CID Receiver,
a tool to verify Satellite Carrier Identity

What is DVB-CID?

Radio Frequency Interference (RFI) highly impacts the Quality of Service for satellite operators and their customers. In satellite transmissions it is difficult to identify the source of this interference, in particular for occasional-use satellite transmissions and temporary feeder links. So to be able to robustly identify any carrier, Carrier Identification (CID) has been introduced in 2013 via the ETSI TS 103 129 DVB-CID standard.

The DVB-S/S2/S2X modulator is adding the DVB-CID digital signal, to each broadcast carrier (one carrier, one DVB-CID signal). The minimum content of the Carrier ID is the DVB CID Global Unique Identifier (GUI). This GUI is unique for each equipment manufacturer and is generated based on the unique MAC address of the modulator. Thanks to this GUI value, it is easy to identify the modulator used to generate the interfering carrier and thus to recognize the cause of the interference. This is an important tool to stop or at least reduce interference between satellite signals.
Additionally, the DVB-CID message may contain other information that is configurable by the user, such as GPS coordinates, contact phone numbers, etc., to simplify and speed up the process to stop the interference event.
The DVB-CID system has been optimized for DVB satellite applications; however it can be applied to any continuous satellite transmission. Adding the DVB-CID signal has no impact on the link budget.

What is a CID receiver?

The CID Receiver is used to check and/or analyze each carrier to ensure the DVB-CID signal is present. TeamCast's new CID Receiver system is the first stand-alone solution to extract the Carrier ID (CID) from the DVB-S/S2 satellite signal.

Applications:

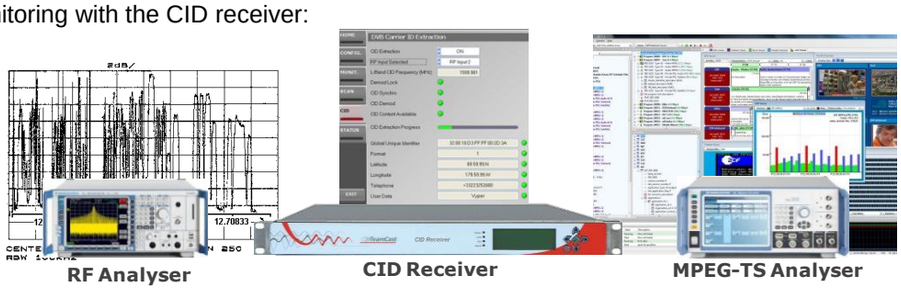
1. **DVB-CID implementation**: The TeamCast CID receiver verifies that a modulator adheres to the DVB-CID standard.

2. **DVB-CID monitoring**: The TeamCast CID Receiver scans all carriers to check the presence or absence of a DVB-CID signal. In case the CID signal is present it extracts the DVB-CID value to ensure that it is the correct modulator which generated the analyzed carrier. The CID Receiver supports SNMP and can therefore be used for "preventive" maintenance.

   Thus it is possible to replace an existing DVB-S/S2 demodulator with the TeamCast CID Receiver and benefit – besides the DVB-CID extractor – from the state-of-art DVB-S/S2 demodulator (including the DVB-S2X low roll off management), with high accuracy probes.

   Current monitoring:

   Improved monitoring with the CID receiver:



   CID Receivers can work either in stand-alone mode as well as being integrated in a global monitoring system using SNMP.

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How does the TeamCast CID Receiver work?

After being locked on a DVB-S or DVB-S2 signal (even if the MPEG-TS output is failed), the DVB-CID information can be extracted. The TeamCast stand-alone CID Receiver checks via SNMP if the Carrier ID is included in each satellite broadcast signal, thus verifying that the CID is compliant and that the received signal has been generated by the right modulator.
The CID Receiver then demodulates the DVB-S and DVB-S2 signal and generates the MPEG-TS over ASI or Ethernet (SMPTE-2022) output for further processing.
Additionally, the CID Receiver monitors the following DVB modulation parameters: RF level, C/N, C/N margin, EVM, BER (before/after FEC), CRC BB header for DVB-S2 and the packet error rate for DVB-S.

This is the easiest way (time-to-market and cost-efficient) to be compliant with the new FCC requirements regarding DVB-CID.

Market Deployment

Satellite interference is a big issue in the satellite industry causing the loss of several million dollars. Therefore three years ago the DVB-CID standard was introduced, and now some DVB-CID tools, like the TeamCast CID receiver, are available on the market. This CID receiver allows:

- A stand-alone DVB-CID extraction
- Quick identification of each DVB-CID of all carriers of the satellite fleet.
- Improvement of Quality of Service and reduced operating costs.

The CID Receiver datasheet is available under the following link
http://www.teamcast.com/products/cid-receiver-first-carrier-id-extractor/

About TeamCast

TeamCast is a renowned and highly active member of the Digital TV ecosystem worldwide, with innovative technology offerings based on a solid expertise in Satellite and Terrestrial Digital TV transmission. Created in 2003, and based in Rennes in France, TeamCast is deeply involved in the development, definition and verification of numerous broadcasting standards.
Today, major clients in the Broadcasting Industry from 50 different countries invest their confidence in TeamCast and its products. TeamCast has offices in Elmira (New York) and in Singapore to support the development of its business in North America and Asia, and to provide local sales and technical support services to its customers.

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