		MOUNTING SPECIFICATION FDCONV-HDSI-D(S) VER SW
3 PLACE DECIMAL ± .010		
2 PLACE DECIMAL ± .020		
1 PLACE DECIMAL ± .030		DRAWING NO. MSD-216
FRACTIONALS	ANGLES:30°	MATERIAL
FINISH	ELECTROLESS NICKEL	ALLUMINUM
SCALE	1/2	SHEET
		1 OF 1
		REVISION
		A



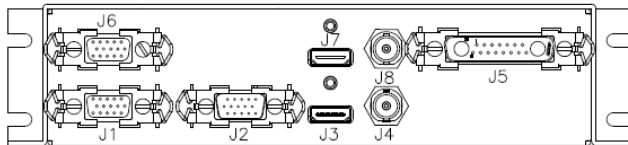
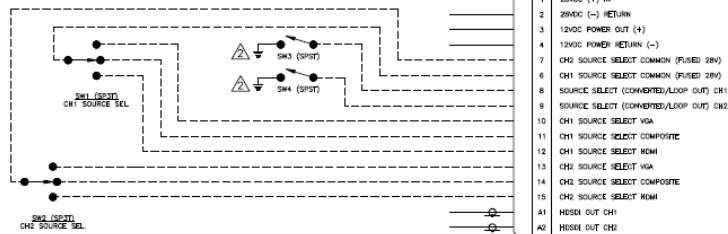


Technical Drawing

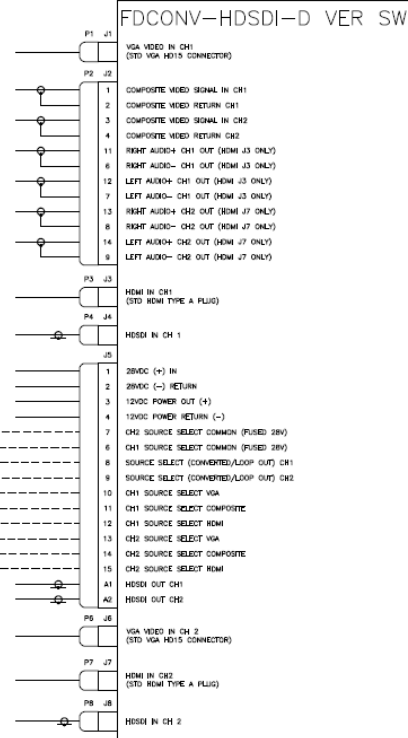
NOTES:

- THIS DIAGRAM IS ONE EXAMPLE FOR VIDEO SELECTION/CONTROL, OTHER VARIATIONS ARE POSSIBLE UTILIZING DIFFERENT SWITCHES AND/OR JUMPERS.
- GROUND WILL OUTPUT CONVERTED VIDEO
 OPEN WILL OUTPUT HDSOI LOOPTHROUGH VIDEO
- SW1 THRU SW4 NOT SUPPLIED
- FDCONV-HDSOI-D VER SW SHOWN.
 FDCONV-HDSOI-S VER SW IS THE SAME EXCEPT WITHOUT CH2 INPUTS AND OUTPUTS

FDS PART NUMBER	DESCRIPTION	REF DES
Z51-0000-15W	CONNECTOR, D-SUB HD15, MALE	P1
Z51-0000-15F	CONNECTOR, D-SUB HD15, FEMALE	P2
N/A	HDW TYPE A MALE PLUG	P3
Z50-0103-00	CONNECTOR, BNC STRAIGHT PLUG (R6179)	P4
Z51-0000-01	CONNECTOR, TYPE COMBO D, FEMALE	P5
Z51-0000-15W	CONNECTOR, D-SUB HD15, MALE	P6
N/A	HDW TYPE A MALE PLUG	P7
Z50-0103-00	CONNECTOR, BNC STRAIGHT PLUG (R6179)	P8



REV	DESCRIPTION	DATE	BY	APD
0.1	ORIGINAL ISSUE	07-26-12	DMC	NC
A	REVISED PRODUCT TO VER SW	08-29-12	DMC	ELH
B	ADDED (FUSED 28V) TO CH SOURCE SELECT COMMON	11-14-12	DMC	JL
C	ADDED AUDIO OUTPUTS TO J1	11-24-14	DMC	YP



OWN	D.M.C.	06-25-12	FLIGHT DISPLAY SYSTEMS
APP	N.C.	06-25-12	
TOLERANCES			CONTROL SPECIFICATION FDCONV-HDSOI-D/S VER SW
3 PLACE DECIMALS +/- .010			
2 PLACE DECIMALS +/- .020			DRAWING NO. MSD-217
1 PLACE DECIMALS +/- .030			
FRACTIONS +/- ANHLES +/- 30'			
FINISH			
SCALE	NONE	SHEET 1 OF 1	REVISION C





Technical Support

Should you have any questions concerning this product or other FDS Avionics Corp. products, please contact our Product Support representatives at (470) 239-7421.

FDS Avionics Corp.
6435 Shiloh Road
Alpharetta, GA 30005
Phone: 470-239-7400
Fax: 470-239-7439
Email: sales@FDSAvionics.com

For further product information, technical data and sample wiring diagrams, please click on the **Dealers** section of our web site at www.FDSAvionics.com

Instructions for Continued Airworthiness

The FDCONV-HDSIDI-D/S VER SW converter is designed not to require regular general maintenance.





Warranty Information

All FDS Avionics Corp. (FDS) products are warranted to be free from material or manufacturing defects for a period of 24 months from the date of shipment for General Aviation customers or 12 months from the date of shipment for Government/Special Mission customers. Any material or repair workmanship for in warranty repair service will be specifically warranted for 90 days or the remainder of the original warranty period, whichever is longer. If the original warranty period has expired, the 90 day repair warranty is limited to the material and workmanship specific to the repair activity completed.

The following conditions are exclusions to warranty coverage:

1. Labor costs associated with installation, removal or reinstallation of any product.
2. Damage to or malfunction caused by any unauthorized alteration made to the product.
3. Resolving signal quality issues caused by externally generated noise introduced by aircraft electrical systems or other components connected to any FDS product.
4. Any malfunction caused by improper installation or connection to aircraft wiring, industry standard cabin management/ inflight entertainment systems, or third party commercial equipment not specifically identified as compatible with FDS products.
5. Any malfunction caused by installation that does not conform to precautions associated with operating environments listed in the operating manual or consistent with industry best practices such as; high temperature, adequate ventilation, high humidity, high dust, or power surges.
6. Cosmetic damage or damage to internal components caused by installation or removal, failure to follow installation or operating instructions, or any neglect or misuse of the product.
7. Any product that is returned for service with a broken tamper evident seal, indicating tampering or improper handling of the product by an unauthorized person. Violation of product tamper evident seals or modification of factory installed serial and PMA labels voids any warranty, either expressed or implied.

The FDS technical support team is available to provide distance troubleshooting support during business hours (8:00am to 5:00pm EST) Monday through Friday at (470) 239-7421.

Many repair requests can be resolved through distance support and may not require return of merchandise to the factory. If a product must be returned to the factory for repair, an RMA number will be issued as directed by the technical support team and communicated by the repair coordinator.

Upon request by the customer, FDS may send a service technician onsite to repair any non-PMA products. The travel expenses incurred to include transportation, lodging and meals along with the technician's hourly rate shall be payable by the customer in accordance with FDS' applicable rates and procedures.

FDS Avionics Corp. will, upon receipt of returned merchandise, remanufacture or replace the unit at our discretion and return the product by Ground Return Shipping. Express return shipment will be the responsibility of the sender.

This warranty is not transferable.

Any implied warranties expire at the express limited warranty expiration date. FDS shall not be held liable for any indirect, special, punitive, incidental or consequential damages.

Some states do not allow limitation on the length of an implied warranty. In such states, the exclusions or limitations of this limited warranty may not apply.





Revisions Log

Rev	Date	Page	Description
A	7/20/2012		Initial Release
B	7/26/2013	All	Name/Version Changed, Address, Contact and Warranty Information changed.
C	11/20/2013	5	Added VGA Supporting Resolutions
D	07/11/2014	7	Added Audio to pinout.
E	12/12/2014	All	Updated MSDs and pinout information.
F	5/5/2017	All	Update to Format, Warranty and Company Name.

