



Incal Technology, Inc.

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INSPIRE SOFTWARE SUITE

OVERVIEW

- ✘ The Inspire software suite provides the complete burn-in operation control for:
 - + Burn-in Lot Management
 - ✘ *Manage multiple lots per system*
 - + Creating recipes and pattern files
 - + Generating reports on status and HW inventory

- ✘ Three main components of this suite are:
 - + INSPIRE: burn-in controller application
 - ✘ *This component resides on the burn-in system computer.*
 - ✘ *Operator, Technician, or Engineer mode*
 - + SYNERGY: burn-in setup editor
 - + PEdit: pattern editor/converter

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INSPIRE: USER INTERFACE

- ✘ Single or dual chamber operation with graphical slot layout that resembles chamber hardware (vertical or horizontal).
- ✘ Consistent color-coded PASS/FAIL status.
- ✘ Resizable dialogs to utilize display real estate efficiently.
- ✘ Near real time display and monitoring of burn-in status (temperature, voltage, current, and P/F status).
- ✘ Flexible burn-in lot timing display (remaining time, good, due date, etc.)

The screenshot displays the INSPIRE Burn-In Controller software interface. The main window, titled "INSPIRE Burn-In Controller - System: DualStack - User: System", shows a "Burn-in Board Slots" table with columns for slot number, driver status, and slot details. Slots 25, 26, 27, and 28 are highlighted in green, indicating they are running. Slot 25 is labeled "LV-4PS (B+C)" and "Running - Remains: 3:23:55:17". Slots 26, 27, and 28 are labeled "Power is ACTIVE. Do not insert BIB.".

Overlaid on the main window are three smaller windows:

- "Out Status - Environment 1 - Slot 25 - DUT 1": A table showing device pins and their status. All pins are listed as "Disabled".
- "Slot Status - Environment 1 - Slot 25": A grid showing the status of individual BIBs (Burn-In Boards) in the slot. BIBs 50-53 are green, 54-57 are grey and labeled "EMPTY", 58-61 are green, 62-65 are green, 66-69 are green, 70-73 are green, 74-77 are green, 78-81 are green, 82-85 are green, 86-89 are green, 90-93 are green, 94-97 are green, 98-101 are green, 102-105 are green, 106-109 are green, 110-113 are green, 114-117 are green, 118-121 are green, 122-125 are green, 126-129 are green, 130-133 are green, 134-137 are green, 138-141 are green, 142-145 are green, 146-149 are green, 150-153 are green, 154-157 are green, 158-161 are green, 162-165 are green, 166-169 are green, 170-173 are green, 174-177 are green, 178-181 are green, 182-185 are green, 186-189 are green, 190-193 are green, 194-197 are green, 198-201 are green, 202-205 are green, 206-209 are green, 210-213 are green, 214-217 are green, 218-221 are green, 222-225 are green, 226-229 are green, 230-233 are green, 234-237 are green, 238-241 are green, 242-245 are green, 246-249 are green, 250-253 are green, 254-257 are green, 258-261 are green, 262-265 are green, 266-269 are green, 270-273 are green, 274-277 are green, 278-281 are green, 282-285 are green, 286-289 are green, 290-293 are green, 294-297 are green, 298-301 are green, 302-305 are green, 306-309 are green, 310-313 are green, 314-317 are green, 318-321 are green, 322-325 are green, 326-329 are green, 330-333 are green, 334-337 are green, 338-341 are green, 342-345 are green, 346-349 are green, 350-353 are green, 354-357 are green, 358-361 are green, 362-365 are green, 366-369 are green, 370-373 are green, 374-377 are green, 378-381 are green, 382-385 are green, 386-389 are green, 390-393 are green, 394-397 are green, 398-401 are green, 402-405 are green, 406-409 are green, 410-413 are green, 414-417 are green, 418-421 are green, 422-425 are green, 426-429 are green, 430-433 are green, 434-437 are green, 438-441 are green, 442-445 are green, 446-449 are green, 450-453 are green, 454-457 are green, 458-461 are green, 462-465 are green, 466-469 are green, 470-473 are green, 474-477 are green, 478-481 are green, 482-485 are green, 486-489 are green, 490-493 are green, 494-497 are green, 498-501 are green, 502-505 are green, 506-509 are green, 510-513 are green, 514-517 are green, 518-521 are green, 522-525 are green, 526-529 are green, 530-533 are green, 534-537 are green, 538-541 are green, 542-545 are green, 546-549 are green, 550-553 are green, 554-557 are green, 558-561 are green, 562-565 are green, 566-569 are green, 570-573 are green, 574-577 are green, 578-581 are green, 582-585 are green, 586-589 are green, 590-593 are green, 594-597 are green, 598-601 are green, 602-605 are green, 606-609 are green, 610-613 are green, 614-617 are green, 618-621 are green, 622-625 are green, 626-629 are green, 630-633 are green, 634-637 are green, 638-641 are green, 642-645 are green, 646-649 are green, 650-653 are green, 654-657 are green, 658-661 are green, 662-665 are green, 666-669 are green, 670-673 are green, 674-677 are green, 678-681 are green, 682-685 are green, 686-689 are green, 690-693 are green, 694-697 are green, 698-701 are green, 702-705 are green, 706-709 are green, 710-713 are green, 714-717 are green, 718-721 are green, 722-725 are green, 726-729 are green, 730-733 are green, 734-737 are green, 738-741 are green, 742-745 are green, 746-749 are green, 750-753 are green, 754-757 are green, 758-761 are green, 762-765 are green, 766-769 are green, 770-773 are green, 774-777 are green, 778-781 are green, 782-785 are green, 786-789 are green, 790-793 are green, 794-797 are green, 798-801 are green, 802-805 are green, 806-809 are green, 810-813 are green, 814-817 are green, 818-821 are green, 822-825 are green, 826-829 are green, 830-833 are green, 834-837 are green, 838-841 are green, 842-845 are green, 846-849 are green, 850-853 are green, 854-857 are green, 858-861 are green, 862-865 are green, 866-869 are green, 870-873 are green, 874-877 are green, 878-881 are green, 882-885 are green, 886-889 are green, 890-893 are green, 894-897 are green, 898-901 are green, 902-905 are green, 906-909 are green, 910-913 are green, 914-917 are green, 918-921 are green, 922-925 are green, 926-929 are green, 930-933 are green, 934-937 are green, 938-941 are green, 942-945 are green, 946-949 are green, 950-953 are green, 954-957 are green, 958-961 are green, 962-965 are green, 966-969 are green, 970-973 are green, 974-977 are green, 978-981 are green, 982-985 are green, 986-989 are green, 990-993 are green, 994-997 are green, 998-1001 are green.
- "Calibration": Shows accumulated time (0:00:53), calibrated date (03/14/2007), and cal due date (03/13/2008).

The main interface also displays "CHAMBER: CONSTANT" with a "RUNNING" indicator and "CLOSED" status. "TEMPERATURE (Control)" is set to 100.0°C. "STATUS: 1 notices" includes a "NOTICE Atmospheric Monitoring". "LOT CONTROL" buttons include "LOAD F5", "START F6", "STOP F11", and "CLEAR F11". The bottom status bar shows "Ready", "Printer Coordinate: 674,175", and "INSPIRE 1.0.20 Tuesday, June 26, 2007 9:33:36 AM".

INSPIRE: ACCESS MANAGEMENT

- ✘ Support user types such as Engineer, Technician, Operator with password-protected user accounts.
- ✘ Enforce users' access privileges to improve burn-in efficiency and security control.
- ✘ Actions in the ovens are recorded to log files automatically in order to enhance operational accountability and process trace-ability.
- ✘ Also supports legacy 'no user' (simple) burn-in environment.

The screenshot shows the 'Access Configuration' dialog box with the 'Access Privileges' tab selected. It contains a table with columns for 'Category', 'Allowed Feature', 'Operator', and 'Technician'. The table is organized into three sections: EDITOR, LOT, and REPORT. Each section lists various features with checkboxes indicating access for the Operator and Technician roles.

Category	Allowed Feature	Operator	Technician
EDITOR			
	Setup Editor	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Pattern Editor	<input type="checkbox"/>	<input checked="" type="checkbox"/>
LOT			
	Load Lot	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Start Slots	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Start All	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Stop Slots	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Stop All	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Clear Slots	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Clear All	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Capture Snapshot	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Reload Snapshot	<input type="checkbox"/>	<input checked="" type="checkbox"/>
REPORT			
	Lot History	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Temperature	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	System Event	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Buttons: Save, Cancel

INSPIRE: BURN-IN AUTOMATION

- ✘ Automatic lot creation/clearing upon BIBs insertion/removal to optimize operator's efficiency and reduce human error.
- ✘ Fully automatic lot shutdown on critical alarms such as interlock tripping, emergency stop, or power outage.
- ✘ Capture temperature, analog and digital measurements in reports periodically (user-defined intervals).
- ✘ Auto-saves system lots loading snapshot (user-defined) to minimize down time when recovering from power outage or hardware failures.

Application Options Configuration

System Name(*): IT58160 Factory(*): INCAL, Fremont, Ca

Application Paths General Environment 1 Environment 2

Intervals (days:hours:mins)

Lot Sampling Interval	0	00	01
Temp Report Saving Interval	0	00	01
Power Report Saving Interval	0	00	01
Lot Snapshot Saving Interval	0	00	01
Lot Snapshot Life Span	0	01	00

Options

- Report Elapsed Time Stamp
- Start PTC Cycle at High Temp
- No Power Cycling for Complete Lots
- Verify Programmed Pattern

(*): these values require restarting the application to take effects

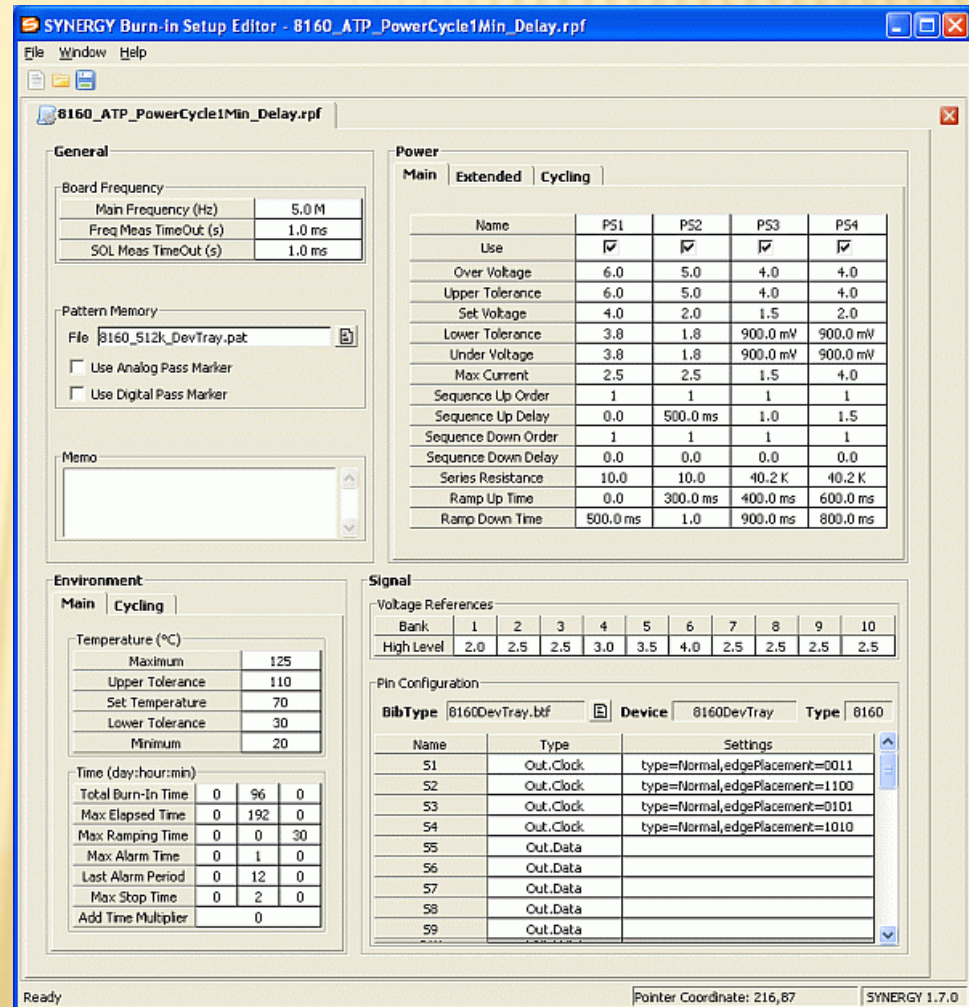
Save Cancel

INSPIRE: ADVANCED FEATURES

- ✘ **Enhanced time-slice scheduling:** provides consistent Lots timing resolution (1-second update and/or state transition).
- ✘ **BIB identification:** via unique serial number to facilitate auto Lots loading & to prevent incorrect recipes loading.
- ✘ **Power cycling:** allows independent user control of periodic biased & unbiased intervals for a running lot.
- ✘ **Bulk PS voltage ramping:** works for most analog & digitally controlled (GPIB) bulk supplies.
- ✘ **iScope:** software-based signal capturing feature to assist in pattern generation and debugging.

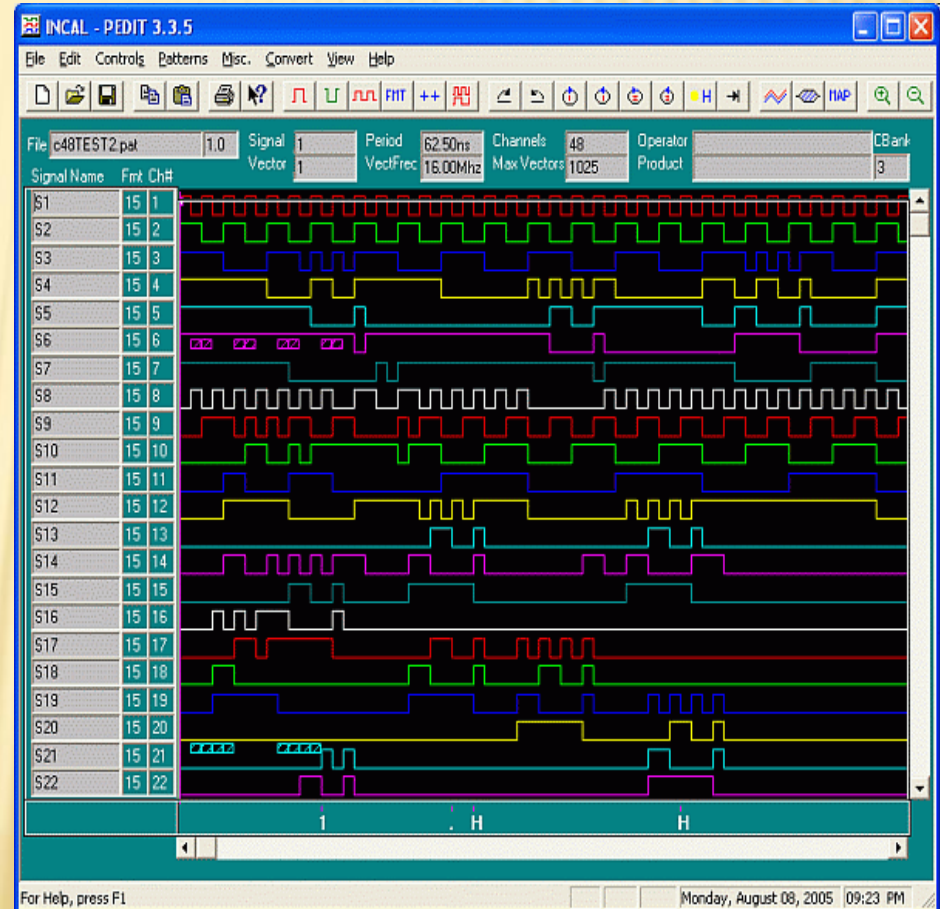
SYNERGY EDITOR

- ✘ A single burn-in configuration editor for recipe, bib-type, BIB and map (serial) files.
- ✘ Can be used separately on a desktop - away from the burn-in system for convenient burn-in files setup and editing.
- ✘ Full graphical environment with intuitive layout of DUTs that resembles how sockets reside on the actual BIB.
- ✘ Support creation, mapping, and modifying settings of device pins to simplify recipe editing.



PEDIT: PATTERN EDITOR

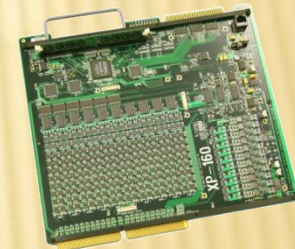
- ✘ Provides an environment for creating, editing, and verifying burn-in pattern waveforms.
- ✘ Converts between raw ASCII (from customers) and binary coded (INCAL .pat format) patterns.
- ✘ Supports full 160-channel vectors, tri-state, and pattern control commands (loop, hold, goto, etc).



HARDWARE SUPPORT

Inspire Software works with any Incal burn-in systems that have the following hardware:

- ✘ Incal XP160 drivers, including the optional OMA1 Analog Module
- ✘ Analog or digitally (GPIB, LXI, RS232) controlled (SCPI-compliant) bulk power supply interface.
- ✘ High temp (HTOL), low temp (LTOL), temp. cycling (PTC) chamber control interface.



For additional information, contact Incal.
www.incal.com

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