Global Intelli
Power Systems Inc.

Introduction:

The **IR-276, NTP to IRIG-B Converter (NTP Slave), Time Distribution Unit** is designed to provide up to 16 IRIG-B outputs and / or 16 IRIG-B and / or 1PPS (Pulse per second) and / or NMEA-0183 (mix and match) that is synchronized from a NTP Server to provide time synchronization to private networks such as Electric Sub-Stations, Railways and Metro (ticketing and platforms) networks, Airports and Air-Traffic Control facilities, Power Distribution and Transmission companies, Oil and Gas Utilities, ISPs and Cable TV networks as well as to Campus networks.

The IR-276 operates as NTP Receiver / NTP Client with multiple interface option. Our solution simultaneously supports IRIG-B (Mudulated / Unmodulated), NMEA 0183, 1PPS (Pulse per Second), and optical 1PPS port.
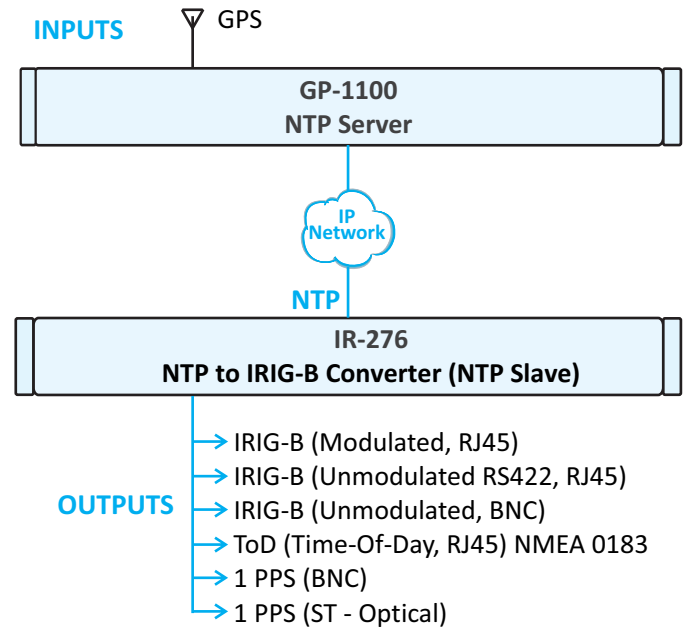

Features and Highlights:

- Multi service platform - User selectable output modules
- Up to 6 User selectable output modules (Add any 4 output cards, in any combination Please specify in order)
  - Up to 16 x IRIG-B Un-Modulated outputs (RS422, RJ45)
  - Up to 16 x IRIG-B Un-Modulated outputs (BNC)
  - Up to 16 x IRIG-B Modulated outputs (RJ45)
  - Up to 8 x NMEA-0183 outputs (RJ45)
  - Up to 16 x 1 PPS outputs (BNC)
  - Up to 4 x 1 PPS outputs (ST)
- High accuracy clock
- Leap Second Correction Support
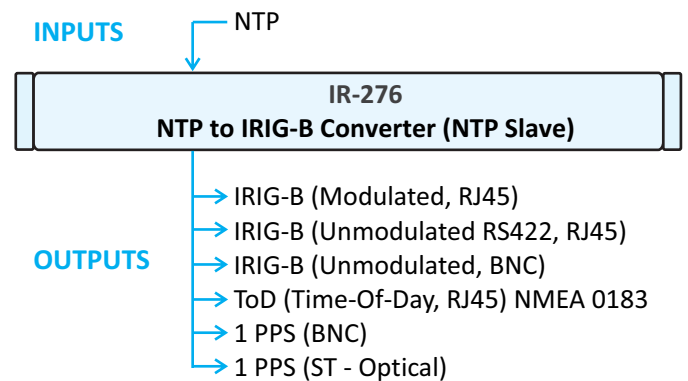- DC or AC Power Supply options.

Technical Specification

Core unit / Chassis

Core Unit	Number of Interfaces	Connector
NTP Client (NTP Slave)	1	RJ-45
Input Power Supply DC (24V / 48V / 110 to 220)	1	2 PIN DC Power Connector
AC (100V AC to 240V AC, 50/60 Hz)	1	3 Pin AC Power Connector IEC60320
Output interface cards	Up to 4	–

Application Diagram

INPUTS   GPS

GP-1100
NTP Server

IP Network

NTP

IR-276
NTP to IRIG-B Converter (NTP Slave)

OUTPUTS
- → IRIG-B (Modulated, RJ45)
- → IRIG-B (Unmodulated RS422, RJ45)
- → IRIG-B (Unmodulated, BNC)
- → ToD (Time-Of-Day, RJ45) NMEA 0183
- → 1 PPS (BNC)
- → 1 PPS (ST - Optical)

Block Diagram

INPUTS   NTP

IR-276
NTP to IRIG-B Converter (NTP Slave)

OUTPUTS
- → IRIG-B (Modulated, RJ45)
- → IRIG-B (Unmodulated RS422, RJ45)
- → IRIG-B (Unmodulated, BNC)
- → ToD (Time-Of-Day, RJ45) NMEA 0183
- → 1 PPS (BNC)
- → 1 PPS (ST - Optical)

PPS Output Interface

PPS Output interface	Number of Outputs	Connector
1PPS	4 outputs Per card	BNC
Maximum cards	Up to 4 cards per chassis	BNC
Maximum outputs	16 outputs per chassis	BNC

Technical Specifications

IRIG-B (Modulated) output interfaces

IRIG-B (Modulated) Output interface	Number of Outputs	Connector
IRIG-B (Modulated) Outputs	4 outputs per card	RJ45
Maximum cards	Up to 4 cards per chassis	16 x RJ45
Maximum outputs	Up to16 outputs per Chassis	16 x RJ45

IRIG-B (Un-modulated) output interfaces

IRIG-B (Un-modulated) Output interface	Number of Outputs	Connector
IRIG-B (Un-modulated) Outputs	4 outputs per Card	BNC
Maximum cards	Up to 4 cards per chassis	16 x BNC
Maximum outputs	Up to 1 6 outputs per chassis	16 x BNC

IRIG-B (Un-modulated RS422) output interfaces

IRIG-B (Un-modulated) Output interface	Number of interface	Connector
IRIG-B (Un-modulated) Outputs RS422 Protocol	4 outputs per card	RJ45
Maximum cards	Up to 4 cards per chassis	16 x RJ45
Maximum outputs	Up to 16 outputs per Chassis	16 x RJ45

Optical Pulse card

Optical Pulse Output interface	Number of Outputs	Connector
Optical Output	1 outputs per Card	ST
Maximum cards	Up to 4 cards per chassis	4 x ST
Maximum outputs	Up to 4 outputs per Chassis	4 x ST

Synchronization Inputs:

- NTP

Power Consumption:

- < 10W at ambient (steady state 24°C)

Management and Monitoring:

- USB serial port
- English Text CLI commands

Power Supply Options:

- AC (100V AC to 240V AC, 50/60 Hz)
- DC (24V DC, 48V DC, 110V DC to 220V DC)

Environmental (Equipment):

Operational	-10°C to +60°C (Typical: +25°C)
Cold start	0°C
Storage	-40°C to +85°C
Humidity	95% non-condensing
Cooling	Convention Cooled. No cooling fans are required

Mechanical Specifications:

H x W x D	90 x 480 x 250 (mm)
Weight	3.0 Kg
Rack Mounts	19" rack mounting options

Ordering Information (Base Unit):

Part No.:	Description
IR-276	IR-276 16 x IRIG-B NTP Client 19-Inch, Rackmountable [supports upto 4 Cards] Supports : - USB Serial Port, Graphical User Interface (GUI) - Installation Kit: System Core Cables, Mounting Hardware, User Manuals
Add Interface:	
2485-MOD -IRIGB	4 x Modulated IRIG-B interface (RJ45) Card (4 Cards (Max) per Chassis)
2485-1PPS -NMEA	2 x 1PPS (2xBNC) + 2 x NMEA (RJ45) interface Card (4 Cards (Max) per Chassis)
2488-UNMOD -IRIGB	4 x Un-modulated IRIG-B interface (BNC) Card (4 Cards (Max) per Chassis)
2438-UNMOD -IRIGB	4 x Un-modulated IRIG-B interface (BNC) Card (4 Cards (Max) per Chassis)
2425-IRIGB -RS422	4 x IRIG-B (RS422) Interface (RJ45) Card (4 Cards (Max) per Chassis)
2426-IRIGB -RS422	4 x IRIG-B (RS422) Interface (RJ45) Card (4 Cards (Max) per Chassis)
2482-1PPS	4 x 1PPS Interface (BNC) Card (4 Cards (Max) per Chassis)
2727-OPTL-PPS	1xPPS Optical (ST)
Add Power Supply:	
AC220	1 x 110-240V AC Power Supply Input
DC048	1 x 24~48V DC Power Supply Input
DC110~220	1 x 110~220V DC Power Supply Input

Technical specifications are subject to changes without notice.
Revision – 1.9a, January 28, 2020