




Doc No: AES/IRIG/Spec/01.

Specification for

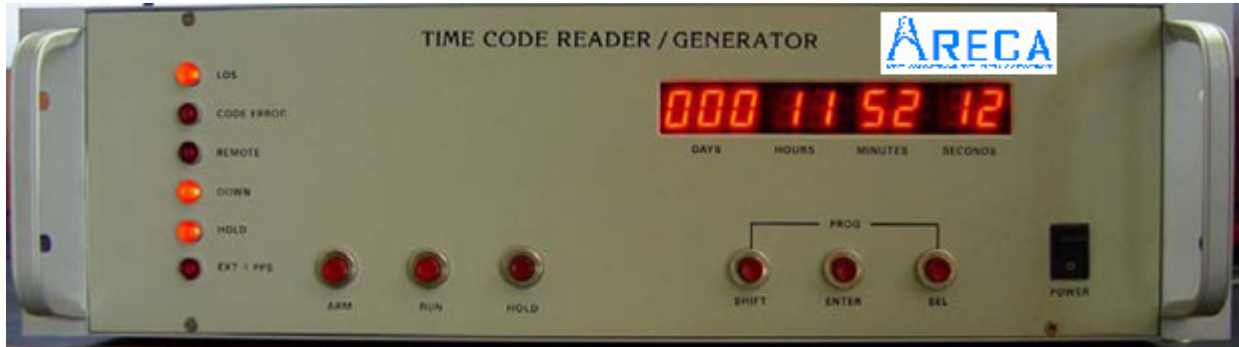
Synchronised IRIG time code reader/generator

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(An ISO9001:2000 certified company)

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	Synchronised IRIG time code reader/generator Technical Specifications	Doc.No: AES/IRIG/Spec/01.	
		Issue No: 1	Rev. No: 00
		Page 2 of 5	

Synchronised IRIG time code reader/generator



Synchronised IRIG time code generator is range equipment generating range timing signals. It can generate IRIG A and IRIG B codes in DC coded or modulated modes. The modulated signals are Digitally Synthesized for very high accuracy in timing. The generator can be synchronized with a variety of external sources. The external sources could be a 1PPS signal generated by GPS receiver or output of a highly stable sine oscillator of 1,5 or 10MHz. The reader can read time signals in both IRIG A and IRIG B formats. It accepts both modulated and DC coded signals. It can accept modified codes as defined by DRDO. While accepting modulated signals, the reader gives out amplitude normalised output derived from the input. Various outputs are available as shown below from the reader and the generator.



Synchronised IRIG time code reader/generator
Technical Specifications

Doc.No: AES/IRIG/Spec/01.

Issue No: 1

Rev. No: 00

Page 3 of 5

Specifications:

Time Code Reader:

Inputs:

- Format
Selectable from IRIG A and IRIGB
- Encoding
DC or Modulated
- Signal Level
 - 0.1V to 10Vp-p, single-ended for modulated
 - RS422 for DC coding
- Impedance
Better than 50K for modulated signal
- Filters
 - Low pass filter to reject high frequency noise
 - High pass filter to reject 50Hz line frequency
- Modulation Ratio 3:1 to 6:1

Outputs:

- BCD
 - DDD, HH, MM, SS
- Pulse Rates
 - 1PPS, 10PPS, 100PPS, 1KPPS
Generated from Carrier
 - Duty Cycle - 50%
 - Level - HCMOS compatible
- AGC'd output
 - Digitally controlled AGC circuit
output 2V p-p into 50Ω
- LOS Detection
 - Threshold adjustable from 1V to 10V (pk-pk)
 - LOS Indication - HCMOS compatible
- Code Error HCMOS compatible
- Time Display:
 - 9 digit high bright 0.5" LED 7-segment display for days, hours, minutes and seconds



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Doc.No: AES/IRIG/Spec/01.

Issue No: 1

Rev. No: 00

Page 4 of 5

Time Code Generator

Time Base:

- Internal
 - 10Mhz,TCVCXO +/- 5ppm, Control voltage – 0 to 5V
OR
 - 10Mhz, Oven Controlled Crystal Oscillator with stability better than 1×10^{-9}
- External
 - Sine Wave 1 MHz, 5 MHz, 10 MHz user selectable
 - 1PPS
 - GPS
 - Built-in GPS receiver (Optional)
 - IRIG B DC

Synchronization accuracy:

- Within 1 micro sec of input IRIG

Output:

- IRIG B (AC modulated)
 - Modulated output at 3:1 ratio
 - No. of outputs - One
 - Multiple outputs Optional
 - Level 5V p-p
 - Impedance 50 ohms
- IRIG B (DC) RS422 two outputs
- BCD outputs as in reader
- Pulse Outputs
 - 1PPS, 10PPS, 100PPS, 1kPPS
 - 50% duty cycle
 - HCMOS compatible outputs
- Other Outputs
 - Time on RS232

Front Panel:

LED Indicators:

- LOS
- Code Error
- Remote (Reader)
- DOWN
- HOLD
- Ext 1PPS

Controls:


- Power ON/OFF
- 3 keys to program and
- 3 keys for RUN/HOLD

General:

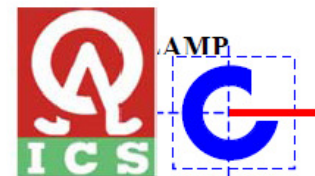
- Power
 - 230V AC +/- 10%, 50Hz
 - Less than 25W
 - 28V DC
- Operating Temp
 - 0°C to 50°C (commercial version)
- Storage Temp
 - -20°C - 55°C (commercial version)
- Humidity up to 95% non-condensing
- Enclosure 19" rack mountable/stand-alone

Other related Products:

- PCI bus based GPS time synchroniser

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		Issue No: 1	Rev. No: 00
		Page 5 of 5	

- Fiber optic voice data link with hot standby (LC-Launcher Link)
- PCI bus based IRIG time reader
- Voice-data communication system (1 voice, 4 serial channels and 16 digital channels)
- Fibre Optic OLTE for telemetry systems up to 5 MBPS
- Universal Fibre Optic multiplexer (User configurable inputs and outputs)



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