HUNTRON

Huntron Test Development Information

This Huntron Test Development information can be used to estimate the creation time of a Huntron Test using a Huntron Tracker system with an Access Prober. Huntron Technical Support personnel use their troubleshooting expertise and experience to plan the test with the goal of having the Prober replace their hands, not their skills.

The Huntron Test examples used in this guide are for estimating purposes only. Creation and test run times will vary due to board complexity and customer needs.

Scope of work will be defined as:
- **Type A** - Full Compliment and Net Huntron Test and baseline signatures using CAD import
- **Type B** - Full Compliment Huntron Test and baseline signatures without CAD import
- **Type C** - Primary Component Huntron Test and baseline signatures using CAD import
- **Type D** - Primary Component Huntron Test and baseline signatures without CAD import

Information about Test Type:
- **Full Compliment** - All components and connectors are included in the test and is part of **Type A** and **Type B** test. This type of test will have the longest development times. **Net based tests** use all unique accessible nets and are included with the **Type A** tests only. CAD data is required.
- **Primary Component Test** - Primary components (such as ICs, transistors, diodes, connectors) which provide coverage to a majority of PCB nets. Primary Component tests are included with **Type C** and **Type D** tests.

| Scope of Work Description	Type A	Type B	Type C	Type D
Determine Test objective	✔	✔	✔	✔
Confirm Huntron Test platform	✔	✔	✔	✔
Determine Test type				
Full Compliment (All components)	✔	✔		
Net Test (Unique PCB nodes only)	✔			
Primary Component Test (Semiconductors, connectors)			✔	✔
Sequence and/or Scan List Breakdown	✔	✔	✔	✔
Board orientation and slot selection	✔	✔	✔	✔
Data Entry				
CAD Data	✔		✔	
Manual Entry		✔		✔
Determine good Common reference(s)	✔	✔	✔	✔
Adding Graphics/Instructions	✔	✔	✔	✔
Range selection	✔	✔	✔	✔
Board Holder Construction (if needed)	✔	✔	✔	✔
Scanning and saving of Reference signatures	✔	✔	✔	✔
Archive a backup copy of test database	✔	✔	✔	✔
Testing good and bad boards to optimize test	✔	✔	✔	✔

4.2" (10.6cm)

2.8" (7.1cm)
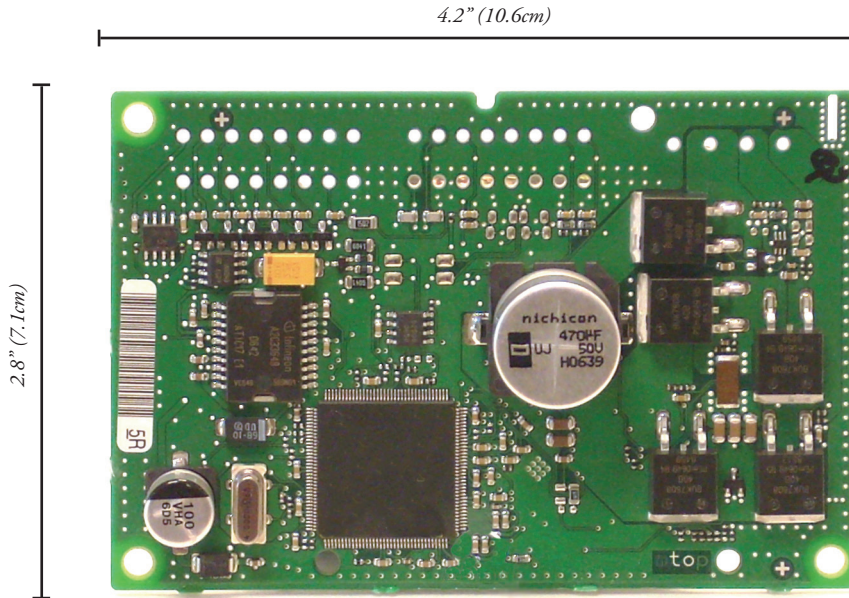
Example 1:
- All surface mount components
- Approx. 15 ICs
- Approx. 40 discrete semiconductors
- Board size: 4.2"x 2.8" (10.6cm x 7.1cm)
- 2 side test

Development times:

Type A	7.1 hrs
Type B	12.9 hrs
Type C	5.1 hrs
Type D	9.7 hrs

9.1" (23.1cm)

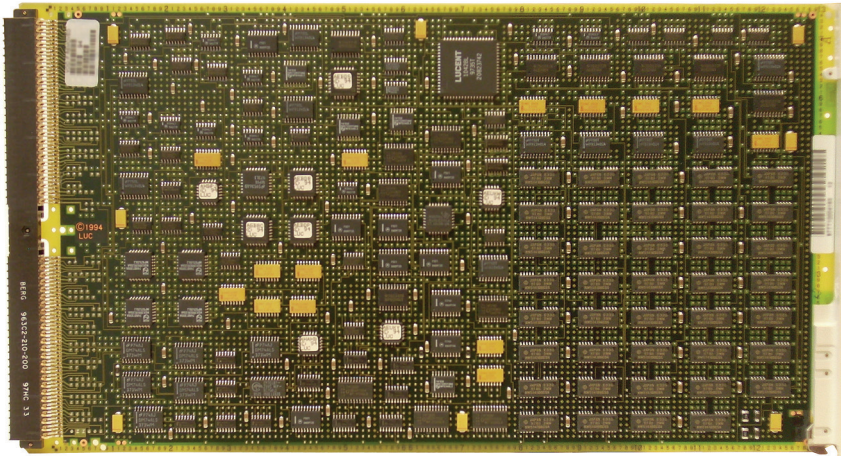*4.2" (10.6cm)*
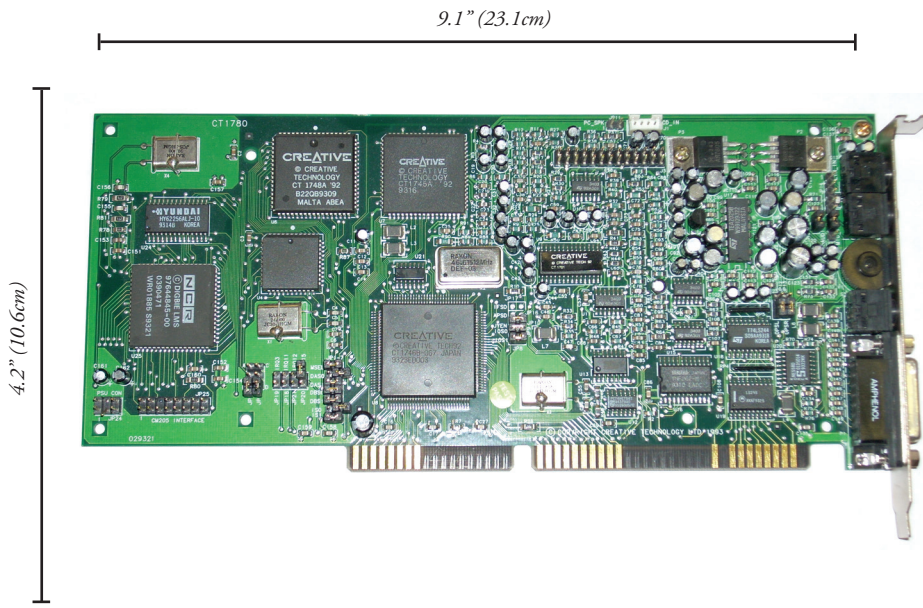
Example 2:
- All surface mount components
- Approx. 50 ICs
- Approx. 25 discrete semiconductors
- Board size: 9.1"x 4.2" (23.1cm x 10.6cm)
- 2 side test

Development times:

Type A	14.1 hrs
Type B	18.5 hrs
Type C	12.4 hrs
Type D	15.9 hrs

14.1" (35.8cm)

7.7" (19.5cm)

Example 3:
- All SMD
- Approx. 170 ICs
- Approx. 5 discrete semiconductors
- Board size:
  14.1" x 7.7"
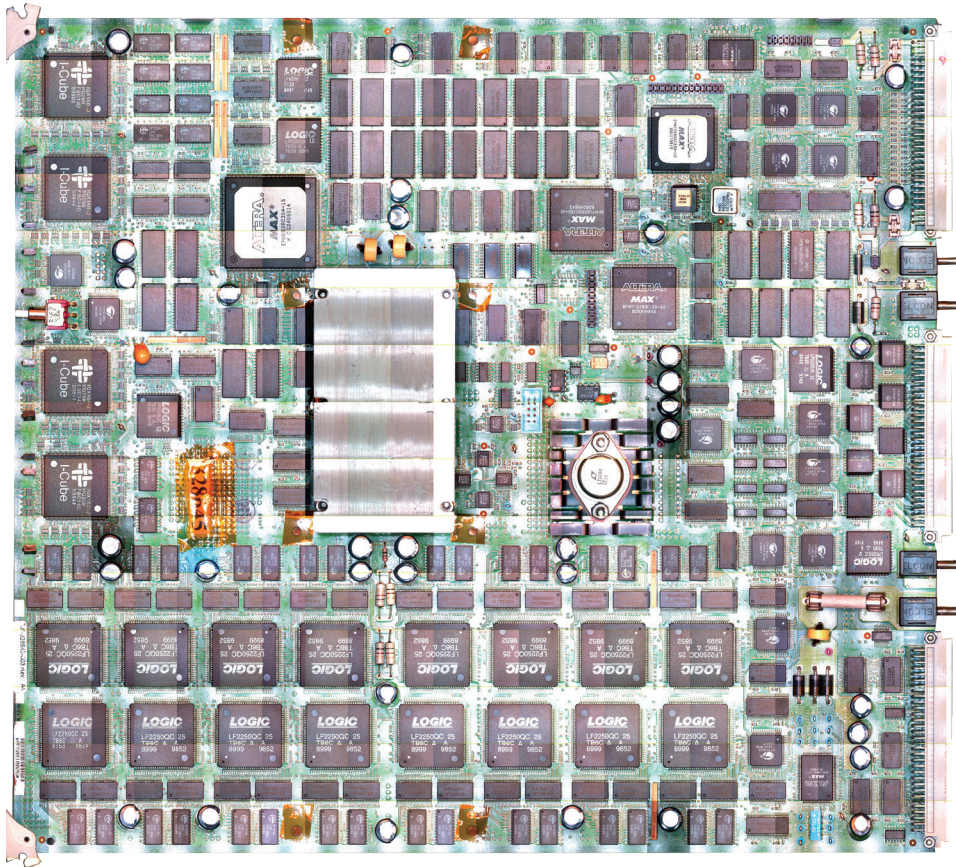 (35.8cm x 19.5cm)
- 1 side test

Development times:

Type A	20.1 hrs
Type B	31.5 hrs
Type C	10 hrs
Type D	25.5 hrs

16.1" (40.7cm)

14.5" (36.8cm)

Example 4:
- All SMD
- Approx. 210 ICs
- Approx. 40 discrete semiconductors
- 3 connectors
- Board size:
  16.1" x 14.5"
  (40.7cm x 36.8cm)
  (requires Access 2 Prober)
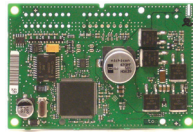- 2 side test

Development times:

Type A	29.0 hrs
Type B	60.2 hrs
Type C	16.8 hrs
Type D	43.5 hrs

Huntron Test Development and Test Times
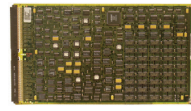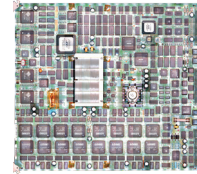

Test Development Times	Example 1 ~15 ICs, ~40 discrete semiconductors	Example 2 ~50 ICs, ~25 discrete semiconductors	Example 3 ~170 ICs, 5 discrete semiconductors	Example 4 ~210 ICs, ~40 discrete semiconductors
Data Entry Time [1]				
Type **A** [2]	0.6 hrs	1.2 hrs	1.6 hrs	2.0 hrs
Type **B**	7.5 hrs	10.1 hrs	20.0 hrs	41.0 hrs
Type **C** [2]	0.4 hrs	0.9 hrs	1.0 hrs	1.3 hrs
Type **D**	5.0 hrs	9.5 hrs	16.5 hrs	28.0 hrs
Test Adjustment Time [3]				
Type **A**	5.0 hrs	11.4 hrs	16.5 hrs	24.0 hrs
Type **B**	3.9 hrs	6.9 hrs	9.5 hrs	16.2 hrs
Type **C**	3.2 hrs	10.0 hrs	7.0 hrs	12.5 hrs
Type **D**	3.2 hrs	4.9 hrs	7.0 hrs	12.5 hrs
Test Completion Time [4]	1.5 hrs	1.5 hrs	2.0 hrs	3.0 hrs
Total Development Time [5]				
Type **A**	7.1 hrs	14.1 hrs	20.1 hrs	29.0 hrs
Type **B**	12.9 hrs	18.5 hrs	31.5 hrs	60.2 hrs
Type **C**	5.1 hrs	12.4 hrs	10.0 hrs	16.8 hrs
Type **D**	9.7 hrs	15.9 hrs	25.5 hrs	43.5 hrs
Optional Additions [6]	1.0 hrs	1.0 hrs	2.0 hrs	2.5 hrs

Type A test: Full Compliment and Net CTR using CAD data

Type B test: Full Compliment CTR without CAD data

Type C test: Primary Component CTR using CAD data

Type D test: Primary Component CTR without CAD data

Notes:
1. Times are based on entry by a user with strong skills in Microsoft Windows and Huntron Workstation software.
2. Huntron Tests created using CAD data require full ASCII layout files generated from the original CAD PCB layout software (example: Mentor Graphics neutral file - file extension is .NEU). Huntron CAD Tools software (includes Unisoft ProntoView Markup software) is required for CAD import into Huntron Workstation. CAD Tools are optional and not included with Huntron Workstation.
3. Test Adjustment Time includes running the test routines, adjusting test range settings and setting signature references using a known good board(s).
4. Test Completion includes backing up of test routine, and adding complete board test instructions.
5. Times do not include construction of custom board holders or Optional Additions.
6. Optional Additions include setting up software buttons to display scanned board images, schematics, and layouts. Construction time for custom board holders is not included.