R.V.R. ELETTRONICA

new SDC2000

Preliminary Version 0.2 – 09/2004

SDC2000

SDC2000-RDS

FEATURES

- Integrated RDS coder; standard EBU service (PI, PS, PTY TP, TA, AF, M/S, PIN, RT, EON, TDC, IH)
- Integrated Digital Coder Stereo
- Support of S/PDIF, AES/EBU (from 32 to 96 KHz of sampling frequencies) and EIAJ CP340/1201 data formats
- Acquisition of Digital and Analogue signals
- High performance thanks to DSP technology
- Directly interface to the keyboard for an easy

\SFN option
(Specifically designed for Isofrequency applications):

- In addition to those in SDC2000, the SDC2000\SFN features the following additional equipment: Delay line (for all inputs: Left, Right, MPX, AES/EBU).

\GPS option
(Specifically designed for Isofrequency applications):

- In addition to those in SDC2000\SFN, the SDC2000\GPS features the following additional equipment: GPS Integrated.

DSP-based High Performance Digital Stereo & RDS coder for SDC2000 coder

- High performances Stereo Coder: Stereo Separation > 65 dB and S/N ratio > 80 dB.
- Balanced audio inputs with high level of Common Mode Rejection Ratio (CMRR > 70 dB, from 20 Hz to 15 kHz), filtered from the RF interference and protected against Fast Transient Events
- Ground subdivision system (Audio and Chassis) optimized to avoid Ground-Loops phenomena
- Two buffered MPX outputs, each with indipendent level, allow to keep an optimum Stereo Separation with loads as low as 50 Ohm.
- **SDC2000** can deal can deal with digital AES/EBU coded input, or even with standard analog "Left" e "Right" signals, that are converted into digital format (A/D)
- **SDC2000** generates the stereo composite "MPX" directly in digital form, using as input the *digital* Left and Right inputs; this guarantees:
  - Maximum S/N and fidelity in the stereo signal
  - Maximum stereo separation in the whole frequency range
- The **SDC2000\SFN** handles all the functions needed to work in real SFN configurations synchro of RF carrier delay time as delay line on all the inputs (Left, Right, MPX and AES/EBU), beyond functions of the **SDC2000**.
- The **SDC2000\GPS** allows 1ppm of carrier synchronization by the built-in GPS source, beyond functions of the **SDC2000\SFN**.

Technical Specifications

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Analogue Audio Input

Conversion	24bit
Connector	XLR electronically balanced
Impedance	600/10K – software selectable
Input level	Software adjustable
Maximum Input Level	6/18/30 dBu

Digital Audio Input

Connector	XLR Balanced + optical toslink
Data Formats	AES/EBU –S/PDIF – EIAJ-340
Sampling frequencies	From 32 to 96 KHz

Digital Audio Output

Connector	PIN – RCA Unbalanced
Data format	S/PDIF
Sampling frequencies	48 KHz

MPX Output

D/A convert	24 bit
Pilot tone	19 KHz ±0,1 Hz
Pilot level	Adjustable from -8 to -32 dBu at steps of 0.1dB
Pilot phase	Adjustable ±12° at steps of 0.1°
Attenuation with 38 KHz	
Carrier suppressed	min. -90 dB
Two MPX outputs level	Adjustable
Stereo separation	70 dB from 30 HZ to 15 KHz
NoiseOutput MPX	-90 dBu
Preemphasys	50/75 microsec.
Preemphasys linearity + LPF	from 30 Hz to 15 KHz ±0,05 dB
Low pass filter 15 KHz	ripple from 30 HZ to 15 KHz ±0,02 dB
Low pass filter attenuation 19 KHz	-90 dB
Clipper	Left and Right channels
Clipper	MPX composite Input
AGC	Left and Right channels & MPX composite

RDS

Specification	Cenelec 50067 (PI: Program Identification, PS: Program Service, PTY: Program Type, TP: Traffic Program Identification, TA: Traffic Announcement, AF: Alternative Frequencies, M/S: Music/Speech, PIN: Program Item Number, RT: Radio Text, EON: Enhanced Other Networks, TDC: Transparent Data Channel, IH: In-house Application)
Sub-carrier frequencies	57 KHz ±1,5 Hz
Synchronization	Internal or external
RDS Phase Adjust	Set at steps 0,33 degrees to 360 degrees

Elaboration

A/D conversion	24 bit
D/A conversion	24 bit
DSP elaboration	32 bit, floating point

Connectors

Serial Interface	RS232 (DB9 female connector to link the coder with external devices).
Keyboard Interface	5-pin Mini-DIN to connect directly the coder to a standard keyboard.
Remote inputs	TP: Traffic Program Identification, TA: Traffic Announcement, M/S: Music/Speech.

\SFN (Optional) - same functions of SDC2000 plus:

Input/Output Delay	Fixed and regulation up to 10mS at steps of 50nS
Input signal 10Mhz	PPS reference signal
Carriers synchronization 19-38KHz	PPS stability ±200nS
RDS Carrier synchronization	PPS stability ±200nS
Pilot Tone Phase 19Khz	set at steps 0,1 degree to ±12 degree

\GPS (Optional) - same functions of SDC2000\SFN plus:

GPS system	Built-in
Output signal 10Mhz	PPS reference signal

Other specifications can be subject to change without notice.

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