

# 32 Gbaud PAM Signal Generation

## MZ1834A 4PAM Converter, MZ1838A 8PAM Converter

### MP1800A Signal Quality Analyzer Series

The rapid increase in server and core network data volumes caused by the increasing popularity of cloud computing services, smartphones, etc., is becoming an urgent challenge. Multi-bit transmission technologies like 4 Pulse-Amplitude Modulation (4PAM) and 8PAM that control increases in symbol rate are being tested for server backplanes and backplane interconnects, while attention is also focusing on Quadrature Amplitude Modulation (QAM) technologies for modulating both phase and amplitude on core networks.

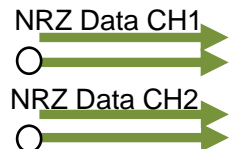
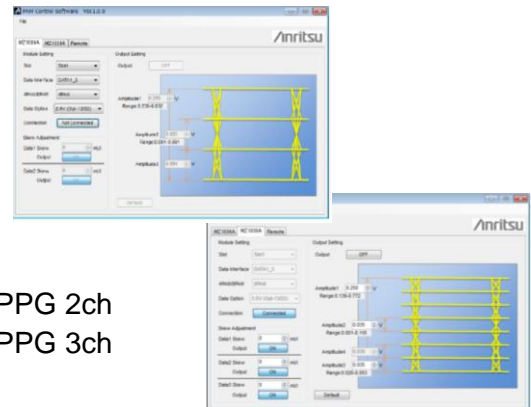
Combining the Anritsu MZ1834A/MZ1838A 4/8 PAM Converter with the MP1800A Signal Quality Analyzer supports generation of both 4PAM and 8PAM signals. The MP1800A high-quality NRZ waveform and wideband passive PAM converter generate high-quality PAM signals with assured SNR.

#### ■ Target Applications

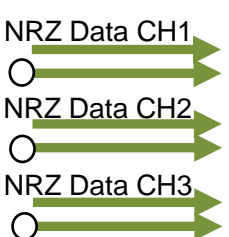
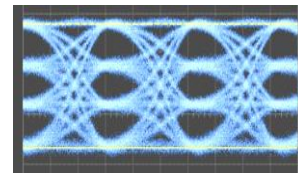
- ✓ PAM for 400GbE
- ✓ 16QAM for Long-haul Transmission
- ✓ High-speed Server Interconnects
- ✓ High-speed Backplanes

#### ■ Features

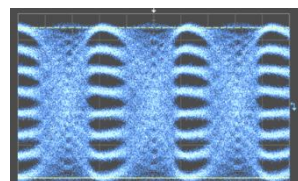
- ✓ 4PAM Differential Signal Generation: MZ1834A + PPG 2ch
- ✓ 8PAM Differential Signal Generation: MZ1838A + PPG 3ch
- ✓ Wideband 32.1 Gbaud Rate
- ✓ High-quality EYE Opening, High-speed Tr/Tf
- ✓ PAM Control GUI: Adjustable PPG Data Output for Setting PAM Signal Levels



Differential 4PAM Signal



Differential 8PAM Signal



## ■ Key Specifications

### MZ1834A 4PAM Converter

Item	Specification	Note
Data Output		
Number of outputs	2 (Data, x Data)	
Modulation	4 PAM	
Output amplitude	0.238 to 0.475 Vp-p (nominal): (With MU183020A-022 or MU183021A-012 2.5V Output Option) 0.238 to 0.832 Vp-p (nominal): (With MU183020A-023 or MU183021A-013 3.5 V Output Option)	Between Level 0 and 3 Depends on insertion loss and input amplitude
Connector	K (female)	
Data Input		
Number of inputs	4 (Data1, xData1, Data2, xData2)	
Input amplitude	0.5 to 3.5 Vp-p	
Connector	K (male)	
Insertion Loss	-16 dB (nominal)	Data_n input to Data output

### MZ1838A 8PAM Converter

Item	Specification	Comment
Data Output		
Number of outputs	2 (Data, x Data)	
Modulation	8PAM	
Amplitude	0.139 to 0.441 Vp-p (nominal): (With MU183021A-012 2V Output Option) 0.139 to 0.772 Vp-p (nominal): (With MU183021A-013 3.5V Output Option)	Between Level 0 and 7 Depends on insertion loss and input amplitude
Connector	K (female)	
Data Input		
Number of inputs	6 (Data1, xData1, Data2, xData2, Data3, xData3)	
Input amplitude	0.5 to 3.5 Vp-p	
Connector	K (female)	
Insertion Loss	Data1: -16 dB, Data2: -24 dB, Data3: -28 dB (nominal)	Data_n to Data Output