Crypton

USER MANUAL

COD802MS
Dual channel scrambler/multiplexer
(briefly Coder COD802MS)

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2. General

The DVB scrambler/multiplexer COD802MS is a part of a Digital Video Broadcasting System produced by Crypton Company. This device should be used with two MUX841 devices – the DVB MPEG2 encoder/multiplexer (4 programs per each device). COD802MS has as input two SLVDS sources and in output there is QPSK modulated L-band signal. Output (SLVDS) to the foreign modulator is also available.

It is possible to have up to 8 DTV programs which might be scrambled with unique per program dynamic keys. Subscribers Message System (SMS) is allow to have up to 16 millions subscribers for the entire device (eight programs). PID's substitution, PSI and SI information was implemented in according to EN50083-9 DVB specification.

All management tasks are performed by control computer running "DVB Master" software. Communication media between scrambler and computer is a regular TCP/IP network (100BaseTX, UTP5 cable, RJ45 socket, can run via switches or hubs). There are no limits to use several devices in the same network.

Typical applications of the COD802MS are head-end stations of digital cable, MITRIS, MMDS- and LMDS-networks.

3. Getting Started

This device is a complex digital system with the sensitive elements inside so special precautions must taken for the proper device operation. Simply follow the steps below when preparing device for regular use.

The components you need for COD802MS installation and use:

- One (4 programs in total) or two (8 programs in total) Crypton MPEG2 Audio/Video Encoder/Multiplexer MUX841 or other MPEG2 LVDS source;
- One COD802MS device;
- One (or even several if you like) control computer. Computer is an any modern IBM PC compatible running Microsoft Windows. Refer to "DVB Master" user manual for the detailed information.
- Three "patch" cables with RJ45 jacks in both ends. Two of them is used for connecting COD802MS with the two MUX841 devices end one for connecting scrambler/multiplexer output with the internal (or foreign external) modulator.
- One "crossover" (for point-to-point connection) or "patch" cable (for connection through switch or hub).
- Audio/Video sources to feed them to the MUX841 devices.
- One (or more) receiver(s) with built-in CAS "Crypton" support for complete testing purpose. Once the system was installed this component has no need after.

4. Installation

4.1 When a transportation has reached it's final destination do not hurry to open the bag. Let the condensat inside to disappear within two hours or even more.

4.2 After time is out carefully open the bag and get the device up. You need to unpack at least one COD802MS and one or two MUX841 devices.

4.3 Also extract all cables and manuals provided.

4.4 Read carefully the manuals and datasheets.

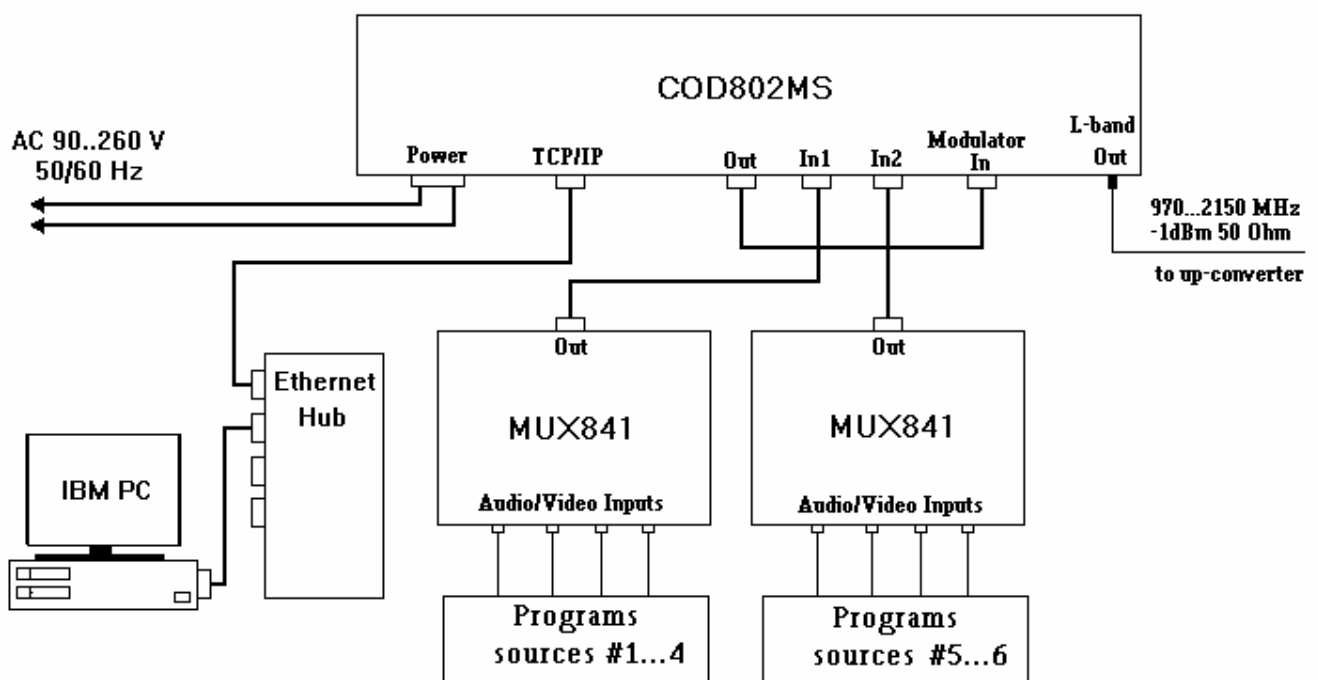4.5 See the figure 1 below and properly install all components used.

Fig. 1 Components interconnection

4.6 All cables in figure above is a "patch" with RJ45 jacks on both ends. An exception is a power cable (included with the device) and a cable for connection modulator output with the up-converter (not included).

4.7 Programs sources should be connected with the MUX841 using shielded cables only. Refer to the MUX841 user manual for the further instructions installing that devices.

5. Configuration and tests

5.1 The next step when all the necessary parts was installed and connected between each together, a control computer should be prepared for operation. Refer to the "DVB Master" user manual on how to prepare your computer.

5.2 The last thing you will done is to make some tests and increasing your experience using Crypton devices. The general tasks is to perform this tests:
- configuration and channels discovery;
- receiver installation and main configuration using signal provided by COD802MS *without scambling*;
- scrambler and receiver tests *with scambling* enabled;

For detailed information about this test tasks refer to the "DVB Master" and receiver's user manuals.

The technical information about COD802MS devices you can found in COD802MS datasheet.

7. Used Abbreviations

DVB	–	Digital Video Broadcasting
SPI	–	Synchronous Parallel Interface
PID	–	Packet Identifier
SI	–	Service Information
QPSK	–	Quaternary Phase Shift Keying
MMDS	–	Multichannel Multipoint Distribution System
SMS	–	Subscriber Management System
FEC	–	Forward Error Correction