

# Automated Distortion Characterization and Information System (ADCS) Software Option

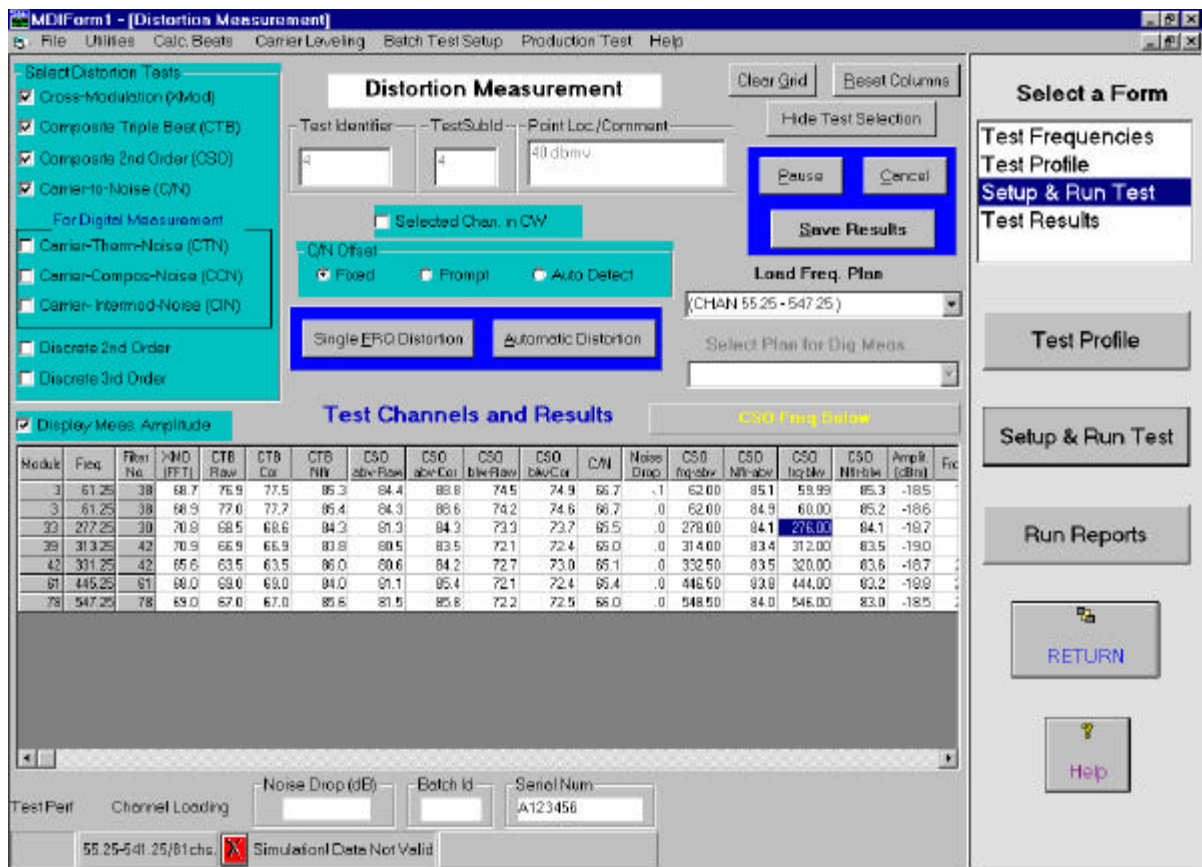
*(This software ordered as a separate option)*

**What does it do?** The Automated Distortion Characterization and Information System is an extension of the Matrix equipment control software that automatically makes RF measurements selected from the following: Cross Modulation (XMOD), Composite Triple Beat (CTB), Composite Second Order (CSO), Carrier to Noise (C/N), Discrete Second Order, Discrete Third Order Distortion. Measurements are made, and the test results and a profile describing the test conditions are saved in a database for later retrieval or reporting. A beat tabulation utility is included to calculate the frequencies at which 2nd and 3rd order products occur.

A set of reports is provided, but the user may modify these or add additional reports. The data can be transformed into a Microsoft Excel spreadsheet and automatically analyzed to highlight results not meeting user specifications.

**Benefits:**

- Up to 10 times faster than manually measuring, entering, tabulating, and analyzing distortion data. Improve testing productivity by a factor of 10.
- Eliminates keying errors as compared to manual entry of data into a computer.
- Eliminates the drudgery and fatigue of making repeated measurements.
- Frees up personnel by providing unattended operation when performing a series of tests on a group of frequencies.
- User customizable report, spreadsheet, and spectrum analyzer distortion measurement programs. Convenient beat calculator facility built in.
- Rapid search and retrieval via database queries.
- On-line context sensitive help and hardcopy documentation.



An automatically generated spreadsheet from the measured test results in the database, with the out of specification results highlighted, is shown below:

FRQ	XMD(HCTA)	CTBL_COR	CTBU_COR	H-FLR	CSU_RAW	CSU_COR	CSU_FRQ	CSL_RAW	CSL_COR	CSL_FRQ	C/N	HSE_DRP	AMP(dBm)
61.25	62.9	73.5	73.6	89.2	86.8	91.1	62	73	73.2	60	71.2	0	-14.4
175.25	63.7	66.8	66.8	87.6	84.9	89.3	176	73.0	74	174	68.5	-0.1	-15.6
277.25	64.7	63	63	86.7	82.9	85.5	278.5	70.4	70.5	276	68.4	-0.1	-15.8
313.25	65.7	62	62	86.9	80.5	81.7	314.5	69.8	69.8	312	68.4	0	-15.4
Spec	63					70			70		65		
Min	62.9	62	62	86.7	80.5	81.7	62	69.8	69.8	60	68.4	-0.1	-15.8
Max	65.7	73.5	73.6	89.2	86.8	91.1	314.5	73.8	74	312	71.2	0	-14.4

FRQ	XMD(HCTA)	CTBL_COR	CTBU_COR	H-FLR	CSU_RAW	CSU_COR	CSU_FRQ	CSL_RAW	CSL_COR	CSL_FRQ	C/N	HSE_DRP	AMP(dBm)
61.25	70.9	79.2	80.4	85.3	84.8	89.1	62	74.6	75	60	67.1	0.1	-18.6
175.25	71.8	74.1	74.5	85	83.5	87.9	175.99	76.6	77.3	174	65.7	0	-18.4
277.25	71.9	70.9	71.1	84.4	82.7	87.1	278.5	77.3	78.2	276	65.8	-0.1	-18.5
313.25	72.4	69.5	69.6	83.8	80.9	84.5	314	78.3	79.8	312	65.2	-0.1	-18.8
Spec	63					70			70		65		
Min	70.9	69.5	69.6	83.8	80.9	84.5	62	74.6	75	60	65.2	-0.1	-18.8
Max	72.4	79.2	80.4	85.3	84.8	89.1	314	78.3	79.8	312	67.1	0.1	-18.4

**Requirements:** Pentium PC with Windows 95/98/ME or NT 4.0/2000/XP, GPIB IEEE488 interface (Capital Equipment Corp. PC 488, or National Instrument NI 488.2 series interfaces), Spectrum Analyzer (HP 8568B, HP 8560 or HP 8591 series, Advantest, or SCPI compatible such as Agilent ESA or Rohde & Schwarz FSE).

- Recommended:**
- Matrix AFS filter selector with filters for the frequencies to be measured. (This will allow fully automated operation).
  - Microsoft Access and Microsoft Excel software (97/2000/XP versions) for automated reporting and results analysis.
  - Stanford Research SR 760 FFT, and Matrix SQ-1 squaring circuit for FFT square law method distortion testing that will permit measuring more accurate Cross Modulation distortion, and lower distortion noise floors.
  - Matrix ATI-100 Automated Test Interface for fully integrated testing control.

**Customization:** The software can be customized to your specific needs at additional cost.

This software developed and maintained by Hye Level Software, Inc. may be ordered through Hye Level software, Inc. or Matrix Test Equipment, Inc.

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