

Model 2355

NEXT GENERATION MODEL 2355 TELEMETRY GATEWAY



KEY FEATURES

- UP to 16 channels of I/O
- 16, 12, 8, 4 Channel Configurations
- Bit Rates from 100bps to 50 Mbps
- Enhanced network error reporting
- New Web Browser GUI
- TTL/RS-422 Digital Data & Clock I/O
 - All TTL Digital I/O Standard
 - RS-422 I/O *(Optional) in Increments of 2 Channels (Specified with order)
- Independent Ethernet Control & Data
- Ethernet
 - 10 /100 /1000 base-T
 - UDP Data Protocol
 - Unicast or Multicast
 - Ethernet Auto detect
 - Auto rate detection/tracking
 - Supports 218-10, 20 & GDP Protocells
 - Supports IRIG STD 106 Ch 10/11 *(Optional)
- Low Latency
- Low Channel to Channel Skew
- Frame Sync/Pattern Detector for each CH
- Supports Frame Aligned and Non-Frame Aligned Modes
- Bit sync inputs *(Optional)
- Redundant Power Supply *(Optional)
- Backward-compatible with 2350
- SFP interface
 - 1 Gbps-over-Copper SFP or Fiber SFP (Copper SFPs Included)
- Time Input / Output / Packet Tagging
 - NTP & PTP IEEE-1588 (Standard)
 - IRIG B STD 200 *(Optional)
- Link Test PRN BERT Function
 - PRN Pattern Generation (PRN 11, 15 & 23)
 - Output error insertions
- TRMS Software Compatible

GENERAL DESCRIPTION

The Next Generation Model 2355 Telemetry Gateway is the latest in Telemetry-over-IP transport. The unit supports PCM-to- Ethernet packetization and Ethernet-to-PCM depacketization and is controlled utilizing our New Web based Browser GUI. The MD2355 is a 1U rack mount gateway available in 16, 12, 8 & 4 channel configurations that facilitate the transfer of data, which can originate from a variety of sources over an Ethernet network. The basic input is a synchronous serial digital data stream and its coherent clock. This serial data source is packetized, placed in an Ethernet wrapper and output to a network environment. A second model MD2355 or our legacy MD2350- (M02, M04, M12) gateways can be connected to the network to receive and extract the original data from the Ethernet packets. This reconstructed data stream is output with a coherent clock at the same data rate as the original source. Each channel can be independently configured as PCM-to-Ethernet packets or Ethernet-to-PCM (Serial Data & Clock) depending on your application. The unit supports a variety of ethernet formats including IREG 218-2010 & 2020, GDP Formats, Optional Chapter 10/11 format and others. Packet tagging and time transport via NTP and PTP come standard. IRIG B is optional. This compact high-density transport solution will bring down the per/channel costs while increasing the system mean time between failures (MTBF).

PCM Digital I/O: PCM Data I/O can be ordered from the factory as TTL Data & Clock or RS-422 Data & Clock in groups of 2 with each one of the 16 channels assigned as input or output by the GUI software. The standard configuration from the factory is all TTL.

Frame Synchronizer/Pattern Detector: An internal frame synchronizer is provided for each channel supporting pattern sync to the incoming PCM stream. In addition to pattern sync status, the Frame Sync can align the start of each minor frame to the start of a network packet. This feature supports simplified software decommutation directly from the Ethernet.

Small Form Pluggable (SFP) Interface Option: Independent Control and data ports are supported via SFPs. Copper SFPs are provided standard. Fiber SFPs are also supported.

AVAILABLE OPTIONS

Digital Input Bit Synchronizer Option: This option recovers a clock from a digital data input for those applications where a synchronous clock is not available.

IRIG 106 Chapter 10 Compatible Output Option: The module can be optionally configured to output the PCM data onto Ethernet in Chapter 10 compatible packets (Packed mode or Throughput mode). These packets can then be decommutated, processed and displayed by a variety of standard Chapter 10 compatible software packages.



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DATA TRANSPORT

Channel	1	2	3	4	5	6	7
Name	Channel_1	Channel_2	Channel_3	Channel_4	Channel_5	Channel_6	Channel_7
Setup							
Mode	ETH→PCM	ETH→PCM	ETH→PCM	ETH→PCM	ETH→PCM	ETH→PCM	ETH→PCM
Run							
Data Act.							
Clock Act.							
Enet Act.							
Frame Sync							
Bitrate (bps)	72,724,493	72,748,968	72,780,993	72,767,599	72,843,867	72,744,678	72,762,279
Packets	0	0	0	0	0	0	0
PRN Errors	0	0	0	0	0	0	0
Err. Reset							

CHANNEL OVERVIEW

When power is first applied to the MD2355 Channels 1 through 16 indicators blink Red until the link is established, and when the user places the channels in the RUN mode, the "RUN" indicates a check mark inside a green circle. Placing a channel in the Halt mode causes the appropriate "RUN" channel indicator to be show an "x" encircled in red. Each one of the fields (Run, Data Act, Net. Act, Frame Sync) will act according depending on its status.

GENERAL SETUP

Unit Name: UnitName

MANAGEMENT PORT	DATA PORT
IPv4 Address: 192.168.0.10	IPv4 Address: 192.168.1.11
IPv4 Mask: 255.255.255.0	IPv4 Mask: 255.255.255.0
IPv4 Gateway: 192.168.0.1	IPv4 Gateway: 192.168.1.1

Status: Link: Duplex: (Full) Speed: (Mbps) 1000

Status Output: IP Mode: IPv4 Port: 3000 Address: 234.1.2.55

[DEFAULT](#)

GENERAL SETUP

The MD2355 has two independent ports, one Management and one Data for security & Network flooding protection. In addition to the Web Browser GUI, the MD2355 may be controlled by means of the GDP TRMS application to addresses 'System Level' configurations that comprise a data acquisition / processing system.

Channel 1 Setup

Channel_1

OPERATION: Run

Packet Format: Ethernet to PCM (ENET)

ETHERNET INPUT	PCM OUTPUT
Address: 234.1.2.85	Signal: TTL
Port: 8000	Data Polarity: Normal
PRN Error Check: 2^15	Clock Polarity: Normal
Pattern Detector: <input type="checkbox"/>	PRN Pattern: OFF
Sync Pattern: 4ae3be4900000000	PRN Data Rate: 3,500,000

[DEFAULT](#)

CHANNEL SETUP

By selecting any one of the sixteen Channels settings, each channel in the unit may be set to accommodate a specific signaling requirement, Serial-to-Ethernet or Ethernet-to-Serial.

ORDERING INFORMATION

MD2355 w/ M16 CH Bundle	Sixteen Channel Baseline Unit	MD2355 w/ M08 CH Bundle	Eight Channel Baseline Unit
MD2355 w/ M12 CH Bundle	Twelve Channel Baseline Unit	MD2355 w/ M04 CH Bundle	Four Channel Baseline Unit
OP2355-IRIG-B	IRIG B Input/Output Card (1 per unit)	OP2355-PS2	Redundant Power Supply
OP2355-BS2	Dual Channel Bit Sync Card	OP2355-2TTL *	Dual Channel TTL Card
OP2355-CH10	Chapter 10 Ethernet Input/Output	OP2355-2RS422 *	Dual Channel RS422 Card

* NOTE: The unit comes standard with all TTL Interface Cards. If RS422 I/O is required, Dual TTL I/O cards can be replaced with Dual RS-422 cards at the factory in groups of 2. This is specified at time of order.

WHY GDP

Recognizing that no standard product can meet all the needs of all users, GDP stands ready to provide units tailored to unique applications. Over fifty years of experience, far-ranging expertise, excellent products, and outstanding support make GDP not just a telemetry system supplier, but a partner you can rely on to meet your needs.

[Inquire today to learn more.](#)