

PROJECT PROFILE ON PERSONAL COMPUTER

INTRODUCTION:

Personal Computers are widely used these days in office automation in Business / trade, Industries, Banks, Insurance Establishments, Hospitals, Hotels, Railway, Airlines and Transport services etc.

Personal Computer hardware consists of CPU, Memory, Direct memory access, Peripheral controllers and interfaces, Floppy disk drives and Hard disk drives. The peripherals consists of Keyboard, CRT Monitor, Printer, Modem and Mouse etc., and connected to the main PC through cables and interfaces. Switched Mode Power Supply (SMPS) are used to power the personal computer for different de voltage: + 5V,-V, + 12V and -12V. The SMPS is housed in the PC cabinet. The CRT Monitor and Printer have their own power supply units.

MARKET POTENTIAL:

The market for personal computer is expanding day by day due to rapid computerization of offices for accounts, inventory, sales, correspondence and communication etc. in business/trade, industry, banks, insurance establishments, hotels, tourism sector, hospitals etc., and also due to rapid computerization of reservations in railways, air-lines and other transport services.

The demand for personal computer (PCs) continues to grow and will continue to account for a large share of the total computer and peripherals spending in India. Over 200 small, medium and large firms manufacture computer in India. The small manufacturers have to face tough competition from multinationals in terms of price, quality supply schedules and after sales services.

BASIS AND PRESUMPTIONS:

- i) The basis for calculation of production capacity has been taken on single shift basis on 75% efficiency.
- ii) The maximum capacity utilization on single shift basis for 300 days a year. During first year and second year of operations the capacity utilization is 60% and 80% respectively. The unit is expected to achieve full capacity utilization from the third year onwards.
- iii) The salaries & wages cost of raw materials, utilities, cost of land and rents etc. are based on the prevailing rates in and around Jaipur(Raj.) in 2006-07. These cost factors are likely to vary with time and with location.
- iv) The interest on term loan and working capital-loan has been taken at the rate of 16% on an average, prevailing in 2006-07. This rate may vary depending upon the policy of the Financial Institutions/Agencies from time to time.
- v) The cost of machinery and equipments refer to a particular make/model and the prices are approximate prices prevailing in 2006-07.

- vi) The breakeven point percentage indicated is of full capacity utilization.
- vii) The project preparation cost etc., whenever required could be considered under pre-operative expenses.
- viii) The essential production machinery and test equipment required for the project have been indicated. The unit may also utilize common test facilities available at Electronics Test & Development Centres (ETDCs) and Electronic Regional Test Laboratories (ERTLs) set up by the State Govt. and STQC Dte. Of the Deptt. of Electronics to manufacture products conforming to BIS Standards.

IMPLEMENTATION SCHEDULE.

The major activities in the implementation of the project has been listed and the average time for implementation of the project is estimated at 12 months:-

1.	Preparation of Project Report	1	month
2.	Registration & other formalities	1	month
3.	Sanction of loan by financial Institutions	3	months
4.	Plant & Machinery :-		
	a) Placement of orders	1	month
	b) Procurement	2	months
	c) Power connection / Electrification	2	months
	d) installation / Erection of machinery/Test Equipment	2	months
5.	Procurement of raw materials	2	months
6.	Recruitment of Technical Personnel etc.	2	months
7.	Trial Production	11	months
8.	Commercial Production	12	months

NOTE:

- 1) Many of the above activities shall be initiated simultaneously.
- 2) Procurement of raw materials commences from the 8th month onwards.
- 3) When imported plant and machinery are required the implementation period of project may vary from 12 to 15 months.

TECHNICAL ASPECTS:

Process of Manufacture :- The manufacture of personal computer involves the assembly of Electronics and Electromechanical sub-assemblies, peripherals and integrating them into a compact

unit. As per the design the motherboard, VGA card (Display card) are procured/ assembled depending upon the volume of production. The other sub-assemblies Hard disk drives, floppy disk drive, cabinet with SMPS are procured from out side alongwith the peripherals i.e. Monitor (colour) Computer Key board, mouse etc. The mother-board alongwith other asubassemblies are mounted in the cabinet and the interconnection done. The completed assembly i.e. compact unit is tested for various performance parameters by the help of dedicated software.

The tested units are then packed well in cardboard packing cases to withstand shock and vibration during transportation and handling.

Quality Control and Standards.

Intel Pentium IV Processor (3 GHZ) 800 MHZ

FSB, 128 MB - DDR RAM

Hard Disk Drive 80 GB

Key Board (111 Key)

15" Colour Monitor

52 x CD ROM

Internal Modem - 56 Kbps

Production Capacity

Quantity	Value
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600 Nos.	138 Lacs.
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Motive Power 5KVA

Pollution Control:

- i) The Govt. accords utmost importance to control environmental pollution, The small scale entrepreneurs should have an environmental friendly attitude and adopt pollution abatement measures by process modification and technology substitution. Awareness among the staff members of the industrial undertaking should also be created for abatement of pollution.
- ii) India having acceded to the Montreal Protocol in Sept., 1992, it has become mandatory for India to phase out the production and use of Ozone Depleting Substances (ODS) like Chlorofluoro Carbon (CFCs), Carbon Tetrachloride, Halons and Methyl Chloroform etc. These chemicals / solvents and to be phased out immediately with alternative chemicals / solvents. From phase out angle, we may have ten years to go, but from commercial angle immediate phase out is of utmost importance.

Energy Conservation:

With the growing energy needs and shortage coupled with rising energy cost a greater thrust in energy efficiency in industrial sector has been given by the Govt. of India since 1980s. The Energy Conservation Act, 2001 has been enacted on 18th August, 2001, which provides for efficient use of energy, its conservation and capacity building of Bureau of Energy Efficiency created under the Act.

The following steps may help for conservation of electrical energy :

- i) Adoption of energy conserving technologies, production aids and testing facilities.
- ii) Efficient management of process/manufacturing machineries and systems, QC and testing equipments for yielding maximum Energy Conservation.
- iii) Optimum use of electrical energy for heating during soldering process can be obtained by using efficient temperature controlled soldering and desoldering stations.
- iv) Periodical maintenance of motors, compressors etc.
- v) Use of power factor correction capacitors. Proper selection and layout of lighting system; timely switching. on-off of the lights; use of compact fluorescent lamps wherever possible etc.

Financial Aspects:

A. Fixed Capital.

(i) Land & Building	Rent/Month	- 10,000/-
Built up area		- 200 Sq. Mtr.
Office, Stores		- 50 Sq. Mtrs.
Assembly & Testing		- 150 Sq. Mtrs.

(ii) Plant and Machinery, Testing Equipments

Sl.No	Description	Qty.	Value
1.	Oscilloscope (0 - 100 - MHZ) (dual trace storage type)		80,000/-
2.	Computer testing system Ind. (consisting of CPU, Monitor, Keyboard, FDD, HDD, Communication Driver, Modem, Mouse, Printer and dedicated test software)	2	1,00,000/-
3.	LCR-Q Meter (Digital)	1	12,000/-
4.	DC Power supply 30 V, 2A	3	10,000/-
5.	4½ digit digital Multimeter	2	12,000/-
6.	Analog Multimeter	6	6,000/-
7.	Office equipment		30,000/-
8.	Furniture and Working tables.		50,000/-
9.	Tools, Jigs, Fixtures, Soldering Iron/Stations, IC Insertor, extractor, etc.		30,000/-
10.	Electrification charges @ 10% of the cost of Plant and Machinery.		22,000/-
11.	Pre-operative expenses		15,000/-
	Total		3,67,000/-

B. Working Capital (Per Month):

S. No.	Description	No.	Salary	Total (Rs.)
1.	Manager	1	6,000/-	6,000/-
2.	Sales & Service Engineer	1	4,000/-	4,000/-
3.	Supervisor	1	3,500/-	3,500/-
4.	Accountant	1	2,500/-	2,500/-
5.	Clerk/Typist	1	2,500/-	2,500/-
6.	Peon	1	1,500/-	1,500/-
7.	Watchman	1	1,500/-	1,500/-
8.	Skilled Workers	4	3,000/-	12,000/-
9.	Semi Skilled Workers	2	2,000/-	4,000/-
	Total			37,500/-
	Add Perquisites @ 15% of Salary			5,625/-
	Total			43,125/-
	Say			43,000/-

(iii) Raw Material Requirement (Per Month) :

	Cost/Unit
1. Intel Pentium IV Processors 3 Gilz/Chipset/ 915 Express with Mother Board.	8000.00
2. Monitor Colour 15"	4300.00
3. Key Board (1) 1 Keys with Scroll Mouse	500.00
4. 80 GBSA TAHOD	2350.00
5. 52 x CD ROM	625.00
6. Internal Modum 56 Kbps	300.00.
7. 1.44 MB Floppy Disk Driver	250.00
8. SMPS with Cabinet & other accessories	850.00
9. 128 MB DDR RAM	600.00
10. Cables & Power Cords	100.00
11. Consumables (Solders and Packing materials)	100.00
12. Multimedia Speakers	700.00
Total	18675.00

Cost of Raw Materials for 50 units (per month) . 9,33,750/-

Note:- The quantity and quality of raw materials varies with the design requirement and features of Personal Computer.

(iv) Utilities (Per Month) :		Rs.
Power	-	6,000/-
Water	-	<u>500/-</u>
Total	-	6500/-

(v) Other Contingent Expenses (Per Month)		(Rs.)
1.	Rent	: 10,000/-
2.	Postage and Stationery	: 2,000/-
3.	Telephone	: 3,000/-
4.	Repair and Maintenance	: 2,000/-
5.	Transport & Conveyance charges	: 5,000/-
6.	Advertisement & Publicity	: 10,000/-
7.	Insurance and Taxes	: 1,500/-
8.	Miscellaneous expenses	: 5,000/-
Total		: 38,500/-
Total Recurring Expenditure (Per month)		
(i + ii + iii + iv)		: 10,21,750.00
(C) Total Capital Investment		
	Fixed Capital	: 3,67,000/-
	Working Capital on 3 months basis	: 30,65,250/-
Total		: 34,32,250/-

Financial analysis:

(1) Cost of Production (Per annum) :

Total Recurring expenditure	:	1,22,61,000/-
Depreciation on Machinery and equipment @ 10%	:	22,000/-
Depreciation on Tools, Jigs and fixtures @ 25%	:	7,500/-
Depreciation on Office equipment, furniture @ 20%	:	16,000/-
Interest on total capital investment @ 16%	:	5,49,160/-
Total	:	1,28,55,660/-

Turnover (Per Annum)

Item	Qty.	Rate/Unit (Rs.)	Total
Personal Computer Pentium – IV 3GHZ	600	2,3000/-	1,38,00,000/-

Profit (Per Annum) Before tax- : 9,44,340/-

Net Profit Ratio = $\frac{\text{Profit per Annum} \times 100}{\text{Sales Per Annum}}$

= 944340 x 100

= 6.84%

Rate of Return = $\frac{\text{Profit} \times 100}{\text{Total Capital Investment}}$

= $\frac{944340 \times 100}{3432250}$

= 27.5%

Break Even Point:**Fixed Cost.**

Rent	:	1,20,000/-
Depreciation on Machinery & Equipment @ 10%	:	22,000/-
Depreciation Tools, Jigs and fixtures @ 25%	:	7,500/-
Depreciation on Office Equipment, furniture @ 20 %	:	16,000/-
Interest on Total Capital Investment @ 16%	:	549,160/-
Insurance and Taxes	:	18,000/-
40% of Salaries and Wages	:	2,06,400/-
40% of other Contingent expenses and utilities (Excluding Rent & Insurance)	:	1,29,600/-
Total	:	10,68,660/-

$$\begin{aligned}
\text{B.E.P:} &= \frac{\text{Fixed Cost} \times 100}{\text{Fixed Cost} + \text{Profit.}} \\
&= \frac{1068660 \times 100}{1068660 + 944340} \\
&= \frac{106866000}{2013000} \\
&= 53.08 \%
\end{aligned}$$

Address of Machinery, Computer Peripheral and Raw Material/Component Suppliers:

Testing Equipments.

1. M/s. Applied Electronics Ltd.,
A-5, Wagle Industrial Estate,
Thane. Mumbai - 4.
2. M/s. Peico Electronics and Electrical Ltd.,
Shivasagar Estate, Block - A,
Dr. Annie Besant Road, Mumbai - 12.
3. M/s. BPL (India),
84, M.G. Road,
Bangalore - 1.
4. M/s. Agronic Instruments Pvt. Ltd.,
201, Shiva-Shakti Industrial Estate,
Mumbai - 86.
5. M/s. Systronics,
89-92, Industrial Area,
Naroda - 382 330.
6. M/s. Electronics Trade and Technology Dev. Corpn. Ltd.,
15/48, Malcha Marg,
New Delhi - 21.
7. M/s. Noble Electronics,
354, Lajpat Rai Market,
Delhi - 6.

Soldering Equipment and Circuit Aids:

1. M/s. Sysco Associates,
30 / 06 (New No. 234),
11th main, Malleswaram,
Bangalore – 3.
2. M/s. Navanidhi Electronics Pvt. Ltd.,
1-60/1, Snehapuri, Nacharam,
Hyderabad - 7.
3. M/s. India Associates,
16, Rest House Crescent,
27-B, Chandigarh - 19.
4. M/s. Bergen Associates Pvt. Ltd.,
1082, Sector- 27 - B,
Chandigarh — 19.

Raw Material and Component Suppliers :-

1. M/s. Electronics Trade and Technology Dev. Corp. Ltd.,
15/8, Malcha Marg, Chanakyapuri,
New Delhi - 21.
2. M/s. OEN Connectors Ltd.,
Vyattila P.B. No.2,
Cochin - 19.
3. M/s. Micropack Ltd.,
Plat Na. 16, Jagani Industrial Area,
Anekal T. J. Bangalore - 562 106.
4. M/s. Amar Radio Corpn.,
11/1, Thiglar Periyannal Lane,
SJP Road, Bangalore - 2.
5. M/s. Tomson Electronics,
Pulickkal Buildings, Pallimukku,
M.G. Road, Cochin - 68216.

6. M/s. Saini Electronics,
Pushpadant Nivas, 3, Chuman Lane,
Dr. D. Bhadkamukar Marg,
Mumbai -7.
7. M/s. Bangalore Electronics,
No. 124, Sadarpatrapa Road,
Bangalore - 2.
8. M/s. Southern Electronics
No. 113, Sadarpatrapa Road,
Bangalore - 2.

Imported Components and Computer Peripherals:

1. M/s. General Electronics,
19, 5th Floor, Tardeo Air Conditioned Market,
Mumbai - 34.
2. M/s. Bakumbhai Ambalal (Electronics Dept.)
Kaiser - 1, Hind Building, Ballard Estate,
Mumbai - 38.
3. M/s. Shilpa International,
107, Park Lane,
Secunderabad - 3.
4. M/s. Namtech Systems Pvt. Ltd.,
35, Decosta Square, St. Thomas Town,
Bangalore - 84.
5. M/s. Jairamdas and Sons Pvt. Ltd.,
Mittal Towers, M. G. Road.
Bangalore.
6. M/s. MCL Peripherals,
158, Arcot Road, Vadapalani,
Chennai.- 2.
7. Wipro Peripherals Division,
40/1, Levelle Road,
Bangalore - 1.

8. M/s. Hewlett Packard India Ltd.,
Embassy Point, 150,
Infantry Road,
Bangalore - 1.
- 9 M/s. VXL Instruments Pvt. Ltd.,
159, 7th Main, 1 - Block
Koramangala,
Bangalore - 34.
10. M/s. TVS Electronics
Tumkar, Karnataka.
11. M/s. Microtek International Ltd.,
B-603, Emerald appts.,
Parcy Panchayat Road,
Andheri (E),
Mumbai - 69.