

New Product

Master Clock

GPS Based Time Code Generator System, Type RTG-01

Preliminary Description

The RTG-01 Time Code Generator a moderately priced, highly practical, and possibly unique Master Clock System consisting of three separate items.

1. Active GPS Antenna.
2. GPS Receiver and RS-485 Data Converter.
3. RTG-01 Master Unit.

Although designed primarily for use as a Master Clock System in Professional Radio and Television Broadcast applications where accurate time keeping is absolutely essential, the RTG-01 is equally suitable as a Master Clock in other applications requiring accurate time displays and computer systems synchronisation.

Some examples are.

Time Displays in Airport Arrival and Departure Halls, Railway Stations, Sporting Arenas, Customer Service Centres, Emergency and Police Services, Factories, Hotels, Shopping Centres, Law Courts, Government and General Offices etc.

Computer Systems Synchronisation to Stand Alone PC's, File Servers, Point of Sale Systems, Voice Loggers, Data Logging Systems, Security Systems, Video Surveillance etc.

The RTG-01 is a truly versatile unit providing EBU-SMPTE Time Code, RS-232 Data and 1 Hz Pulses to Slave Clocks, SMPTE Time Code Readers and Computer Systems.

Elan Audio currently makes SMPTE Time Code Readers for building into equipment, and is planning to manufacture medium and large sized slave Digital Clock Displays for wall mounting.

The output from the RTG-01 is the standard 25 Frame per Second EBU-SMPTE Time Code which is compatible with commonly available SMPTE Time Code Readers from other manufacturers, and of course the Analog SMPTE reading wall mounting slave clocks manufactured by Leitch in Canada.

The System is simple and easy to install and does not require expensive and critical low loss antenna cable to take the GPS signal to the receiver, instead, we take the receiver to the signal.

The RTG-01 system consists of the following elements.

GPS Antenna.

The GPS Antenna is a small active unit measuring 50 mm x 50 mm with a magnetic base, designed to mount outside on a metal roof, or a metal plate ground plane.

It is hermetically sealed to withstand the elements, and provided with 5 Meters of Co-axial cable to connect between the Antenna and the GPS Receiver.

Simply drill a 10 mm hole in the roof, place the Antenna on the roof, drop the cable through and seal the hole with Silastic.

GPS Receiver.

The GPS Receiver consists of a GPS Receiver Module and Interface Board containing the RS-485 Data Bus driver and Power Supply Regulator for the GPS Module, and is mounted in a sturdy Plastic Enclosure measuring 125 mm x 85 mm x 55 mm.

Connections to this is the Co-axial connector to the Antenna, and a single 8 pin RJ-45 Socket for DC Power from and Data to the RTG-01 Master Clock unit.

The Receiver unit is for indoor installation and must be protected from the weather by being installed in the ceiling or attic.

Cabling between Receiver and Master Clock.

Cabling between the Receiver and the RTG-01 Master Clock is via ordinary Cat-5 Cable provided with a RJ-45 plug at each end.

RTG-01 Master Clock.

The RTG-01 Master Clock is constructed as a standard 19" Rack Mounting unit requiring 1 RU of vertical rack space.

It features the following.

240 V AC Power Supply.

RS-485 Data in and Power out to the GPS Receiver via RJ-45 Socket.

Microprocessor control.

Real Time Clock backup for GPS reception.

Automatic Synchronisation of the Real Time Clock, from the GPS Receiver.

Manual setting of Real Time Clock, Hold, Hours and Minutes through holes in front panel.

Time Offset adjustment by internal DIP switch.

Winter-Summer time selector toggle switch on back panel.

Front Panel LED Indicators, Green GPS Locked, Red Not GPS Locked, Green 1 Second Flash.

RS-232 Output for Computer Systems Synchronisation via 9 Pin D Connector on rear panel.

1 Hz Open Collector Pull Down Pulse via removable screw terminals on rear panel.

10 x 4 V PP Balanced Line SMPTE Time Code splits via 25 Pin Male D Connector on rear panel.

6 Digit 7 segment LED Time Readout on front panel, slaved from SMPTE Output.

Yellow LED AM PM indicators on front panel.

12 Hour 24 Hour display toggle switch on rear panel.

EBU-SMPTE Time Code.

Standard 4 V PP Balanced Line 25 Hz SMPTE Time Code compatible with the majority of SMPTE Time Code Readers, Digital SMPTE Clock Displays and Leitch Analog SMPTE driven Wall Clocks.

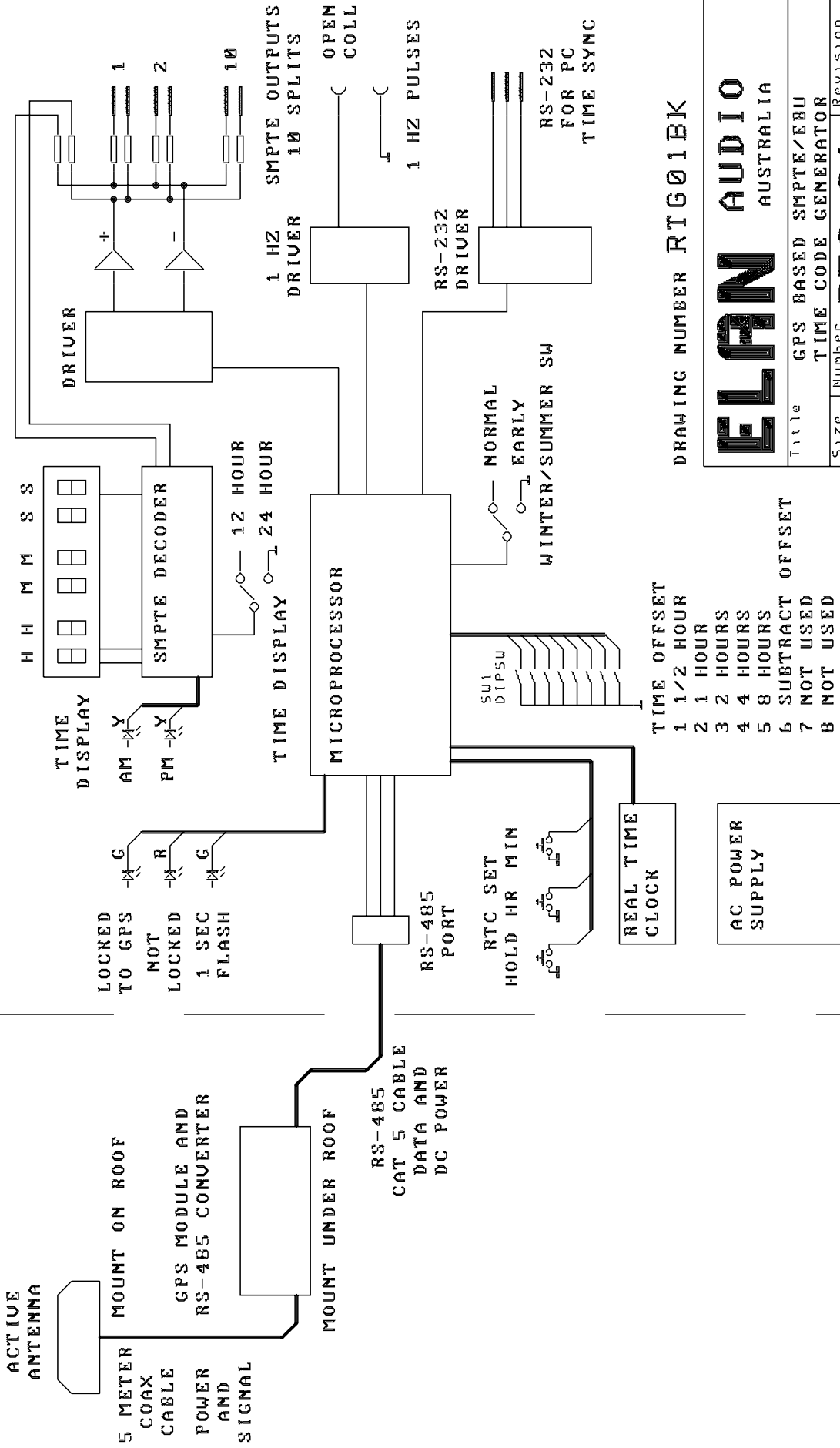
Computer Synchronisation output.

RS-232, common (NMEA) format, compatible with software readily available from the Internet.

1 Hz Pulse output.

Provided as standard feature and may be adapted by external circuitry to drive existing slave clocks.

MASTER UNIT 1 RU FOR MOUNTING IN RACK

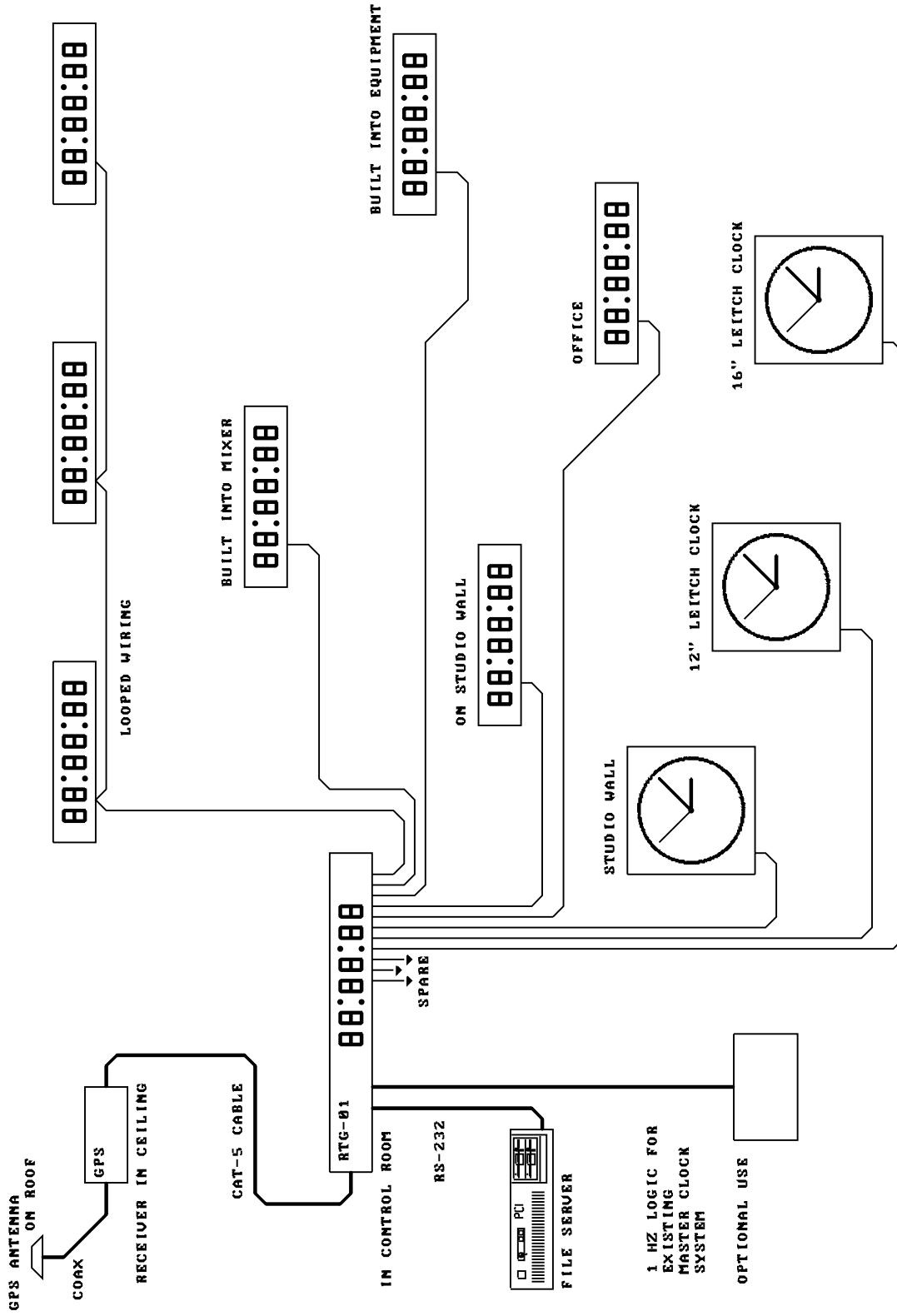


DRAWING NUMBER RTG01BK

ELAN AUDIO

AUSTRALIA

Title		GPS BASED SMPT/EBU TIME CODE GENERATOR	
Size	Number	Revision	
A4	RTG-01		
Date: 31-MAY-2001		Sheet	of
File: RTG01BK/1		Drawn	By:



ELAN AUDIO
AUSTRALIA

Title		MASTER CLOCK SYSTEM	
Size	Number	Revision	
A3	RTG01SYS		
DATE: 2-JUN-2001		PAGE: 01	
FILE: RTG01SYS.V1		DRAWN BY:	

MASTER CLOCK SYSTEM EXAMPLE