

Read This First

Tektronix

**MTS 200 Series
MPEG Test Systems
Software Version 2.2
RTA Version 1.0**

071-0079-00

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This manual describes changes to the MTS 200 Series MPEG Test System that are not documented in other manuals provided with your system. Information in this manual supersedes that in all other test system documentation. This manual contains the following sections:

- Products Covered by this Manual
- New Features and Improvements
- Performance Issues
- MPEG-2 Transport Stream Error Injector

Products Covered by this Manual

The changes noted in this document apply to MTS 200 Series MPEG Test System Application Software version 2.2.

Table 1 lists the affected versions of the MTS 200 Series applications; select the **About** command on the Help (or ?) menu to see the version of the current application.

Table 1: MTS 200 Series software program versions

Icon name	Program	Version	Date
Analyzer	Adn_carb.exe	2.12.06	October 1997
Data Store Administrator	Matracom.exe	2.21.6	N/A
DVB Channel Coding and Decoding	Canal.exe	N/A	N/A
Error Injector	Einjwin.exe	1.01	N/A
Multiplexer	Mux_carb.exe	2.01.12	September 1997
Packet Jitter	Gigue.exe	2.00.03	July 1996
Table Editor	Editable.exe	2.02.00	March 1997
Real-Time Analyzer	Rta.exe	1.18	November 1997

New Features and Improvements

Several changes have been made to the MTS 200 Series that add new capabilities, improve performance, or affect required procedures.

Version 2.2 Software Enhancements

This version of the software adds the following new features:

- The MTS 205 and MTS 215 Real-Time Analyzers have been added to the product line.
- A newer Beta version of a new Error Injector application is included with this release. See *MPEG-2 Transport Stream Error Injector* on page 6 for more information.

Version 2.2 Software Improvements

Version 2.2 fixes the following deficiencies in the Version 2.1 software release:

- Automatic analysis of certain transport streams causes Analyzer to crash. Certain transport streams with erroneous table contents would cause the Analyzer to crash.
- Multiplexer didn't permit insertion of RST.
- Table Editor didn't allow editing of RST.
- Multiplexer didn't permit zero-PES-packet size on certain high-bitrate streams.
- More PIDs are now permitted in the Analyzer.

Performance Issues

As sometimes occurs with new products, the MTS 200 Series does not meet a limited number of its performance criteria. These are listed below. Software items include a reference number, the executable module, and a brief description.

Reference N/A, Executable RTA (Real-Time Analyzer)

When using the deferred-time Analyzer to examine a partial, filtered, transport stream captured with the RTA, timing analysis is not advised for the following reasons:

- The deferred-time Analyzer cannot compute the bit rate if the first PMT declared in the PAT has no PCR information, which occurs when the corresponding PID has been filtered by the Real-Time Analyzer.
- Even if you input the correct overall bit rate, all information related to timing (PCR, PTS/DTS, section rates, and dynamic analyses) can be incorrect because the time distribution of the packets repartition is lost when filtered data is captured. PCRs, for example, will be incorrect because they are computed at the source on the complete stream, not on a filtered part of it.

If you intend to perform in-depth timing analysis of a captured stream, always select **No filtering mechanism** on the Data Storage Configuration tab of the RTA **Settings** window.

Reference N/A, Executable ADN_CARB (Analyzer)

CRC, Syntax, and PCR check only the levels selected, not the whole stream.

Reference N/A, Executable MATRACOM (Data Store Administrator)

There are limitations when generating a stream from the looping partition. The partition is divided into two sections, “first valid window” and “second valid window,” which are demarcated by the “offset” value. The value of “offset” is based on where the acquisition was terminated. If the partition is, for example, 10 Mbytes, and the offset is 7.5 Mbytes, then the valid windows will be 7.5 Mbytes and 2.5 Mbytes, or “0 to 7864320 bytes or 7864321 to 10485759 bytes.”

A generated stream from the looping partition cannot span the offset point, nor can it cross the ends of the partition. Therefore, you can only generate from the beginning of the file to the offset point. The loop partition is mostly useful for acquisition.

Reference 3373, Executable ADN_CARB (Analyzer)

When displaying a large font, some characters are displayed badly (or not at all) in the packet views. Use a smaller font.

Reference 3392, Executable ADN_CARB (Analyzer)

The hexadecimal display of large packets (PES) does not page-down with the scroll bar; it only moves one line at a time. Use the thumbnail box to scroll by dragging the thumbnail box up or down.

Reference 4155, Executable ADONUM, MUX_CARB (Analyzer, Multiplexer)

Immediately after exiting either the Analyzer or Multiplexer, you cannot restart either the Analyzer or Multiplexer for a short period of time. This is because Windows NT must finish unloading the library, CARBFILE.DLL, before loading it again. When this is finished, the application can be loaded as normal. Wait a short time and restart your selected application.

Reference 3446, Executable ADN_CARB (Analyzer)

While analyzing large transport stream files, the analyzer can appear to be busy with no indication of progress. Note that analysis of large transport stream files can take many minutes.

Reference 3479, Executable MATRACOM (Data Store Administrator)

During ECL serial slave generation, when the master uses just one stuffing byte, the generation does not terminate if the file sizes match. The transfer percentage reaches 100% and generation continues. Generation will terminate properly if the master uses no stuffing bytes or from 2 to 16 stuffing bytes.

Reference 3491, Executable MUX_CARB (Multiplexer)

When running the Multiplexer, it is possible to select the data store drives as target directory for the configuration files (*.Cfg). While possible, it is not recommended, because any later attempt to generate a multiplex will fail because simultaneous read/write access to the Data Store drives is not possible. Avoid storing multiplex configuration files on the data store drives.

Reference N/A, Executable ADN_CARB (Analyzer)

PCR Analysis uses the previous PCR as the reference point when calculating the error in the current PCR. This method can result in misleading error calculations for some PCR jitter functions. Specifically, jitter added by the MTS 200 Series Jitter Adder may not be easily interpreted by the PCR analysis display.

Reference 8669, Executable ADN_CARB (Analyzer)

The Analyzer application reports errors in a window that allows a maximum 1000 errors. In transport streams with many (more than 1000) errors, later errors may not be detected because the application stops reporting errors at this limit. Re-acquire the stream past the point of the numerous errors or don't analyze the portion of the stream with so many errors.

Reference 8670, Executable ADN_CARB (Analyzer)

The Analyzer reports errors in a window that allows a maximum of 1000 reported errors. In transport streams with many (more than 1000) errors, later errors may not be detected because the application stops reporting and logging errors at this limit. The application notes this as it stops logging errors; however, the notice that it has stopped logging errors is not written to the on-disk logfile. Please note that if there are 1000 errors in the logfile, there may be additional errors present in the transport stream.

Reference 14185, Executable ADN_CARB (Analyzer)

Closing a Hierarchic view in the Analyzer application causes a later Automatic Analysis to fail with a General Protection Fault. Please do not close the Hierarchic view prior to performing automatic analysis.

Reference 15160, 15158, 15162, Executable RTA (Real-Time Analyzer)

Rarely, while the RTA is rapidly updating the Hierarchic view, the application may exit with an Application Error or Exception Access Violation when a mouse-click is performed somewhere in the Hierarchic view. There is no known way to avoid this, but restarting the application will restart the analysis.

Reference 15444, Executable RTA (Real-Time Analyzer)

If the application quits with an Exception Access Violation or Application Error during Data Store acquisition (recording to the Data Store disks), the RTA will not permit future acquisitions, even if the application is stopped and restarted. The system must be rebooted (shut down and restarted) to continue analysis.

Reference 15282, Executable MATRACOM (Data Store Analyzer)

If the File Allocation Table on the Data Store drives becomes corrupted, the Data Store Administrator will present a **PC File** generation dialog box upon generation selection, instead of the familiar **Generation** dialog box. This only occurs if you select the Generation (G) command button from the tool bar; this does not occur if you right-click on the name of the file you wish to generate and select **Generation** from the resulting shortcut menu. If you see the **PC File** generation

dialog box, simply select generation from the shortcut menu; however, you should repartition the Data Store drives at your first opportunity. **BE AWARE THAT REPARTITIONING THE DATA STORE DRIVES WILL ERASE ALL YOUR FILES!**

Reference 14965, Executable RTA (Real-Time Analyzer)

To effect pass-through of the signal from input to output on the RTA, you must click the **Data Store Start** toolbar command button, or select **Start** from the Data Storage menu. A dialog box appears warning you that the application is unable to start the data store subsystem, and subsequent messages may warn of missing the data store subsystem. These messages may be safely ignored.

Reference N/A, RTA User Manual

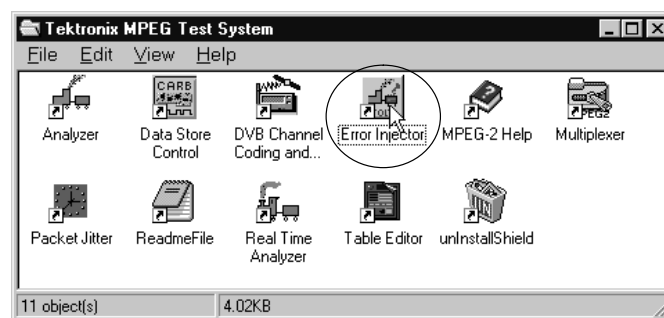
The description of the LVDS output common mode voltage in Table A-3 of the *Real-Time Analyzer User Manual* is incorrect. The correct description is 0.85 V, typical.

MPEG-2 Transport Stream Error Injector

The MTS 200 Series MPEG Test System version 2.2 includes an improved Error Injector application. With the Error Injector, you can introduce errors into an MPEG-2 transport stream and use the erroneous stream to stress-test MPEG-2 systems and components.

The Error Injector reads the input transport stream file, modifies selected transport packets according to instructions in a user-defined configuration file, and writes the modified stream into another file.

To start the Error Injector, select it from the Tektronix MPEG Test System program group.



For more information about the application and how to use it, refer to the online help available through the Error Injector Help menu.