

## Atlas DCA Pro (Model DCA75) Software Package Revisions

Latest version at the top.

PC S/W	Firmware	PC Software Change Details	Instrument Firmware Change Details
V1.1.24.141	0028	Software update link now points to new dedicated domain name for downloads.	No change.
V1.1.24.136	0028	Support for new firmware.	Improved asymmetric JFET detection. Improved JFET $I_{BSS}$ measurement. Improved Resistor Equipped Transistor (Digital Transistor) detection. Improved IGBT support.
V1.1.24.119	0027	Internal release candidate.	Internal release candidate.
V1.1.23.110	0026	Improved $I_{DS}/V_{GS}$ scaling for MOSFETs and $I_{CE}/V_{GE}$ scaling for IGBTs.	Improved rejection of invalid parasitic transistor behaviour for non-darlington CRT deflection BJTs that have monolithic substrate diode protection.
V1.1.21.103	0025	Added "Hide All Labels" menu & Graph context option. Added "Data > Save All Graphs Data" menu to save data in all active Graphs into files in a folder. Added "Data > Save All Active Images" menu to save all active Graph images into a folder. Added "Data > Copy All Graphs Data" menu to copy all data in active Graphs at once. Can now load multiple Graphs from one file.	Improved detection of higher leakage Germanium BJTs. Improved measurement of BJT parallel Base resistance. Extended detection of JFETs. Improved internal boost voltage management to prevent occasional resets.
V1.1.20.72	0024	Correction to dual diode information display.	Support for new PC software.
V1.1.19.63	0023	Improved auto-scaling for MOSFET graphs.	Improved Ge/Si detection. Added extra $V_{BE}$ measurement at $I_B=1mA$ for BJTs. Added menus for LCD contrast, sound settings and calibration test. Displays serial number and firmware version on power-up.
V1.1.18.49	0022	Added dynamic cursors on most graph types.	Improved support for IGBTs with high gate capacitance. Added support for SiC MOSFETs (high $V_F$ body diode).
V1.1.16.2446	0021	Improved data import parsing for saved graphs. Corrected lead names on IGBT graphs. Updated test circuit diagrams.	No change.
V1.1.15.1828	0021	Corrected data import parsing error for saved graphs.	No change.
V1.1.14.1821	0021	Added graph for BJT: $I_C/I_B$ . Corrected issue that caused JFET graph titles to revert to incorrect values when starting a new curve. JFET graph titles corrected in exported data. BJT: $I_C/V_{CE}$ graph now correctly includes leakage current for $I_C$ axis values. BJT: $h_{FE}/I_C$ graph now correctly includes leakage current for $I_C$ axis values ( $h_{FE}$ axis values still takes leakage current into account). Increased range of manually set $I_B$ test currents available in BJT graphs. Autoset values for $V_{GE}$ in IGBT $I_C/V_{CE}$ graph now ensures a good span of $I_C$ .	No change.
V1.1.13.1771	0021	Corrected graph title for JFET $I_D/V_{GS}$ graphs. Corrected missing diode on the diagram for a PNP Darlington with protection diode and base-emitter shunt resistors. Improved text export formatting. Support for new firmware.	Improved SCR detection for devices with high reverse conduction. Added $I_G$ , $V_{AK}$ , $V_{GK}$ , $I_{LATCH}$ and $I_{HOLD}$ measurements for SCRs.
V1.1.12.1669	0019	Added Graph for BJT: $I_C/V_{BE}$ . Improved graph trace drawing order. Added global graph font size adjustment. Added labels to PN graph. Added "spare lead" control selection to PN graph. Added lock and auto-set for graph parameters. Added "right-click" option to lock traces (to aid part matching etc.). Allows swap of Drain/Source for JFET graphs. Improved Vreg graphs now compensate for voltage dropped across ground current sense resistor. Improved constant current and constant voltage iteration when close to graph limits.	IGBT detection improved for very high current devices. Measures $V_{CE(SAT)}$ saturation voltage for BJTs at $I_B=1mA$ and $I_C=5mA$ (displayed if $h_{FE}>10$ ). Measures $V_{CE(SAT)}$ saturation voltage for digital transistors at $V_{BE}=5V$ and $I_C=5mA$ . Measures $V_{CE(SAT)}$ saturation voltage for IGBTs at $V_{GE}=5V$ and $I_C=5mA$ . Measures $R_{DS(ON)}$ for JFETs (to 1 $\Omega$ resolution) at $V_{GS}=0V$ and $I_D=5mA$ typically. Measures $R_{DS(ON)}$ for MOSFETs (to 1 $\Omega$ resolution) at $V_{GS}=8V$ and $I_D=5mA$ typically. Improved constant current and constant voltage iteration when close to test limits.

		<p>Added user-defined graph title (useful for printing).</p> <p>Added user-defined naming of graph traces (with optional auto-numbering that can increment on every graph start).</p> <p>Added user-defined component names (with optional auto-numbering that can increment on every component identification).</p> <p>Added option to show/hide graph legend.</p> <p>Added option to delete all traces on <u>all</u> graphs.</p> <p>Added graph options to graph menu (in addition to "right-click" context menu).</p> <p>Added colours to all lead identities.</p> <p>Added tool-tips of graph parameter limits and other items.</p> <p>Improved tool-tip behaviour and extended display duration.</p>	<p>Added SCR reverse conduction rejection test. This helps to reject parts that exhibit SCR-like latch-up.</p> <p>Increased acceptable Germanium leakage current from 2mA to 3mA.</p> <p>Improved detection of Silicon/Germanium semiconductor type for BJTs which helps with some silicon power transistors that have a very low <math>V_{BE}</math>.</p> <p>Increased regulator quiescent current limit from 5mA to 6mA.</p> <p>Increased regulator dVout limit from 10% to 20% (to help cope with regulators that are less stable when tested on the DCA75).</p> <p>Displays warning if regulator dVout&gt;5%.</p>
V1.1.11.1294	0018	<p>Added clearer parameter labels for V/I graphs.</p> <p>Added dVout descriptions in text pane for regulators.</p> <p>Streamlined software download process.</p> <p>Streamlined firmware upgrade process.</p> <p>Improvement in speed of some graph types.</p>	<p>JFET <math>I_{DSS}</math> measurement now at defined for <math>V_{DS}</math> of 3V.</p> <p>JFET and MOSFET Transconductance measurement now at constant <math>V_{DS}</math> of 3V.</p> <p>JFET and MOSFET <math>I_{D(OFF)}</math> threshold is now 5<math>\mu</math>A.</p> <p>Improved "Digital Level" transistor support.</p>
V1.1.10.1270	0017	Support for new firmware	Correction of firmware upgrade process for early revision units.
V1.1.9.1263	0016	<p>Added dVout measurement for regulators.</p> <p>Support for new firmware.</p>	<p>Improved regulator support for some with unstable Vout.</p> <p>Added dVout measurement for regulators.</p> <p>Improved diode network detections.</p> <p>Added new diode network symbols.</p> <p>Improved asymmetric JFET detection.</p>
	0015	Support for new firmware.	Update to LCD code to support different LCD chip set.
V1.1.8.1166	0014	Support for new firmware.	<p>Improved support for MOSFETs with high <math>R_{DS(on)}</math>.</p> <p>Improved support for MOSFETs with high body diode voltage.</p> <p>Improved support for protected-gate IGBTs.</p> <p>Improved Depletion/Enhancement mode differentiation.</p>
V1.1.7.1126	0013	<p>Corrected graph tool-tips for different localisations.</p> <p>Support for new firmware.</p>	<p>Improved IGBT detection.</p> <p>Improved SCR and Triac detection especially for very sensitive types.</p> <p>Improved performance of boost converter when running on battery power.</p>
V1.1.6.1115	0012	Support for new firmware.	<p>Improved detection of germanium transistors that have high reverse collector-emitter leakage current.</p> <p>Correction of diode network detection.</p> <p>Improved SCR and Triac detection.</p>
V1.1.5.985	0011	<p>Added symbols for MOSFETs with body diodes.</p> <p>Corrected <math>I_B</math> labels on curve tracing settings.</p> <p>Added <math>V_{CC}</math>, <math>V_{DD}</math> and <math>V_S</math> labels to test circuit diagrams.</p>	<p>Added symbols for MOSFETs with body diodes.</p> <p>Increased scrolling speed.</p>
V1.1.4.956	0010	<p>Improved memory management.</p> <p>Minor label adjustment for graphs.</p> <p>Log/Linear span for MOSFET <math>V_{GS}</math> option.</p> <p>Added Graphs:</p> <p>Vreg: <math>I_D/V_{IN}</math></p> <p>IGBT: <math>I_C/V_{CE}</math></p> <p>IGBT: <math>I_C/V_{GE}</math></p>	<p>Added "digital" transistor support including measurement of both internal resistances.</p> <p>Improved support for MOSFETs with high <math>R_{DS(on)}</math>.</p> <p>Improved text line spacing.</p>
V1.1.3.924	0009	<p>Improved measurement of germanium leakage during <math>H_{FE}</math> graphing.</p> <p>Improved graph scaling.</p> <p>Minor label adjustment for text entry.</p>	No change.
V1.1.2.840	0009	Support for new firmware.	<p>LCD initialisation optimisation.</p> <p>Improved depletion mode support.</p> <p>Improved voltage regulator support.</p> <p>JFET PN junction threshold adjustment for improved SiC support.</p>
V1.1.1.834	0008	Improved USB disconnection handling.	
V1.1.0.815	0008	<p>Added config option to JFET Graphs.</p> <p>Added Graphs:</p> <p>BJT: <math>h_{FE}/V_{CE}</math></p> <p>BJT: <math>h_{FE}/I_C</math></p> <p>Added multiple traces to JFET <math>I_D/V_{GS}</math> graph.</p> <p>Allow colour change of traces.</p>	<p>Improved MOSFET detection, including support for protected/smart gate types.</p> <p>Improved USB Suspend behaviour.</p> <p>Optimised BJT tests to limit reverse bias to 5V.</p>

		Added graph printing. Added graph loading & saving. Added circuit diagrams of test conditions.	
V1.0.4.737	0007	Simplified Windows® 8 installation process. Auto scaling of graphs improved, particularly for small parameters.	Improved support for bi-colour LEDs that have very symmetrical forward/reverse characteristics.
V1.0.3.720	0006	Includes optional automatic update checking. Support for new firmware.	Corrected sound on/off settings. Improved support for JFETs with highly non-symmetrical characteristics. Implemented 5mA constant current tests for bipolar transistor $V_{BE}$ measurements (rather than resistive drive).
V1.0.2.0	0005	Improved number format support for international Windows®.	Improved support for JFETs that have saturation currents of less than 5mA.
V1.0.0.0	0004-5	Original Release.	Original Release (0005 included mods for factory use only).

Upgrades for the DCA75 can be performed by the user. Please contact us if you require assistance.  
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