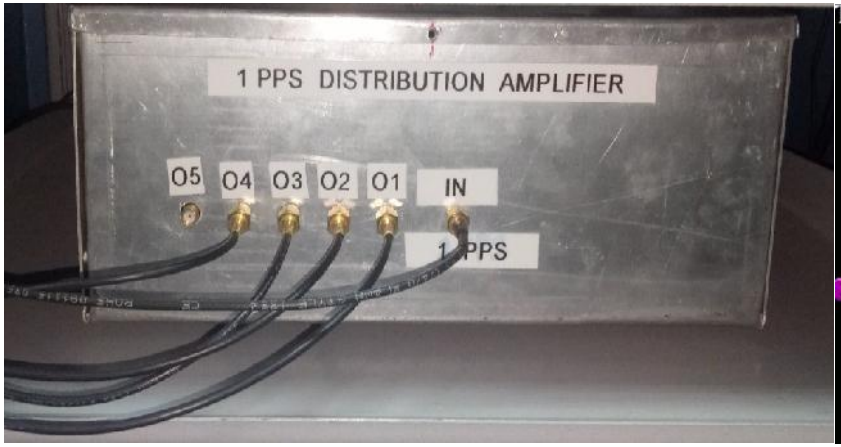
Name of the Technology: **5-channel PPS Pulse Distribution Amplifier**

Summary: One pulse per second (1PPS) is an electrical signal that has a typical width of few µs and has a sharply rising or abruptly falling edge which repeats once per second accurately. It is typically used for time synchronization applications. PPS pulse generating devices usually are atomic clocks, frequency standards, other precision oscillators; GNSS receivers etc. 1 PPS Pulse Distribution Amplifier system (Fig-1) designed at CSIR-NPL is able to distribute 1 PPS timing signal (Fig-2) directly provided from the atomic clock to five isolated output channels.



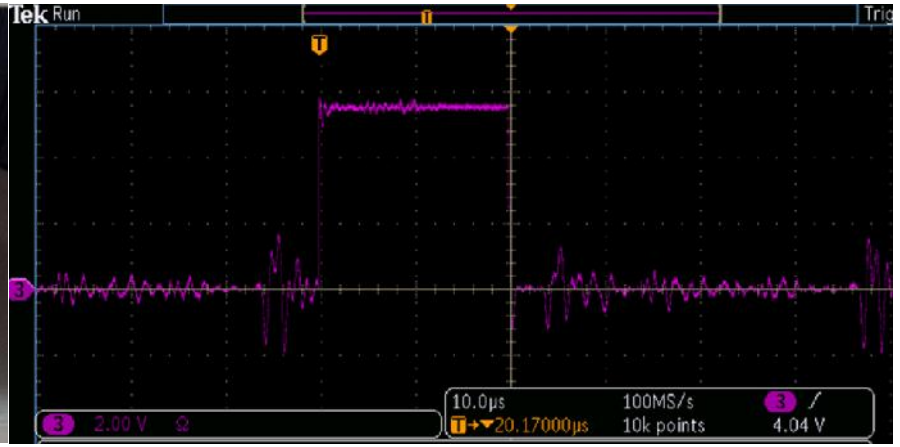


Fig-1: 5-channel PPS Pulse Distribution Amplifier

Fig-2: Profile of output 1PPS signal with 20 µs width

Specifications:

No. of inputs: 01; No. of outputs: 05; Connectors (Input and output): SMA; Output level: 0-5 V TTL; Pulse width: Same as input; Rise Time: <25 ns; Fall Time: <150 ns; Propagation delay: 80 ± 5 ns

Applications: Time synchronization, digital TV, audio broadcast, microwave links, satellite ground stations.

Advantages over existing technology

- Suitable for "Make in India" mission as all pulse distribution amplifiers are imported in India.
- Low-cost and portable.
- Option to run on battery.
- Cleaner pulse shape (low jitter and ringing).

Choose the Readiness level of the Technology:

Idea	Concept Definition	Proof of Concept	Prototype	Lab Validation	Technology Development	Technology Demonstration	Technology Integrated	Market Launch

Related Patents: Patent No: Know How; Country: NA; Publication Date: NA; Grant Date: NA

Year of Introduction: 2017

Broad Area/Category: Electronics & Instrumentation

User Industries:

- Timing Laboratories
- Telecom ground and base stations
- Satellite ground stations
- Network timing infrastructure
- Time and frequency equipment manufacturers

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