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Release notes

SR1 software version 4.01b143

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1.0	Tuesday, October 28, 2014	Baruch Kagan	Avi Barda	Baseline

1 General

The Documents is release notes for TC1 software 4.01b143 and Firmware 4.2.b11

2 New Features

The following are new features

1. Support ASI output in parallel to the TsoIP output
2. Support of SDD output – providing as a UDP message information about EsNo, AGC , Lock and others. SDD is output on Port+1
3. PID Filter – Filter TS packets of Specific PID and output it over UDP. This feature allow receiving and externally parsing the PSI/SI tables. The Filtered TS packets output on port +2
4. Support DiSeqC
5. Auto Calculate of Egress Multicast MAC based on IP address

3 Compatibility

3.1 Hardware

The SW version operate with SR1 hardware 2.0x.

4 Screen captures

4.1 Transport stream over 225.113.113.113:1234

Filter: `ip.addr==225.113.113.113 and udp.port==1234`

No.	Time	Source	Destination	Protocol	Length	Info
19094	3.45398000	192.168.10.102	225.113.113.113	MPEG TS	1358	Source port: search-agent
19101	3.45399900	192.168.10.102	225.113.113.113	MPEG TS	1358	Source port: search-agent
19109	3.45401500	192.168.10.102	225.113.113.113	MPEG TS	1358	Source port: search-agent
19122	3.45403100	192.168.10.102	225.113.113.113	MPEG TS	1358	Source port: search-agent

Frame 19109: 1358 bytes on wire (10864 bits), 1358 bytes captured (10864 bits) on interface 0

- Ethernet II, Src: AyeckaCo_04:cc:15 (cc:f6:7a:04:cc:15), Dst: IPv4mcast_71:71:71 (01:00:5e:71:71:71)
- Internet Protocol Version 4, Src: 192.168.10.102 (192.168.10.102), Dst: 225.113.113.113 (225.113.113.113)
- User Datagram Protocol, Src Port: search-agent (1234), Dst Port: search-agent (1234)
- ISO/IEC 13818-1 PID=0x101 CC=3
 - Header: 0x47010113
 - [MPEG2 PCR Analysis]
- ISO/IEC 13818-1 PID=0x201 CC=2
 - Header: 0x47020112
 - 0100 0111 = Sync Byte: Correct (0x00000047)
 - 0..... = Transport Error Indicator: 0
 -0..... = Payload Unit Start Indicator: 0
 -0..... = Transport Priority: 0
 -0 0010 0000 0001 = PID: Unknown (0x00000201)
 - 00..... = Transport Scrambling Control: Not scrambled (0x00000000)
 -01..... = Adaptation Field Control: Payload only (0x00000001)
 - 0010 = Continuity Counter: 2
 - [MPEG2 PCR Analysis]
- ISO/IEC 13818-1 PID=0x101 CC=4
 - Header: 0x47010114
 - [MPEG2 PCR Analysis]
- ISO/IEC 13818-1 PID=0x201 CC=3
- ISO/IEC 13818-1 PID=0x201 CC=4
- ISO/IEC 13818-1 PID=0x101 CC=5
- ISO/IEC 13818-1 PID=0x201 CC=5
 - Header: 0x47020115
 - [MPEG2 PCR Analysis]

Frame (frame), 1358 bytes

4.2 SDD over 225.113.113.113:1235

Wireshark 1.10.1 (SVN Rev 50926 from /trunk-1.10)

Filter: `ip.addr==225.113.113 and udp.port==1235`

No.	Time	Source	Destination	Protocol	Length	Info
18836	3.37395100	192.168.10.102	225.113.113.113	UDP	194	Source port: search-agent Destination port: 1235
18917	3.41900800	192.168.10.102	225.113.113.113	UDP	194	Source port: search-agent Destination port: 1235
19084	3.45395900	192.168.10.102	225.113.113.113	UDP	194	Source port: search-agent Destination port: 1235

Frame 19084: 194 bytes on wire (1552 bits), 194 bytes captured (1552 bits) on interface 0

Ethernet II, Src: AyeckaCo_04:cc:15 (cc:f6:7a:04:cc:15), Dst: IPv4mcast_71:71:71 (01:00:5e:71:71:71)

Internet Protocol Version 4, Src: 192.168.10.102 (192.168.10.102), Dst: 225.113.113.113 (225.113.113.113)

User Datagram Protocol, Src Port: search-agent (1234), Dst Port: mosaicsysvc1 (1235)

Source port: search-agent (1234)

Destination port: mosaicsysvc1 (1235)

Length: 160

Checksum: 0x0000 (none)

Data (152 bytes)

Data: 00010983010170840201210c0301ffff0401828005010a80...

[Length: 152]

0000 01 00 5e 71 71 71 cc f6 7a 04 cc 15 08 00 45 00 ..^qqq.. z....E.
0010 00 b4 00 01 00 00 80 11 1c 47 c0 a8 0a 66 e1 71G...f.q
0020 71 71 04 d2 04 d3 00 a0 00 00 00 01 09 83 01 01 qq.....
0030 70 84 02 01 21 0c 03 01 ff ff 04 01 82 80 05 01 p...!...
0040 0a 80 06 01 00 7d 07 01 00 38 08 01 c0 00 09 01}.8....
0050 ff ff 0a 01 10 27 0b 01 fd e9 0c 01 03 4a 0d 01J..
0060 22 1b 0e 01 4b 00 0f 01 00 06 10 01 3a 1f 11 01 "...K....
0070 38 58 12 01 00 00 13 01 ff ff 14 01 00 00 15 01 8X.....
0080 00 00 16 01 03 94 17 01 0d 4e 18 01 00 00 19 01N....
0090 00 00 1a 01 04 ac 1b 01 0f 34 1c 01 ff ff 1d 014....
00a0 00 00 1e 01 00 d2 1f 01 10 27 20 01 10 28 21 01(!..
00b0 10 26 22 01 fd e9 23 01 01 00 24 01 80 00 25 01 .&"...#...\$.%.
00c0 02 26 .&

Data (data.data), 152 bytes Profile: Default

4.3 SDD over 225.113.113.113:1236

The image shows a Wireshark 1.10.1 packet capture window. The filter is set to `ip.addr==225.113.113.113 and udp.port==1236`. The packet list shows three packets, with the third packet (No. 11020) selected. The packet details pane shows the following structure:

- Frame 11020: 230 bytes on wire (1840 bits), 230 bytes captured (1840 bits) on interface 0
- Ethernet II, Src: AyeckaCo_04:cc:15 (cc:f6:7a:04:cc:15), Dst: IPv4mcast_71:71:71 (01:00:5e:71:71:71)
- Internet Protocol Version 4, Src: 192.168.10.102 (192.168.10.102), Dst: 225.113.113.113 (225.113.113.113)
- User Datagram Protocol, Src Port: search-agent (1234), Dst Port: bvcontrol (1236)
 - Source port: search-agent (1234)
 - Destination port: bvcontrol (1236)
 - Length: 196
 - Checksum: 0xc52e [validation disabled]
- ISO/IEC 13818-1 PID=0x10 CC=11
 - Header: 0x4740101b
 - 0100 0111 = Sync Byte: Correct (0x00000047)
 - 0.... = Transport Error Indicator: 0
 -1. = Payload Unit Start Indicator: 1
 -0. = Transport Priority: 0
 -0 0000 0001 0000 = PID: unknown (0x00000010)
 - 00.. = Transport Scrambling Control: Not scrambled (0x00000000)
 -01 = Adaptation Field Control: Payload only (0x00000001)
 - 1011 = Continuity Counter: 11
 - [MPEG2 PCR Analysis]
Pointer: 0
- DVB Network Information Table
 - Table ID: Network Information Table (NIT), current network (0x40)
 - 1... = Syntax indicator: 1
 - .111 = Reserved: 0x0007
 - 0000 0011 0010 = Length: 50
 - Network ID: 0x1111
 - 11.. = Reserved: 0x03
 - ..00 010. = Version Number: 0x02
 -1 = Current/Next Indicator: Currently applicable (1)
 - Section Number: 0
 - Last Section Number: 0
 - 1111 = Reserved: 0x000f
 - 0000 0001 0010 = Network Descriptors Length: 18
 - Descriptor Tag=0x40
 - 1111 = Reserved: 0x000f
 - 0000 0001 0011 = Transport Stream Loop Length: 19
 - Stream ID=0x0001
 - CRC: 0xe358a7c7 [Unverified]
- Stuffing

The packet bytes pane shows the raw data in hexadecimal and ASCII. The first 196 bytes are the DVB NIT, and the remaining 4 bytes are stuffing.

5 Using the PID Filter

The TC1 support filtering TS form specific PID and output them over UDP.
To activate the PID filtering one need to do the following two steps

5.1 Configuration using the terminal

Configuring the PID can be done using the terminal (Serial or Telnet).

Ingress Configuration

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1. Config RX Channel 1
2. Config RX Channel 2
3. Select Active RX Channel
4. RX Channel Switching Manual
5. RX Channel Operation Mode Single
6. Force BBF Output Unforced
7. PID Filter

In the Ingress configuration Menu, select the PID filter (#7)

PID Filter

=====

1. Enable PID Filter Enabled
2. PID to filter 30

Set the PID number (Decimal) and enable the filtering – The order is important.

5.2 Configuration using the SNMP

The following OIDs are used

Set the PID filter - <oid name="rxPidFilter" value="1.3.6.1.4.1.27928.103.1.1.3.7.0" type="int"/>

Enable the filter - <oid name="rxPidFilterEnable" value="1.3.6.1.4.1.27928.103.1.1.3.6.0" type="int"/>

5.3 Filtered PID UDP port

The filtered PIDs UDP port is hard coded to the TS output port + 2