VIDEO	AUDIO
1) Fade up from black. 3-D Motorola logo tag.	LOGO TAG MUSIC UP.
2) Fade to black. DISSOLVE IN title screen sequence: ***Motorola presents*** ***Technology Basics: A RoadMap To Understanding Wireless Technologies***	*Natural SFX up -- auditorium ambiance ...we hear the murmur of audience talking prior to a presentation. FADE IN audio from light-hearted dialogue between two business associates as they settle into their seats near the back of the auditorium.* BOB: AMPS, NAMPS, TDMA, CDMA, PCS, GSM...I don't know about you, Tina, but when it comes to understanding all these different technologies, I'm a little...
3) SLOW DISSOLVE to WS from rear of auditorium. Silhouettes of attendees imply a full auditorium. The backs of the heads of Bob and Tina are leaning toward one another in the foreground as they converse. In the background, a stage is dramatically lit for the guest speaker. Camera booms down and sweeps through the aisle toward stage.	TINA: W-A-C. BOB: What? TINA: Without-A-Clue, Bob? BOB: Ha-ha-ha...very funny! DRUM ROLL BEGINS. *An Announcer's voice introduces the guest speaker over the P.A. system.* ANNCR: Ladies and gentlemen...
4) Two roving spotlights criss-cross across the stage area, then merge to flood the podium at center stage, revealing a realistic semblance of a folded StarTAC phone. Camera dramatically zooms up the aisle to an ECU of the phone. The Motorola logo and StarTAC name are clearly distinguishable.	*SFX of audience murmur quieting down*. ANNCR: ...direct from the Motorola hall of fame...please welcome to the stage...world class wizard of wireless standards and technologies...the one and only...Techno Tom. MUSICAL FANFARE UP.

VIDEO	AUDIO
The phone appears to be in VibraCall mode...and is receiving a call. As his name is announced, Techno Tom flips up and open and comes to life. Behind him, the backdrop of a revolving globe appears.	*Mix SFX of audience applause under SFX of VibraCall.*
5) Tom smiles, takes a bow, mugs for more applause, and then cues the musical stinger much like a late night talk show host's entrance.	TOM: Wu-hoo! Hello, techno pupils...and, thank you...thank you... MUSIC STINGER. TOM: ...thank you so very much for the warm reception... *Dramatic pause as SFX of audience applause dies down.*
Tom takes a few steps back and forth on the podium. 9) MS of Tom on stage. Behind Tom, acronyms and words referring to wireless technologies spin off from the rotating globe... causing Tom to duck a few times as the fly past him into infinity. Words: *Analog...Digital...800 MHz. ...900 MHz... AMPS... NAMPS...TDMA...CDMA... PCS...1800 MHz....1900 MHz. ...GSM....IRIDIUM.* An orbit of jetstreams circles Tom's head making him appear to be dizzy. 10) WS of silhouetted audience. 11) Tom spins to a stop	....and thank you for joining me here today to check out the Wacky World of Wireless Technologies. *SFX of light laughter and murmuring from the audience. SFX of bombarding plane/torpedo sounds in sync with technological acronyms and words as they dive-bomb around Tom.* That's right, my little technoids...I call it a "wacky world" because sometimes it seems like wireless technologies are changing by the minute...and, it's hard to keep up with what's hot and what's not...let alone understand what makes them all tick. It's enough to make your head spin!! *(SFX)* Am I right...or am I right? *SFX of audience applause and whistles.*

VIDEO	AUDIO
and shakes off the jetstreams of confusion... and pulls a big clanking bell from nowhere and begins ringing it.	TOM : Well, hear ye, hear ye...
	SFX of bell ringing.
12) A shephard's crook appears in Tom's other hand...he turns profile and an aura of light projects from his mouth, becoming a viewing screen to the side. On the screen, we see a George Jetson type treadmill with an image of a flattened person rotating on the treadmill floormat.	...rest easy, my weary flock. If you feel like the floormat on a technology treadmill, hang with me for the next few minutes...and, I'll have you back in step in no time.
	SFX of treadmill cycling, followed by SFX of Tom tapping/soft shoe dancing toward time chamber.
	ASCENDING MUSICAL BUILD BEGINS.
13) Tom turns to audience. Bell and crook props are gone. He pulls a transparent astronautical looking helmet from behind him and places it on his head as he walks over to what looks like a time machine chamber...enters it and closes the hatch. The chamber launches into orbit around the rotating globe. Globe comes full screen and focus racks to colorful blur.	TOM: You're about to experience a techno journey that even the feeble-minded won't soon forget. So, sit back and get ready to rock-n-talk about some of today's hottest, wireless techno topics.
	SFX of time chamber hatch closing. Tom's voice is effected into a digital SFX.
	TOM: Destination: ground zero. Mission: the basics.
	BLASTOFF SFX TRIGGERS MUSICAL SEGUE INTO WILD AND WOOLLY SOUNDTRACK.
14) Rack focus to see Tom on a surfboard riding a wave designed to look like a standard radio signal.	*Tom's voice takes on a surfer dude attitude.*
	TOM: To understand what's up in the wireless world today...first, you techno dudes and dudettes have to understand how it all works.

VIDEO	AUDIO
	And, it starts right here, man...ridin' a wave... Wo-o-o!!
Tom rides the wave off screen. CUT TO Tom on a beach wearing shades. He raises his sunglasses for emphasis.	Pay close attention...'cause if you don't get this...you won't get the rest! Dig?
	Tom's voice reverts to normal.
15) Overview GRAPHIC showing flow of radio signal moving from wireless phone to other party's phone and back.	TOM (VO):
	In wireless communications..."radio waves" carry messages and information.
16) CUT TO CU within Scene #15 showing wave moving through channel. SUPER: *Channel*	The passageway that messages surf through to reach the party on the other end is called a radio frequency, or "channel."
17) GRAPHIC showing an analog signal merging from screen left and a digital signal merging from screen right to meet center screen. Tom pops into the frame, dressed in tuxedo collar and red, bow tie with an announc-er's microphone in hand. Background scenery becomes a boxing arena.	Today, there are two basic types of land-based systems that will let your wireless calls groove-n-glide to their destinations.
	SFX of a trumpeted announcement...into Kettle drums. Tom's voice takes on a ring announcer's tone.
Tom gestures to his right and the analog wave begins fluctuating back and forth as if in a warm up dance.	TOM (OC): In the category of "originals": "Analog" systems.
	SFX of audience cheering mix with trumpet build, then fade back to TimToms.
18) CUT TO CU of analog wave dancing.	
19) CUT TOWS as Tom gestures to his left, and the digital stream flows forward, backward, forward as its warm up dance.	In the category of "new-kid-on-the-block": "Digital" systems.
	SFX of audience cheers mix with trumpet and TimTom finale, and music ends.
20) CUT TO CU of digital	

VIDEO	AUDIO
stream dancing.	
21) CUT TO WS, ZOOM TO CU on Tom.	Let's see what kind of punch they pack in the arena of call-handling techniques, shall we? *Tom's voice reverts to normal speech pattern.*
22) GRAPHIC illustration showing how radio stations use radio waves to broadcast their signals.	TOM (VO): Analog systems use standard radio waves to send a voice message, much like commercial radio stations use radio waves to broadcast their signals.
23) CU rendering that tracks with the radio signal from station to home stereo receiver. Show sound waves coming out of speaker.	When your favorite radio channel plays a song on the air, the signal travels across the radio station's designated frequency and produces a sound wave when it hits your receiver. *SFX of music coming from speaker.*
24) GRAPHIC illustration of analog signal traveling from a cellular phone to the receiving party via the designated channel. SUPER: *"Hello Bob. How are you today?"* along the wave. REVERSE FLOW and SUPER: *"I'm fine, thanks...and you?"*	Similarly, in analog wireless communications, a voice wave links itself to a radio wave...and, is then transmitted through the channel to the receiving party...just like this: TINA: "Hello Bob, how are you today?" BOB: "I'm fine, thanks...and you?"
25) CUT TO scene showing hand inserting a CD into a player. CUT TO CU of a computer.	TOM (VO): By contrast, digital systems convert information from sound, images or data, much like computers process information.
26) GRAPHIC illustration of digital conversion process that occurs in wireless call process.	Digital systems convert and code a voice wave into a digital data stream of ones and zeros. The digitized signal then flows through the channel in a compressed form. At the receiving end of the call, the compressed data is decoded and reassembled into a voice wave...like this:
At the receiving end, SUPER: *"Hello Bob. How are you today?"* along the wave. REVERSE FLOW	TINA: "Hello Tom, how are you today?"

VIDEO	AUDIO
and SUPER: *"I'm fine, thank...and you?"*	BOB: "I'm fine, thanks...and you?"
27) DISSOLVE TO Tom with spinning globe behind him. Semblance of analog and digital signals crosses or orbits the world.	TOM (OC): These days, many markets around the world offer both analog and digital systems to consumers. And, certain models of wireless phones have the capacity to operate in both system modes.
28) CU of Tom's hand. Index finger extends, then middle finger in sync with his statement...one...then, two. SNAP ZOOM back to include his face.	TOM (OC): One world...two different systems for handling calls. Got that? Good.
29) Camera pulls back slowly to reveal graphic illustration of a typical system network. Acronyms FDMA, TDMA and CDMA emerge in the background.	TOM (OC): Now, let's take things a step further and talk about the three different types of access methods that are used to connect wireless phone calls to a network. I'm talking about the technologies known as...FDMA, TDMA and CDMA.
30) High level GRAPHIC illustrating FDMA division of the waveband into channels. FDMA acronym remains in corner of screen.	TOM (VO): FDMA stands for Frequency Division Multiple Access. It's the "analog" access method that divides a frequency waveband into channels to allow wireless calls within an analog system.
31) Tom walks up to system illustration and indicates the TDMA and CDMA acronyms that are listed behind him.	TOM (OC): The other two access methods, TDMA and CDMA , are "digital" access methods that offer unique solutions for increasing channel capacity.
32) High level GRAPHIC illustrating TDMA strategy. TDMA acronym remains in corner of screen.	TOM (VO): TDMA stands for Time Division Multiple Access. And, just as its name indicates, it uses "time" to split a sequence of conversations into packets of digitized data... that are then transmitted sequentially through the channel...and reassembled into logical voice patterns at the receiving end of the call.

VIDEO	AUDIO
33) High level GRAPHIC illustrating CDMA strategy. CDMA acronym remains in corner of screen.	CDMA stands for Code Division Multiple Access...and, like its name indicates...it separates multiple conversations on the same channel by attaching a unique "code" to parts of a call, then transmitting the call as a random jumble of code. The receiver then unscrambles the jumbled code to deliver several independent voice messages at once. <u>DRAMATIC MUSIC SWELLS.</u>
34) Background dissolves into plantation backdrop. Tom begins fluttering his eyes...and a fan pops into his hand to add effect. The plantation scenery disappears. Tom drops the fan and the Scarlet dialect, and pulls a sledge hammer from behind his back... holding it as if he plans to strike, then lowers the hammer and shifts back with a smile on his face.	*Tom takes on a Scarlet O'hara dialect as he fans himself.* Two systems...three access methods...why, I'm all a-flutter! This technology stuff is becoming just too... too...too easy to comprehend! Wouldn't you agree? <u>DRAMATIC MUSIC ENDS ABRUPTLY.</u> <u>SNARE DRUM ROLLOFF BEGINS.</u> *Tom's tone changes dramatically. Tom takes on a military commander's tone of voice.* Well, wouldn't you? Good.
35) Tom appears in nondescript military uniform and paces back and forth on stage in front of a larger than life world map.	Now, listen up, my techno soldiers...here's where things get a little bit tricky. So, pay close...ATTENTION! *SFX of troop snapping to attention.* <u>PATRIOTIC MUSIC SCORE BEGINS.</u> *Mix in SFX of phones dialing, ringing, conversations in progress, etc.*
36) CUT TO CU of Tom.	As you know...the number of wireless phone subscribers has soared in the past few years... and there's no sign of retreat as we look ahead to the future.

VIDEO	AUDIO
800 MHz , 900 MHz, 1800 MHz and 1900 MHz sequentially FLY BY toward screen to reinforce frequency ranges with audience. (Do not indicate specific regions.)	*SFX of jetstream sounds in sync with fly-bys.* Now, with a limited number of frequency ranges available to transport wireless calls, the biggest challenge the industry faces...is how to make the people happy. The calls must get through.
37) WS from audience vantage point with Tom on stage. Audience in silhouette. Tom points to a chart on slide labeled 800 MHz.	And this, techno troopers, is where we get down into the trenches with standards. Let's examine our options.
38) CUT TO CU of chart. HEADLINE: *Analog Standards* BUILD SUPER: *AMPS* *NAMPS* *ETACS* *NMT*	*SFX of slide projector changing slides.* <u>TOM (VO):</u> In the platoon of "analog" service technologies operating in the 800 Megahertz frequency, there are four different standards that are commonly used to handle wireless calls. By code names, they 're known as: AMPS, NAMPS, ETACS and NMT.
39) The world map HIGHLIGHTS North and South America...and the AMPS acronym appears on screen. COMPOSITE in 800 MHz.	<u>TOM (VO):</u> Advanced Mobile Phone Service, or AMPS, is one of several analog technologies that's used in 800 Megahertz wireless systems around the world. It's the original standard for cellular products in the United States...and, it's widely used in both North and South America.
HIGHLIGHT other regions of the world where AMPS is used: Asia/Pacific, Brazil and Singapore.	AMPS is also the most common analog technology used in the Asia/Pacific region... and, it can also be found in countries such as Brazil...and Singapore.
Map changes to European terrain. COMPOSITE in ETACS and NMT acronyms. Background changes TBD. LAYER IN CU representation showing one analog	In Europe, ETACS and NMT are the equivalent service technologies to AMPS. With AMPS technology, only one call per channel can be handled at a time. A single voice message uses the entire wideband spectrum as it travels through the channel to

VIDEO	AUDIO
signal passing through a 30 kHz. channel, from a wireless phone to a receiving party.	deliver a call from a wireless phone to the receiving party. That means only one call can be sent through the channel at a time.
40) EFFECT out AMPS illustration. EFFECT in NAMPS illustration showing 30 kHz. channel being segmented into three 10 kHz. narrowband passageways within the channel. COMPOSITE IN user footage showing SMS and Voice Mail retrieval.	NAMPS, or Narrowband Advanced Mobile Phone Service, is the next generation analog version of AMPS technology. It uses digital signaling to split existing wideband channels into three narrowband voice channels. The result is...three times more calls can be handled at one time. NAMPS technology can provide some enhanced user features, such as Short Message Service or Voice Mail options. And, NAMPS phones are built with dual mode capability, so when a user is in an area where NAMPS service is not available, the phone automatically switches to AMPS mode.
41) DISSOLVE TO Map showing two regions with one indicating AMPS the other indicating NAMPS system service. Show phone crossing from NAMPS to AMPS region without dropping call.	*SFX of slide projector changing slides.* <u>TOM (OC):</u> In the platoon of “digital” service technologies operating in the 900, 1800 and 1900 Megahertz frequencies, there are three different standards that are used to handle wireless calls. Code names: GSM, TDMA and CDMA.
42) Slide changes to reveal digital standards chart beside Tom. HEADLINE: *Digital Standards* BUILD SUPER: *GSM* *TDMA* *CDMA*	
43) CUT TO map highlighting regional territories in Europe and Asia where 900 and 1800 MHz. is used. SUPER: *GSM*	Global System for Mobile communication, or GSM, is the pan-European standard for digital wireless telephone systems in Europe and Asia where the 900 and 1800 Megahertz frequency ranges are in operation. GSM technology is also used by some 1900 Megahertz PCS operators in the United States.
44) CUT TO scenes from USA PCS store environ-	

VIDEO	AUDIO
ment and bring in 1900 MHz symbol.	
45) CUT TO footage of SIM card application. Show card insertion into phone, followed by subscriber using phone.	With phones that support the GSM standard, Subscriber Information Module, or SIM cards, are an unique component. The SIM card stores all relevant data pertaining to a subscriber on a plastic card. When inserted into a GSM phone, the phone is instantly personalized to that individual.
46) CUT to Asian markets map. COMPOSITE IN footage of Govt. providers.	In Europe and Asia, the number of system operators varies from country to country. Traditionally, there are two or more system operators per country providing airtime service at the 900 Megahertz frequency...and one or two operators per country providing service at the 1800 Megahertz frequency.
47) Graphically depict 900 MHz. phone linked to 900 MHz. network. COMPOSITE IN graphic depiction of 1800 MHz. phone linked to 1800 MHz. network. Use international "no" symbol to represent incompatibility from one network to another.	In a few of the Asian markets, there is only one system operator providing service at the 900 and 1800 Megahertz frequencies. Only GSM phones that are built for use in the 900 Megahertz frequency will work in a 900 Megahertz network. Likewise, only GSM phones that are built for use in the 1800 Megahertz frequency will work in an 1800 Megahertz network. Keep in mind, these single band GSM 900 and 1800 Megahertz phones are not compatible with one another. However, some newer model phones are built with dual band capability...allowing them to be used in both frequency ranges.
48) DISSOLVE TO graphic depicting dual band capability where phone works in both networks. SUPER: *Dual Band*	
49) GRAPHIC overview of depicting 8 X more calls in a 200 kHz. channel.	GSM networks use TDMA technology as a basis to allow up to 8 times more calls per 200 kilohertz channel.
50) Tom stands next to screen showing reprised high level GRAPHIC	TOM (OC): As I briefly highlighted earlier, TDMA assigns time slots for segments of conversations that are happening simultaneously on one channel.

VIDEO	AUDIO
illustrating TDMA strategy. TDMA acronym remains in corner of screen throughout.	
51) GRAPHIC illustration showing three color-coded conversations...each with numerical sequences 1...2...3...1...2...3..etc. lined up sequentially in channel. ZOOM TO ECU of packets. SUPER: "Hello" above yellow time slot #1. "Hola" above green slot #1...and "Bon jour" above red slot #1. Then, "Bob" in yellow time slot #2, "Roberto" in green slot #2, etc.,	So, each word in a sentence from one conversation, might be broken into sequential, individual packets, like this: "Hello"... "Bob"... "How"..."are"... "you?" These segments are then compressed into packets of information which travel in sequential time slots through the channel. Here, the three different colors represent three different conversations in three different languages happening at the same time on the same channel.
52) CU GRAPHIC of the receiving end of the call showing yellow, green and red time slots 1, 2 & 3 linking together by color. Then, show yellow sentence flowing out in sound wave pattern.	At the receiving end, all of the packets are electronically reassembled into the original sentence structure according to their respective designated time slot numbers. Then, the sentence is decompressed into a voice wave, so the receiving party hears the entire sentence as it was spoken without time lapses. TDMA provides a net result of three times more calls per 30 kilohertz channel.
53) GRAPHIC showing 3 X more calls in a 30 kHz. channel. 54) GRAPHIC illustration showing three pairs of people in the same room. Color code each pair and HIGHLIGHT as they are mentioned to establish Spanish, French and English couples. INDICATE short sequences of conversation between each couple.	To help you better understand, imagine 6 people holding 3 conversations at the same time in the same room. Two speak Spanish, two speak French and two speak English. By applying TDMA principles, each pair would take turns talking in brief cycles. The Spanish speaking pair would talk briefly, then stop... then, the French speaking pair would talk briefly, then stop...followed by the English speaking pair...and so on until all conversa-

VIDEO	AUDIO
	tions were completed.
55) DISSOLVE to Tom standing next to screen with reprised high level GRAPHIC overview of CDMA strategy. CDMA acronym appears in corner of screen constantly.	TOM (OC): In contrast, CDMA is a spread spectrum technology that breaks voice messages into digitized bits.
56) CUT TO detailed GRAPHIC illustration of CDMA. Show digitized bits in a variety of colors spreading across the a wide spectrum of channels. The bits travel in a colorful cluster.	Groups of bits are then tagged with a code that associates the bits with a single call on that channel. The tiny groups of bits are then randomly scattered, or spread, across the entire channel along with bits from other conversations.
57) CU GRAPHIC showing all bit groups merging together by color using different channels per color. Show voice wave trailing out to recipient.	At the receiving end, all of the bits are reassembled by code and decoded into voice waves to complete each call.
58) Illustration showing five couples in a room. Imply that everyone is talking at one time.	To visualize CDMA, imagine a room with several pairs of people in it. Like before, each pair speaks a different language...only this time, we have pairs who speak German, Mandarin, Italian, Thai and Korean. Now, let's say everyone wants to talk at once.
Assign color codes to each couple to signify different languages.	In a CDMA application, the different languages become the codes that separate one conversation from another. And, the air in the room becomes the channel upon which voice messages are transmitted back and forth.
Focus on conversation between Mandarin couple	Each pair speaks and uses only one language ...for example, if the Mandarin-speaking couple only speak Mandarin...and, no one else uses Mandarin in their conversations...all other

VIDEO	AUDIO
letting others become secondary.	languages would be considered as background noise except the Mandarin conversation. *BUILD SFX of people talking until every conversation is muddled.* But, if we continue to add couples to the room, who are speaking other languages...at some point, the background noise will become an interference that limits the clarity of the conversation. *Adjust SFX volume, to momentarily isolate different languages and allow clarity to be heard.*
Add silhouettes of more couples in the room.	
59) COMPOSITE CDMA overview GRAPHIC with room analogy.	However, in a CDMA application, voice volume, or signal strength, for all users can be controlled to minimize interference and maintain high quality conversations for many users at one time. The maximum number of users per channel will vary depending upon the amount of activity that's going on in each channel. <u>BACKGROUND CIRCUS MUSIC BEGINS UNDER.</u>
60) GRAPHIC illustration of "soft-handoff" showing two towers sharing signal. COMPOSITE with Techno Tom swinging through frame and linking with partner on other trapeze... implying smooth hand-off and connection transfer.	<u>TOM (OC)</u>: Now, because of the way CDMA spreads signals around randomly on the same channel, it is the only technology that allows two station towers to share the same call signal at the same time. So if I'm the caller, the result is a "soft handoff" or smoother transition as I move from one cell site to the next.
61) EFFECT to GRAPHIC illustration showing "hard handoff" where one tower drops the call before the other one picks it up.	All other technologies...AMPS, NAMPS, TDMA and GSM ...utilize a "hard handoff" strategy... where subscriber units drop a channel before picking up the next channel as the caller moves from one cell site to next....wo-o-o

VIDEO	AUDIO
COMPOSITE with trapeze artist swinging through frame, throwing TT into the air before he connects with opposite trapeze partner...showing separation in the air. 62) Techno Tom lands on the trapeze platform. Scene rolls out of focus into colorful swirl.	...much like I'm doing here. MUSICAL STINGER AS HE LANDS. TOM (OC): Got that? Good.
63) PULL back to Tom walking onto a golf course...and his attire changes to golf attire complete with driving iron. He situates himself for tee off. As he tees off, the ball flies directly into the lens.	TOM (OC): Now, let's focus our attention on the different frequency ranges that are especially reserved for wireless phone calls. *SFX of tee off, followed byTom shouting out.* Four! *SFX of the lens breaking/cracking, glass falling down.*
64) The lens cracks to reveal to GRAPHIC illustration of a radio receiver display showing settings as follows: 2-Way Radios, Cordless Phones, VHF TV, Pagers, UHF TV, Cellular 800 MHz., GSM 900 MHz., GSM 1800 MHz., Personal Communications Services 1900 MHz. PAN along the dial...to four wireless phone frequencies. HIGHLIGHT each as its mentioned.	TOM (VO): As you can see, there are many wireless options available to consumers these days. But, in the spectrum of wireless options, four frequencies have been allocated for the majority of wireless phone usage around the world: 800 Megahertz... 900 Megahertz... 1800 Megahertz... and 1900 Megahertz.
65) Tom's head pops in in front of GRAPHIC. COMPOSITE in FCC and ETSI acronyms.	TOM (OC): International agreements, policed by such agencies as the Federal Communications Commission in the United States and the European Telecommunications Standards

VIDEO	AUDIO
	Institute in Europe and Asia, are required to ensure that the worldwide use of radio waves in these frequencies remains manageable.
66) 800 MHz, followed by 900 MHz travels across screen full frame against world map background. SUPER: *Cellular* COMPOSITE IN graphic illustration of cell site operation from *Cellular Basics* video. ZOOM OUT TO world map. HIGHLIGHT Canada, South America, Mexico, Guatemala, Australia, Israel, China, Taiwan, Russia, Pillipines, Pakistan, Jamaica and Bahamas. COMPOSITE in stock footage showing two rival store set-ups (i.e. Ameritech vs. Cellular One). COMPOSITE in acronym symbols.	Typically, wireless phones that are built for use in the 800 and/or 900 Megahertz frequencies have been referred to as “Cellular” phones. Traditionally, in the U.S. market and many other markets worldwide, there are two cellular operators who have been licensed to provide service at the 800 or 900 Megahertz radio frequency.
67) 1800 MHz, followed by 1900 MHz travels across screen full frame. World map appears behind it. COMPOSITE in scenes of representative store settings for operators of 1900 MHz products and services. 68) COMPOSITE in *PCS and PCSS* acronym symbols. 69) Tom pops into frame in front of GRAPHIC.	In contrast, wireless phones that are built for use in the 1800 and/or 1900 Megahertz frequencies are referred to as “PCS” phones. The 1800 and 1900 Megahertz frequencies are the most recent radio frequency ranges allocated in order to create additional competition in wireless telephony services. Personal Communications Service, or PCS, and Personal Communications S____ Service, or PCSS, are the names adopted by the new, wireless service providers who have been licensed to operate new phone systems in the US, Europe and Asia in the 1800 or 1900

VIDEO	AUDIO
	Megahertz frequency range.
70) Globe spinning.	In many major markets, multiple licensed PCS operators compete to provide airtime service to customers.
71) CU of Tom's feet pacing...SNAP ZOOM back to reveal him in front of his troops once again as if wrapping up session. Slide behind him changes to reveal matrix showing all four frequencies and the technologies within each. PULL OUT TO WS of Tom barking at audience from audience vantage point. One soldier stands up in silhouette.	*Tom's voice reverts to commander tone.* TOM (OC): Now, before I turn you loose...let's move on to common ground. Notice anything curiously interesting, here? Perhaps, a technological bond or two between frequencies? *Momentary silence.* TOM (OC): Come on, work with me, technoids! BOB: Sir, yes sir. Technology code names TDMA, CDMA and GSM are used by more than one platoon, sir. TOM (OC): That's right, soldier. Good technautics!
72) CUT TO CU of Tom. Tom turns profile and beams an image screen across the world map showing TDMA and CDMA as shared technologies between Cellular and PCS. PAN TO image screen. Tom turns back to audience and image screen disappears. PAN with Tom. Tom refers to common technologies behind him. Reprise GRAPHIC of incompatibility between USA and Euro/Asia GSM.	Both Cellular and PCS use TDMA and CDMA technologies as digital access methods. CDMA is also an access method in the 1800 Megahertz frequency. And, 900 Megahertz, 1800 Megahertz and 1900 PCS make use of GSM technology to provide airtime service. One more time, let's make one thing perfectly clear... If these various platoons share the same types of technologies within their individual airtime networks, does that mean that you can use the same phone in more than one frequency network? TINA: Sir. No sir.

VIDEO	AUDIO
WS of Tom and troops as silhouette of Tina stands in the crowd. 73) Reprise GRAPHIC showing dual band capability between 900 and 1800 Megahertz networks.	TOM: Why not, soldier? TINA: Sir. Because only phones with dual band capability can operate in more than one frequency network, sir. TOM: Very good, soldier. For your own sakes, all of you keep this in mind when you're out on the front line.
Camera rolls out of focus.	Good luck. Troops dismissed! MUSICAL SEGUE.
74) Rack into focus on CU on Tom as he climbs into his time chamber capsule. Tom's time chamber lauches into orbit around the globe. COMPOSITE with GRAHIC animation of IRIDIUM satellite network in orbit. Periodically, Tom's capsule circles through frame in the same path as the satellites.	TOM (OC): That's the word on wireless technologies here on earth. But, get ready... technonauts...as we head for home base... we're going to check out a technology that's really out of this world. *SFX of rocket launching.* TOM (VO): It's called IRIDIUM...a dynamic, global satellite network that let's business professionals and adventurists alike communicate from some of the most remote locations on earth.
75) OVERVIEW illustration of satellite transmission. COMPOSITE IN footage of remote locations.	These low earth-orbiting satellites use a combination of advanced digital technologies to implement a communications network that's accessible worldwide.
76) GRAPHIC illustration of radio transmission cycle.	In the Iridium satellite network, radio signals are sent straight up beyond the atmoshpere to the satellite which then sends it straight down to the receiving phone.
COMPOSITE in illustration of typical land-based network.	Iridium users have the option to use Terrestrial Radio cassettes to connect to land-based networks as well.

VIDEO	AUDIO
77) DISSOLVE TO WS spinning globe background as Tom's chamber lands on stage and he opens the hatch and steps out, mugging once again for the audience.	So now, almost everywhere you travel... there are communication tools for staying in touch! TONES BEGIN. MIX WITH SFX LANDING GEAR AND AUDIENCE APPLAUSE, WHISTLES AND BRAVOS. SEGUE INTO EXIT MUSIC AS IT BEGINS TO BUILD UNDER TOM.
78) CUT TO WS of stage from audience vantage point. Audience is silhouetted.	TOM (OC): Thank you...thank you...techno titans. *Audience applause dies down* TOM (OC): I hope this little techno journey has given you the insight you needed to keep yourself afloat in the wacky world of wireless technologies.
79) CUT TO MS of Tom on stage.	Before I go, I want to leave you with some quick techno tips from Motorola:
80) BUILD GRAPHIC matrix.	TOM VO: 1) When you hear the terms "single band" that means the phone can only operate at one frequency. 2) When you hear the terms "dual band"...that means the phone can operate at two frequencies. 3) When you hear the terms "single mode" ... that means the phone is limited to one type of system technology. For example, AMPS only...GSM only...TDMA only or CDMA only. 4) When you hear the terms "dual mode"...that means the phone can operate in two different system technologies. For example, the phone could be equipped to operate in either AMPS mode or TDMA mode.

VIDEO	AUDIO
	5) When you hear the terms “dual band, dual mode”...that means the phone can operate at multiple frequencies and in multiple systems technologies.
81) Tom turns back to the audience.	TOM (OC): So, the moral of these techno tips is...always remember that for your wireless phone to work...it must be within the boundaries of a wireless phone system that supports both the same technology and frequency with which that phone was designed to work. And now, my little technoids... Tweedle-deedle...deedle-dum...it’s time for this wizard to go home! So, I leave you with one final thought... Technology is like water. At some point, you just have to jump in, immerse yourself and swim with the tide!
Tom folds into a realistic semblance of a StarTAC in the spotlight.	Until next time, I’m Techno Tom signing off! *SFX Audience applause.* MUSIC BUILDS TO A CLOSE AS TOM FOLDS.
Fade to black. *SUPER:* Copyright info and disclaimer info.	