

ELECTRONIC COMMUNICATION SYSTEMS BY WAYNE TOMASI CHAPTER 1

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What was the 1st electronic communication? The first use of electricity for communication was the telegraph, an early 19th-century invention. Electronics radically changed the way the public accessed information and communicated with each other, even before the Digital Age. Radio, TV, movies and audio media had profound societal influences unlike any prior era.

What are the two most significant limitations on the performance of an electronic communications system? The noise is the fundamental limiting factor in communication system performance. Another important type of noise is crosstalk, unwanted electrical coupling (due to capacitance and inductance) between signal paths. Two wires running in parallel will suffer most severely from this.

What is the overview of electronic communication systems? In an electronic communication system, it mainly refers to a device that converts a physical variable (pressure, sound, force, temperature, etc) into its respective electrical signal and gives it as an output. A mechanical input is converted into a format which can be understood by the electrical system.

What is the electronic communication mode? Electronic communication includes a broad range of methods, such as email, instant messaging, text messaging, online chat rooms and forums, social media platforms like Twitter and Facebook, and video conferencing tools like Skype and Zoom.

What is the oldest form of electronic communication? Wire and transmission lines emerged as communication tools, starting with the telegraph in the late 18th century. Samuel Morse invented the telegraph in 1832, introducing wires to transmit electrical signals over long distances.

What was the first communication system? The oldest known symbols created for communication were cave paintings, a form of rock art, dating to the Upper Paleolithic age. The oldest known cave painting is located within Chauvet Cave, dated to around 30,000 BCE.

What are the two basic types of electronic communication systems?

What are the three main elements of electronic communications?

What is the biggest concern about electronic communications?

What are the disadvantages of electronic communication?

What is electronic communication also known as? It's sometimes called electric communication or e-communication. Using several e-communication channels together makes an electronic communication network. Electronic communication mediums include email, instant messaging apps, video calls, phone calls, blogs, and text messages.

What are commonly used terms in electronic communication system? Attenuation is the reduction in the strength of analog or digital signal as it is transmitted over a communication medium. An amplitude of the signal refers to the strength of the signal. Amplification is the process to strengthen the amplitude of the signals using an electronic circuit.

Is a phone call electronic communication? Put simply, electronic communications mean any information sent between particular parties over a phone line or internet connection. This includes phone calls, faxes, text messages, video messages, emails and internet messaging.

What are the three basic units of electronic communication system?

What are the major barriers to communication? The process of communication has multiple barriers. The intended communicate will often be disturbed and distorted leading to a condition of misunderstanding and failure of communication. The Barriers to effective communication could be of many types like linguistic, psychological, emotional, physical, and cultural etc.

What device was the first widely used form of electronic communication?
1830s – 1860s: Telegraph.

What is the oldest form of human communication? We actually don't know what the oldest form of communication was since there are no records from the earliest stages of human evolution. Presumably, hand gestures, body language, and simple sounds were used as the first types of communication.

Which is the first electronic communication network? In addition, ECNs allow traders to buy and sell securities instantly using digital technology that disregards geographical boundaries. You can buy and sell stocks and bonds on traditional stock markets with the help of ECNs. By 1969, Instinet had become the first electronic communications network.

Why is communication required? By delivering messages clearly, there is no room for misunderstanding or alteration of messages, which decreases the potential for conflict. In situations where conflict does arise, effective communication is a key factor to ensure that the situation is resolved in a respectful manner.

How did people communicate in the past without phones? Ancient civilizations also used tools like drums, smoke signals, and hydraulic semaphores to send messages from afar, but these were of course quite limited in the messages they could convey — sending mail by post was the most reliable form of communication that allowed people to record and send messages using written ...

How did people communicate before the internet? People used to call landline phones and phonebooks People used landline phones to stay in touch, so if you weren't in it was hard to get hold of someone. Phone books were essential for finding numbers, which were all listed in a directory called the Yellow Pages.

What was the first electrical communication system? Samuel Morse independently developed and patented a recording electric telegraph in 1837. Morse's assistant Alfred Vail developed an instrument that was called the register for recording the received messages.

Which was the first digital communication? Émile Baudot Invents the Baudot Code, the First Means of Digital Communication. in Baudot's honor.

What was the first electronic messaging system? 1971: Ray Tomlinson invents email at ARPANET Tomlinson created a program that gave users the ability to send messages between connected computers on the ARPANET system. Among Tomlinson's most notable contributions to email as we know it today is the use of the @ symbol.

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What is Tom Corley's rich habits summary? Thomas Corley's Rich Habits study shows that there are specific behaviors and habits that the rich engage in that set them apart from the poor and middle class. Some of these behaviors are obvious, such as saving money, while others may be less so, such as networking.

How many pages is rich habits book?

How does Tom finally get rich? Answer. Answer: Tom finally married an old woman aged her mother after her death he owned her large property and became the owner of half a billion pounds and a house in London and country.

In what way did Tom become rich? Tom had become rich by letting other boys whitewash the fence. He had been rich enough to buy their tickets.

What is the book habits about? Atomic Habits by James Clear is a comprehensive, practical guide on how to change your habits and get 1% better every day. Using a framework called the Four Laws of Behavior Change, Atomic

Habits teaches readers a simple set of rules for creating good habits and breaking bad ones.

How many books do billionaires read a month? Becoming rich isn't about luck, it's a lot of hard work and there's one thing these millionaires all have in common - they're avid readers. On average, a millionaire reads 4 books a month which totals to an average of 52 books a year, helping them grow and build their empire.

Who is the author of Rich Habits? About the Author Tom Corley is a Certified Public Accountant, a Certified Financial Planner, President of Cereface & Company, CPAs/CFPs and CEO of The Rich Habits Institute, an organization dedicated to training businesses and individuals how to achieve unlimited financial success.

Trigonometric Identities: Problems and Solutions

Trigonometric identities are equalities involving trigonometric functions that hold true for all values of the variables involved. They are fundamental tools in trigonometry, allowing us to simplify expressions, solve equations, and prove mathematical statements.

Question 1: Prove the identity $\sin^2 x + \cos^2 x = 1$.

Answer: We can use the Pythagorean identity $\sin^2 x + \cos^2 x = 1$ to derive the given identity. Squaring both sides of the Pythagorean identity, we get:

$$(\sin^2 x + \cos^2 x)^2 = 1^2$$

Expanding the left side and simplifying:

$$\sin^4 x + 2 \sin^2 x \cos^2 x + \cos^4 x = 1$$

Using the double-angle identity $\cos 2x = 1 - 2 \sin^2 x$, we can simplify further:

$$\sin^4 x + 2 \sin^2 x (1 - 2 \sin^2 x) + \cos^4 x = 1$$

Expanding and combining like terms:

$$\sin^4 x + 2 \sin^2 x - 4 \sin^4 x + \cos^4 x = 1$$

Factoring:

$$(1 - 4 \sin^2 x) + (\cos^2 x + \sin^2 x) = 1$$

Simplifying:

$$1 - 3 \sin^2 x + 1 = 1$$

$$3 \sin^2 x = 0$$

$$\sin^2 x = 0$$

$$\sin x = 0$$

$$\cos^2 x = 1$$

Therefore, **$\sin^2 x + \cos^2 x = 1$** .

Question 2: Simplify the expression **$(\tan x + \cot x) / (\sin x + \cos x)$** .

Answer: Using the definitions of tangent and cotangent, we can rewrite the expression as:

$$(\sin x / \cos x + \cos x / \sin x) / (\sin x + \cos x)$$

Simplifying the numerator:

$$(\sin^2 x + \cos^2 x) / (\cos x \sin x)$$

Using the Pythagorean identity, we get:

$$1 / (\cos x \sin x)$$

$$\csc x / \sin x$$

$$1 / \cos x$$

Therefore, **$(\tan x + \cot x) / (\sin x + \cos x) = 1 / \cos x = \sec x$** .

Question 3: Solve the equation **$2 \sin x \cos x - 1 = 0$** .

Answer: Using the double-angle identity **$\sin 2x = 2 \sin x \cos x$** , we can rewrite the equation as:

$$\sin 2x - 1 = 0$$

$$\sin 2x = 1$$

$$2x = \pi/2 + 2\pi n$$

where n is an integer.

Solving for x, we get:

$$x = \pi/4 + \pi n$$

Therefore, the solutions are $x = \pi/4 + \pi n$.

Question 4: Prove the identity $\tan x - \cot x = 2\csc 2x$.

Answer: Using the definitions of tangent and cotangent, we can rewrite the left side as:

$$(\sin x / \cos x) - (\cos x / \sin x)$$

Simplifying the numerator:

$$(\sin^2 x - \cos^2 x) / (\cos x \sin x)$$

Using the double-angle identity $\cos 2x = \cos^2 x - \sin^2 x$, we get:

$$\cos 2x / (\cos x \sin x)$$

$$2\csc 2x$$

Therefore, $\tan x - \cot x = 2\csc 2x$.

Question 5: Simplify the expression $(1 + \tan x) / (1 - \tan x)$.

Answer: Using the Pythagorean identity $\tan^2 x + 1 = \sec^2 x$, we can rewrite the expression as:

$$(1 + \tan x) / (1 - \tan x)$$

$$= (\sec x / \sec x) / (1 - \tan x)$$

$$= 1 / (1 - \tan x)$$

$$= 1 + \tan x$$

Therefore, $(1 + \tan x) / (1 - \tan x) = 1 + \tan x$.

Is the CBR954RR a good bike? An exquisite balance of power and weight that's astonishingly accurate in the steering department, Honda's CBR954RR remains one of the most underrated sportbikes of the last decade.

What is the top speed of a 2003 Honda CBR954RR?

How much horsepower does a 2002 CBR954RR have?

What is the top speed of the 2002 954 Fireblade? Stock 954 will show 175mph on the speedo.

Is the 2002 Honda CBR 954RR fuel injected? The engine is a water-cooled, DOHC in-line 4-cylinder with displacement increased to 954cc. It incorporates such technologies as a high-precision PGM-FI (Programmed Fuel Injection) system and an H-VIX (Honda Variable Intake and Exhaust) system to regulate intake and exhaust flow for optimum control.

Does the CBR954RR have ABS? No ABS, no electronic aids, just pure motorcycling fun.

What is the fuel consumption of CBR954RR? Fuel consumption: 28-32 mpg, 30 mpg avg.

Which Honda CBR is fastest? Honda Cbr1000RR-R Top Speed - 346km/h - 215MPH - GPS - YouTube. Hello Guys, take a ride on one of the world's fastest Honda motorcycle. Finally i brake the 340km/h threshold. This video is the top speed of 2020 Honda CBR1000RR-R Fireblade Sp.

How many gears does a CBR 954 have?

Is the 954rr a Fireblade? The 954 is, quite rightly, regarded as the quintessential FireBlade model.

How many cc is a CBR 954? CBR954RR (954cc) SC50 The sixth generation CBR900RR, or CBR954RR in North America and Japan, was introduced in 2002. The cylinder bore was enlarged from 74 to 75 mm (2.9 to 3.0 in), increasing capacity

to 954 cc (58.2 cu in).

What is the top speed of the 2000 CBR900RR?

What is the most powerful FireBlade? The CBR1000RR-R Fireblade SP delivers maximum power of 160kW at 14,500rpm and peak torque of 113Nm at 12,500rpm while tipping the scales at just 201kg.

Is the Honda Fireblade fast? The 2022 Fireblade will easily do more than 100mph in first gear and hits an indicated 142mph in second gear if your track day venue has a long enough straight.

Are fireblades comfortable? For me the 04-07 and 09 blades are very comfy. Im 6.3ft and can ride long trips. Legs may get cramped after a while but otherwise comfy. The ZXR750 those were tough on your arms and ass, also the older 916 Ducati's so a Fireblade is the way to go.

Is 2003 CBR fuel injected? The compact inline-four engine uses the RC211V's center-up exhaust and Dual Stage Fuel Injection (PGM-DSFI) technology to produce record horsepower for a Honda 600.

How much oil does a CBR 954rr take? See how to drain the oil, replace the filter, and refill your Honda CBR 954 with fresh oil. The oil capacity on the CBR954 is 3.8 quarts. Filter wrench: <https://www.partzilla.com/product/aft...>

Is Honda CBR fuel efficient? The fuel efficiency of the Honda CBR 1000RR varies depending on the riding style and conditions, but it typically averages around 35 mpg (6.7 L/100 km).

Is a Honda CBR a sports bike? The Honda CBR models are a series of Honda sport bikes introduced in 1983. With the exception of the single-cylinder CBR125R, CBR150R, CBR250R, and CBR300R, all CBR motorcycles have inline engines. Less sporting/general models make up CB series.

How many gears does CBR have?

What year did the Fireblade get ABS? For 2009 the Fireblade got C-ABS or the Combined Anti-Lock Brake System while the overall machine got a major overhaul

for the 2012 model year. This time the rounded look of the Blade was given a more angular edge.

Is the CBR650R good? As you'd expect the Honda CBR650R isn't hard to get on with. Ride quality is spot-on, given its budget forks and shock and it wafts nicely through town, is comfortable on the motorway and doesn't protest when you ride it swiftly. It's balanced, stable, agile and engaging, with brakes that are always up to the job.

What year did Honda make the CBR954RR?

What is the fuel consumption of CBR954RR? Fuel consumption: 28-32 mpg, 30 mpg avg.

Is the 954 a Fireblade? In-line four is the class standard and the Honda CBR900RR FireBlade's 954cc version was a little smaller than the competition. Yamaha's YZF-R1 and Suzuki's GSXR1000 from the same year beat the Honda CBR900RR FireBlade on midrange and top end partly thanks to extra capacity.

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