

# DIGITAL COMMAND CENTER

## Family of multi-channel Standalone Network Switches



### DESCRIPTION:

Amphenol's family of Rugged Digital Command Center Ethernet Switch Boxes provides an unmatched level of flexibility to meet any system requirement. The base model switch box is a 32-channel 10Gbps standalone Ethernet Switch box that is configurable for system connectivity, speeds, port types, and interoperability with various high-speed media converters and connectors for system interfacing. In addition, each switch is non-blocking and low-latency for high-throughput architectures and applications. In Amphenol's state-of-the-art Spirent communications testing center, the switch box is tested aggressively at line rates to RFC 2889 for switching and RFC 2544 for L2/L3 performance, latency, packet forwarding, and other key items at full line rate and PRBS 2<sup>31</sup>.

The **Pro Light** comprises of 12 channels of 10GBASE-T (supporting 1GBASE-T and 100BASE-T), and four channels of 10GBASE-SR, capable of a throughput of up to 160Gbps.

Need more channels? Check out the **Pro Performance** model that can support 24 channels of 10GBASE-T (supporting 1GBASE-T and 100BASE-T), and eight channels of 10GBASE-SR.

Everyone needs to go faster eventually! Check out the **Pro 25G** version which has eight channels of 10GBASE-T and 24 channels of 25GBASE-SR utilizing state of the art fiber optic transceivers.

### FEATURES AND BENEFITS:

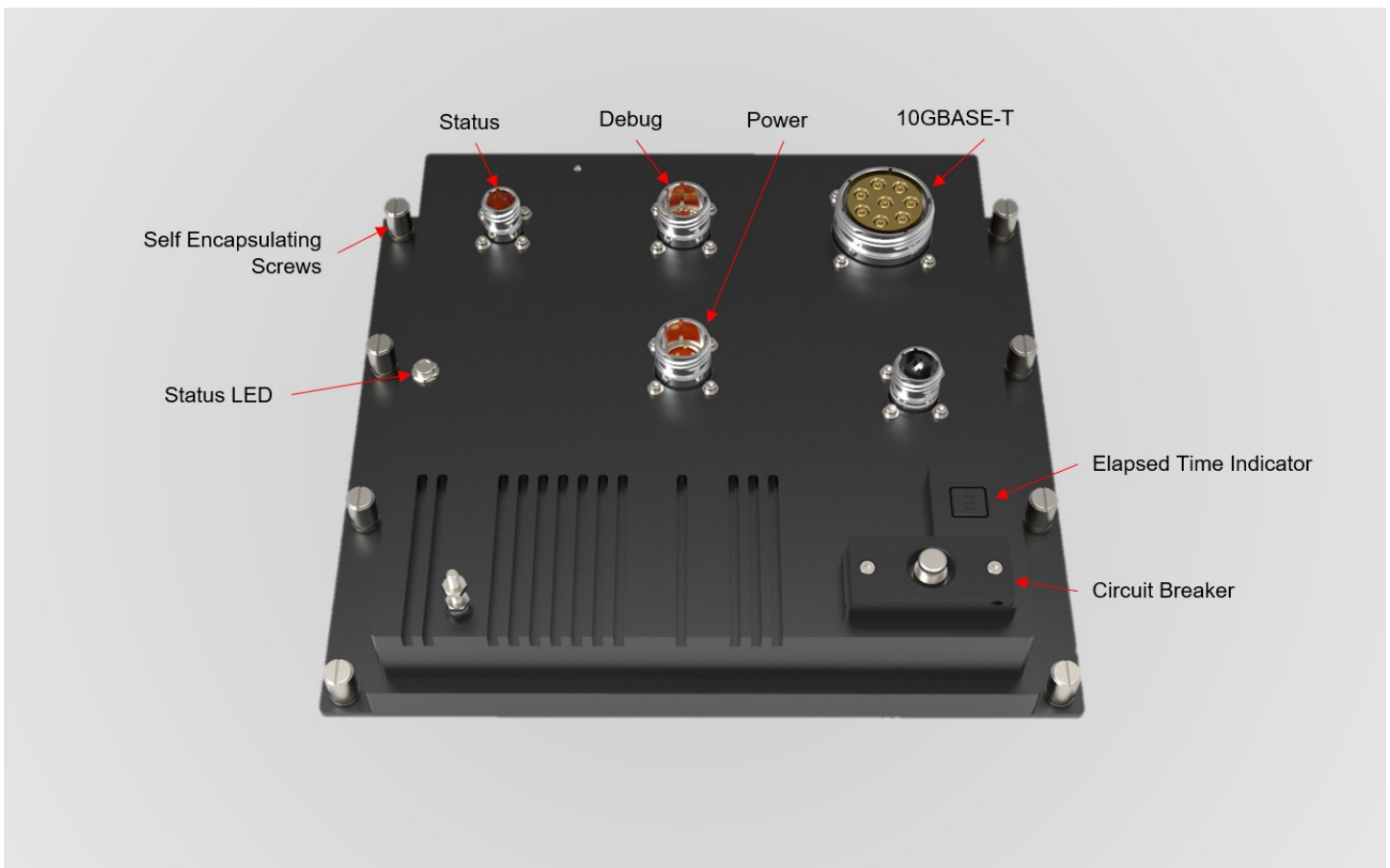
- Copper Ethernet compliance to IEEE 802.3an
- Fiber Ethernet compliant to IEEE 802.3 Clause 49
- Non-blocking L2/L3 switch
- Dual core ARM processor with flash, SPI, EEPROMs, and DDR3 and management Ethernet connection
- Uboot and Linux OS for L2/L3 switching
- Web browser, SSH, CLI, telnet
- Embedded reset and status CPLD
- Support for PTP boundary clock
- Service micro-controller for power down, reset, and restart in overheat event
- 28VDC mil-spec power supply with EMI filter
- ETI, Circuit breaker, power supply status LEDs
- Power connector, debug connector, maintenance/status connector - MIL-STD-38999
- MIL spec black painted chassis with cold plate and external conduction cooling
- Power over Ethernet (POE) on select units
- MIL spec circuit breaker

## ORDERING INFORMATION

PART NUMBER	ALIAS	10GBASE-T CHANNELS	10GBASE-SR CHANNELS	25GBASE-SR CHANNELS	POE
CF-02WA00-042	The Architect	12	4	0	Yes
CF-02WA00-041	The Tactician	24	8		Yes
CF-020400-062	The General	8	0*	24	No
CF-02WA00-12X	The Sargent	36	0*	12	No
CF-02WA00-13X	The Specialist	25	0*	12	No
CF-02WA00-14X	The Private	12	0*	12	No

\*25GBASE-SR channels support 10GBASE-SR

## VISUAL DESCRIPTION



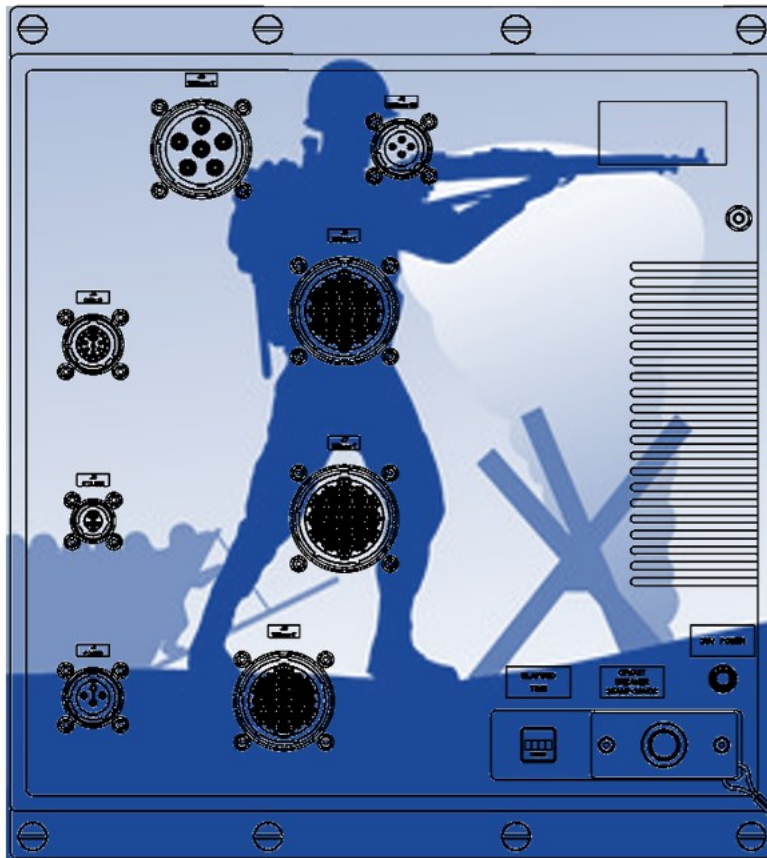
Functionality differs based on Digital Command Center model

# Software Features

<b>Stacking</b>	<b>Defining IP Addresses</b>	<b>Managing System Files</b>
Stacking Ring Topology	Configuring IP Addressing	Downloading System Files
Stacking Chain Topology	Defining IP Addresses	Firmware Download
Stacking Members and Unit ID	Defining ARP	Configuration Download
Removing and Replacing Stacking Members	Defining Domain Name Servers	Uploading System Files
Exchanging Stacking Members	Defining DNS Servers	Upload Type
Switching the Stacking Master	Defining DNS Host Mapping	Software Image Upload
<b>Configuring System Time</b>	<b>Defining the Forwarding Database</b>	Configuration Upload
Configuring Daylight Savings Time	Defining Static Forwarding Database Entries	Copying Files
Configuring SNTP	Defining Dynamic Forwarding Database Entries	Restoring the Default Configuration File
Polling for Unicast Time Information	<b>Configuring Spanning Tree</b>	<b>Configuring Quality of Service</b>
Polling for Anycast Time Information	Defining Classic Spanning Tree	Quality of Service Overview
Broadcast Time Information	Defining STP on Interfaces	VPT Classification Information
Defining SNTP Settings	Defining Rapid Spanning Tree	CoS Services
<b>Configuring Device Security</b>	Defining Multiple Spanning Tree	Defining General QoS Settings
Configuring Management Security	Defining MSTP Instance Settings	Configuring QoS General Settings
Configuring Authentication Methods	Defining MSTP Interface Settings	Restoring Factory Default QoS Interface Settings
Defining Access Profiles	<b>Configuring SNMP</b>	Defining Queues
Defining Profile Rules	SNMP v1 and v2c	Defining Bandwidth Settings
Defining Authentication Profiles	SNMP v3	Mapping CoS Values to Queues
Mapping Authentication Methods	Configuring SNMP Security	Mapping DSCP Values to Queues
Defining RADIUS Settings	Defining SNMP Security	Defining QoS Basic Mode
Defining TACACS+ Authentication	Defining SNMP View	Defining Basic Mode Settings
Configuring Passwords	Defining SNMP Group Profiles	Rewriting Basic Mode DSCP Values
Defining Local Users	Defining SNMP Group Members	Defining QoS Advanced Mode
Defining Line Passwords	Defining SNMP Communities	Setting Policy Binding
Defining Enable Passwords	SNMP Communities Basic Table	<b>Managing Device Diagnostics</b>
Configuring Network Security	SNMP Communities Advanced Table	Configuring Port Mirroring
Network Security Overview	Configuring SNMP Notifications	<b>Viewing Statistics</b>
Port-Based Authentication	Defining SNMP Notification Global Parameters .	Viewing Interface Statistics
Advanced Port-Based Authentication	Defining SNMP Notification Filters	Viewing Interface Statistics
Defining Port Authentication Properties	Defining SNMP Notification Recipients	Receive Statistics
Defining Port Authentication	SNMPv1,2c Notification Recipients	Transmit Statistics
Configuring Multiple Hosts	SNMPv3 Notification Recipients	Viewing Etherlike Statistics
Defining Authentication Hosts	<b>Configuring Multicast Forwarding</b>	Managing RMON Statistics
Viewing EAP Statistics	Multicast Forwarding	Viewing RMON Statistics
Defining Access Control Lists	Typical Multicast Setup	Configuring RMON History
Defining IP Based Access Control Lists	Multicast Operation	Defining RMON History Control
Defining MAC Based Access Control Lists	Multicast Registration	Viewing the RMON History Table
Binding Device Security ACLs	Multicast Address Properties	Configuring RMON Events
Managing Port Security	Defining Multicast Properties	Defining RMON Events Control
Enabling Storm Control	Adding MAC Group Address	Viewing the RMON Events Logs
<b>Configuring System Logs</b>	Adding IP Multicast Groups	Defining RMON Alarms
Defining General Log Properties	Configuring IGMP Snooping	
Viewing Memory Logs	Configuring MLD Snooping	
Viewing Flash Logs	Viewing IGMP/MLD IP Multicast Groups	
<b>Configuring Interfaces</b>	Defining Multicast Router Ports	
Configuring Ports	Defining Forward All Multicast	
Aggregating Ports	Defining Unregistered Multicast Settings	
Configuring LACP		
Configuring VLANs		
Defining VLAN Properties		
Defining VLAN Membership		
Defining VLAN Interface Settings		
Configuring GARP		
Defining GARP		
Defining GVRP		
Viewing GVRP Statistics		

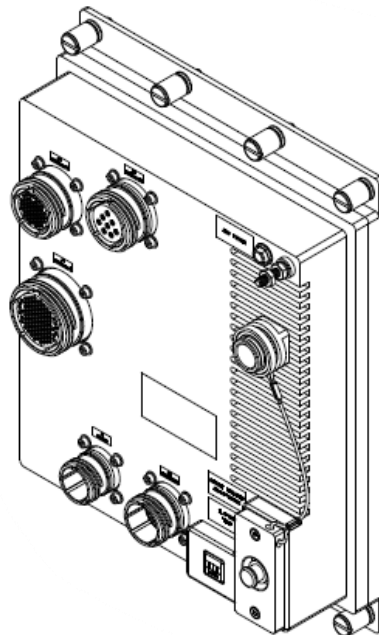
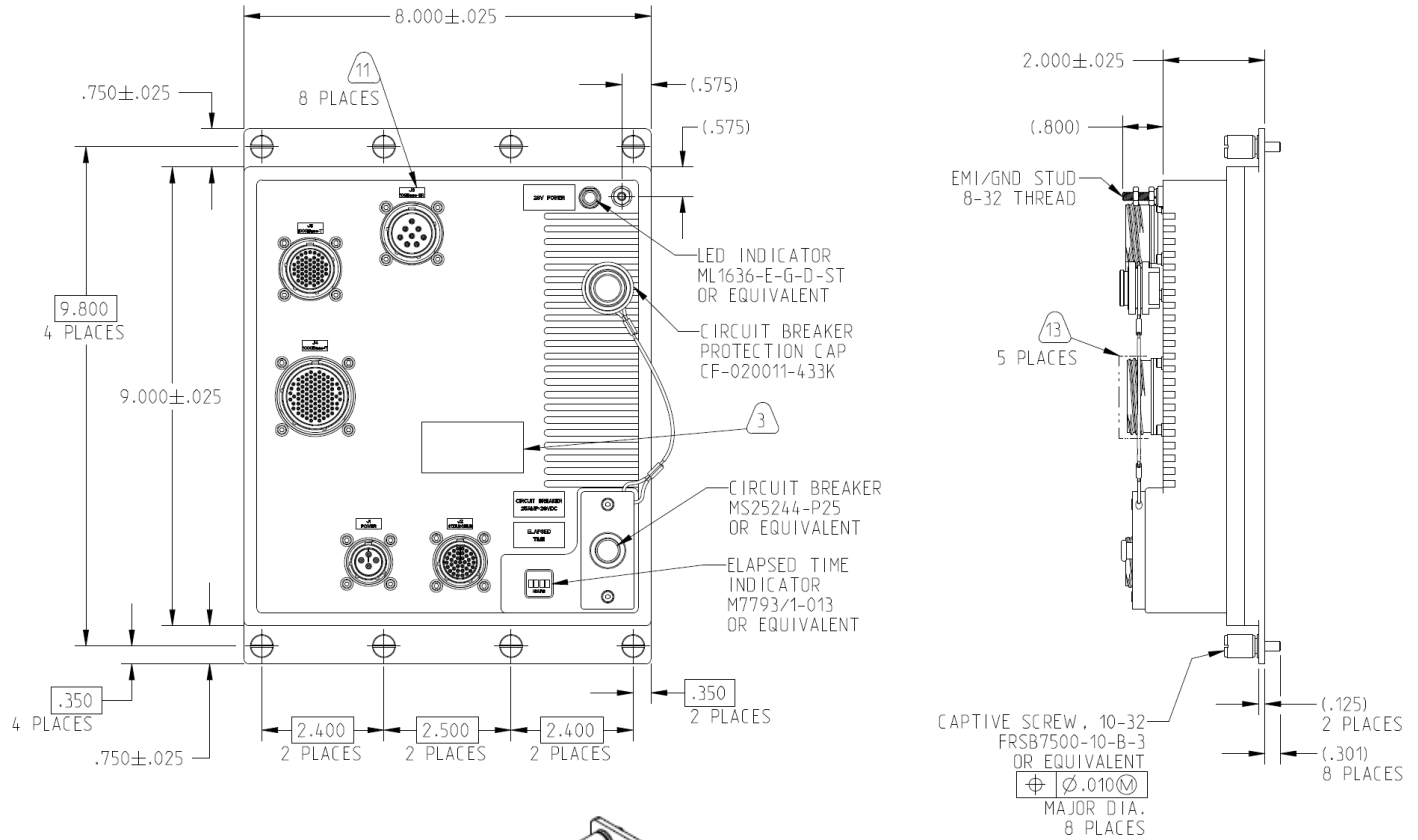
# DIGITAL COMMAND CENTER

**Our switches will be breaching the enemy lines in the battle! We will storm through the beaches of the market and onto the lovely land of victory with our "Digital Command Center".**

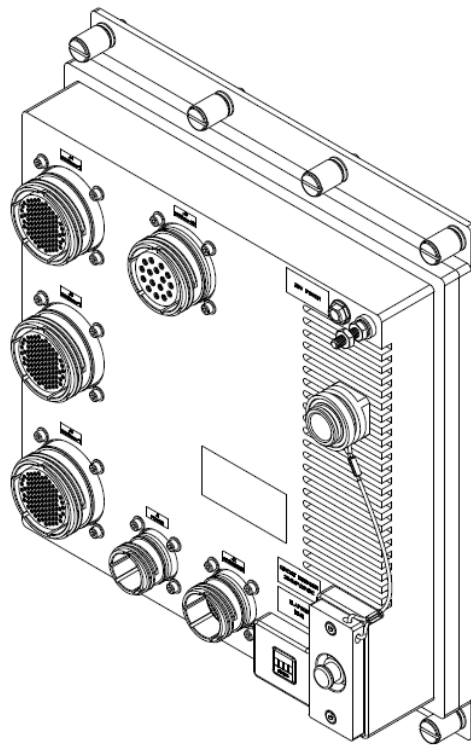
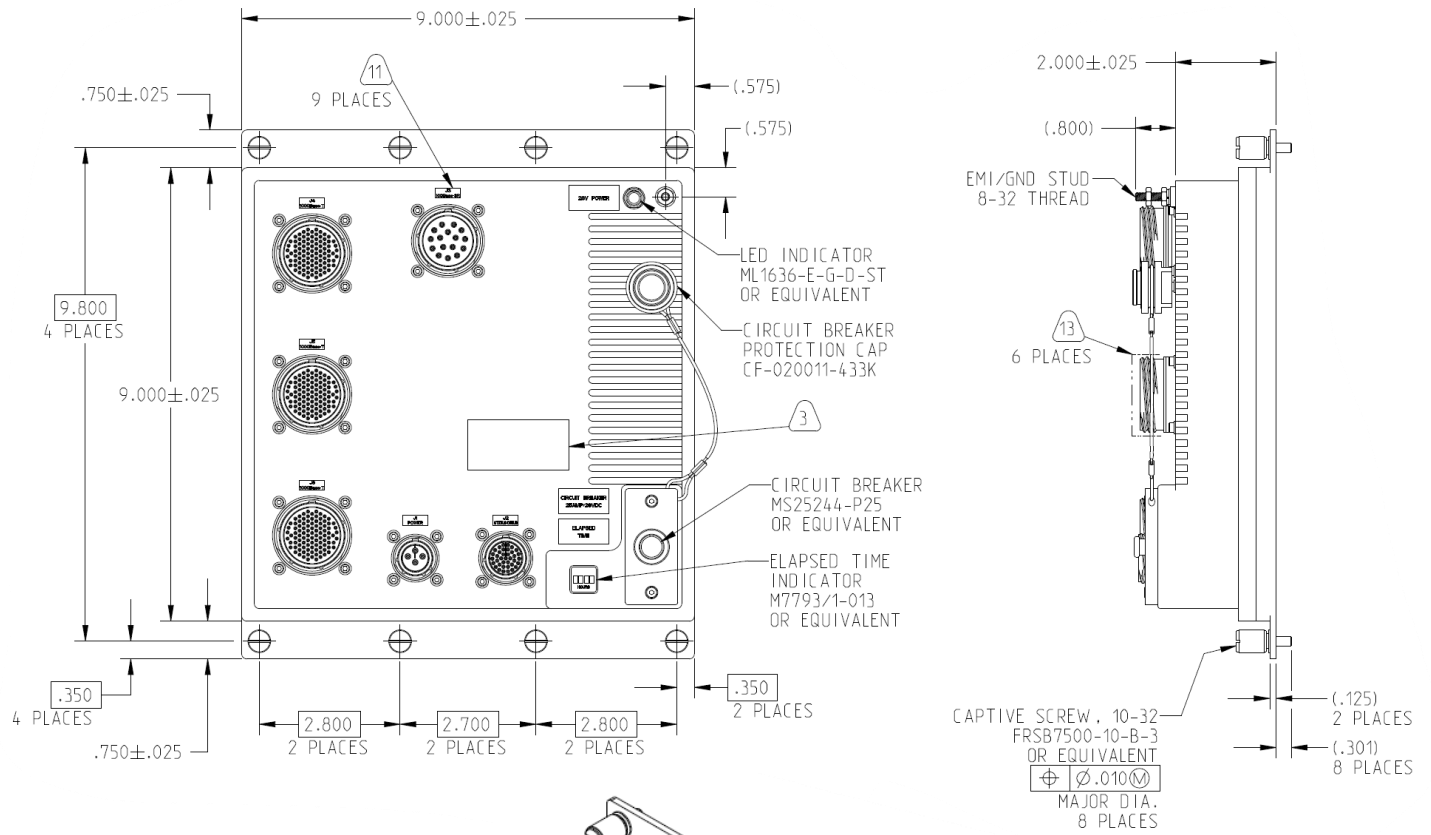


# MECHANICAL SPECIFICATIONS

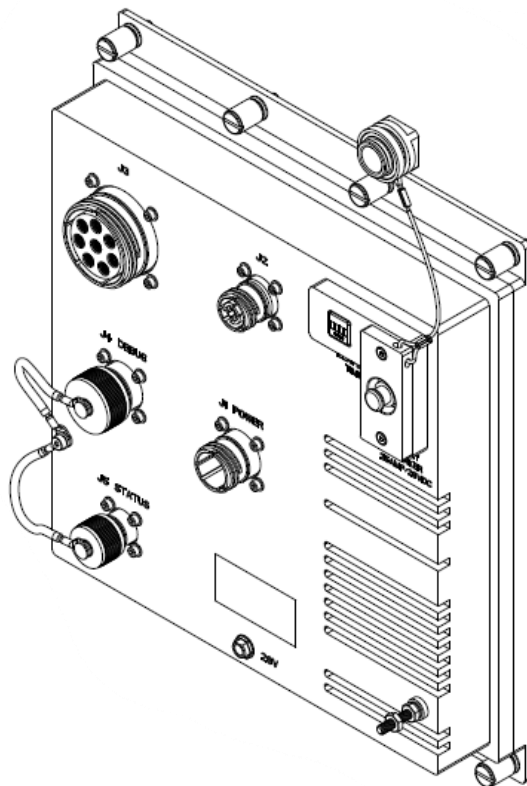
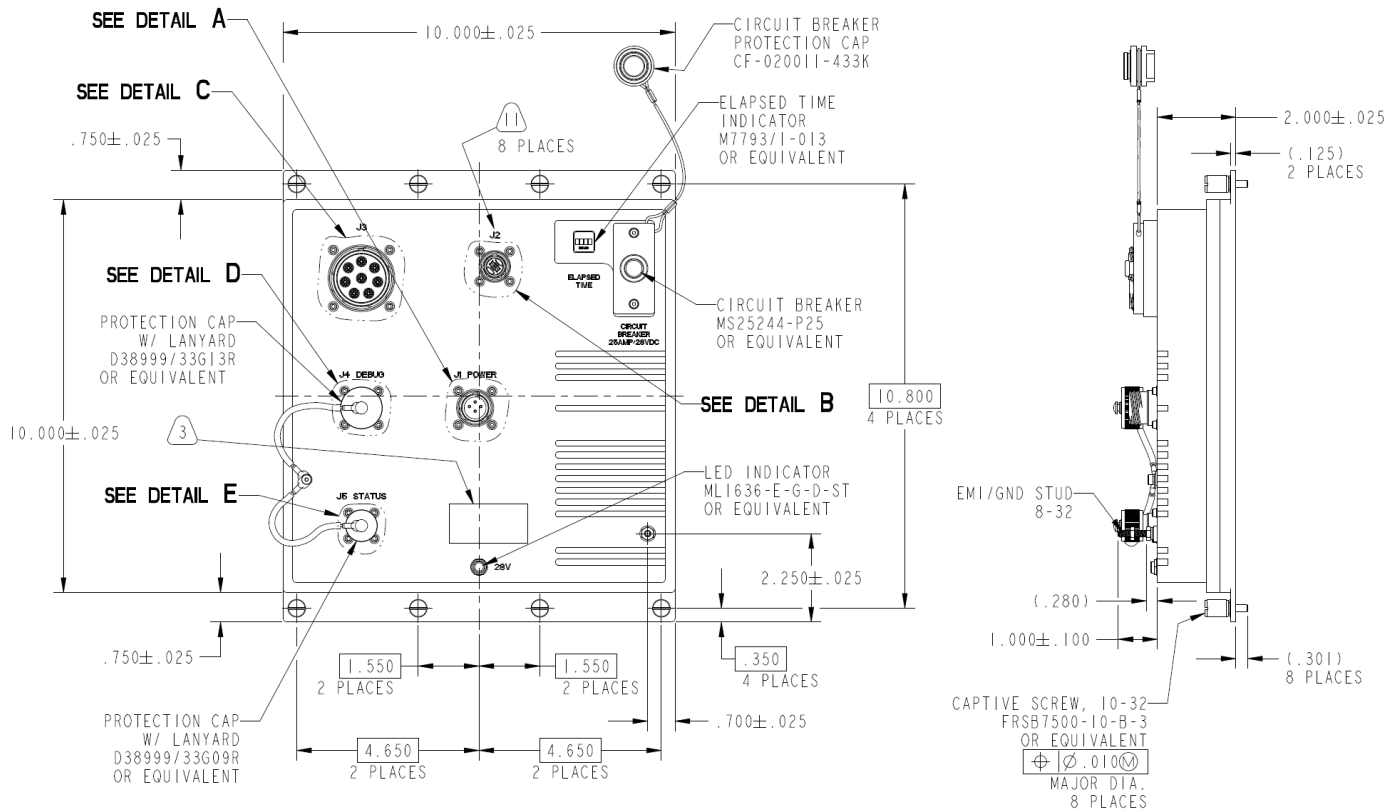
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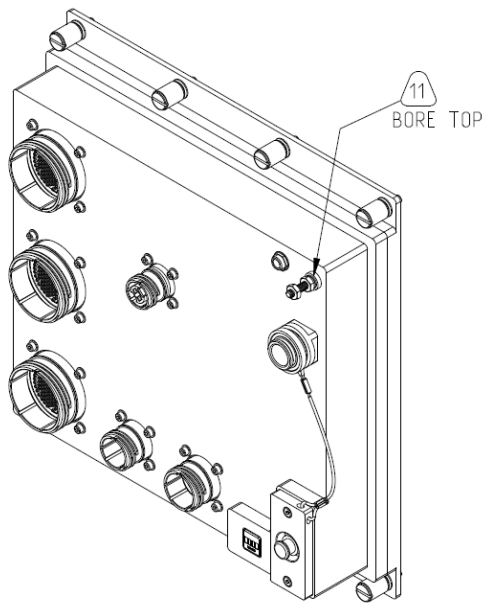
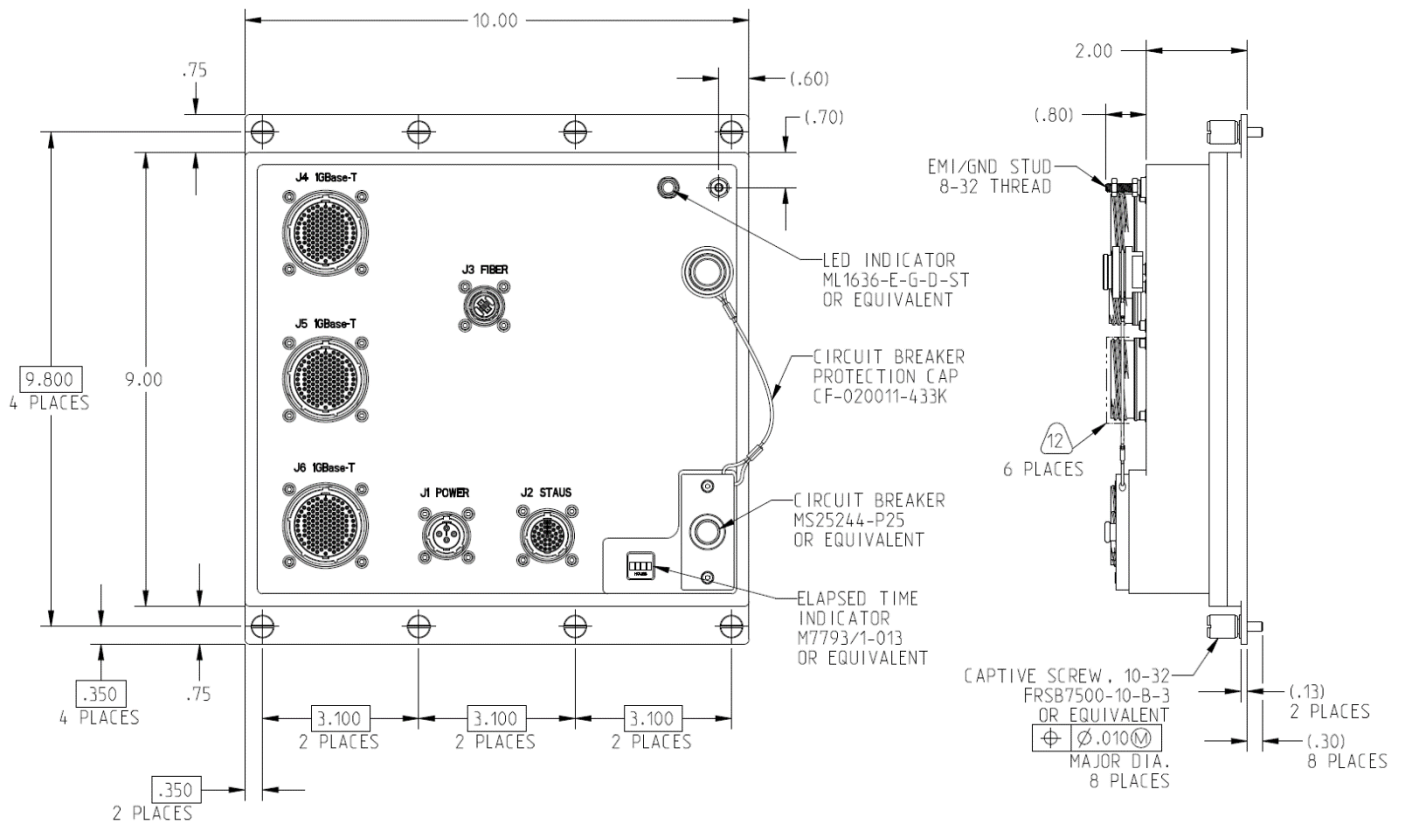
**CF-02WA00-041 - Digital Command Center – The Tactician**



**CF-020400-062 – Digital Command Center – The General**

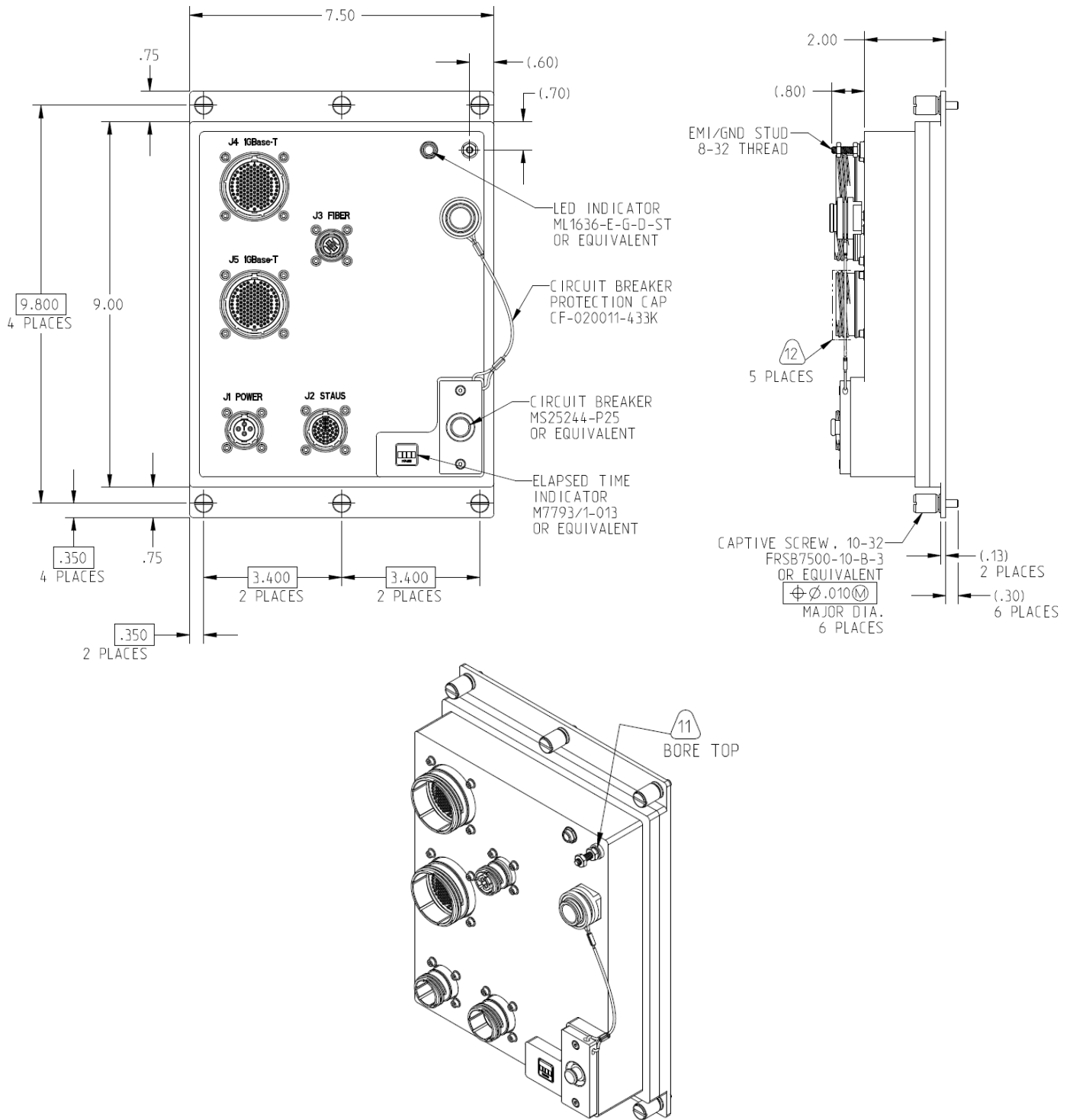


CF-02WA00-12X – Digital Command Center – The Sergeant

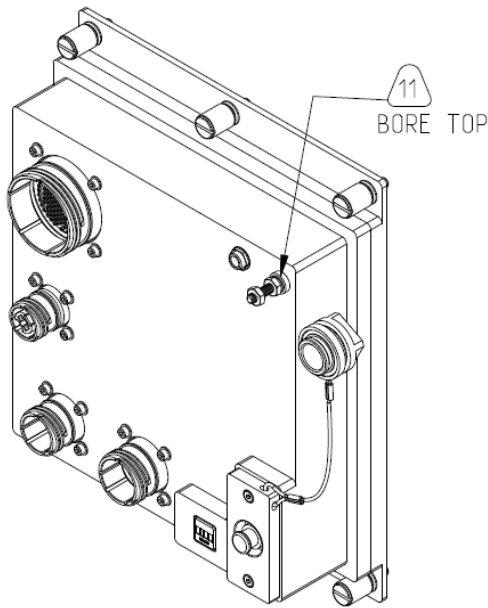
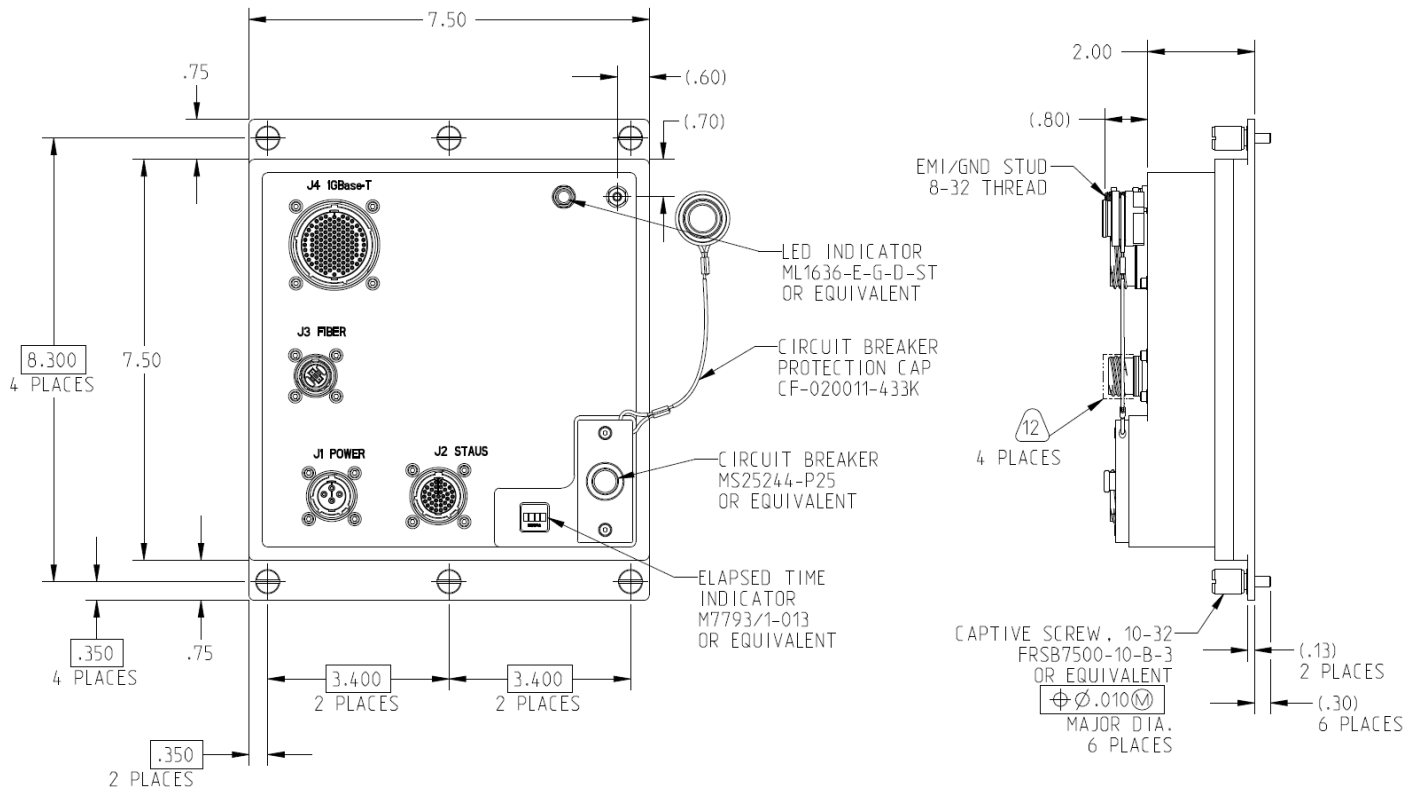




**CF-02WA00-13X – Digital Command Center – The Specialist**

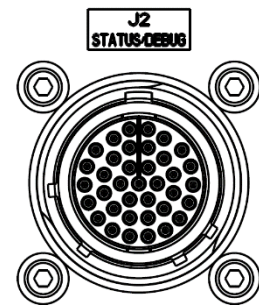
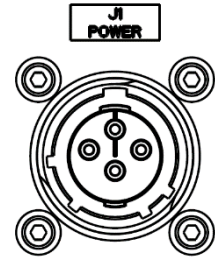


CF-02WA00-14X – Digital Command Center – The Private

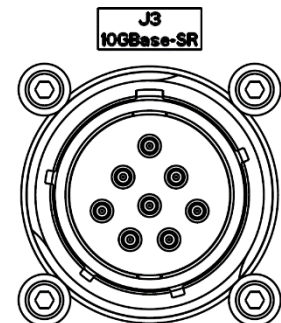


## PINOUT – Digital Command Center The Architect

I/O CHART			
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME
J1 (POWER) 13-4P KEYING "N"	A	IN	280VDC_IN
	B	OUT	28VDC_RTN
	C	---	SAFETY GROUND / CHASSIS
	D	---	NOT CONNECTED
	SHELL	---	CHASSIS
J2 (DEBUG/ STATUS) 15-35P KEYING "N"	1	OUT	RS232_CONSOLE_TX
	2	IN	RS232_CONSOLE_RX
	3	--	RS232_CONSOLE_GND
	4	--	DEBUG_I2C_SCL
	5	--	DEBUG_I2C_SDA
	6	--	GND
	7	BI	SWITCHBOX_RESET
	8	--	GND
	9	--	MDIO_DATA
	10	--	MDIO_CLOCK
	11	--	GND
	12	BI	DEBUG_CPU_1GBASET_DA+
	13		DEBUG_CPU_1GBASET_DA-
	14		DEBUG_CPU_1GBASET_DB+
	15		DEBUG_CPU_1GBASET_DB-
	16		DEBUG_CPU_1GBASET_DC+
	17		DEBUG_CPU_1GBASET_DC-
	18		DEBUG_CPU_1GBASET_DD+
	19		DEBUG_CPU_1GBASET_DD-
	20	--	PIC_PROG_3.3V
	21	--	GND
	22	--	PIC_PROG_PGC
	23	--	PIC_PROG_MCLR
	24	--	PIC_PROG_PG_D
	25	--	PIC_RS232_CONSOLE_TX
	26	--	PIC_RS232_CONSOLE_RX
	27	--	GND
	28-37	--	NOT CONNECTED
SHELL	--	CHASSIS	

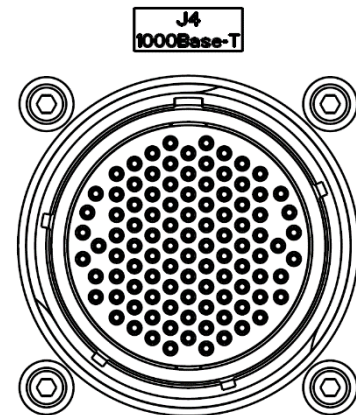


I/O CHART				
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME	ETHERNET PORT NO.
J3 10GBASE-SR 17-8S KEYING "N"	A	OUT	10GBASE-SR_TX	1
	B	IN	10GBASE-SR_RX	
	C	OUT	10GBASE-SR_TX	2
	D	IN	10GBASE-SR_RX	
	E	OUT	10GBASE-SR_TX	3
	F	IN	10GBASE-SR_RX	
	G	OUT	10GBASE-SR_TX	4
	H	IN	10GBASE-SR_RX	
SHELL	---	---	CHASSIS	



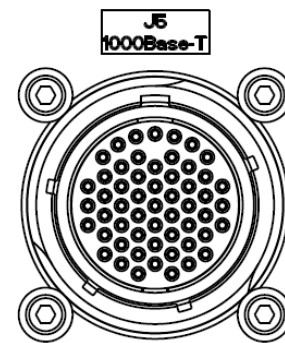
## PINOUT - Digital Command Center The Architect

				I/O CHART								
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME	ETHERNET PORT NO.	PIN NO.	DATA DIRECTION	SIGNAL NAME	ETHERNET PORT NO.				
J4 10GBASE-T 23-35S KEYING "N"	1	BI	10GBASE-T_DA+	5	51	BI	10GBASE-T_DA+	10				
	8		10GBASE-T_DA-		52		10GBASE-T_DA-					
	9		10GBASE-T_DB+		54		10GBASE-T_DB+					
	16		10GBASE-T_DB-		55		10GBASE-T_DB-					
	25		10GBASE-T_DC+		61		10GBASE-T_DC+					
	35		10GBASE-T_DC-		62		10GBASE-T_DC-					
	36		10GBASE-T_DD+		64		10GBASE-T_DD+					
	46		10GBASE-T_DD-		65		10GBASE-T_DD-					
	2	BI	10GBASE-T_DA+	6	77	BI	10GBASE-T_DA+	11				
	3		10GBASE-T_DA-		78		10GBASE-T_DA-					
	5		10GBASE-T_DB+		79		10GBASE-T_DB+					
	6		10GBASE-T_DB-		80		10GBASE-T_DB-					
	11		10GBASE-T_DC+		81		10GBASE-T_DC+					
	12		10GBASE-T_DC-		89		10GBASE-T_DC-					
	14		10GBASE-T_DD+		87		10GBASE-T_DD+					
	15	10GBASE-T_DD-	88	10GBASE-T_DD-								
	18	BI	10GBASE-T_DA+	7	82	BI	10GBASE-T_DA+	12				
	19		10GBASE-T_DA-		83		10GBASE-T_DA-					
	20		10GBASE-T_DB+		4		10GBASE-T_DB+					
	21		10GBASE-T_DB-		93		10GBASE-T_DB-					
	22		10GBASE-T_DC+		91		10GBASE-T_DC+					
	23		10GBASE-T_DC-		97		10GBASE-T_DC-					
	33	BI	10GBASE-T_DD+	8	99	BI	10GBASE-T_DD+	12				
	34		10GBASE-T_DD-		100		10GBASE-T_DD-					
	27		BI		10GBASE-T_DA+		8		50, 74, 75, 98 Rest	--	SPARE	--
	37				10GBASE-T_DA-				--	GND	--	
	39	10GBASE-T_DB+										
	40	10GBASE-T_DB-										
	42	10GBASE-T_DC+										
	43	BI	10GBASE-T_DC-	7								
	48		10GBASE-T_DD+									
	49		10GBASE-T_DD-									
	51	BI	10GBASE-T_DA+	7								
	52		10GBASE-T_DA-									
	54		10GBASE-T_DB+									
55	10GBASE-T_DB-											
61	10GBASE-T_DC+											
62	10GBASE-T_DC-											
64	10GBASE-T_DD+											
65	10GBASE-T_DD-											



## PINOUT - Digital Command Center The Architect

I/O CHART				
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME	ETHERNET PORT NO.
J5 10GBASE-T 17-35S KEYING "N"	1	BI	10GBASE-T_DA+	13
	6		10GBASE-T_DA-	
	2		10GBASE-T_DB+	
	7		10GBASE-T_DB-	
	3		10GBASE-T_DC+	
	8		10GBASE-T_DC-	
	4		10GBASE-T_DD+	
	5		10GBASE-T_DD-	
	17	BI	10GBASE-T_DA+	14
	18		10GBASE-T_DA-	
	19		10GBASE-T_DB+	
	20		10GBASE-T_DB-	
	21		10GBASE-T_DC+	
	22		10GBASE-T_DC-	
	23		10GBASE-T_DD+	
	24		10GBASE-T_DD-	
	3	BI	10GBASE-T_DA+	15
	33		10GBASE-T_DA-	
	34		10GBASE-T_DB+	
	35		10GBASE-T_DB-	
	36		10GBASE-T_DC+	
	37		10GBASE-T_DC-	
	38		10GBASE-T_DD+	
	39		10GBASE-T_DD-	
48	BI	10GBASE-T_DA+	16	
53		10GBASE-T_DA-		
59		10GBASE-T_DB+		
54		10GBASE-T_DB-		
50		10GBASE-T_DC+		
55		10GBASE-T_DC-		
51		10GBASE-T_DD+		
52		10GBASE-T_DD-		
9	--	SPARE	--	
47	--	SPARE	--	
Rest	--	GND	--	

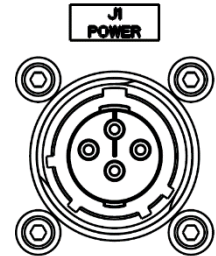


## CONNECTOR LIST - Digital Command Center The Architect

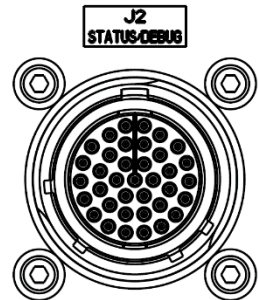
CONNECTOR LIST				
CONNECTOR DESIGNATOR	CONNECTOR PART NUMBER	CONTACT(S) USED	MATING CONNECTOR (OR EQUIVALENT)	MATING CONTACT (OR EQUIVALENT)
J1 POWER	--	(4X) SIZE 16 PIN M39029/58-364	TV06RF-13-4S	SIZE 16 SOCKET M39029/56-352
J2 DEBUG/ STATUS	--	(37X) SIZE 22D PIN M39029/58-360	TV06RF-15-35S	SIZE 22D SOCKET M39029/56-348
J3 10GBASE-SR	--	(8X) SIZE 16 SOCKET TERMINUS M29504/05-4046	CF-504617-08P	SIZE 16 PIN TERMINUS M29504/04-4040
J4 10GBASE-T	--	(100X) SIZE 22D SOCKET M39029/56-348	TV06RF-23-35P	SIZE 22D PIN M39029/58-360
J5 10GBASE-T	--	(55X) SIZE 22D SOCKET M39029/56-348	TV06RF-17-35P	SIZE 22D PIN M39029/58-360

## PINOUT – Digital Command Center The Tactician

I/O CHART			
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME
J1 (POWER) 13-4P KEYING "N"	A	IN	280VDC_IN
	B	OUT	28VDC_RTN
	C	---	SAFETY GROUND / CHASSIS
	D	---	NOT CONNECTED
	SHELL	---	CHASSIS

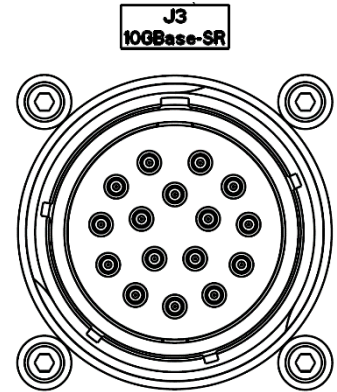


I/O CHART			
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME
J2 (DEBUG/ STATUS) 15-35P KEYING "N"	1	OUT	CPU_RS232_CONSOLE_TX
	2	IN	RS232_CONSOLE_RX
	3	--	RS232_CONSOLE_GND
	4	--	DEBUG_I2C_SCL
	5	--	DEBUG_I2C_SDA
	6	--	GND
	7	BI	SWITCHBOX_RESET
	8	--	GND
	9	--	MDIO_DATA
	10	--	MDIO_CLOCK
	11	--	GND
	12	BI	DEBUG_CPU_1GBASET_DA+
	13		DEBUG_CPU_1GBASET_DA-
	14		DEBUG_CPU_1GBASET_DB+
	15		DEBUG_CPU_1GBASET_DB-
	16		DEBUG_CPU_1GBASET_DC+
	17		DEBUG_CPU_1GBASET_DC-
	18	DEBUG_CPU_1GBASET_DD+	
	19	DEBUG_CPU_1GBASET_DD-	
	20	--	PIC_PROG_3.3V
	21	--	GND
	22	--	PIC_PROG_PGC
	23	--	PIC_PROG_MCLR
	24	--	PIC_PROG_PGDI
	25	--	PIC_RS232_CONSOLE_TX
	26	--	PIC_RS232_CONSOLE_RX
	27	--	GND
	28-37	--	NOT CONNECTED
	SHELL	--	CHASSIS



## PINOUT – Digital Command Center The Tactician

I/O CHART				
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME	ETHERNET PORT NO.
J3 10GBASE-SR 21-16S KEYING "N"	A	OUT	10GBASE-SR_TX	1
	B	IN	10GBASE-SR_RX	
	C	OUT	10GBASE-SR_TX	2
	D	IN	10GBASE-SR_RX	
	E	OUT	10GBASE-SR_TX	3
	F	IN	10GBASE-SR_RX	
	G	OUT	10GBASE-SR_TX	4
	H	IN	10GBASE-SR_RX	
	J	OUT	10GBASE-SR_TX	5
	K	IN	10GBASE-SR_RX	
	L	OUT	10GBASE-SR_TX	6
	M	IN	10GBASE-SR_RX	
	N	OUT	10GBASE-SR_TX	7
	P	IN	10GBASE-SR_RX	
	R	OUT	10GBASE-SR_TX	8
S	IN	10GBASE-SR_RX		
SHELL	---	---	CHASSIS	



# PINOUT - Digital Command Center The Tactician

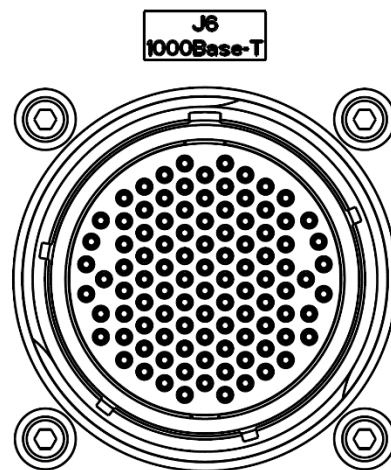
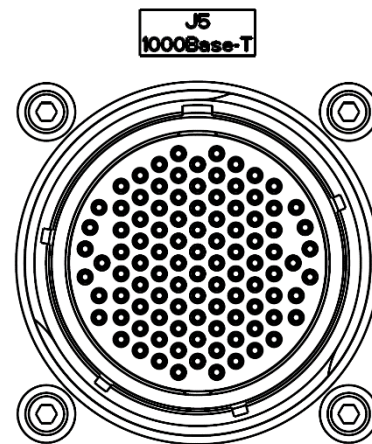
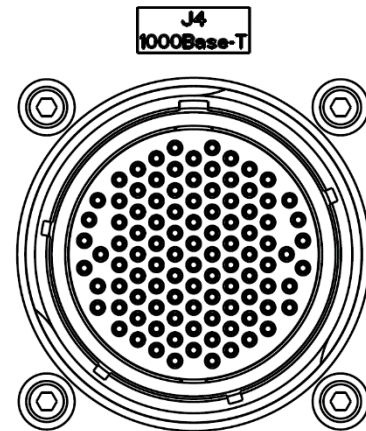
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J4 10GBASE-T 23-35S KEYING "N"	1	BI	10GBASE-T_DA+	9		
	8		10GBASE-T_DA-			
	9		10GBASE-T_DB+			
	16		10GBASE-T_DB-			
	25		10GBASE-T_DC+			
	35		10GBASE-T_DC-			
	36		10GBASE-T_DD+			
	46		10GBASE-T_DD-			
	2		BI		10GBASE-T_DA+	10
	3				10GBASE-T_DA-	
	5	10GBASE-T_DB+				
	6	10GBASE-T_DB-				
	11	10GBASE-T_DC+				
	12	10GBASE-T_DC-				
	14	10GBASE-T_DD+				
	15	10GBASE-T_DD-				
	18	BI	10GBASE-T_DA+	11		
	19		10GBASE-T_DA-			
	20		10GBASE-T_DB+			
	21		10GBASE-T_DB-			
	22		10GBASE-T_DC+			
	23		10GBASE-T_DC-			
	33	10GBASE-T_DD+				
	34	10GBASE-T_DD-				
	27	BI	10GBASE-T_DA+	12		
	37		10GBASE-T_DA-			
	39		10GBASE-T_DB+			
	40		10GBASE-T_DB-			
	42		10GBASE-T_DC+			
	43		10GBASE-T_DC-			
	48	10GBASE-T_DD+				
	49	10GBASE-T_DD-				
	51	BI	10GBASE-T_DA+	13		
	52		10GBASE-T_DA-			
	54		10GBASE-T_DB+			
	55		10GBASE-T_DB-			
	61		10GBASE-T_DC+			
	62		10GBASE-T_DC-			
	64	10GBASE-T_DD+				
	65	10GBASE-T_DD-				
	56	BI	10GBASE-T_DA+	14		
	67		10GBASE-T_DA-			
	58		10GBASE-T_DB+			
	59		10GBASE-T_DB-			
	69		10GBASE-T_DC+			
	70		10GBASE-T_DC-			
	72	10GBASE-T_DD+				
	73	10GBASE-T_DD-				
	77	BI	10GBASE-T_DA+	15		
	78		10GBASE-T_DA-			
	79		10GBASE-T_DB+			
	80		10GBASE-T_DB-			
	81		10GBASE-T_DC+			
	89		10GBASE-T_DC-			
	87	10GBASE-T_DD+				
	88	10GBASE-T_DD-				
	82	BI	10GBASE-T_DA+	16		
	83		10GBASE-T_DA-			
	4		10GBASE-T_DB+			
	93		10GBASE-T_DB-			
	91		10GBASE-T_DC+			
	97		10GBASE-T_DC-			
	99	10GBASE-T_DD+				
	100	10GBASE-T_DD-				
	50, 74, 75, 98	--		SPARE	--	
	Rest	--		GND	--	

I/O CHART						
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME	ETHERNET PORT NO.		
J5 10GBASE-T 23-35S KEYING "N"	1	BI	10GBASE-T_DA+	17		
	8		10GBASE-T_DA-			
	9		10GBASE-T_DB+			
	16		10GBASE-T_DB-			
	25		10GBASE-T_DC+			
	35		10GBASE-T_DC-			
	36		10GBASE-T_DD+			
	46		10GBASE-T_DD-			
	2		BI		10GBASE-T_DA+	18
	3				10GBASE-T_DA-	
	5	10GBASE-T_DB+				
	6	10GBASE-T_DB-				
	11	10GBASE-T_DC+				
	12	10GBASE-T_DC-				
	14	10GBASE-T_DD+				
	15	10GBASE-T_DD-				
	18	BI	10GBASE-T_DA+	19		
	19		10GBASE-T_DA-			
	20		10GBASE-T_DB+			
	21		10GBASE-T_DB-			
	22		10GBASE-T_DC+			
	23		10GBASE-T_DC-			
	33	10GBASE-T_DD+				
	34	10GBASE-T_DD-				
	27	BI	10GBASE-T_DA+	20		
	37		10GBASE-T_DA-			
	39		10GBASE-T_DB+			
	40		10GBASE-T_DB-			
	42		10GBASE-T_DC+			
	43		10GBASE-T_DC-			
	48	10GBASE-T_DD+				
	49	10GBASE-T_DD-				
	51	BI	10GBASE-T_DA+	21		
	52		10GBASE-T_DA-			
	54		10GBASE-T_DB+			
	55		10GBASE-T_DB-			
	61		10GBASE-T_DC+			
	62		10GBASE-T_DC-			
	64	10GBASE-T_DD+				
	65	10GBASE-T_DD-				
	56	BI	10GBASE-T_DA+	22		
	67		10GBASE-T_DA-			
	58		10GBASE-T_DB+			
	59		10GBASE-T_DB-			
	69		10GBASE-T_DC+			
	70		10GBASE-T_DC-			
	72	10GBASE-T_DD+				
	73	10GBASE-T_DD-				
	77	BI	10GBASE-T_DA+	23		
	78		10GBASE-T_DA-			
	79		10GBASE-T_DB+			
	80		10GBASE-T_DB-			
	81		10GBASE-T_DC+			
	89		10GBASE-T_DC-			
	87	10GBASE-T_DD+				
	88	10GBASE-T_DD-				
	82	BI	10GBASE-T_DA+	24		
	83		10GBASE-T_DA-			
	4		10GBASE-T_DB+			
	93		10GBASE-T_DB-			
	91		10GBASE-T_DC+			
	97		10GBASE-T_DC-			
	99	10GBASE-T_DD+				
	100	10GBASE-T_DD-				
	50, 74, 75, 98	--		SPARE	--	
	Rest	--		GND	--	



# PINOUT - Digital Command Center The Tactician

I/O CHART						
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME	ETHERNET PORT NO.		
J6 10GBASE-T 23-35S KEYING "N"	1	BI	10GBASE-T_DA+	9		
	8		10GBASE-T_DA-			
	9		10GBASE-T_DB+			
	16		10GBASE-T_DB-			
	25		10GBASE-T_DC+			
	35		10GBASE-T_DC-			
	36		10GBASE-T_DD+			
	46		10GBASE-T_DD-			
	2		BI		10GBASE-T_DA+	10
	3				10GBASE-T_DA-	
	5	10GBASE-T_DB+				
	6	10GBASE-T_DB-				
	11	10GBASE-T_DC+				
	12	10GBASE-T_DC-				
	14	10GBASE-T_DD+				
	15	10GBASE-T_DD-				
	18	BI	10GBASE-T_DA+	11		
	19		10GBASE-T_DA-			
	20		10GBASE-T_DB+			
	21		10GBASE-T_DB-			
	22		10GBASE-T_DC+			
	23		10GBASE-T_DC-			
	33		10GBASE-T_DD+			
	34	10GBASE-T_DD-				
	27	BI	10GBASE-T_DA+	12		
	37		10GBASE-T_DA-			
	39		10GBASE-T_DB+			
	40		10GBASE-T_DB-			
	42		10GBASE-T_DC+			
	43		10GBASE-T_DC-			
	48		10GBASE-T_DD+			
	49	10GBASE-T_DD-				
	51	BI	10GBASE-T_DA+	13		
	52		10GBASE-T_DA-			
	54		10GBASE-T_DB+			
	55		10GBASE-T_DB-			
	61		10GBASE-T_DC+			
	62		10GBASE-T_DC-			
	64		10GBASE-T_DD+			
	65	10GBASE-T_DD-				
	56	BI	10GBASE-T_DA+	14		
	67		10GBASE-T_DA-			
	58		10GBASE-T_DB+			
	59		10GBASE-T_DB-			
	69		10GBASE-T_DC+			
	70		10GBASE-T_DC-			
	72		10GBASE-T_DD+			
	73	10GBASE-T_DD-				
	77	BI	10GBASE-T_DA+	15		
	78		10GBASE-T_DA-			
	79		10GBASE-T_DB+			
	80		10GBASE-T_DB-			
	81		10GBASE-T_DC+			
	89		10GBASE-T_DC-			
	87		10GBASE-T_DD+			
	88	10GBASE-T_DD-				
	82	BI	10GBASE-T_DA+	16		
	83		10GBASE-T_DA-			
	4		10GBASE-T_DB+			
	93		10GBASE-T_DB-			
	91		10GBASE-T_DC+			
	97		10GBASE-T_DC-			
	99		10GBASE-T_DD+			
	100	10GBASE-T_DD-				
	50, 74, 75, 98	--	--	SPARE	--	
	Rest	--	--	GND	--	



# Amphenol Ruggedization Design

## OVERVIEW:

Amphenol integrated electronic products are designed and manufactured to our Ruggedization guidelines listed below. These guidelines ensure years of reliable operation in harsh environment applications where extreme operating temperatures, shock, vibration, and corrosive atmospheres are regularly experienced. Unless otherwise noted, the parts conform to the below specifications

## TEMPERATURE:

- Operating Temperature- Thermal Cycles between -40°C and 85°C while device is operating
- Temperature is measured at chassis housing or card edge
- Storage Temperature- Thermal Cycles between -55°C and 125°C

## HUMIDITY:

- Operating Humidity- Humidity cycle between 0-100% non-condensing humidity while device operating
- Storage Humidity- Humidity cycle between 0-100% condensing humidity

## SEALING:

- Sealing can be optionally provided at the MIL-DTL-38999 interface with up to 10-5 cc/sec performance

## SHOCK AND VIBRATION:

- Sine Vibration - 10g Peak, 5-2,000Hz
  - Based on a sine sweep duration of 10 minutes per axis in each of three mutually perpendicular axes. May be displacement limited from 5 to 44 Hz, depending on specific test.
- Random Vibration - 0.0005 @ 5Hz, 0.1 @ 15 Hz, 0.1 @ 2,000 Hz
  - 60 minutes per axis, in each of three mutually perpendicular axes.
- 40 G Peak Shock Cycle
  - Three hits in each axis, both directions, ½ sine and terminal-peak saw tooth, Total 36 hits.

## FLUIDS SUSEPTABILITY:

- MIL-DTL-38999 receptacle interface per EIA-364-10E

## ALTITUDE:

- -1,500 to 60,000 ft Altitude Testing w/ Rapid Depressurization

## ELECTROMAGNETIC COMPATIBILITY:

- Designed to comply with MIL-STD-461E

## PRINTED CIRCUIT BOARD ASSEMBLIES:

- Conformal Coat
- Amphenol performs Conformal Coating to both sides of printed circuit board assemblies using HUSMISEAL IB31 in accordance with IPC-610, Class 3.
- Printed Circuit Board Rigidity
- Amphenol printed circuit boards are fabricated in accordance with IPC-6012, Class 3.
- Printed Circuit Board Fabrication
- Amphenol printed circuit boards acceptance criteria is in accordance with IPC-610, Class 3.

## RELIABILITY PREDICTIONS (MTBF):

Amphenol can perform Mean Time Between Failure (MTBF) reliability analysis in full compliance with MIL-HDBK-217F-1 Parts Count Prediction and MIL-HDBK-217F-1 Parts Stress Analysis Prediction. We can also perform reliability analyses in full compliance of ANSI/VITA 51.1 if it is required or preferred over the later method

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