



NATIONAL ENGINEERING COLLEGE

(AN AUTONOMOUS INSTITUTION)

K,R,NAGAR,KOVILPATTI-628503.



EEE NEWSLETTER

September 2014

Volume 2 Issue 4

DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

NBA ACCREDITATION



The Department of Electrical & Electronics Engineering Programme was provisionally accredited by **National Board of Accreditation (NBA) (Washington Accord) – Tier 1** for 2 years with effect from 01.07.2014 onwards. The main aim of NBA is to promoting international quality standards for technical education in India. These ensure that highest quality assurance standards in our engineering programme and provide global mobility to our engineering graduates. Tier-1 programmes are housed in institutions with autonomy to review the content of curriculum and make changes as a result of recommendations from accreditation visits. Due to this Tier 1 affiliation, our programme have the fiscal and academic independence to engage in continuous improvement in the local settings without waiting for the approval of outside bodies. Our engineering graduates have a good understanding of society, and also good management and communication skills which is ensured by NBA Tier 1 accreditation.

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STAFF ACHIEVEMENTS / ACTIVITIES

S.No.	Name of the Staff	Events/Guest Lecture	Topic	Date	College
1	Dr.M.Willjuice Iruthayarajan, Prof & Head	Three Days Workshop/ Resources Person	Introduction of PSO	25 th - 27 th August 2014	National Engineering College, Kovilpatti.
2	Mrs.R.V.Maheswari, Asso. Professor	Three Days Workshop/ Resources Person	Introduction to MATLAB, Neural Network and Support Vector Machine	25 th - 27 th August 2014	National Engineering College, Kovilpatti.
3	Dr.L.Kalaivani, Asso. Professor	Three Days Workshop / Resources Person	Introduction to GA and Implementation of ANFIS using MATLAB	25 th - 27 th August 2014	National Engineering College, Kovilpatti.
4	Mr.N.B.Prakash Asso. Professor	Three Days Workshop/ Resources Person	Introduction to Fuzzy Logic	25 th - 27 th August 2014	National Engineering College, Kovilpatti.
5	Ms.K.Gowthami, AP & Ms.S.Jayanthi, AP	Three Days Workshop	Implementation of Soft Computing Techniques ISCT'14	25 th - 27 th August 2014	National Engineering College, Kovilpatti.
6	Ms.S.Divya, AP	Two Days Workshop	Computational Analysis of Electrical Machines	30 th & 31 st August 2014	VIT, Chennai Campus.

7	Mr.S.Sankarakumar, AP(SG) & Mr.S.Arun Sankar, AP	Two Days Workshop	Advance Control Design for Power Electronics Converters in Renewable Energy System Using MATLAB and DSPACE	9 th and 10 th September 2014	Kongu Engineering College, Erode
8	Mr.S.Senthil Kumar, AP	One Day Seminar	High Impact Journal Writing and Publication	25 th September 2014	Anna University Tirunelveli, Regional Zone.
9	Dr.M.Willjuice Iruthayarajan, Prof & Head	One Day Workshop/ Resources Person	Workshop on MATLAB (Dept of Computer Science)	27 th September 2014	St. Mary's College, Tuticorin

IMPLEMENTATION OF SOFT COMPUTING TECHNIQUES – ISCT'14



Inaugural Function of ISCT '14

Department of EEE and IEEE Computational Intelligence Society, Madras chapter have jointly organized a three day workshop on “**IMPLEMENTATION OF SOFT COMPUTING TECHNIQUES USING MATLAB**” ISCT '14 during 25th – 27th, August 2014. The **Inaugural Function of ISCT '14** on August 25th, 2014 at the Seminar Hall of EEE dept. The scope of the workshop is wide to address all major aspects of Soft Computing Implementation Techniques using MATLAB to various Electrical Engineering applications. The function began with a prayer song and Dr. L.Kalaivani, Asso. Prof./EEE welcomed the gathering. The function was presided over by Dr.Kn.K.S.K.Chockalingam, Director of the College. Dr. M. Willjuice Iruthayarajan, Prof. & Head/EEE and Secretary, IEEE CIS, Madras Chapter delivered the preamble of the workshop and he explained the scope of IEEE Computational Society and the role of soft computing techniques in the various field of Electrical Engineering. Dr.S.Shanmugavel, Principal of the College delivered the inaugural address. In his address, he insisted the importance of computational intelligence techniques in research.

Topics covered in 3 days are

- Introduction to MATLAB Programming
- Introduction and implementation of soft computing techniques using MATLAB toolboxes like Fuzzy Logic, Neural Network, Genetic Algorithm and ANFIS.
- Implementation of Particle Swarm Optimization with MATLAB coding.
- Case Studies: PID Controller Tuning for SISO and MIMO systems, Economic Dispatch Problem, Speed Control of Drives, Pattern Recognition on Partial Discharges, etc.

The resource persons are Dr. M. Willjuice Iruthayarajan, Ms. R.V.Maheswari, Dr.L.Kalaivani and N.B.Prakash. Around 50 participants from various institutions have participated and benefitted by this workshop. Under the guidance of the Director, Principal and Head of the department, Dr.L.Kalaivani, Associate Professor/EEE, Coordinator, and Ms. R. V.Maheswari, Asso. Prof./EEE and Mr.G.Kannayeram, AP(SG) have made elaborate arrangements for this workshop. The certificates were distributed to the participants at the valedictory function held on 27th, August 2014. Ms. R. V.Maheswari, Asso. Prof./EEE delivered vote of thanks. The workshop came to an end with the National Anthem.



Session Handled by Mrs. R.V.Maheswari in ISCT '14

DEPARTMENT ACTIVITIES

SPECIAL INTEREST GROUP

POWER SYSTEM



A seminar presentation on 'Economic Load Dispatch' was conducted on 20.09.2014 by **Ms.J.R.Deepheha and Mr.T.Sivakumar, Assistant Professor / EEE** at H1 class room.

The session was started by Mr.T.Sivakumar, Assistant Professor / EEE. He discussed the basics of power system, HV transmission, interconnected system, reactive power compensation and calculation of capacitor sizing for reactive power compensation. A demonstration on

- Interconnected system, and
- Reactive power compensation was explained to students using power world simulator software.

Then the session was handled by Ms.J.R.Deepheha, Assistant professor /EEE. She explained the objectives of power system operations, load forecasting, unit commitment and economic load dispatch. A mathematical problem on economic load dispatch was solved by students. A demonstration on the economic load dispatch example was explained using power world simulator software. Finally the session ended with student's feedback.

INTELLIGENT CONTROLLERS AND SOFT COMPUTING TECHNIQUES

A seminar on "Tuning of PID Controller for Intelligent Control Algorithm" was conducted on 06/09/2014 by **Muniraj.R, Assistant Professor (S.G)/EEE** at Seminar Hall for Special Interest Group (SIG) members. The major concepts of the session are:

- Concepts of SISO and MIMO system.
- Basic Concepts of PID controller tuning
- Study of different types of intelligent control algorithm.
- Introduction about neural network and fuzzy logic system
- Discuss the significant need of Genetic Algorithm

Initially he started with the fundamental concepts of control engineering and also discussed the major research issues in control systems. Then he discussed about the basic concepts of PID controller tuning and briefed the different types of conventional control tuning & intelligent controller tuning algorithm for SISO and MIMO process. He explained the major concepts of fuzzy logic control, neural network and Evolutionary optimization technique in the field of instrumentation and control Engineering. Finally, he discussed the similarities and differences between conventional PID control & Intelligent controller technique for different order process using various performance specifications like, Stability robustness, Set point tracking and Load disturbance rejection.

The session was started by 10.15 AM and completed by 1.00 PM. totally 13 students from pre final year were participated and got the relevant information about the Tuning of PID controller for Intelligent control algorithm.

SIGNAL PROCESSING AND EMBEDDED SYSTEM



A workshop on “**TRAINING PROGRAM ON MATLAB**” was conducted on 20/09/2014 by **Mr.N.B.Prakash, Associate Professor/EEE** and **Ms.K.Gowthami, Assistant Professor/EEE** at Research Simulation Lab was organized by Special Interest Group (Signal Processing and Embedded System) members. The objectives of today’s session are:

- Basics about MATLAB Software
- How to do mathematical & logical operation using MATLAB coding
- How to plot graph for various functions using MATLAB coding
- How to rectify the errors while executing the MATLAB coding

The main objective of the workshop is to imparting the basic knowledge about the MATLAB software. Initially the session was started at 10.00 AM and started with the necessity of studying MATLAB software and the importance of Electrical engineer to aware about the recent issues performed by this software in companies. Totally around 25 members were utilized this session. Morning session is fully related to execution of various mathematical operations using MATLAB coding, to plot the graph for various functions using MATLAB coding then a session was over by 1.00 PM. Afternoon session was started at 2.00 PM. The session was fully engaged with how to do matrix operation using MATLAB coding. The session was over by 5.00 PM.

LIQUID DIELECTRICS



A seminar presentation on “Developments in Liquid Dielectrics” was conducted on 20.09.2014 by **Mr. S. Senthil Kumar and Mr. M. Bakrutheen, Assistant Professor /EEE** at Seminar Hall (EEE Dept.) for Special Interested Group (SIG) members. The objectives of today’s sessions are:

- Basics about the insulation mediums in high voltage applications
- Introduction about the liquid dielectrics and their properties
- Development of various liquid dielectrics from 1900s to present
- Different aspects on improvement of the properties
- Recent ongoing research on liquid dielectrics

Initially the seminar presentation was started with the basics of insulation used for high voltage applications, improvement in the liquid insulation and their properties & application areas. The staffs discussed about the recent developments trends & ongoing research in liquid dielectric field. The session was conducted separately for third year and final year students. The session for third year students was started by 10.30 AM and completed by 11.30 A.M and the session for final year students was started by 12.00 AM and completed by 1.00 P.M. Totally 27 students from final & third year were participated and got the relevant information about the developments in liquid dielectric for the past decades and recent research areas in liquid dielectrics.

EEE ASSOCIATION**TROUBLESHOOTING ON IRON BOX AND
CEILING FAN**

On behalf of EEE association a workshop was organized titled on "TROUBLESHOOTING ON IRON BOX AND CEILING FAN" on 6.09.2014 (Saturday) at Electrical machines lab for our students. The session was handled by our lab technicians of EEE department **Mr.K. Subburaj and Mr. Chelladurai**. Around 25 students were participated. The session was started at 10.00 AM. Initially he explains about the basic principle and construction behind the iron box and ceiling fan clearly. By knowing the operation practically makes the students to clearly understand the basic concepts. Then he explains the trouble shooting took part in the fan as well as iron box. The session was come to end at 12.45 PM. We thank the staff coordinators and technician for organizing the event.

GUEST LECTURE**INDIAN ELECTRICITY (IE) RULES AND
REGULATION OF EARTHING****Dr.P.Subburaj**

Professor

Department of Electrical and Electronics Engineering
National Engineering College

Department of EEE organizes a One day awareness program for the faculties of EEE on the pasture of "Indian Electricity (IE) Rules and Regulation of Earthing" on Saturday 06.09.2014 held at EEE Seminar hall. The session was handled by our eminent professor **Dr.P.Subburaj, Professor**. Initially he pointed out the rules and regulations in electricity board. After that he spell out that Tamil Nadu is the eleventh largest state in India with an area of 130,058 km² [50,216 sq mi] and the seventh most populous state with a population of 66,396,000. It is the fourth largest contributor to India's GDP and the most urbanized state in India. The state has the highest number (10.56%) of business enterprises in India compared to its population share of about 6%. Currently the Tamil Nadu Electricity Board (TNEB), a state sector enterprise, is the main energy provider and distributor. The wind sector in India has seen phenomenal growth during the past few years, catapulting India to fourth position in the world in terms of wind power installations. At last he says the objectives of Tamil Nadu Energy Development Agency. His valuable speech makes us to know the basic things behind the IE rules and regulations. Finally we thank the management and HOD for organizing such a valuable guest lecture.

Technical Articles by Staff Member

A Study on Power Scenario in Tamil Nadu - An Overview

Dr.P. Subburaj

Professor/EEE

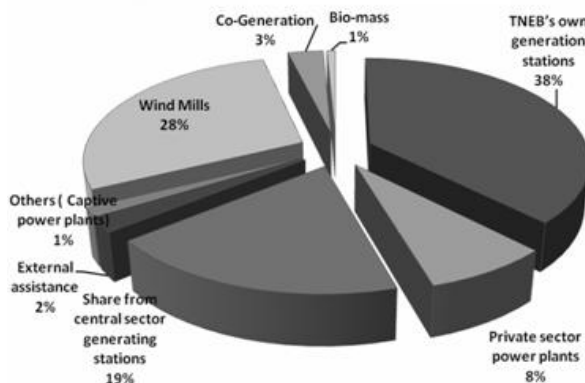
National Engineering College, Kovilpatti – 628 503

Introduction

Tamil Nadu is the eleventh largest state in India with an area of 130,058 km² [50,216 sq mi] and the seventh most populous state with a population of 66,396,000. It is the fourth largest contributor to India's GDP and the most urbanised state in India. The state has the highest number (10.56%) of business enterprises in India compared to its population share of about 6%. Tamil Nadu lately emerged as the most literate state in India as announced by Ministry of Human Resource Development (MHRD). The top 13 cities in Tamil Nadu are Chennai, Coimbatore, Madurai, Trichy, Salem, Erode, Tirunelveli, Tirupur, Vellore, Tuticorin, Thanjavur, Nagercoil and Dindigul. These cities are built-up with the presence of large and small industries that use electricity as a main source of energy for manufacturing their products the demand for power in these cities are growing.

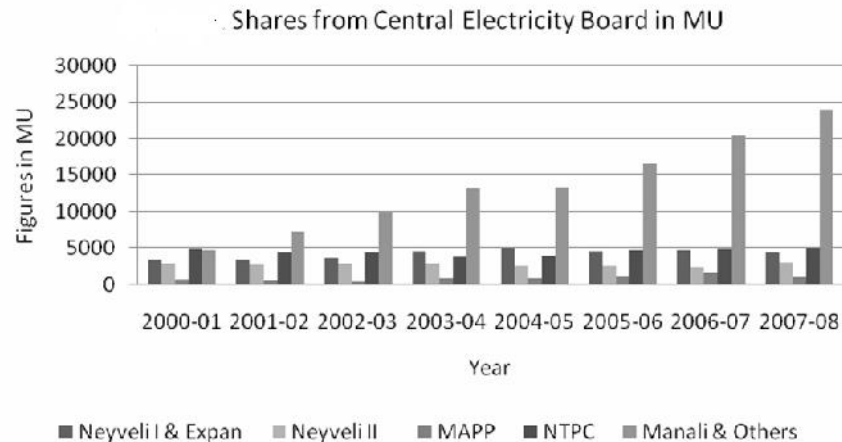
With agriculture emerging as the largest consumer of power in the state, Tamil Nadu holds the distinction of being one of the first states to undertake massive rural electrification programme. Currently the Tamil Nadu Electricity Board (TNEB), a state sector enterprise, is the main energy provider and distributor.

Total Installed Generation Capacity in Percentages



Share from NLC and NTPC to TNEB

Year	Neyveli I	Neyveli II	MAPP	NTPC	Manali & Others	Total
2000-01	3328	2972	710	4900	4707	16617
2001-02	3375	2773	601	4475	7134	18358
2002-03	3659	2832	402	4442	9928	21263
2003-04	4584	2842	965	3816	13177	25384
2004-05	5059	2629	913	4010	13284	25895
2005-06	4658	2661	1173	4814	16505	29811
2006-07	4734	2460	1684	4887	20317	34082
2007-08	4515	3068	1064	5003	23924	37574



Tamil Nadu Energy Development Agency

Tamil Nadu Energy Development Agency (TEDA) is the Nodal Agency of the Ministry of New and Renewable Energy (MNRE), Government of India, for the promotion of renewable energy schemes in the state. It has been registered as a society under the Societies Registration Act and is functioning since 1985. It is under the administrative control of the Energy Department. Tamil Nadu Energy Development Agency has set the following as its main objectives:

- Identifying and estimating the potential for renewable energy in the state.
- Creating awareness on the potential and prospects by use of renewable energy.
- Enhancing renewable energy contribution in the overall energy mix in the State Grid.
- Abatement of green house gas emissions caused from increasing use of conventional fuels by promoting the use of renewable energy/stand alone.
- Systems to combat global warming.
- Developing and implementing sustainable energy security policy towards attaining energy independence in small villages.

Wind Energy

The wind sector in India has seen phenomenal growth during the past few years, catapulting India to fourth position in the world in terms of wind power installations.

Wind has considerable potential as a global clean energy source, on account of being both widely available, though diffuse, and producing no pollution during power generation. The amazing growth of wind power in the past ten years is attributable to a multiplicity of enabling factors, including the evolution of a conducive policy and regulatory framework. The good thing is that the transition to renewable sources of energy has begun, and this transition is being led by wind power.

Growing concern for environmental degradation has led to resurgence in the world's interest in renewable energy resources. Wind is commercially and operationally the most viable renewable energy resource.

Generation on 30.08.2014 - (Saturday)

Sl. No.	Details		Total Capacity MW	Lighting Peak MW	Minimum Load	Morning Peak MW	Consumption MU
	Date			29-8-2014	30-8-2014	30-8-2014	29-8-2014
	Time	Hrs.		19:50	1:50	7:50	
	Frequency	HZ.		50.00	50.16	49.95	
1	TNEB						
a)	Hydro		2284	901	525	893	15.655
b)	Thermal		4060	3620	3295	3285	84.611
c)	Gas		516	238	238	195	5.714
2	Independent Power Plant		1154	358	351	389	7.756
3	Captive Power Plant						
(i)	CPP (Direct)		*63.5	0	2	4	
(ii)	CPP (Purchase)		*970 (TANGEDC O-953)	787 264	805 252	842 265	30.774
(iii)	CPP (Others)		*910	227	231	161	
	Non-Conventional Energy Schemes						
(iv)	Cogen		*659.4	2	2	1	
(v)	Bio mass		*215.4				
4	(ii) TNEB wind		*17.465	2200	856	1962	35.670
	(iii) Private wind		*7327.440				
5	Central Generating Stations						
a)	Neyveli TS1		475	350	395	380	8.906
b)	Capacity	TNEB	3395				
(i)	Share						
(ii)	NTPC (2600) + SIMHADRI (1000)	910					
(iii)	Neyveli TS2 (1470)	480		2290	2448	2295	56.893
(iv)	NeyveliTS1Expansion (420)	226					
(v)	Talcher St 2 (2000)	498					
(vi)	MAPS (440)	332					
(vii)	KAPS (880)	234					
	VALLUR (1000)	715					
6	External Assistance						
(i)	Eastern region power.		*50	21	3	20	0.490
7	(i) Power Purchase			433	433	433	10.399
	Total		11884	11690	9837	11125	256.869
8	(i) Load Shedding			Nil	Nil	Nil	0.000
	All time High	Consumption	293.969	MU on	20-6-2014		
		Demand	13775	MW on	24-6-2014	20:25	49.92 Hz

Our Students Bagged their Positions in Various Club and Chapter Activities

Name of the Students	Position in Various Clubs and Chapters Activities
FINAL YEAR`	
Muthukumaravel. K	Secretary/IE
Sriram. S	President/IE
Mathan Kumar. M	President/IEEE
Manikandan.V	Secretary/Literary Association
Venkat Subramanian. A	Secretary/EEE Association
Muthulakshmi. M	Technical Organizer/IE
Nanthinidevi. P	Treasurer/IEEE
Pon Esakki Raman. K	Program Coordinator/IE
Ramalakshmi. S	Event Coordinator/IE
Revathi. M	Treasurer/JAYCEE, Public Relation Officer/IE
Sam Chandrasekar. S	Student Coordinator/Fine Arts
Sarath Kumar. S	Student Coordinator/IE
Siddarth Gautham. S	Student Coordinator/Fine Arts
Sivaranjani. K	Treasurer/IE
Thanga Rathna. M	Program Coordinator/IE
Thirumani Krishnasami. R	Secretary/ISTE, Program Coordinator/IE
Vignesh. K.S	Program Coordinator/EEE Association, Technical Coordinator/IE
Muthu Meena Sundari. A	Treasurer/EEE Association
Arunkumar. N	Program Coordinator/EEE Association
Suresh Kumar. V	Program Coordinator/Fine Arts
PRE FINAL YEAR	
Pranava Kartikeyan.M.S	Joint Secretary/EEE Association
Mohamedsuhail. S	Joint Secretary/IEEE
Shunmugam.P	Coordinator/JAYCEE
Santhoshkumar.S	Executive Member/IE
Suresh Kumar.P	Event Coordinator/IEEE
Uma Maheswaran.R	Program Coordinator/EEE Association, Executive Member/IE
Manogari. M	Co-Treasurer/EEE Association
Natarajan.S	Executive Member/EEE Association









Placement Details

TATA CONSULTANCY SERVICES

Experience certainty.



On behalf of Chairman, Managing Director, Director, Principal, Head of the Department and staff members, we heartily congratulates the following final year students who placed in Tata Consultancy Service (TCS) Campus drive in our campus during the month of September 2014.

			
Ms. Archana. M.S	Ms. Kaveri. C	Ms. Mahiba Cathline. B	Mr. Muthu Samy. P
			
Mr. Saravanaperumal. M	Mr. Sriram. S	Ms. Sudha. S	Mr. Vignesh. K.S

Success: Take up one idea. Make that one idea your life - think of it, dream of it, live on that idea. Let the brain, muscles, nerves, every part of your body, be full of that idea, and just leave every other idea alone. This is the way to success.

- Swami Vivekananda

Technical Articles by Students

Old Tires Could Be Recycled Into Better Car Batteries



A new technology puts old tires to new use. A substance recovered from the tires called carbon black that's similar to graphite can be used as an anode in lithium-ion batteries for use in electric vehicles and wind and solar energy storage. A team at Oak Ridge National Laboratory discovered that modifying the microstructure of the carbon black obtained from old tires could lead to better anodes for lithium-ion batteries. This means better performing batteries and also preventing the environmental hazards of waste tire stock piles.

The team developed batteries based on this carbon black anode and found that they had a reversible capacity that is higher than that of batteries using commercial graphite. Oak Ridge says, "In fact, after 100 cycles the capacity measures nearly 390 milliamp hours per gram of carbon anode, which exceeds the best properties of commercial graphite. Researchers attribute this to the unique microstructure of the tire-derived carbon."

The laboratory is working to license this technology and sees future use of these lithium-ion cells in automobiles, stationary storage, medical and military applications.

M.Gurusamy, Pre Final Year EEE

LEDs help to remove wrinkles



Researchers in Germany are describing a potential alternative to Botox and cosmetic surgery for easing facial wrinkles. Their study reports that high intensity visible light from light emitting diodes (LEDs) applied daily for several weeks resulted in "rejuvenated skin, reduced wrinkle levels, juvenile complexion and lasting resilience." LEDs are the miniature lights used in an array of products, from TV remote controls to traffic lights.

In the study, Andrei P. Sommer and Dan Zhu point out that high-intensity visible light has been used in medicine for more than 40 years to speed healing of wounds. That light actually penetrates into the skin, causing changes in the sub-surface tissue. Until now, however, scientists have not known the physicochemical nature of those changes.

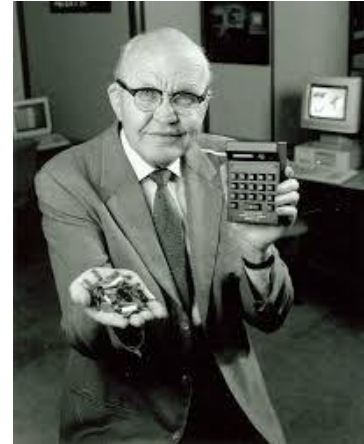
They report identifying how the visible light works — by changing the molecular structure of a glue-like layer of water on elastin, the protein that provides elasticity in skin, blood vessels, heart and other body structures. Figuratively speaking, the light strips away those water molecules that are involved in the immobilization of elastin, gradually restoring its elastic function and thus reducing facial wrinkles. "We are justified in believing that our approach can be easily converted to deep body rejuvenation programs," the researchers state. LEDs may help reduce skin wrinkles, researches report.

K.Soundarya, Second Year EEE

PERSONALITY TO KNOW

JACK KILBY

There are few men whose insights and professional accomplishments have changed the world. Jack Kilby was one of these men. His invention of the monolithic integrated circuit - the microchip - laid the conceptual and technical foundation for the entire field of modern microelectronics. From Jack Kilby's first simple circuit has grown a worldwide integrated circuit market whose sales in 2007 totaled \$219 billion.



Jack Kilby was born on November 8 1923 in Jefferson City, Missouri. Jack Kilby grew up in Great Bend, Kansas and joined TI in Dallas in 1958. In mid-1958, Kilby, as a newly employed engineer at *Texas Instruments (TI)*, did not yet have the right to a summer vacation. He spent the summer working on the problem in circuit design that was commonly called the "*tyranny of numbers*" and finally came to the conclusion that manufacturing the circuit components in a single piece of semiconductor material could provide a solution. During the summer of that year, working with borrowed and improvised equipment, he conceived and built the first electronic circuit in which all of the components, both active and passive, were fabricated in a single piece of semiconductor material half the size of a paper clip. It was a relatively simple device that Jack Kilby showed to a handful of co-workers gathered in TI's semiconductor lab 50 years ago -- only a transistor and other components on a slice of germanium.

Jack Kilby received the Nobel Prize in Physics on December 10/ 2000 for his part in the invention of the integrated circuit. To congratulate him, U.S. President Bill Clinton wrote, "You can take pride in the knowledge that your work will help to improve lives for generations to come". He was elected to member of the National Academy of Engineering (NAE) in 1967, received the Academy's Vladimir K. Zworykin Award in 1975, and was co-recipient of the first NAE's Charles Stark Draper Prize in 1989. The Kilby Award Foundation was founded in 1980 in his honor.

He later co-invented both the hand-held calculator and the thermal printer that was used in portable data terminals. Kilby died June 20, 2005 at the age of 81, in Dallas, Texas following a brief battle with cancer.

Jack Kilby - *Achievement of your happiness is the only moral purpose of your life, and that happiness, not pain or mindless self-indulgence, is the proof of your moral integrity, since it is the proof and the result of your loyalty to the achievement of your values.*

- M. Pranava Karthikeyan (Prefinal Year EEE)

TIME TO KNOW OUR ALUMNI

ANANTHA RAJA CHELLADURAI

Bachelor of Engineering in Electrical & Electronics Engineering

E-mail ID: anantharajabe@yahoo.co.in

Contact: +919994095916

Current Status: HCL Technologies - Lead Engineer

Batch: 2004 – 2008



WORKING DETAILS

4+ years of experience in the areas of Software Development in L2/L3 Switches using C language, Clear case SCM and VS 2010.

PROJECT DETAILS

1. Board bring up on next generation L2/L3 switches
2. To improve the control plane performance of the multilayer switch by using P5021 CPU.
3. L2/L3 switch Platform Development
4. DVM Control System Using UCOS-II

The project is basically to sustaining the Cisco IOS for L2/L3 platform.

As a Software Engineer, he was responsible for:

- **Involved in the systems requirement study and development**
- Sustaining the feature by bug fixing
- Feature development
- Unit testing
- Code review
- Unit testing

1. **Project 1** - A ten-member team is involved in the development of Cisco IOS for multilayer switch using clear case SCM.
2. **Project 2** - A three-member team is involved in the development of Cisco IOS for multilayer switch using clear case SCM.
3. **Project 3** - A six-member team is involved in the development of Cisco IOS for multilayer switch using clear case SCM.
4. **Project 4** - A ten-member team is involved in the development of Control module on ATMEL 89C51 using UCOS-II
- 5.

DO IT!!! KNOW IT!!!

A. Anto Sharon Prakash - Prefinal Year

DEVICE THAT ALTERNATES THE INPUT

As the population increases steadily, the demand for electrical power also increases. But at present, we are in lagging of power generation not able to feed the entire loads. In developing countries, where frequent power shutdown is common, we can see some special kind of machine kept at the top of slabs in most houses. During the time of buying that machine the shopkeeper would instruct to keep it continuously charging during available time of supply, otherwise it would drain the charge. When we see the wrapper we can identify that the name of the machine would be 'INVERTER'. Sometimes during the power shut down we would praise it as great machine especially during the summer period when we can't bear the heat and needed electrical fans. As this truly amazes us, let us do it to know what happens in that machine, kept at the slabs in most homes. For that we require,

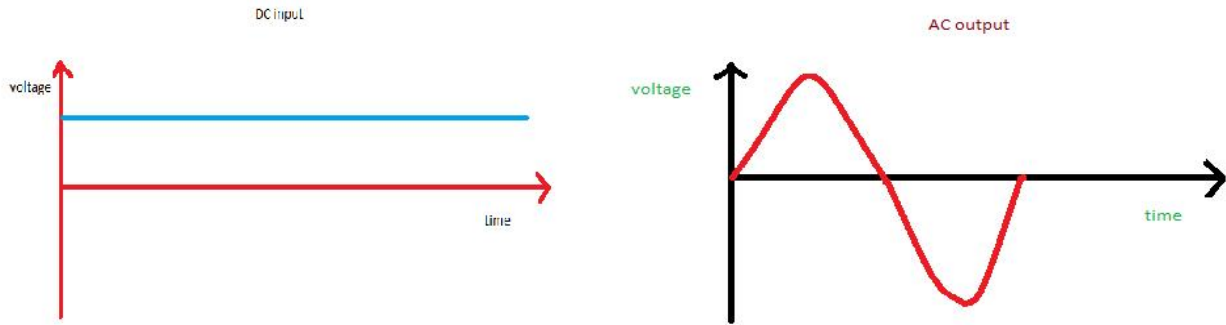
- Resistors
- Transistors
- Transformer
- Battery
- load(light bulb, small motors ,etc)

SELECTION:

In the history, we can see that there are many scientists who have told that, there are many misconceptions in most textbooks. A common misconception we frequent is that, when we talk about inverter, in most villages people normally assume it as battery. But the reality is, inverter is one that converts DC to AC as all our loads designed to operate on AC supply. Battery is just a part of it before the process of conversion as the inverter needs DC supply as input. This Inverter project is chosen to create a awareness among students and people that there can be misconceptions in what we know and there is a need to rectify them.

PRINCIPLE BEHIND *(written by Jose' R. Espinoza Depto. Ing. Ele'ctrica, Of. 220 Universidad de Concepcio'n, Chile):*

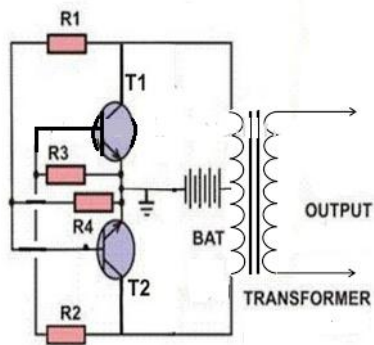
The main objective of static power converters is to produce an ac output waveform from a dc power supply. These are the types of waveforms required in adjustable speed drives (ASDs), uninterruptible power supplies (UPS), static var compensators, active filters, flexible ac transmission systems (FACTS), and voltage compensators, which are only a few applications. For sinusoidal ac outputs, the magnitude, frequency, and phase should be controllable. According to the type of ac output waveform, these topologies can be considered as voltage source inverters (VSIs), where the independently controlled ac output is a voltage waveform. These structures are the most widely used because they naturally behave as voltage sources as required by many industrial applications, such as adjustable speed drives (ASDs), which are the most popular application of inverters.



WHAT WE ARE GOING TO DO?

1. To check out the noise in the input.
2. To check out for any sine wave variations in output.
3. To check out if any noise is present in AC output and how to filter it.

CIRCUIT:



source: homemadecircuitsandschematics.blogspot.in

CIRCUIT COMPONENTS EXPLANATION:

Resistors:



Resistors are used to limit the current and as voltage dividers.

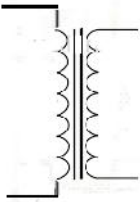
Transistors:



Here transistors are the main components which help in conversion of DC to AC.

Battery:

Battery is the input to the inverter. It supplies DC to the inverter circuit.

Transformer:

The AC output is obtained from transformer. It along with transistors help to get the AC output.

Note:

1. Inverters can also be constructed using SCR.
2. Check for proper insulation before connecting load to the transformer output.
3. Design is quite complex.

Have you got the sinusoidal output and operated the AC load using inverter? Try to answer this question.

GATE

1. A 4 – point starter is used to start and control the speed of a
- (A) dc shunt motor with armature resistance control
 - (B) dc shunt motor with field weakening control
 - (C) dc series motor
 - (D) dc compound motor

Answer: (A)

2. A three-phase, salient pole synchronous motor is connected to an infinite bus. It is operated at no load at normal excitation. The field excitation of the motor is first reduced to zero and then increased in reverse direction gradually. Then the armature current
- (A) Increases continuously
 - (B) First increases and then decreases steeply
 - (C) First decreases and then increases steeply
 - (D) Remains constant

Answer: (B)

3. A low – pass filter with a cut-off frequency of 30Hz is cascaded with a high-pass filter with a cut-off frequency of 20Hz. The resultant system of filters will function as
- (A) an all-pass filter
 - (B) an all-stop filter
 - (C) an band stop (band-reject) filter
 - (D) a band – pass filter

Answer: (D)

4. A negative sequence relay is commonly used to protect
- (A) an alternator
 - (B) an transformer
 - (C) a transmission line
 - (D) a bus bar

Answer: (A)

5. For enhancing the power transmission in along EHV transmission line, the most preferred method is to connect a
- (A) Series inductive compensator in the line
 - (B) Shunt inductive compensator at the receiving end
 - (C) Series capacitive compensator in the line
 - (D) Shunt capacitive compensator at the sending end

Answer: (C)

6. A dual trace oscilloscope is set to operate in the Alternate mode. The control input of the multiplexer used in the y-circuit is fed with a signal having a frequency equal to
- (A) the highest frequency that the multiplexer can operate properly
 - (B) twice the frequency of the time base (sweep) oscillator
 - (C) the frequency of the time base (sweep) oscillator

(D) half the frequency of the time base (sweep) oscillator

Answer: (C)

7. The angle in the swing equation of a synchronous generator is the

(A) angle between stator voltage and current

(B) angular displacement of the rotor with respect to the stator

(C) angular displacement of the stator mmf with respect to a synchronously rotating axis.

(D) angular displacement of an axis fixed to the rotor with respect to a synchronously rotating axis.

Answer: (D)

8. In the feedback network shown below, if the feedback factor k is increased, then the

(A) input impedance increases and other output impedance decreases

(B) input impedance increases and output impedance also increases.

(C) input impedance decreases and output impedance also decreases.

(D) input impedance decreases and output impedance increases.

Answer: (A)

9. Synchronous generator is operating at constant load while its excitation is adjusted to give unity pf current. If the excitation is now increased, the power factor will

A) lead

B) Remain at unity

C) lag

D) Become zero

Answer: - (C)

10. Damper winding is provided in a polyphase synchronous motor in order to

A) Dampen out noise of the machine

B) Prevent hunting

C) Provide starting torque

D) Provide a cylindrical structure to reduce wind friction

Answer: (B)

11. A salient pole synchronous motor is running with normal excitation. If excitation is reduced to zero

A) It becomes an induction motor

B) It becomes reluctance motor

C) It remains synchronous motor

D) Motor would stop

Answer: (B)

12. Distributed armature winding in three phase alternator

A) Reduce phase belt harmonics

B) Increases utilization of armature iron and copper

C) Increases rigidity and mechanical strength of the winding

D) Reduces copper in the over hang of the winding

Answer: (C)

13. An unexcited single phase synchronous motor is

- A) Reluctance motor
- B) Universal motor
- C) Repulsion motor
- D) AC series motor

Answer: (B)

14. In a synchronous machine if field flux is ahead of the armature, field flux in the direction of rotation then machine working as

- A) Asynchronous motor
- B) Asynchronous generator
- C) Synchronous motor
- D) Synchronous generator

Answer: (D)

15. During hunting of synchronous motor

- A) Negative phase sequence current are generated
- B) Harmonics are developed in the armature circuit
- C) damper bar develops torque
- D) Field excitation increases

Answer: (C)

Students AchievementsSecond Year 'A'

<u>S.No.</u>	<u>STUDENTS NAME</u>	<u>EVENT</u>	<u>VENUE</u>	<u>REWARDS</u>	<u>DATE</u>
1.	B.Jerlin	Paper Presentation	IE, National Engineering College	Participated	18/09/2014
		Paper Presentation	NCC, National Engineering College	III Prize	20/09/2014
		Quiz		II Prize	
2.	C.Jeyashree	Quiz	NCC, National Engineering College	Participated	20/09/2014
3.	F.Blessintha	Drawing	Fine Arts Club, National Engineering College	Participated	22/09/2014
4.	S.Gulshan	Drawing	Fine Arts Club, National Engineering College	Participated	22/09/2014
5.	S.Esakkiammal	Drawing	Fine Arts Club, National Engineering College	Participated	22/09/2014
		Video Contest	JAYCEE, National Engineering College	Participated	10/09/2014
		Mime	JAYCEE, National Engineering College	Participated	10/09/2014
6.	S.Kirthika	Slogan, Poem Writing, Drawing	NCC, National Engineering College	Participated	28/08/2014
		Poetry, Mime	JAYCEE, National Engineering College	Participated	10/09/2014
7.	R.Bavithra	Paper Presentation	IE, National Engineering College	II Prize	12/08/2014
		Talk a Way To Japan	National Engineering College	Participated	05/09/2014

		Video Contest	JAYCEE, National Engineering College	Participated	10/09/2014
		Paper Presentation	NCC, National Engineering College	III Prize	28/08/2014
8.	R.Jesintha	Poetry	JAYCEE, National Engineering College	II Prize	10/09/2014
		Poetry	NCC, National Engineering College	II Prize	28/08/2014
9.	A.Amala Aani	Poetry	NCC, National Engineering College	Participated	28/08/2014
		Pencil drawing	Fine Arts Club, National Engineering College	Participated	22/09/2014
		Blood camp	RRC, National Engineering College	--	13/08/2014
		Medical camp	NSS, Nallatinputhur	--	22/09/2014
10.	J.Manisha Mariel Raj	Mime	JAYCEE, National Engineering College	Participated	10/09/2014
		Talk a Way To Japan	National Engineering College	Participated	05/09/2014
		Drawing	Fine Arts Club, National Engineering College	Participated	22/09/2014
11.	S.Lakshmi	Mime	JAYCEE, National Engineering College	Participated	10/09/2014
		Slogan and poem writing	NCC, National Engineering College	Participated	28/08/2014
12.	N.Arun Kumar	Paper Presentation	IE, National Engineering College	Participated	12/08/2014
		Talk a Way to Japan	National Engineering College	Participated	05/09/2014

13.	R.Balaji Karikalan	Paper Presentation	IE, National Engineering College	Participated	12/08/2014
		Blood Camp	RRC, National Engineering College	--	13/08/2014
14.	K.Madasamy @ Yuvaraja	Talk a Way to Japan	National Engineering College	Participated	05/09/2014
15.	M.Alagu Selvakumar, T.Jesuraj Praveen	Video contest	JAYCEE, National Engineering College	Participated	10/09/2014
16.	M.Jegan, L.R.Kausika Lakshmanan	Video contest	JAYCEE, National Engineering College	Participated	10/09/2014
17.	L.R.Kausika Lakshmanan	Talk a Way to Japan	National Engineering College	Participated	05/09/2014
18.	R.Lakshmana Balakrishnan	Talk a Way to Japan	National Engineering College	Participated	05/09/2014
19.	N.Deepanraj	Talk a Way to Japan	National Engineering College	Participated	05/09/2014
20.	T.Ajithkumar, K.Kannan	Drama	NCC, National Engineering College	Participated	28/08/2014
21.	M.Balasubramaniam	Blood donation	NCC, National Engineering College	--	22/09/2014
22.	K.Kannan	Blood donation	NCC, National Engineering College	--	22/09/2014
23.	M.Alagu Selva Kumar, T.Jesuraj Praveen, M.Kannan, E.Jeeva Bharathi	Hand ball	University VOC College Of Engineering, Tuticorin	Zonal level	12/09/2014

Second Year 'B'

S.No.	STUDENTS NAME	VENUE	DATE
BLOOD DONATION CAMP			
1.	B.Vijaya Sankar Vignesh, K.Peratchi Harihara Sudan, K.Soundarya, S.Sheeba Nancy Thangam, K.Uma Devi, N.Usha Nandhini, S.Vaishnu Priya, G.Saravana Kumar, R.Saravanan, A.Rama Subramaniam, S.Zainy Mohammed Yousuf, V.M.Vignesh, S.Selva Kumar, G.Rajapandian, V.Ramesh, M.Naveenraj Kumar, K.Sankilimurugan, M.Rajkumar, K.Sakthivel, Ramya Jemema	Red Ribbon Club, National Engineering College	13/08/2014
2.	R.M.Vishnu, A.Primika, A.Prem Kumar, S.Muthu Vel, N.Naveen Kumar	National Cadet Corps, National Engineering College	22/09/2014

S.No.	Students Name	Event	Venue	Rewards	Date
1.	B.Vijaya Sankar Vignesh	Talk a Way to Japan	National Engineering College	Participated	05/09/2014
2.	K.Peratchi Harihara Sudan			Participated	05/09/2014
3.	S.Zainy Mohammed Yousuf			Participated (Up to 2 nd round selected)	08/09/2014
4.	K.Rajesh			Participated	05/09/2014
5.	A.Suvetha,	Paper	IE, National	Winner	

	M.MuthuSelvi	Presentation	Engineering College		
6.	M.Poolammal, K.Prema			Participated	18/08/2014
7.	B.Shanmuga Nithya, S.Vigneshwari			Participated	
8.	K.Soundarya, A.Premika	Paper Presentation	IE, National Engineering College	Participated	18/08/2014
9.	M.Venipriya, M.Sudha			Participated	
10.	K.Uma Devi			Participated	
11.	N.Usha Nandhini, S.Vaishnu Priya			Participated	
12.	Ramya Jemema			Participated	
13.	K.Soundarya, G.Shiva Sankari	Paper Presentation	NCC, National Engineering College	Participated	20/09/2014
14.	K.Soundarya	NCC camp	National Engineering College	Participated	22/09/2014
		Quiz	NCC, National Engineering College	Winner	20/09/2014
15.	B.Shanmuga Nithya, K.Soundarya	Quiz	JAYCEE, National Engineering College	Winner	11/09/2014
16.	B.Shanmuga Nithya	Slogan Writing, Poem writing, Drawing	NCC, National Engineering College	Participated	20/09/2014
17.	S.Sripriya	Slogan Writing, Poem Writing	NCC, National Engineering College	Participated	20/09/2014
18.	M.Sudha	Slogan and Poem Writing	NCC, National Engineering College	Participated	20/09/2014
		Poem Writing	JAYCEE, National Engineering College	Participated	12/07/2014

19.	S.Sheeba Nancy Thangan	Slogan Writing	NCC, National Engineering College	Participated	20/08/2014
20.	N.Vignesh	Quiz	JAYCEE, National Engineering College	Participated	11/09/2014
21.	G.Saravanakumar	Eye check up camp	NSS, National Engineering College	Participated	15/09/2014
22.	S.Zainy Mohammed Yusuf	Quiz	JAYCEE, National Engineering College	Participated	11/09/2014
		Debate	Fine Arts Club, National Engineering College	Participated	19/09/2014
23.	V.M.Vignesh	Quiz	JAYCEE, National Engineering College	Participated	11/09/2014

Third Year 'A'

S.No.	STUDENTS NAME	EVENT	VENUE	REWARDS	DATE
1	G.K.Archanadharsini. & N.Bhuvaneshwari	Paper Presentation, Electronic Art.	Alagappa Chettiar Engineering Technology, Karaikudi	Participated	2/9/2014 to 3/9/2014
2	R.Latchiyabharathi	Foot Ball Zone-18	Dr. Sivanthi Adhitanar Engineering College, Thiruchendoor	Participated	30/8/2014 to 31/8/2014
3	S.Mohmed Suhail, S.Ebenezer, P.Marisanakar and M.Gogul Sakthivel	Hand Ball Zone-18	University Voc College of Engineering	Participated	12/9/2014
4	M.Manogari, S.Divyalakshmi and S.Marithai	Hand Ball Interzone	Bharathidasan Institute of Technology, Trichy	Participated	17/9/2014

Third Year 'B'

<u>S.No.</u>	<u>STUDENTS NAME</u>	<u>EVENT</u>	<u>VENUE</u>	<u>REWARDS</u>	<u>DATE</u>
1	R.VisnuVidya C.Pradeepa U.Shanmugapriya B.Sivaranjani P.SathyaBama M.Rathnapriya	Workshop	National Engineering College	Participated	24/9/2014 to 25/9/2014
2	A.RashmiSilvania and V.Sivaramlakshmi	Paper Presentation	National Engineering College	Participated	26/8/2014
	C.Pradeepa B.Sivaranjani				
	S.M.K.Udhaya Vijay P.Selvam S.G.Sivaram D.Vaira Prakash				
3	S.Natarajan S.Ramasubramanian	Paper Presentation	National Engineering College	Second Prize	26/08/2014
4	R.Sunitha E.Revathi M.IndhuMathy M.Sneha prema Lochini	Hand Ball Interzone	Bharathidasan Institute of Technology, Trichy	Participated	17/9/2014
5	S.G.Sivaram and D.Vaira Prakash	Paper Presentation	Sri Krishna College of Engineering, Coimbatore	Participated	19/09/2014
		Workshop	Sri Krishna College of Engineering, Coimbatore	Participated	19/09/2014
6	S.G.Sivaram	Circuit Debugging	Sri Krishna College of Engineering, Coimbatore	Participated	19/09/2014
FINAL YEAR					
1	N.Arun kumar (Poster Design) & V.Suresh Kumar (Culturals)	LEGACY-14	Mepco Schlenk Engineering College, Sivakasi	Participated	05/09/2014 & 06/09/2014

INDUSTRY PROFILE

DELL

Founder: Michael S. Dell

Founded: February 1, 1984, Austin, Texas, United States

Headquarters: Round Rock, TX, United States of America

CEO: Michael S. Dell



ABOUT DELL:

Dell Inc. is an American privately owned multinational computer technology company based in Round Rock, Texas, United States, that develops, sells, repairs and supports computers and related products and services. Bearing the name of its founder, Michael Dell, the company is one of the largest technological corporations in the world, employing more than 103,300 people worldwide.

Dell sells personal computers, servers, data storage devices, network switches, software, computer peripherals, HDTVs, cameras, printers, MP3 players and also electronics built by other manufacturers. The company is well known for its innovations in supply chain management and electronic commerce, particularly its direct-sales model and its "build-to-order" or "configure to order" approach to manufacturing—delivering individual PCs configured to customer specifications. Dell was a pure hardware vendor for much of its existence, but a few years ago with the acquisition of Perot Systems, Dell entered the market for IT services. The company has since made additional acquisitions in storage and networking systems, with the aim of expanding their portfolio from offering computers only to delivering complete solutions for enterprise customers.

Dell is listed at number 51 in the *Fortune 500* list. In 2013 it was the third largest PC vendor in the world after Lenovo and HP. Dell is currently the #1 shipper of PC monitors in the world. Dell is the sixth largest company in Texas by total revenue, according to *Fortune* magazine. It is the second largest non-oil company in Texas – behind AT&T – and the largest company in the Greater Austin area. It was a publicly traded company (NASDAQ: DELL), as well as a component of the NASDAQ-100 and S&P 500, until it was taken private in a leveraged buyout which closed on October 30, 2013.

PRODUCTS:

Scope and brands:

The corporation markets specific brand names to different market segments.

Its Business/Corporate class represents brands where the company advertising emphasizes long life-cycles, reliability, and serviceability. Such brands include:

- OptiPlex (office desktop computer systems)
- Dimension (home desktop computer systems)
- Vostro (office/small business desktop and notebook systems)
- n Series (desktop and notebook computers shipped with Linux or FreeDOS installed)

- Latitude (business-focused notebooks)
- Precision (workstation systems and high-performance notebooks),^[161]
- PowerEdge (business servers)
- PowerVault (direct-attach and network-attached storage)
- Force10 (network switches)
- PowerConnect (network switches)
- Dell Compellent (storage area networks)
- EqualLogic (enterprise class iSCSI SANs)
- Dell EMR (electronic medical records)

Dell's Home Office/Consumer class emphasizes value, performance, and expandability. These brands include:

- Inspiron (budget desktop and notebook computers)
- XPS (high-end desktop and notebook computers)
- Alienware (high-performance gaming systems)
- Venue (Tablets Android / Windows)

Dell's Peripherals class includes USB keydrives, LCD televisions, and printers; Dell monitors includes LCDTVs and projectors for HDTV and monitors. Dell UltraSharp is further a high-end brand of monitors.

Dell service and support brands include the *Dell Solution Station* (extended domestic support services, previously "Dell on Call"), *Dell Support Center* (extended support services abroad), *Dell Business Support* (a commercial service-contract that provides an industry-certified technician with a lower call-volume than in normal queues), *Dell Everdream Desktop Management* ("Software as a Service" remote-desktop management), and *Your Tech Team* (a support-queue available to home users who purchased their systems either through Dell's website or through Dell phone-centers).

Discontinued products and brands include Axim (PDA; discontinued April 9, 2007), Dimension (home and small office desktop computers; discontinued July 2007), Dell Digital Jukebox (MP3 player; discontinued August 2006), Dell PowerApp (application-based servers), and Dell Optiplex (desktop and tower computers previously supported to run server and desktop operating systems).

EEE NEWSLETTER

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