

CMA5000 Gigabit Ethernet

SPECIFICATIONS

MPEG-2 Transport Stream Analysis Option



The MPEG-2 option for the CMA5000 Gigabit Ethernet test module allows users to capture and decode Ethernet frames from a network, and filter out an MPEG-2 transport stream. This MPEG-2 stream may then be fully analyzed on the unit in the field, or even played back on the CMA5000 with an MPEG-2 player such as VLC. This option allows field engineers and technicians to not only test the Ethernet network, but also the video service being delivered. The powerful MPEG-2 analysis software, powered by Triveni Digital, on the CMA5000 will completely analyze the entire video transport stream, or the MPEG-2 stream may be viewed to see issues such as loss of synchronization between video and audio or an overly pixelated video stream.

The ability to easily and cost effectively test the quality of the video stream is essential to the successful rollout of an Ethernet based Video Transport System. Whether it is Video on Demand (VoD) or IPTV, if Gigabit Ethernet is being used as the transport protocol, the addition of MPEG-2 analysis capability to an Ethernet test set is a major benefit. In addition to testing the Throughput, Frame Loss and Latency of the Ethernet transport, the CMA5000 GigE module now offers an MPEG-2 video analysis option that enables field personnel to install, troubleshoot and verify the quality of MPEG-2 Video Transport Streams.

Key Features	Key Benefits
<ul style="list-style-type: none"> • Display of 13 different transport stream errors • Instant display of Virtual channels, elementary streams and PID's in a stream • Real time analysis capability • Percentages of audio, video and data in the stream • Video and audio buffer graphs indicating buffer overflow or underflow • PCR timing information including PCR jitter • PSIP and MPEG tables • Programs overview including Video and audio PID's • Approximately 5 minutes of video capture • IGMP – Monitor • Channel Statistics – Quickly identifies UDP ports and throughput per channel 	<ul style="list-style-type: none"> • Full line rate Gigabit Ethernet modular test set plus MPEG-2 analysis. A single unit to cover many VoD and IPTV field test requirements • Automated RFC2544 testing including Throughput latency and jitter <ul style="list-style-type: none"> ◦ Measuring throughput, latency, jitter, etc. via RFC 2544 ◦ Two 10/100/1000 electrical ports ◦ Two optical GBIC ports • Complete MPEG-2 Analysis including: <ul style="list-style-type: none"> ◦ Transport stream analysis ◦ Program Timing Reference ◦ Program table information

To simplify this testing in the field, the CMA5000 also supports IGMP and can perform an IGMP Join on up to six Multicast IP addresses. This capability allows the CMA5000 to analyze video streams directly from a switch or router without the need to mirror or span a port. Since VoD systems use IGMP as an essential method of maximizing bandwidth by multicasting, the ability of the CMA5000 to act as a host on an IGMP multicast system is necessary for easy, efficient MPEG-2 analysis.

A router or a switch in a VoD or IPTV network sends out periodic messages to connected hosts to determine if they are a member of a multicast group. If not, that host will not receive the multicast stream. If it is the host is a member, it receives, or continues to receive the video stream. Through the use of IGMP, the CMA5000 can participate as a member host of a multicast group to receive and analyze the video stream without the need to mirror or span a switch port in the field greatly simplifying testing.

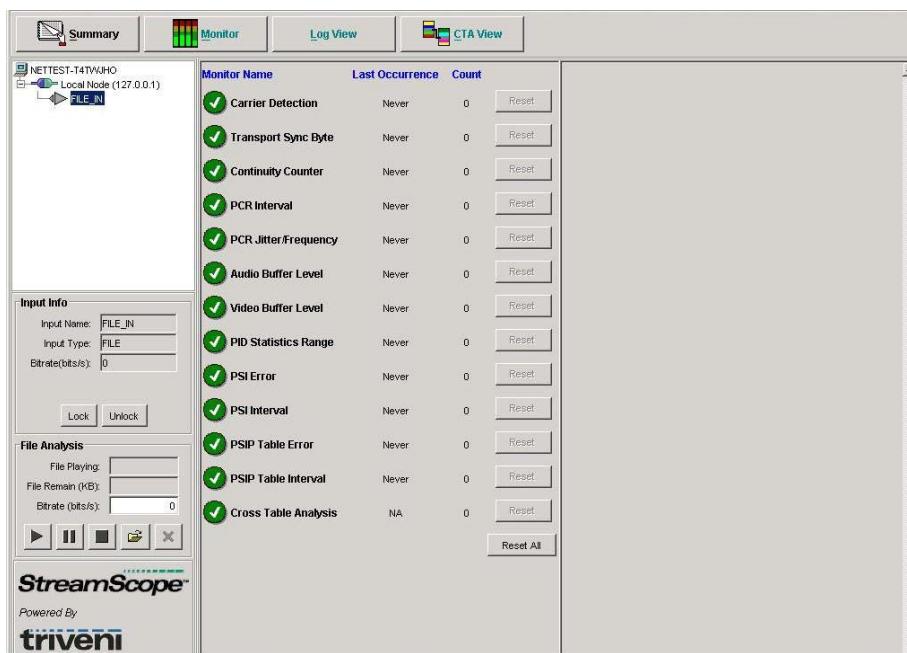


Fig 1 CMA5000 Summary screen shot: providing instant pass/fail indication

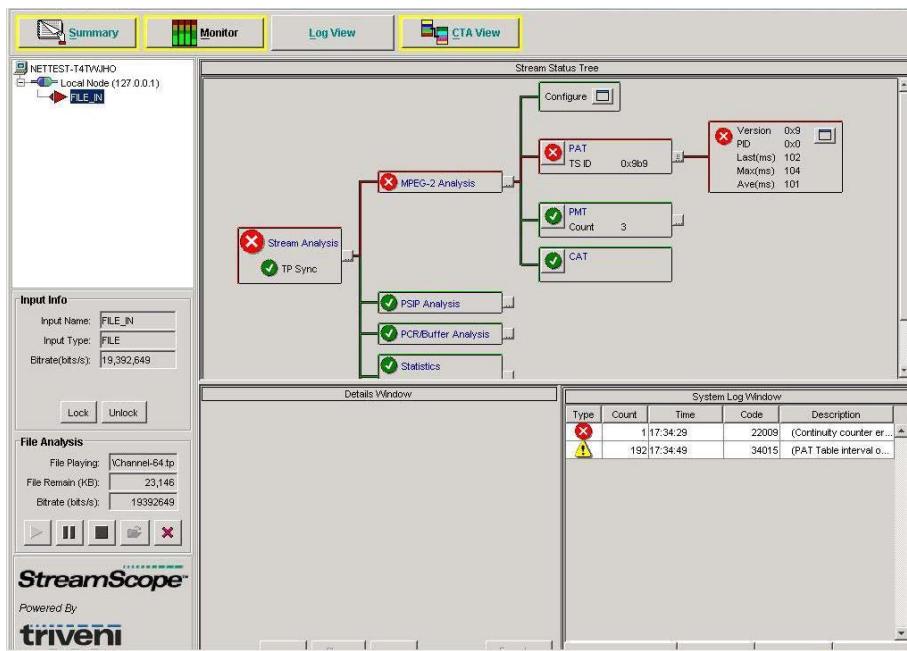


Fig 2 CMA5000 screen shot: expanded results to show exact cause of errors

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