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# ASTRAL RECORDS LTD., NORTH AMERICA: SOME FINANCIAL CONCERNS

On August 24, 1993, her first day as chief executive officer (CEO) of Astral Records Ltd., North America (Astral NA), Sarah Conner confronted a host of management problems at the company. One week earlier, Astral NA's president and CEO had been killed in a tragic accident. Soon thereafter, Conner was appointed to fill the position immediately. Several issues in her in-box that first day were financial in nature, either requiring a financial decision, or with outcomes that would have major financial implications for the firm. That evening, Conner asked to meet with her assistant, Louis Tang, to begin addressing the most prominent issues.

## Astral Records and the Compact-Disk Manufacturing Industry

Astral Records North America had been founded as a joint venture between Astral Records Ltd., U.K., and an American venture-capital firm, Bendini, Lambert, and Locke (BLL). Astral NA's sole business mission was to manufacture compact disks mainly as a subcontractor to major recording companies. Astral NA was known for producing the highest-quality compact disks in the industry.

Compact disks were first mass-produced in 1980. By 1993, the manufacturing technology was fairly mature. Accordingly, small manufacturers had proliferated in the industry, exploiting the low entry barriers: a new, small plant would cost between $8 million and $10 million. Easy entry had led to price competition in recent years among disk replicators. One analyst said,

> The gross margins on CDs have eroded tremendously over the past five years. I don't see that there's any more maneuvering left on the price.

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This case was prepared by Robert Bruner, Robert Conroy, and Kenneth Eades. The firms and individuals in this case are fictional. It was written as a basis for class discussion rather than to illustrate effective or ineffective handling of an administrative situation. 

**Financial Questions Facing Sarah Conner**

That evening, Conner met with Louis Tang, a promising new associate whom she had brought along from BLL. Conner's brief discussion with Tang went as follows:

Conner: Back at BLL we looked at Astral as one of our most promising venture-capital investments. Now it seems that such optimism may not be warranted—at least until we get a solid understanding of the firm's past performance and its forecasted performance. Did you have any success with this?

Tang: Yes, the bookkeeper gave me these: the historical-income statements (**Exhibit 1**) and balance sheets (**Exhibit 2**) for the last four years. The accounting system here is still pretty primitive. However, I checked a number of the accounts, and they look orderly. So I suspect that we can work with these figures. From those statements, I calculated a set of diagnostic ratios (**Exhibit 3**).

Conner: I see that you have been busy. Unfortunately, I can't study them right now. I need you to review the historical performance of Astral NA for me, and to give me any positive or negative insights that you think are significant.

Tang: When do you need this?

Conner: At 7:00 a.m. tomorrow. I want to call on our banker tomorrow morning to get an extension on Astral's loan.

Tang: The banker, Farmington, said that Astral was "growing beyond its financial capabilities." What does that mean?

Conner: It probably means that he doesn't think we can repay the loan within a reasonable period. I would like you to build a simple financial forecast of our performance for the next two years (ignore seasonal effects) and show me what our debt requirements will be at the fiscal years-ended 1994 and 1995. I think it is reasonable to expect that Astral's sales will grow at 15% each year. Use whatever assumptions seem appropriate to you based on your historical analysis of the results. For this forecast, you should assume that any external funding is in the form of debt.

Tang: But what if the forecasts show that Astral cannot repay the loan?

Conner: Then we'll have to go back to Astral NA's owners, BLL and Astral Records U.K.,[1] for an injection of equity. Of course, BLL would rather not invest more funds unless we can show that the returns on such an investment would be very attractive, and/or

[1] Bendini, Lambert, and Locke owned a 60% interest in the equity of Astral NA. Astral Records Ltd., U.K., owned the remaining 40% interest.

that the survival of the company depends upon it. Thus, my third request is for you to examine what returns on book assets and book equity Astral NA will offer in the next two years and to identify the key driver assumptions of those returns. Finally, let me have your recommendations about operating and financial changes I should make based on the historical analysis and the forecasts.

Tang: The plant manager revised his request for a new packaging machine and thinks that these are the right numbers (see the plant manager's memorandum in **Exhibit 4**). Essentially, the issue is whether to invest now or to wait three years to buy the new packaging equipment. The new equipment can save significantly on labor costs, but carries a price tag of $1 million. My hunch is that our preference between investing now versus waiting three years will hinge on the discount rate.

Conner: [laughing] The joke in business school was that the discount rate was always 10%.

Tang: That's not what my business school taught me! BLL always uses a 40% discount rate to value equity investments in risky start-up companies. But Astral is reasonably well established now and shouldn't require such a high-risk premium. I managed to pull together some data (**Exhibit 5**) on comparable companies with which to estimate the required rate of return on equity.

Conner: Fine. Please estimate Astral's weighted-average cost of capital (WACC) and assess the packaging-machine investment. I would like the results of your analysis tomorrow morning at 7:00 a.m.

Exhibit 1

## ASTRAL RECORDS LTD., NORTH AMERICA: SOME FINANCIAL CONCERNS

Historical Income Statements
(fiscal year ended August 23; all figures in thousands of dollars)

| | | 1990 (actual) | 1991 (actual) | 1992 (actual) | 1993 (actual) |
|---|---|---|---|---|---|
| 1 | Sales | $26,202 | $28,822 | $34,010 | $39,792 |
| | Operating expenses: | | | | |
| 2 | Production costs and expenses | 11,950 | 13,380 | 17,847 | 22,335 |
| 3 | Admin. and selling expenses | 5,734 | 5,967 | 7,020 | 7,970 |
| 4 | Depreciation | 2,376 | 2,367 | 2,667 | 2,667 |
| 5 | Total operating expenses | (20,060) | (21,714) | (27,534) | (32,972) |
| 6 | Operating margin | 6,142 | 7,109 | 6,476 | 6,820 |
| 7 | Interest expense | (2,427) | (2,535) | (3,265) | (3,222) |
| 8 | Earnings before taxes | 3,715 | 4,574 | 3,212 | 3,598 |
| 9 | Income taxes | (1,647) | (1,845) | (1,269) | (1,403) |
| 10 | Net earnings | 2,068 | 2,729 | 1,943 | 2,195 |
| | Dividends on: | | | | |
| 11 | Dividends to all common shares | 1,000 | 1,000 | 1,000 | 1,000 |
| 12 | Retentions of earnings | $1,068 | $1,729 | $ 943 | $1,195 |

Exhibit 2

**ASTRAL RECORDS LTD., NORTH AMERICA: SOME FINANCIAL CONCERNS**

Historical Balance Sheets
(fiscal year ended August 23; all figures in thousands of dollars)

| | | 1990 (actual) | 1991 (actual) | 1992 (actual) | 1993 (actual) |
|---|---|---|---|---|---|
| | Assets: | | | | |
| 1 | Cash | $1,764 | $2,040 | $2,905 | $1,540 |
| 2 | Accounts receivable | 8,113 | 9,125 | 10,311 | 13,316 |
| 3 | Inventories | 15,861 | 17,147 | 25,643 | 34,717 |
| 4 | Total current assets | 25,738 | 28,312 | 38,859 | 49,573 |
| 5 | Gross property, plant, & equipment | 23,667 | 26,667 | 26,667 | 26,667 |
| 6 | Accumulated depreciation | (2,505) | (4,872) | (7,538) | (10,205) |
| 7 | Net property, plant, & equipment | 21,162 | 21,795 | 19,129 | 16,462 |
| 8 | Total assets | 46,900 | 50,107 | 57,988 | 66,035 |
| | Liabilities and stockholders' Equity: | | | | |
| 9 | Short-term borrowings (bank)[1] | 12,060 | 13,042 | 19,680 | 25,802 |
| 10 | Accounts payable | 4,511 | 4,607 | 4,705 | 5,328 |
| 11 | Other current liabilities | 9,014 | 9,414 | 9,616 | 9,723 |
| 12 | Total current liabilities | 25,585 | 27,063 | 34,001 | 40,853 |
| 13 | Long-term debt[2] | 10,000 | 10,000 | 10,000 | 10,000 |
| 14 | Shareholders' equity | 11,315 | 13,044 | 13,987 | 15,182 |
| 15 | Total liabilities & stockholders' equity | $46,900 | $50,107 | $57,988 | $66,035 |

[1] Short-term debt was borrowed from Yurbank at an interest rate equal to LIBOR + 1%. LIBOR (London Interbank Offered Rate) was a common benchmark for expressing the floating rate of interest on bank loans.

[2] The company's long-term debt of $10 million had been issued privately in 1989 to Bendini, Lambert, and Locke and to Astral Records Ltd., U.K. This debt was subordinate to any bank debt outstanding.

Exhibit 3

**ASTRAL RECORDS LTD., NORTH AMERICA:**
**SOME FINANCIAL CONCERNS**

Ratio Analyses of Historical Financial Statements
(fiscal year ended August 23)

| | | 1990 (actual) | 1991 (actual) | 1992 (actual) | 1993 (actual) |
|---|---|---|---|---|---|
| Profitability: | | | | | |
| 1 | Operating profit margin | 23.4% | 24.7% | 19.0% | 17.1% |
| 2 | Average tax rate | 44.3% | 40.3% | 39.5% | 39.0% |
| 3 | Return on sales | 7.9% | 9.5% | 5.7% | 5.5% |
| 4 | Return on equity | 18.3% | 20.9% | 13.9% | 14.5% |
| 5 | Return on assets | 4.4% | 5.4% | 3.4% | 3.3% |
| Leverage: | | | | | |
| 6 | Debt/equity ratio | 1.95 | 1.77 | 2.12 | 2.36 |
| 7 | Debt/total assets | 0.47 | 0.46 | 0.51 | 0.54 |
| 8 | EBIT/interest (×) | 2.53 | 2.80 | 1.98 | 2.12 |
| Asset utilization: | | | | | |
| 9 | Sales/assets | 55.9% | 57.5% | 58.7% | 60.3% |
| 10 | Sales growth rate | 4.0% | 10.0% | 18.0% | 17.0% |
| 11 | Assets growth rate | 6.0% | 6.8% | 15.7% | 13.9% |
| 12 | Days in receivables | 113.0 | 115.6 | 110.7 | 122.1 |
| 13 | Payables to COGS | 17.2% | 16.0% | 13.8% | 13.4% |
| 14 | Inventories to COGS | 60.5% | 59.5% | 75.4% | 87.2% |
| Liquidity: | | | | | |
| 15 | Current ratio | 1.01 | 1.05 | 1.14 | 1.21 |
| 16 | Quick ratio | 0.39 | 0.41 | 0.39 | 0.36 |

Exhibit 4

# ASTRAL RECORDS LTD., NORTH AMERICA: SOME FINANCIAL CONCERNS

## O'Rourke's Memo re: New Packaging Equipment

**MEMORANDUM**

TO: Sarah Conner, President and CEO, Astral Records
FROM: Harvey O'Rourke, Plant Manager
DATE: August 24, 1993
SUBJECT: New Packaging Equipment

Although our CD packaging equipment is adequate at current production levels, it is terribly inefficient. The new machinery on the market can give us significant labor savings as well as increased flexibility with respect to the type of packaging used. I recommend that we go with the new technology. The considerations relevant to the decision are included in this memo.

Our current packaging equipment was purchased five years ago as used equipment in a liquidation sale of a small company. Although the equipment was inexpensive, it is slow, requires constant monitoring, and is frequently down for repairs. Since the packaging equipment is significantly slower than the production equipment, we routinely have to use overtime labor to allow packaging to catch up with production. When the packager is down for repairs, the problem is exacerbated and we may spend several two-shift days catching up with production. I cannot say that we have missed any deadlines because of packaging problems, but it is a constant concern around here and things would run a lot smoother with more reliable equipment. In 1994, we will pay about $5,000 per year for maintenance costs. The operator is paid $30,000 per year for his regular time, but he has been averaging $40,000 per year because of the overtime he has been working. The equipment is on the tax and reporting books at $100,000 and will be fully depreciated in three years' time (we are currently using the straight-line depreciation method for both tax and reporting purposes and will continue to do so). Because of changes in packaging technology, the equipment has no market value other than its worth as scrap metal. But its scrap value is about equal to the cost of having it removed. In short, we believe the equipment has no salvage value at all.

The new packager offers many advantages over the current equipment. It is faster, more reliable, more flexible with respect to the types of packaging it can perform, and will provide enough capacity to cover all our packaging needs in the foreseeable future. With suitable maintenance, we believe the packager will operate indefinitely. Thus, for the purposes of our analysis, we can assume that this will be the last packaging equipment we will ever have to purchase. Because of the anticipated growth at Astral, the current equipment will not be able to handle our packaging needs by the end of 1996. Thus, if we do not buy new packaging equipment by this year's end, we will have to buy it after three years' time anyway. Since the speed, capacity, and reliability of the new equipment will eliminate the need for overtime labor, we feel strongly that we should buy now rather than wait another three years.

The new equipment currently costs $1 million, which we would depreciate over 10 years at $100,000 per year. It comes with a life-time factory maintenance contract that covers all routine maintenance and repairs at a price of $2,000 for the initial year. The contract stipulates that the price after the first year will be increased by the same percentage as the rate of increase of the price of new equipment. Thus, if the manufacturer continues to increase the price of new packaging equipment at 5% per annum as it has in the past, our maintenance costs will rise by 5% also. We believe that this sort of regular maintenance should insure that the new equipment will keep operating in the foreseeable future without the need for a major overhaul.

Astral's labor and maintenance costs will continue to rise due to inflation at approximately 5% per year over the long term. Because the manufacturer of the packaging equipment has been increasing its prices at about 5% per year, we can expect to save $157,625 in the purchase price by buying now rather than waiting three years. The marginal tax rate for this investment would be 40%.

## Exhibit 5

## ASTRAL RECORDS LTD., NORTH AMERICA: SOME FINANCIAL CONCERNS

### Data on Comparable Companies and Capital-Market Conditions

| Name | Percentage of Sales from CD Production | Price/ Earnings Ratio | Beta | Book D/E | Book Value per Share | Market Price per Share | Number of Shares Outstanding (Millions) | Last Annual Dividend per Share | Analysts' 5-Year Earnings Growth Forecast (%) | Bond Rating |
|---|---|---|---|---|---|---|---|---|---|---|
| Dickenson, Inc. | 20% | 9 | 1.50 | 0.45 | $ 5.50 | $10.00 | 5.0 | $0.95 | 4 | A |
| Harris-Beshel | 95% | 8 | 1.30 | 0.70 | 12.75 | 14.00 | 7.5 | 1.00 | 6 | AA |
| Donaldson, Inc. | 90% | 12 | 1.20 | 1.40 | 5.25 | 18.00 | 10.0 | 0.75 | 8 | AA |
| IBBEX Corp. | 40% | 16 | 1.45 | 0.10 | 16.80 | 20.00 | 15.0 | 0.00 | 10 | Baa |
| ZEPORT | 60% | 10 | 1.60 | 1.30 | $25.00 | $40.00 | 10.0 | $2.20 | 7 | B |

| Recently Issued Bonds (as of 8/24/93) | | | | Coupon | Maturity | Price | Rating |
|---|---|---|---|---|---|---|---|
| LIBOR | | 5.0% | | | | | |
| U.S. Treasury bills | 3-month | 2.8% | Dickenson ,Inc. | 7.2% | 1998 | $102.95 | A |
| U.S. Treasury bills | 1-year | 3.0% | Harris-Beshel | 7% | 2013 | 100.00 | AA |
| U.S. Treasury bills | 3-year | 4.6% | Donaldson, Inc. | 8% | 2008 | 109.20 | AA |
| U.S. Treasury bills | 5-year | 5.1% | IBBEX Corp. | 8.0% | 2003 | 100.00 | Baa |
| U.S. Treasury bonds | 10-year | 6.0% | ZEPORT | 9.0% | 2008 | $100.00 | B |
| U.S. Treasury bonds | 30-year | 6.2% | | | | | |

Source: Case writers' estimates.

Exhibit 5 (continued)

Description of companies:

| | |
|---|---|
| Dickenson, Inc. | This company was founded 50 years ago in Detroit. Its major business activities historically have been the production of original artist recordings, management and production of rock-and-roll road tours, and personal management of artists. It only recently has entered the CD production market. |
| Harris-Beshel | This company was a spin-off from a large conglomerate in 1978. Although the company was a leader in the production of CDS, it recently suffered a decline in sales. Infighting among the principal owners has fed concerns about the firm's prospects. |
| Donaldson, Inc. | This company, founded only two years ago, has emerged as a very aggressive competitor in the area of CD production. It is Astral's major competitor and its sales level is about the same. |
| IBBEX Corp. | This company has recently been an innovator in the production of CDs. Although CD manufacturing is not a majority of its business (film production is its main focus), the company is projected to be a major competitor within the next three years. |
| ZEPORT | This company was an early pioneer in the CD industry. Recently, however, it began to invest in new areas and has been moving away from CD production as its main focus of business. |