Ethernet PA Controller

Your Low-Risk, Low-Cost Solution for DMR Ethernet Compatibility



The PEP (Programmable Ethernet Port) board is a proven low-risk approach for new and existing power amplifier vendors and has already been qualified as being compliant with General Dynamics specifications for timing, frequency hopping, and proprietary Ethernet message protocol.

- Reduced development time/cost for new and existing PA vendors
- Compatible with all General Dynamics HF or VHF/UHF PA's (100W, 100W-A, 200W, 200W-A, 500W)
- On-board FPGA ensures real-time processing of critical Ethernet messages necessary to satisfy demanding timing of frequency hopping waveforms
- Firmware / FPGA Upgradeable over Ethernet Bus
- Prototypes available for immediate delivery

- Proven compatibility with General Dynamics DMR Specifications
- Filters DMR Ethernet messages and provides only PA-relevant information to your processor
- Automatically generates the necessary real-time discrete signal outputs (Duplex, Key, Frequency Strobe)
- Interfaces with your PA's processor using a 3.3V DPRAM Interface
- Interrupt driven communication architecture

Don't waste your time and money reinventing the wheel. Instead, focus on what you do best; Proving world class power amplifiers!



Specifications:

Note 1: Board outline can be modified to meet new customer demands for a nominal re-layout charge.

Note 2: The DC power must be clean and free from RF.



PIN	CONNTECTOR P2 - DPRAM INTERFACE						
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2			w.r.t. PEP				
3 PA_A8 Input DPRAM Address 5 PA_A7 Input DPRAM Address 6 GND DPRAM Address 7 PA_A6 Input DPRAM Address 8 PA_A5 Input DPRAM Address 9 PA_A4 Input DPRAM Address 10 PA_A3 Input DPRAM Address 11 GND DPRAM Address 12 PA_A2 Input DPRAM Address 14 PA_A0 Input DPRAM Address 14 PA_A1 Input DPRAM Address 14 PA_A1 Input DPRAM Address 15 GND Bidirectional DPRAM Data 15 GND Bidirectional DPRAM Data 17 PA_D7 Bidirectional DPRAM Data 19 No Connect No Connect 20 PA_D5 Bidirectional DPRAM Data 21 PA_D4 Bidirectional DPRAM Data	1	GND					
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A SAMTECH SQT-125-01-L-D-RA right angle connector is on the PEP board. It can connect to PA Processor Board using a 50 pin 2mm header where the two cards are butted together. Other options such as ribbon cable or stacking daughter card are possible, contact HED for details.



CONNTECTOR J2 - ETHERNET				
PIN	FUNCTION	NOTES		
1	Out+	Ethernet Output+		
2	Out-	Ethernet Output-		
3	In+	Ethernet Input+		
4	Termination	ESD Termination		
5	Termination	ESD Termination		
6	In-	Ethernet Input-		
7	Termination	ESD Termination		
8	Termination	ESD Termination		

An AMP 555164-1 right angle connector is used on the PEP board. The mate can be any standard RJ45 Ethernet plug (not supplied)

CONNTECTOR J1 - POWER CONNECTOR				
PIN	FUNCTION	NOTES		
1	GND	GND		
2	+5.0V	+5.0V @ 250mA		
3	GND	GND		
4	+3.3V	+3.3V @ 450mA		
5	GND	GND		

A Molex 70553-0004 right angle connector is used on the PEP board. It mates with 1X Molex 50-57-9405 Housing and 5X Moles 16-02-0103 Crimps (not supplied)

