



Table 1. LS28M 1U Chassis Combined AUX Connector Pinout

Ch1 AUX Connector Pin	PCB Pad Identifier	Signal Details	Label Color	Label Text	Cable Type	D-Sub Connector Pin
1	E1	IRIG Time AM Input/Output	GRN	IRIG AM IO (J4-1)	RG174	-
2	E2	Combined Q Clock Output	VIO	COMB QCLK OUT (J11-10)	RG174	-
3	E3	Combined Q Data Output	VIO	COMB QDAT OUT (J11-9)	RG174	-
4	E4	J8 User Open/Collector Out (13)	-	-	RG174	D9: 1
13	E13	J9 User Open/Collector Out (13)	-	-	RG174	D9: 2
20	E20	J12 User Defined I/O (21)	WHT	J12 UIO (J12-21)	RG174	-
21	E21	J12 User Defined I/O (22)	WHT	J12 UIO (J12-22)	RG174	-
23	E23	External Shutdown Input	ORG	EXTSHDN_L (J11-16)	RG174	-
24	E24	Time 1PPS Input/Output	PNK	TIME DIO (J12-24)	RG174	-
5	E5	Combined I Clock (+) Output	-	-	TSP	D15: 1
6	E6	Combined I Clock (-) Output	-	-		D15: 11
7	E7	Combined I Data (+) Output	-	-	TSP	D15: 2
8	E8	Combined I Data (-) Output	-	-		D15: 12
9	E9	Combined Q Clock (+) Output	-	-	TSP	D15: 4
10	E10	Combined Q Clock (-) Output	-	-		D15: 14
11	E11	Combined Q Data (+) Output	-	-	TSP	D15: 5
12	E12	Combined Q Data (-) Output	-	-		D15: 15
18	E18	J12 User Defined I/O (10)	-	-	TSP	D9: 4
19	E19	J12 User Defined I/O (12)	-	-		D9: 5
14-17, 22, 25		Ground	-	-		D9: 6-9 D15: 6-9

Table 2. Assembly BOM

Description	Qty	Manufacturers P/N	Manufacturer
Micro-DSub Aluminum Backshell	2	MEC-28M-01-301-02	Lumistar
MDM 25-pin Female Connector	1	CONN-380-025-213L001	NorComp
MDM 25-pin Female Backshell PCB	1	HARM-3428M0138901	Lumistar
UNC2-56 Thumbscrews	2	NTEC-B71014305	Northern Technologies
BNC Female RG174 Pigtail, 12"	7	LCOM-SP7363	LCOM
Heat-shrink Tubing	AR	(Common Stock)	(Various)
0-80 82-Degree Stainless Steel Screw, Flathead, 0.3125 Length	4	(Common Stock)	(Various)
HD15 Female Connector, Solder Cup	1	CONN-180-015-203L001	NorComp
HD15 Backshell Kit w/Thumbscrews	1	CONN-973-009-10R011	NorComp
1 Ft. Twisted-Shielded Pair, 26AWG, 110 Ohm	5	CABL-55A1121-26-6/9-9	TE/Raychem
D9 Female Connector, Solder Cup	1	CONN-171-009-203L001	NorComp
D9 Backshell Kit w/Thumbscrews	1	CONN-973-009-010R011	NorComp
RG-174 50 Ohm Coax Cable	AR	CABL-RG-174	NorComp

Assembly Notes:

- 1.) Place connector identification label on the key side at this location. On the bottom cover place "28U-01-003-02" label.
- 2.) Place pigtail identification labels with shown text and colors from table 1 at the locations shown and cover with clear heat shrink.
- 3.) Bundle D-Sub cables at approximate 4" intervals to keep cables together.
- 4.) Remove plastic thumbscrew covers prior to assembly.
- 5.) Table 2 provides assembly component Bill of Materials.
- 6.) Label HD15 and D9 backshells as shown.

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User Defined IO Assignments

Signal Mnemonic	Connector Pin	Signal Description	Signal Direction	Signal Characteristics
C1EGPIO1	J8-13	Ch1 Open Collector Out	Output	Open/Collector
C1EGPIO9	J9-13	Ch2 Open Collector Out	Output	Open/Collector

Signal Mnemonic	Connector Pin	Signal Description - Input	Signal Description - Output	Signal Direction	Signal Characteristics
J12UIO9	J12-21	Preset Select B0	Ch1 Carrier Lock	Input/Out	5V TTL
		External Status Trigger 1	Ch1 Bit Sync Lock	Input/Out	5V TTL
			Ch1 Signal Quality Lock	Input/Out	5V TTL
			Stream 1 Lock	Input/Out	5V TTL
J12UIO10	J12-22	Preset Select B1	Ch2 Carrier Lock	Input/Out	5V TTL
		External Status Trigger 2	Ch2 Bit Sync Lock	Input/Out	5V TTL
			Ch2 Signal Quality Lock	Input/Out	5V TTL
			Stream 2 Lock	Input/Out	5V TTL
J12UIO11	J12-10	Preset Select B2	Combiner Carrier Lock	Input/Out	5V TTL
		External Status Trigger 3	Combiner Bit Sync Lock	Input/Out	5V TTL
			Combiner Signal Quality Lock	Input/Out	5V TTL
			Stream 3 Lock	Input/Out	5V TTL
J12UIO12	J12-11	Preset Select B3	Time Lock	Input/Out	5V TTL
		External Status Trigger 4	Reference Lock	Input/Out	5V TTL
			Stream 1 Lock	Input/Out	5V TTL
			Stream 2 Lock	Input/Out	5V TTL

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