SFAS 141 & 142 CASE STUDY PART A
GOODWILL IMPAIRMENT TESTING

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DIAMOND SYSTEMS INC. - PART I

Diamond Systems is a manufacturer of hardware and software that enables computers to talk to various peripheral devices through networks. Its Stock has been traded on NASDAQ since 1997 and was as high as $17.25 in 1999.

Until that year Diamond operated solely in the United States and all acquisitions had been treated as poolings. It then expanded internationally by acquiring Select Industries PLC in Britain, a worldwide firm. In early 2000 its European, Middle East and an African operation ("EMEA") were enlarged by the acquisition of Hunt Research Limited also of Britain. Between 1999 and 2001 technology was purchased from firms in France, Australia and Canada.

Reporting Units

Diamond and its subsidiaries have established four Reporting Units; three are geographic: United States ("US"); EMEA; and Asia-Pacific ("Asia"); the other is functional ("Production"), which covers sourcing & head office activities; it receives all maintenance contract revenues.

Operating Results

In the last complete fiscal year, to August 31, 2001, sales and operating profits for each geographic Reporting Unit were:

Reporting Unit	Sales		Operating Profit	Margin
	$'000		$'000	
US	34,322	46.6%	6,758	19.7%
EMEA	31,282	42.5%	2,882	9.2%
Asia	7,986	10.9%	(1,080)	-13.5%
.	73,590	100.0%	8,560	11.6%
Less				
R&D			(3,281)	-4.5%
Interest			(2,197)	-3.0%
Corporate Costs			(1,470)	-2.0%
Pre-tax Profit			1,612	2.2%

Question 1. Are these numbers satisfactory?

In the first quarter of that fiscal year, to November 30, 2000, the results of the Reporting Units were:

Reporting Unit	Sales		Operating Profit	Margin
	$'000		$'000	
US	8,066	46.2%	1,870	23.2%
EMEA	7,727	44.2%	1,488	19.3%
Asia	1,683	9.6%	(831)	-49.4%
.	17,476	100.0%	2,527	14.5%
Less				
R&D			(825)	-4.7%
Interest			(572)	-3.3%
Corporate Costs			(440)	-2.5%
Pre-tax Profit			690	3.9%

In the same period of the current fiscal year, three months to November 30, 2001, the results of the Reporting Units were:

Reporting Unit	Sales		Operating Profit	Margin
	$'000		$'000	
US	8,006	51.9%	2,945	36.8%
EMEA	5,294	34.3%	(520)	-9.8%
Asia	2,127	13.8%	263	12.4%
.	15,427	100.0%	2,688	17.4%
Less R&D			(863)	-5.6%
Interest			(514)	-3.3%
Corporate			(637)	-4.1%
Pre-tax Profit			674	4.4%

Intangible Assets

At November 30, 2001, Diamond had recorded Intangible Assets of $6,225,000 mainly from the Hunt acquisition. All satisfied the criteria to be recognized as Intangible Assets under SFAS 142.

Item	Reasons	$'000
Hunt		
Core Technology	Can be licensed - still in use	1,203
Brand Name	Legal Rights - still in use	1,902
Sales Channel	Contractual rights with Distributors	1,371
Customer Base	Customer list - can be licensed	538
Distribution Rights	Legal Rights - generating revenues	350
		5,364
Other		
Alpha Technology	Can be licensed - no longer in use	136
Beta Technology	Can be licensed - still in use	190
Gamma Technology	Can be licensed - recently acquired	535
		861
		6,225

The five items from Hunt are being amortized on a straight line basis with useful lives of six years. The other three technologies have been allotted three years lives.

Goodwill

Both British acquisitions gave rise to Goodwill; the unamortized balances at November 30, 2001 (the Effective Date) were Select $6,152,000 and Hunt $3,595,000.

Allocations to Reporting Units

Goodwill from Select and Hunt, and the Intangible Assets originating with Hunt, were allocated to the geographic Reporting Units on the basis of pre-acquisition sales. The figures were the originating organization's weighted average sales distribution for the two complete and the partial fiscal year before they were purchased. The technologies bought from Alpha, Beta and Gamma were allocated on the basis of the sales distribution of Hunt, as the sales channels for the related products had been established by that firm.

Reporting Unit	Goodwill	Intangible Assets	Total
US	3,442	2,065	5,507
EMEA	5,258	3,316	8,574
Asia	1,047	844	1,891
	9,747	6,225	15,972

Question 2. Is this allocation of goodwill and intangible assets reasonable?

Balance Sheets

The following summarize the Balance Sheets of the four Reporting Units, at the Effective Date, after allocating the Goodwill and Intangible Assets.

$'000	**US**	**EMEA**	**Asia**	**Production**	**Diamond**
Assets					
Current					
Cash	235	342	150	219	946
Receivables	1,671	3,271	1,067	379	6,388
Inventory	92	129	80	3,717	4,018
Prepaids	29	77	6	155	267
	2,027	3,819	1,303	4,470	11,619
Capital					
Inter-company	2,086	(3,476)	(1,495)	2,885	-
Equipment-net	19	181	16	695	911
Goodwill	3,442	5,258	1,047	-	9,747
Intangible Assets	2,065	3,316	844	-	6,225
Other	-	-	-	474	474
	7,612	5,279	412	4,054	17,357
Total Assets	9,639	9,098	1,715	8,524	28,976
Proportion %	33.3%	31.4%	5.9%	29.4%	100.0%
Liabilities					
Current					
Bank	-	-	-	8,745	8,745
Deferred Revenue	-	-	-	1,339	1,339
Payables & accruals	268	2,071	282	4,113	6,734
Taxes due	(42)	(241)	19	136	(128)
	226	1,830	301	14,333	16,690
Term					
Future income taxes	(49)	-	-	1,485	1,436
Capital leases	-	101	-	-	101
Term loans	-	-	-	9,397	9,397
	(49)	101	-	10,882	10,934
Total Liabilities	177	1,931	301	25,215	27,624
Allocated Equity	9,462	7,167	1,414	(16,691)	1,352
Invested Capital	9,462	7,268	1,414	(7,294)	10,850
Proportion	87.2%	67.0%	13.0%	-67.2%	100.0%
Carrying Value	9,462	7,167	1,414	1,452	19,495
Proportion	48.5%	36.8%	7.3%	7.4%	100.0%

Question 3. Is this the appropriate presentation?

Goodwill Impairment Test

A two-step Test is required to identify potential Goodwill Impairment and measure the amount, if any, of the loss. This annual Test may be performed any time during the fiscal year, provided it is done at the same time every year. Different Reporting Units may be tested for Impairment at separate times. Diamond intends to test the Goodwill of all Reporting Units on November 30 of each year.

Step 1 of the Goodwill Impairment Test compares the Fair Value of a Reporting Unit with its carrying amount, including allocated Goodwill and Intangible Assets. If the Fair Value of the Reporting Unit exceeds its carrying amount, the related Goodwill is considered not to be impaired. If the carrying amount exceeds its Fair Value, there is a possible Impairment, and Step 2 is used to measure the amount of the Impairment loss.

Step 2 establishes the implied Fair Value of the Reporting Unit's Goodwill in the same manner as if the Reporting Unit was purchased for Fair Value; this is then compared with its carrying amount. If the carrying amount of the Goodwill is higher than its implied Fair Value, the excess is the Impairment loss: this cannot be greater than the carrying amount of the Goodwill.

After such a loss is recognized and applied to reduce the carrying amount, the Goodwill is always recorded at this adjusted amount. The subsequent reversal of a previously recognized Goodwill Impairment loss is prohibited.

The process of establishing the implied Fair Value of the Reporting Unit's Goodwill requires allocating the total Fair Value of the Reporting Unit to each of its assets and liabilities, including any unrecorded Intangible Assets. The excess of the total Fair Value of the Reporting Unit over the amounts allocated to its assets and liabilities is the implied Fair Value of the Goodwill.

This allocation process is solely for the Goodwill Impairment Test and may not result in any change being made to the carrying value of any asset or liability.

If Step 2 of the Test is not completed before the Financial Statements are issued and a Goodwill Impairment Loss is possible, the best estimate of that loss should be recorded in the Financial Statements, and the fact disclosed that it is only an estimate. Any adjustment to that estimate is to be recognized in the next reporting period.

Fair Value

The Fair Value of a Reporting Unit is the amount at which the unit as a whole could be bought or sold in a current transaction.

Many Valuation Analysts believe that quoted prices of securities with active markets are the best evidence of Fair Value; SFAS 142 states that they "shall be used as the basis for the measurement, if available." However, FASB also recognizes that the market price of the shares of a parent company may not be representative of the Fair Value of any particular Reporting Unit.

Therefore, quoted securities' prices need not be the sole means of measuring the Fair Value of a Reporting Unit. In a Business Combination substantial value often arises from the ability to take advantage of synergies and other benefits that flow from control. Measuring the Fair Value of a collection of assets and liabilities that operate together in a controlled entity, such as a Reporting Unit, is different from measuring the Fair Value of that entity's individual equity securities.

A firm normally is willing to pay more for shares that give it control than investors would pay for holdings representing a lesser (minority) interest. Such a control premium may cause the total of the Fair Values of all the Reporting Units to exceed the Total Enterprise Value ("TEV") of the parent.

The Fair Value of a Reporting Unit is to be based on the best information available, including prices for similar assets and the results of other valuation techniques. SFAS 142 states that the present value of future cash flows is often the best available method to establish the Fair Value of a group of assets and liabilities, such as a Reporting Unit.

If a present value (Discounted Cash Flow) technique is applied to measure Fair Value, the projected future cash flows must be consistent with this objective. They should adopt assumptions that potential purchasers would chose. If these are not available without undue cost and effort, an entity may use its own reasonable and supportable assumptions considering all available evidence.

The weight given to the evidence should reflect the extent to which it can be verified objectively. If a range is estimated for the amounts or timing of possible cash flows, the likelihood of the various possible outcomes should be considered.

Question 4. What method would you chose to determine the fair value of each reporting unit and why?

DIAMOND SYSTEMS INC. - PART II

Fair Value of the Reporting Units

The 9,600,000 shares of Diamond trade on NASDAQ; on November 30, 2001 they closed at $1.55 each giving a Total Enterprise Value ("TEV") of $23,625,000.

	$'000
NASDAQ closing price	1.55
Market Capitalization	14,880
Bank Loans	8,745
	23,625

With only modest profits being earned and a downward trend in technology sector multiples, the most useful valuation multiple is TEV/EBITDA (Earnings Before Interest, Taxes, Depreciation and Amortization). The table below sets out the figures for this measure during the last three fiscal years and the budget for the next two.

$'000

Year to August 31				
1999	**2000**	**2001**	**2002**	**2003**
(audit)	(audit)	(audit)	(budget)	(budget)
6,386	8,077	5,593	5,133	5,550

The TEV/EBITDA ratios based on budgeted EBITDA are set out below:

- Fiscal 2002 4.60 x
- Fiscal 2003 4.26 x

In establishing the Fair Value of the Reporting Units, these ratios have been applied to their 2003 EBITDAs to confirm the reasonableness and modify the results of the present value technique; this has been selected as the primary valuation methodology. Applying it requires developing figures for: sales growth, Cash Flow margins and an appropriate Discount Rate.

Sales Growth

After fiscal 1998, due to the acquisition of Select and Hunt, the nature of Diamond's business changed significantly. It moved from selling AS400 products directly to customers to offering mainly open source items through distributors.

In fiscal 2000, sales rose 12.9%, due to the acquisition of Hunt, as revenues from the other segments declined after December 31, 1999. This downtrend continued into fiscal 2001, when sales dropped 21.7%. Management anticipates the following growth in sales for the next five years, under normal circumstances:

Year to August	**2002**	**2003**	**2004**	**2005**	**2006 & After**
US	- 4.5%	2.4%	6.7%	6.7%	6.7%

EMEA	-13.4%	-9.4%	5.0%	6.7%	6.7%
Asia	14.9%	6.6%	6.7%	6.7%	6.7%
Production	1.5%	-1.6%	6.7%	6.7%	6.7%
Diamond	- 5.7%	-2.1%	6.1%	6.7%	6.7%

Cash Flow Margins

From the 2003 budget the following summarized operating statements were developed, for each Reporting Unit, in that year; they do not include principle payments on Diamond's bank loans.

					$'000
	US	**EMEA**	**Asia**	**Production**	**Diamond**
Sales	27,450	24,530	9,800	6,220	68,000
Share %	40.4%	36.1%	14.4%	9.1%	100.0%
Gross Profit	17,300	15,000	5,440	4,030	41,770
Margin %	63.0%	61.1%	55.5%	64.8%	61.4%
Expenses	14,200	13,425	5,150	3,995	36,770
Pre Tax Profit	3,100	1,575	290	35	5,000
Income Tax	(1,245)	(620)	(85)	(50)	(2,000)
Net Income	1,855	955	205	(15)	3,000
Margin	6.8%	3.9%	2.1%	-0.2%	4.4%
Depreciation	11	48	8	234	300
Capex	(27)	(117)	(40)	(116)	(300)
Working Capital	(55)	(25)	(29)	62	(47)
Cash Flow	1,784	861	144	165	2,953
Margin %	6.5%	3.5%	1.5%	2.7%	4.3%
Interest	466	398	122	(28)	957
EBITDA	3,577	2,021	420	241	6,257
Margin	13.0%	8.2%	4.3%	3.9%	9.2%

Interest Allocation

Current Assets	2,027	3,819	1,303	4,470	11,619
Current Liabilities	(226)	(1,830)	(301)	(14,333)	(16,690)
	1,801	1,989	1,002	(9,863)	(5,071)
Bank Overdraft	-	-	-	8,745	8,745
	1,801	1,989	1,002	(1,118)	3,674
	49.0%	54.1%	27.3%	-30.4%	100.0%
Principal					8,745
Rate					4.5%
Interest	192.9	213.0	107.3	-119.7	393.5
Capital Assets	7,612	5,279	412	4,054	17,357
Term Liabilities	49	(101)	-	(10,882)	(10,934)
	7,661	5,178	412	(6,828)	6,423
Term Loans	-	-	-	9,397	9,397
	7,661	5,178	412	2,569	15,820
	48.4%	32.7%	2.6%	16.2%	100.0%
Principal					9,397
Rate					6.0%
Interest	273.0	184.5	14.7	91.6	563.8
Total Interest	466	398	122	-28	957

Question 5. Are these assumptions realistic?

Step 1 of Goodwill Impairment Test

Estimates of Fair Values for each Reporting Unit are set out in the table below using both a present value and a multiple of EBITDA. The present value method applies the sales growth rates and the Cash Flow margins for fiscal 2003 set out above to project operating Cash Flows for each Reporting Unit for the fiscal years ending May 31, 2003 to 2021 inclusive; the budgeted figures were used for fiscal 2002. The Fair Value of the Reporting Units were estimated by discounting the operating Cash Flows, at 30% from the Effective Date, with no Terminal Value.

The Fair Values, using a multiple of EBITDA, were obtained by applying the TEV/EBITDA ratio of 4.26 to the estimated 2003 EBITDA of each Reporting Unit. The mean, rounded to the closest $5,000 was used for the selected amounts.

Estimates of Fair Value - November 30, 2001

					$'000
	US	**EMEA**	**Asia**	**Production**	**Diamond**
Present Values	14,310	7,075	1,660	1,990	24,035
EBITDA multiple	13,620	7,235	1,320	1,450	23,625
Selected Amount	13,965	7,155	1,490	1,720	23,830

The Carrying Value of each Reporting Unit is considered to be re-presented by the Operating Equity, as the Fair Values are on a pre-debt basis. Production has not been allocated any Goodwill.

Carrying Values	9,461	7,166	1,414	(7,294)	10,746
Differences	4,504	(11)	76	8,514	13,083
Possible Impairment	No	Yes	No	n.a.	Yes

Question 6. **Is it reasonable to use the mean of the two valuation methods?**

Question 7. **Would you prefer another valuation method? If so, why?**

Question 8. **Do you agree there is an impairment?**

DIAMOND SYSTEMS INC. - PART III

Fair Values of EMEA Assets

As the EMEA Reporting Unit had an estimated Fair Value below the Carrying Amount the Second Step of the Goodwill Impairment Test must be applied to that Reporting Unit.

A review of the tangible assets of the EMEA Reporting Unit indicated no substantial difference between their Book and Fair Values other than the computers and other equipment in England, where the resale value of the used equipment was believed by Management to be less than Book Value. Due to downsizing, a complete listing of equipment was not available, but local Management suggested that the resale amount at the Effective Date was about $120,000.

Select's Core Technology

Select's core technology is included in Goodwill for accounting purposes. That firm developed, manufactured and marketed serial servers to link computers and peripherals; it also produced connectivity cards that serve a similar purpose. A new serial product, under the Diamond name was introduced in February 2001.

In the fiscal year to August 31, 2001 worldwide Select sales were as follows:

	$'000
Serial Servers	3,793
New Product	502
Cards	5,037
	9,332

The Core Technology consists of the three hardware platforms and their related software. The "relief-from-royalty" method was adopted to establish their Fair Value. For this purpose, the new product's revenue was annualized to $1,500,000. Royalty rates for this type of equipment range from 6% to 8% of sales; 7%, the middle of the range was chosen. For its Fair Value of $410,000 the Present Value, at a 20% discount rate, of such royalty payments over the expected economic life of the products was used, less tax, at the UK rate of 43%.

To this must be added $370,000 for the Cards; after a deduction to cover the design and software changes necessary to upgrade them for a new processor during fiscal 2002; the total is $780,000.

Select's Customer Base

A modest portion, less than 15%, of sales of the servers and the Cards, comes from existing customers. Based on established Gross Margins and deducting current overhead of 44%, before corporate R&D, their Contribution Margins are 16% and 15% respectively. One year's additional Net Income of $92,000 is used as the Fair Value.

Hunt Brand Name

The Hunt product line is similar to that of Select; its revenues during the fiscal year to May 31, 2001 were as follows:

	$'000
Serial servers	9,283
Cards	1,004
OEM & Discontinued Products	2,250
	12,537

Hunt is the leading brand of serial servers in many markets, with a reputation as a solid, reliable, easy-to-configure, out-of-the-box product. It is considered so reliable that one high-speed telephone switch, has back-up systems for all components, except the Hunt units.

Discussions with distributors indicate at least 20% of Hunt serial server sales relate to its reputation; without the brand name, they would be "up for grabs". Based on the established Gross

Margin of 62% and a 44% overhead rate, the product has a pre-tax contribution margin of 18%. Sales of $1,950,000, ascribed to the Hunt name, represent additional Net Income of $200,000 a year.

Management plans a new version of the hardware under the Hunt name in 2002; this will use an enhancement of the existing software running on an upgraded processor. Therefore the Fair Value of the Hunt name is $575,000, the Present Value (rounded) of the established annual increase in Net Income, at 20% over five years.

Hunt Core Technology

The current server design was introduced in the early 1990s and the technology requires upgrading. The planned replacement is expected to take over a significant portion of its sales. With a 7% royalty rate and a remaining economic life of three years, the Fair Value of the Hunt server Core Technology is $376,000.

To this must be added the savings in time and cost from being able to use about 80% of the existing software for the replacement product; this portion is expected to represent about 65% of the total code. The saving in time is estimated at more than twelve months, resulting in a cost reduction of over $253,000.

Its Cards have a remaining economic life of approximately two years and will be replaced by those of Select; on the same basis as the servers, their Core Technology has a Fair Value of $61,000. The total of these items gives a figure of $690,000 for this category.
Hunt Customer Base:

In February 2000, a value of $453,000 was established for the 11,324 entries in the Hunt Customer Database. The significant number of new customers added since then is attributable to Diamond. Hence, the value of the Hunt Customer Base remaining is estimated to have declined to about $220,000.

Summary of Fair Values

	World Wide	EMEA %	$'000 EMEA
Core Technology			
Select	780	53.2	415
Hunt	690	53.2	368
Other	861	0.6	367
			1,150
Brand Name	575	53.2	306
Sales Channels	1,371		731
Customer Base			
Select	92	53.2	49
Hunt	220	53.2	117
Distribution Rights	350	53.4	187
			2,540

Question 9. How were the EMEA percentages determined? Are they reasonable?

Liabilities

Other than $534,000 for unrecorded liabilities relating to Select, there is no difference between the Book and Fair Values of the EMEA liabilities. This established when the accounting of all subsidiaries were combined. About 50% is not likely to be required and can be omitted in establishing the Fair Value of the EMEA Payables & Accruals.

Step 2 of Goodwill Impairment Test

The Fair Values for the various assets and liabilities of the EMEA Reporting Unit are set out below, together with the implied Fair Values of the its Goodwill.

		$'000
	Book Value	**Fair Value**
Equity	7,166	7,235
Tangible Assets		
Cash	342	342
Receivables	3,271	3,271
Inventory	129	129
Prepaids	77	77
Equipment-net	181	120
Tax recovery	241	241
	4,241	4,180
Intangible Assets		
Technologies	1,100	1,150
Brand Names	1,011	306
Sales Channels	731	731
Customer Base	287	166
Distribution Rights	187	187
Total Intangible Assets	3,316	2,540
Total Assets	7,557	6,720
Liabilities		
Payables & Accruals	(2,071)	(1,804)
Inter-company Balances	(3,476)	(3,476)
Capital Leases	(101)	(101)
	(5,648)	(5,381)
Net Assets other than Goodwill	1,909	1,339
Implied Fair Value Goodwill	5,257	5,896
Carrying Amount of Goodwill	5,257	5,257
Excess of Implied Fair Value	-	639

On the basis of this analysis, the implied Fair Value of the Goodwill exceeds its Carrying Amounts therefore there is no Impairment of Goodwill for the EMEA Reporting Unit.

Question 10. Do you agree with this conclusion?

