

[ Pop captions up ]

**Randal Schwartz:** I'M RANDAL SCHWARTZ, AND I'M GOING TO SHOW YOU SOME OF MY FAVOURITE Mac SCREENSAVERS.

**Kate Abraham:** AND I'M KATE ABRAHAM. I'M GOING TO SHOW YOU HOW TO PUT YOUR MEDIA FILES ON A DIFFERENT TYPE OF SCREEN. DIGITAL PHOTO FRAMES TODAY ON "THE LAB WITH LEO."

[ Pop captions down ]

(Theme music: digital, integrating dial-up modem)

[ Pop captions up ]

**Leo Laporte:** I LOVE IT. HEY, HOW ARE YA? GOOD TO SEE YOU AND WELCOME TO "THE LAB." I'M LEO LAPORTE, AND THIS IS THE SHOW WHERE WE'RE GOING TO EXPLAIN TECHNOLOGY, EVERYTHING FROM MORSE CODE KEYS

(laughing) --

**Kate:** (exhales)

**Leo:** -- TO DIGITAL PHOTO FRAMES. WE'RE GOING TO SPAN THE CENTURIES ON THIS ONE. DO YOU KNOW WHAT HE WAS TAPPING OUT THERE, WHAT RAY MAXWELL WAS TAPPING OUT THERE?

[ Pop captions down ]

**Kate:** I DON'T KNOW.

I LOVE RAY SO MUCH, BUT THAT  
NOISE, LIKE, OH, MY GOD, RAY,  
ENOUGH NOW. (laughing)

**Leo:** OH, NO, SEE, THERE ARE  
HAMS ALL OVER THE COUNTRY, ALL  
OVER THE WORLD SAYING CQ CQ.

**Kate:** (laughing)

**Leo:** THEY KNOW.  
AND OF COURSE OUR SHOW STARTS  
WITH A LITTLE SNIPPET OF MORSE CODE.

**Kate:** IT DOES INDEED.

**Leo:** I THINK IT USED TO SAY  
SOS AND I THINK NOW IT SAYS  
"THE LAB", IS THAT RIGHT? YEAH.  
RAY CAN-- I DON'T KNOW MORSE  
CODE, BUT RAY KNOWS MORSE CODE.  
IN FACT, I THINK UNTIL RECENTLY  
IF YOU WANTED TO BE A HAM YOU  
HAD TO KNOW MORSE CODE.

**Kate:** MM-HMM.

**Leo:** I DON'T KNOW IF THEY--  
I THINK THEY'VE DROPPED THAT  
REQUIREMENT BECAUSE NOT A LOT  
OF PEOPLE --

**Kate:** DO THAT ANYMORE, YEAH.

**Leo:** -- DO THE (imitating Morse Code).  
BUT IT'S FUN. YOU DON'T LIKE IT.

**Kate:** I JUST...

**Leo:** PIERCING. WE'LL TA--

**Kate:** YES. (laughing)

**Leo:** WE'RE ACTUALLY-- RAY--  
RAY, IT'S ANOTHER SEGMENT OF

HIS CONTINUING SERIES OF  
TECHNOLOGY DOWN THROUGH THE AGES.  
IT'S HIS MUSEUM OF TECHNOLOGY.

**Kate:** MM-HMM.

**Leo:** WE'RE TALKING ABOUT THE  
BEGINNINGS OF DIGITAL COMMUNICATION.

**Kate:** YES.

**Leo:** IT'S ACTUALLY QUITE FASCINATING.  
ALSO, YOU'RE GOING TO SHOW US  
THOSE PHOTO FRAMES.

**Kate:** YEAH.

**Leo:** I CAN'T WAIT.

**Kate:** OH, IT'S REALLY COOL ACTUALLY.  
THERE ARE SOME REALLY COOL ONES.

**Leo:** THEY'VE MADE HUGE LEAPS FORWARD.

**Kate:** AND AS LIKE IN HUGE SIZES AS WELL.

**Leo:** YEAH, NO KIDDING.

**Kate:** (laughing) THEY'RE IMPRESSIVE.

**Leo:** YEAH.

BUT, SEE, YOU COULD SEND ONE TO  
YOUR FOLKS --

**Kate:** MM-HMM.

**Leo:** -- IN BRITAIN --

**Kate:** YEAH.

**Leo:** -- AND IT WOULD  
AUTOMATICALLY UPDATE WITH  
PICTURES OF YOU.

IT WOULD BE KIND OF COOL.

**Kate:** EXACTLY --

**Leo:** A GOOD WAY TO STAY IN TOUCH.

**Kate:** -- BUT DON'T GIVE TOO MUCH AWAY.

**Leo:** OH.

**Kate:** KEEP WATCHING.

**Leo:** MM.

**Kate:** “MMM.”

**Leo:** SHE'S BEEN WORKING ON  
SOMETHING, I CAN TELL.

ALSO RANDAL SCHWARTZ IS HERE.

**Kate:** YES.

**Leo:** HE'S GOING TO SHOW US SCREENSAVERS.  
I KIND OF LIKE SCREENSAVERS.

**Kate:** MM-HMM.

**Leo:** I HAVE A LITTLE SOFT SPOT FOR THEM.  
SO, A LOT MORE TO COME ON THE SHOW --

**Kate:** ABSOLUTELY.

**Leo:** -- BUT REALLY THE  
SECRET TO THE SHOW, THE THING  
THAT MAKES IT WORK IS YOU, YOUR  
PHONE CALLS, SO LET'S GET ONE  
ON THE AIR RIGHT NOW.

**Kate:** ABSOLUTELY.

WE HAVE AKBAR AND HE IS IN VANCOUVER.

**Leo:** ALL RIGHT, THANK YOU, KATE.

**Kate:** THANK YOU.

[ Pop captions up ]

**Leo:** HELLO, AKBAR.

**Akbar:** HI, LEO. HOW ARE YOU?

**Leo:** I'M FANTASTIC.

THANK YOU SO MUCH FOR CALLING.

**Akbar:** NOT AT ALL.

THANK YOU FOR TAKING MY CALL.

**Leo:** “MM.”

**Akbar:** LEO, TO BEGIN WITH,  
WE REALLY ENJOY YOUR GREAT PROGRAM.  
WE USED TO FOLLOW “CALL FOR HELP”  
AND NOW FOLLOW

“THE LAB” AND REALLY LEARN  
A LOT FROM IT.

**Leo:** AREN'T YOU THE BEST, THANK YOU.

**Akbar:** SECONDLY, LEO, I'M SO  
GLAD YOU GIVE Mac RELATED  
ISSUES EQUAL TIME ON YOUR SHOW,  
WHICH LEADS ON TO WHAT I WAS  
GOING TO ASK YOU.

**Leo:** OKAY.

[ Pop captions down ]

**Akbar:** WE MOVED FROM Windows  
TO Mac A COUPLE OF YEARS AGO  
AND JUST LOVE OS X.

**Leo:** YEAH, IT'S REALLY NICE, YEAH.

**Akbar:** NOW, I KNOW YOU  
PREVIOUSLY COVERED THIS ISSUE  
ABOUT SECURITY, BUT WE STILL  
WORRY ABOUT IT BECAUSE WE DO  
WEB BANKING USING THE WEB,  
WE GET E-MAILS, AND SO I NEEDED  
TO KNOW IF OS X IS STILL AS  
VIRUSPROOF OR NOT, AND IF NOT,  
WHAT WOULD YOU SUGGEST WE DO?

**Leo:** IT'S A GREAT QUESTION  
AND IT HAS CHANGED A LITTLE BIT  
SINCE WE LAST TALKED ABOUT  
THIS, SO I'M GLAD YOU ASKED.

[ Pop captions up ]

**Leo:** THERE IS NOW FOR THE  
FIRST TIME IN A LONG TIME --  
THERE HAVE BEEN VIRUSES ON THE  
Macintosh PLATFORM.  
THERE'S NEVER BEEN A VIRUS FOR

OS X IN THE WILD.

THAT MEANS OUT THERE, ACTUALLY  
SOMETHING YOU CAN CATCH.

[ Pop captions down ]

**Leo:** FOR THE FIRST TIME EVER  
IN THE LAST FEW MONTHS THERE  
HAS BEEN DOCUMENTED A VIRUS IN  
THE WILD FOR OS X.  
IT WASN'T EASY TO GET.  
THE WAY YOU WOULD GET IT IS  
YOU'D GO TO A WEBSITE, A  
WEBSITE WITH ADULT VIDEO ON IT,  
AS IT TURNS OUT, ALTHOUGH IT  
COULD BE ANY KIND OF VIDEO, AND  
YOU TRY TO START TO WATCH THE  
MOVIE AND IT WOULD SAY, OH,  
SORRY - AND YOU SEE THIS ALL  
THE TIME ON THE WEB - YOU DON'T  
HAVE THE RIGHT CODEC, WOULD YOU  
LIKE TO DOWNLOAD IT, CLICK THIS LINK.  
YOU CLICK THE LINK, YOU  
DOWNLOAD THE FILE.  
OS X AS ALWAYS WOULD SAY  
WE'RE -- THERE'S A PROGRAM  
TRYING TO BE INSTALLED FROM  
THIS WEBSITE; DO YOU WANT TO  
SAY OKAY?  
IF YOU -- IF YOU'RE NOT  
OPERATING AS THE ADMINISTRATOR,  
YOU'D HAVE TO GIVE YOUR  
ADMINISTRATIVE PASSWORD, YOU'D  
TYPE THAT IN, IT WOULD INSTALL.  
BUT INSTEAD OF INSTALLING A

MOVIE CODEC, IT WOULD ACTUALLY  
INSTALL A PROGRAM THAT WOULD  
CHANGE YOUR HOST'S FILE IN SUCH  
A WAY SO THAT WHEN YOU WENT TO  
CERTAIN SITES, PERHAPS YOUR  
BANKING SITE, IT WOULD LOOK TO  
BE YOUR BANKING SITE, EVEN YOUR  
BROWSER WOULD SAY IT WAS YOUR  
BANKING SITE, BUT, IN FACT, IT  
WOULD BE A HACKER'S SITE.  
YOU'D GIVE THEM YOUR PASSWORD  
AND ALL OF A SUDDEN ALL YOUR  
BANKING INFORMATION IS OUT THERE.  
SO, THIS IS A PRETTY NASTY  
TROJAN HORSE PROGRAM, BUT  
REMEMBER ON THE Mac IT DOES  
REQUIRE YOUR COOPERATION.  
I DON'T-- THIS IS-- THERE'S  
ONLY ONE OF 'EM.  
IT'S NOT WORTH GOING OUT AND  
GETTING AN ANTIVIRUS.  
IT'S NOT LIKE WE NEED TO SCAN OUR MacS.  
THERE'S JUST THIS ONE VIRUS.  
AND I FRANKLY THINK THE BEST  
THING TO DO, AND THIS -- I GIVE  
THIS ADVICE TO Windows USERS AS  
WELL IS CHANGE YOUR BEHAVIOR.  
IF YOU'RE VERY CAREFUL ABOUT  
WHAT YOU ALLOW INTO YOUR  
MACHINE, YOU DON'T REALLY HAVE  
TO WORRY ABOUT VIRUSES.  
NOW, A COUPLE OF RED FLAGS WENT UP HERE.  
WE WERE ON A SITE, THE SITE

ASKED US TO INSTALL SOFTWARE,  
PERHAPS NOT THE MOST UPRIGHT  
SITE IN THE WORLD, YOU KNOW,  
MAYBE A LITTLE SUSPICIOUS SITE,  
IT ASKED US TO INSTALL  
SOFTWARE, WE GAVE IT OUR  
ADMINISTRATIVE PASSWORD.  
I MEAN, WE MADE A LOT OF  
MISTAKES HERE AND THAT WAS WHAT  
WAS REQUIRED TO GET THIS BAD  
STUFF ON OUR SYSTEM.

SO, I THINK REALLY THE BEST  
THING TO DO IS YOU DON'T NEED  
AN ANTIVIRUS.

I THINK IT'S A WASTE OF MONEY  
RIGHT NOW TO PUT AN ANTIVIRUS ON THERE.  
THERE ARE FREE ANTIVIRUSES FOR Macintosh.

SO, YOU COULD GET LIKE

ClamXav - C-L-A-M-X-A-V - .com.

I DON'T THINK IT'S PARTICULARLY  
USEFUL, BUT IF IT MAKES YOU FEEL BETTER.  
THE MOST IMPORTANT THING TO DO,  
FRANKLY, IS CHANGE YOUR BEHAVIOR.

[ Pop captions up ]

**Leo:** SO, AS I'VE TOLD

Windows USERS FOR YEARS NOW, DO  
NOT OPEN E-MAIL ATTACHMENTS.

DO NOT DOWNLOAD SOFTWARE FROM  
SITES THAT YOU DON'T TRUST ABSOLUTELY.

[ Pop captions down ]

**Leo:** DON'T RUN AS AN ADMINISTRATOR.

NOW, IT'S EASIER TO DO THIS ON  
A Mac THAN IT IS ON Windows.

ON A Mac IT'S VERY SIMPLE.  
JUST, YOU KNOW, MAKE YOUR USER  
A LIMITED USER, NOT AN  
ADMINISTRATIVE USER.  
THAT WAY WHEN YOU TRY TO DO  
THESE THINGS THAT ARE DANGEROUS  
IT'LL ASK YOU FOR AN  
ADMINISTRATIVE PASSWORD AND  
THAT SHOULD BE A RED FLAG.  
NOW, YOU SEE HERE-- OH, WE'RE  
OPERATING AS AN ADMINISTRATOR  
ON THIS COMPUTER.  
THERE ARE REASONS FOR THAT.  
IN OUR CASE, YOU KNOW, I NEED  
TO INSTALL SOFTWARE AND DO  
STUFF ON HERE AS PART OF THE  
SHOW, SO WE TAKE THIS RISK, BUT  
FRANKLY MY RECOMMENDATION FOR  
EVERYBODY IS LOGON AS  
ADMINISTRATIVE USER AND UNCHECK  
THAT BOX.  
YOU SHOULD NOT BE AN ADMINISTRATOR.  
YOU'LL HAVE TO HAVE AN  
ADMINISTER ACCOUNT.  
THAT'S WHY IT WON'T LET ME  
UNCHECK IT RIGHT NOW.  
I HAVE TO ACTUALLY CREATE AN  
ADMIN ACCOUNT, WHICH I'M GOING  
TO DO RIGHT NOW.  
GIVE IT A GOOD STRONG PASSWORD,  
BY THE WAY, WHICH I DID NOT DO.  
AND THEN WE'RE GOING TO KEEP  
OUR AUTOMATIC LOGIN, BUT MAKE

SURE THAT THIS IS THE  
ADMINISTRATOR AND THIS IS NOT  
AN ADMINISTRATOR AND USE THIS  
ACCOUNT DAY TO DAY.  
USE THAT NONADMINISTRATOR  
ACCOUNT DAY TO DAY.  
THAT PROTECTS YOU FROM A WHOLE  
MYRIAD OF POSSIBILITIES.  
DO IT ON Windows TOO, IF YOU CAN.  
SOMETIMES Windows PROGRAMS  
DON'T LIKE THAT, BUT ON Vista  
ESPECIALLY IT SHOULD BE EASY TO  
DO THAT.  
YOU ALSO WANT TO MAKE SURE THAT  
WHEN THERE ARE SYSTEM UPDATES  
THAT YOU APPLY THEM PROMPTLY.  
SO, I WOULD SET YOUR AUTOMATIC  
SOFTWARE UPDATE TO  
AUTOMATICALLY DOWNLOAD AND  
INSTALL THOSE UPDATES THE  
MINUTE THEY BECOME AVAILABLE.  
CERTAINLY YOU SHOULD BE  
CHECKING REGULARLY FOR NEW SOFTWARE.  
THIS IS TRUE AGAIN ON Windows OR Mac.  
EVERYTHING I'M SAYING IS TRUE  
FOR ALL PLATFORMS REALLY.  
WHEN A SOFTWARE UPDATE COMES  
OUT, A SECURITY UPDATE COMES  
OUT FOR Macintosh, IT'S VERY  
IMPORTANT THAT YOU INSTALL IT  
RIGHT AWAY BECAUSE IF YOU DON'T  
THE HACKERS NOW HAVE A LITTLE  
LEAD TIME.

AND IN FACT, A PATCH IS AN  
ANNOUNCEMENT THAT THERE'S A  
PROBLEM, GIVING THE HACKERS THE  
CHANCE TO GET THOSE, YOU KNOW,  
NEFARIOUS PROGRAMS OUT THERE.  
SO, MAKE SURE YOU'RE CHECKING  
AUTOMATICALLY AND INSTALLING  
AUTOMATICALLY AT LEAST WEEKLY.  
I'D DO IT DAILY.  
I THINK IT'S A REALLY IMPORTANT  
THING TO DO.  
ALL THOSE THINGS WILL PROTECT YOU.  
I DON'T-- YOU KNOW, AKBAR, I  
DON'T THINK YOU NEED TO WORRY.  
I THINK ONE OF THE REASONS WE  
LIKE USING THE Mac PLATFORM IS  
BECAUSE IT ISN'T AS PRONE.  
PARTLY THAT'S BECAUSE IT'S  
DESIGNED MORE SECURELY.  
MOSTLY, FRANKLY, IT'S BECAUSE  
HACKERS ARE GOING AFTER THE  
MORE DOMINANT OPERATING SYSTEM,  
Windows.  
THEY KNOW IT, THEY UNDERSTAND  
IT, AND THERE'S A LOT MORE TO  
BE GAINED BY HACKING Windows  
MACHINES THAN THERE IS HACKING  
Mac MACHINES.  
SO, WE ARE STILL OPERATING IN A  
FAIRLY SAFE WORLD.  
NO NEED TO GO OUT AND GET  
ANTIVIRUS SOFTWARE, I THINK.  
DO RUN YOUR FIREWALL.

YOU'LL HAVE A NAT ROUTER,  
MAKE SURE THAT'S TURNED ON.  
THAT'LL HELP TOO.  
BUT OTHERWISE I WOULDN'T WORRY,  
OKAY, AKBAR?

**Akbar:** THANK YOU, LEO, VERY  
MUCH AS USUAL.

**Leo:** I THANK YOU FOR THE CALL.  
I'M GLAD YOU ASKED BECAUSE I  
THINK THIS NEEDS TO BE SAID.  
A LOT OF TIMES AS Mac USERS  
PEOPLE FEEL LIKE WE'RE INVULNERABLE.  
YOU'RE NOT INVULNERABLE, ABSOLUTELY NOT.  
YOU HAVE TO BE PRUDENT, YOU  
HAVE TO BE CAREFUL, YOU HAVE TO  
DO THE SAME THINGS THAT ANY  
COMPUTER USER WOULD DO TO  
PROTECT YOURSELF WHEN YOU'RE  
OUT THERE ON THE INTERNET.

[ Pop captions up ]

**Leo:** COMING UP, RAY MAXWELL,  
OUR MUSEUM -- MAXWELL'S MUSEUM  
OF DIGITAL TECHNOLOGY.  
THIS IS GOING TO BE A FUN ONE.  
WE GO BACK TO THE DAYS OF MORSE  
CODE WHEN "THE LAB" CONTINUES.

(incidental music)

[ BLACK/COMMERCIAL ]

[ Pop captions down ]

**Leo Laporte:** WELCOME BACK TO "THE LAB."  
RAY MAXWELL IS HERE.  
HE IS AN ELECTRONICS ENGINEER,  
A COLOUR SCIENTIST, PUBLIC

SPEAKER AND MOST IMPORTANTLY TO US A TEACHER, A GREAT GUY FOR LEARNING ABOUT TECHNOLOGY WITH. AND THIS IS KIND OF FUN, WE DO A SEGMENT, WE'VE BEEN DOING A COUPLE OF THEM SO FAR, CALLED MAXWELL'S MUSEUM OF TECHNOLOGY WHERE WE GO BACK IN TIME A LITTLE BIT.

**Ray Maxwell:** RIGHT.

**Leo:** WE'RE GOING TO GO BACK TO THE VERY EARLIEST DAYS OF DIGITAL TECHNOLOGY.

[ Pop captions up ]

**Ray Maxwell:** THAT'S RIGHT.

A LOT OF TIMES WE THINK EVERYTHING IS GOING FROM ANALOG TO DIGITAL NOW.

**Leo:** RIGHT.

**Ray Maxwell:** BUT THE EARLIEST COMMUNICATIONS REALLY GOING BACK TO SMOKE SIGNALS AND FLASHING MIRRORS WAS DIGITAL.

[ Pop captions down ]

**Leo:** DIGITAL IN THE SENSE THAT IT WAS TWO STATES, ON OR OFF --

**Ray Maxwell:** YEAH, ON OR OFF.

**Leo:** -- ONE OR ZERO.

**Ray Maxwell:** THAT'S RIGHT.

**Leo:** BINARY.

**Ray Maxwell:** RIGHT.

AND THEN ALONG CAME THE FIRST ELECTRONIC COMMUNICATION WAS THE TELEGRAPH.

**Leo:** RIGHT.

**Ray Maxwell:** YEAH.

**Leo:** RIGHT.

**Ray Maxwell:** NOW, WHAT A LOT  
OF PEOPLE DON'T KNOW IS THERE'S  
ACTUALLY TWO CODES. THERE'S --

**Leo:** THERE'S MORSE CODE I KNOW.

**Ray Maxwell:** -- MORSE CODE --

**Leo:** YEAH.

**Ray Maxwell:** -- AND THERE'S  
INTERNATIONAL MORSE CODE.

**Leo:** OH, HOW IS IT DIFFERENT?

**Ray Maxwell:** THE MORSE CODE  
USES A SOUNDER AND  
UNFORTUNATELY IN MY BASEMENT IN  
THE MUSEUM I DON'T HAVE ONE OF THOSE.

**Leo:** MM-HMM.

**Ray Maxwell:** BUT IT MAKES A  
CLICKING SOUND --

**Leo:** I'VE HEARD THAT.

(imitating sound)

**Ray Maxwell:** -- AND IT HAS  
THE LITTLE HAMMER,  
CLICK-CLICK-CLICK, CLICK-CLICK-  
CLICK, CLICK-CLICK-CLICK.

**Leo:** YEAH, YEAH, YEAH.

[ Pop captions up ]

**Ray Maxwell:** AND THAT  
ACTUALLY USES A DIFFERENT CODE.  
IN OTHER WORDS, THE DITS AND  
DAHS AND THE WAY YOU MAKE  
LETTERS IS COMPLETELY DIFFERENT --

**Leo:** OH, INTERESTING.

**Ray Maxwell:** -- THAN  
INTERNATIONAL MORSE CODE WHICH  
USES SOUNDS AND WHICH ARE  
(sounds of Morse Code).

[ Pop captions down ]

**Leo:** OKAY, THAT MAKES SENSE  
BECAUSE IN THE EARLIEST DAYS OF  
TELEGRAPHY, AND YOU SEE THIS IN  
THE OLD WESTERNS, THEY'D HAVE  
THE TELEGRAPH OPERATOR WITH  
HIS - YOU KNOW, HIS --

**Ray Maxwell:** YEAH.

**Leo:** -- BRANDS ON AND HIS  
HAT AND YOU'D HEAR CLICK CLICK  
CLICK CLICK CLICK CLICK CLICK  
CLICK CLICK.

**Ray Maxwell:** RIGHT.

**Leo:** AND THAT'S BECAUSE ALL  
YOU COULD DO WAS TURN A SIGNAL  
ON OR OFF, RIGHT?

**Ray Maxwell:** RIGHT.

**Leo:** I MEAN, YOU WERE SENDING  
ELECTRICAL PULSES DOWN THE WIRES.

**Ray Maxwell:** MM-HMM.

**Leo:** IT WAS--

**Ray Maxwell:** AND YOU HAD A SOUNDER.  
THAT'S WHAT THEY CALLED THAT THING.

**Leo:** UH-HUH, AND THAT WAS  
MAKING THE CLICK.

**Ray Maxwell:** YES.

**Leo:** AND SO, WAS IT A LONG  
SOUND WAS A DASH OR?

**Ray Maxwell:** WELL, IF YOU

LISTEN TO IT VERY CAREFULLY, IT  
GOES CLICK-CLACK CLICK-CLACK  
AND IT'S -- AND A LONG IS  
CLICK-CLACK CLICK CLACK.  
AND A SHORT IS CLICK-CLACK.

(laughing)

**Leo:** OKAY.

YOU'VE GOT TO BE PRETTY GOOD AT THAT.

**Ray Maxwell:** THAT'S RIGHT.

**Leo:** THESE ARE MORE MODERN.

THESE ARE INTERNATIONAL MORSE CODE --

**Ray Maxwell:** YES.

**Leo:** -- KEYS.

**Ray Maxwell:** WHEN I WAS 13  
YEARS OLD, I GOT INTO HAM RADIO.

**Leo:** AND AS-- AT THAT TIME  
UNTIL RECENTLY, IN FACT, EVERY  
HAM HAD TO LEARN MORSE CODE.

**Ray Maxwell:** YES, YOU HAD TO  
LEARN MORSE CODE.  
AND YOU HAD TO LEARN FASTER AND  
FASTER MORSE CODE TO PROGRESS  
UP IN YOUR --

**Leo:** OH, REALLY.

**Ray Maxwell:** -- IN THE  
PRIVILEGES THAT YOU WERE GIVEN.

**Leo:** HOW FAST DID YOU HAVE TO GO?

**Ray Maxwell:** WE STARTED OUT  
5 WORDS A MINUTE, WHICH IS  
DREADFULLY SLOW.

**Leo:** YEAH.

**Ray Maxwell:** AND THEN FOR  
YOUR GENERAL CLASS LICENCE IN

THE U.S. YOU HAD TO GO 13.

IN CANADA YOU HAD TO GO 10.

**Leo:** MM-HMM.

**Ray Maxwell:** AND THEN FOR AN  
ADVANCED CLASS --

**Leo:** WE ALWAYS TALKED FASTER  
IN THE U.S., BY THE WAY.

**Both:** (laughing)

**Ray Maxwell:** THEN YOU HAD TO GO 15 --

**Leo:** OKAY.

**Ray Maxwell:** -- FOR THE ADVANCED CLASS.

**Leo:** THAT'S PRETTY FAST.

**Ray Maxwell:** YES.

**Leo:** THAT'S A WORD, 6  
LETTERS AVERAGE, EVERY FEW  
SECONDS, SO THAT'S PRETTY FAST.

**Ray Maxwell:** RIGHT, RIGHT,  
YEAH, IT'S BANGING RIGHT ALONG.

**Leo:** YEAH.

**Ray Maxwell:** SO, AT ANY  
RATE, I WENT DOWN TO THE  
BASEMENT, I DUG THESE OUT.  
I HAVEN'T BEEN ACTIVE WITH  
THESE IN QUITE A NUMBER OF  
YEARS, SO I'M RUSTY.

**Leo:** NOW, IS -- ARE WE GOING  
FROM OLDEST TO NEWEST HERE?

**Ray Maxwell:** YES.  
WE'RE GOING TO START OUT WITH  
WHAT'S CALLED THE STRAIGHT KEY HERE.

**Leo:** MM-HMM.

**Ray Maxwell:** AND ON THE  
STRAIGHT KEY, IT'S JUST A

SWITCH AND YOU GRASP IT LIKE  
THIS AND THEN YOU SEND (sounds  
of Morse Code).

**Leo:** SO, YOU HAVE TO HOLD IT  
LONGER TO MAKE A DASH.

**Ray Maxwell:** YEAH, SO I AM  
ACTUALLY MAKING EVERY SOUND,  
YOU KNOW, WITH MY HAND --

**Leo:** RIGHT.

**Ray Maxwell:** -- YOU KNOW,  
HOLD IT DOWN LONGER, HOLD IT  
DOWN FOR SHORT.  
NOW, THE INTERESTING THING WHEN  
EVERYBODY USED ONE OF THESE,  
YOU COULD GO ON THE AIR AND AS  
SOON AS YOU HEARD JUST A LITTLE  
CODE YOU'D SAY THAT'S GEORGE.

**Leo:** YOU'D RECOGNIZE HIS HAND.

**Ray Maxwell:** I'D RECOGNIZE HIS FIST.

**Leo:** FIST THEY CALL IT.

**Ray Maxwell:** THAT WAS THE JARGON.

**Leo:** I'LL BE DARNED.

**Ray Maxwell:** OR HE HAS A FIST THAT SWINGS.

**Leo:** (laughing)

**Ray Maxwell:** OR THERE WERE  
ALL OF THESE COMMENTS ABOUT,  
YOU KNOW, BUT YOU ACTUALLY HAD  
AN ACCENT ON YOUR KEY.

**Leo:** AND IT'S BECAUSE OF THE  
TIMING OF THE DASHES --

**Ray Maxwell:** YEAH, YEAH.

**Leo:** -- AND THE DOTS, HOW  
LONG YOU HELD IT --

**Ray Maxwell:** RIGHT.

**Leo:** -- HOW QUICKLY YOU'D  
PLAY THE-- IT'S LIKE PLAYING A  
MUSICAL INSTRUMENT --

**Ray Maxwell:** RIGHT.

**Leo:** -- WITH ONLY TWO NOTES.  
(laughing)

**Ray Maxwell:** FROM THAT WE --

**Leo:** THERE'S ONLY ONE NOTE.

**Ray Maxwell:** -- PROGRESSED  
TO THIS MECHANICAL KEY THAT'S  
CALLED VIBROPLEX.

**Leo:** OKAY.

**Ray Maxwell:** AND THE  
VIBROPLEX KEY SEND-- YOU HAVE  
TO SEND THE DAHS MANUALLY  
AGAIN. (sounds of Morse Code)

**Leo:** BY HITTING THAT --

**Ray Maxwell:** BY PRESSING TO THE LEFT.

**Leo:** -- BUTTON ON THE RIGHT, OKAY.

**Ray Maxwell:** WHEN I PRESS TO  
THE RIGHT THOUGH... (rapid Morse Code)

**Leo:** IT DOES IT AUTOMATICALLY.

**Ray Maxwell:** IF I HOLD IT,  
IT SENDS OUT DITS.

**Leo:** THOSE ARE DITS.

**Ray Maxwell:** YEAH.  
NOW, LET ME SAY SOMETHING ABOUT  
LEARNING THE CODE RIGHT NOW  
WHILE WE'RE TALKING ABOUT DITS  
AND DAHS.

**Leo:** YEAH.

**Ray Maxwell:** WHATEVER YOU

DO, IF YOU WANT TO LEARN THE  
MORSE -- INTERNATIONAL MORSE  
CODES, DON'T GET ONE OF THESE  
CARDS WITH LITTLE DOTS AND  
DASHES WRITTEN ON IT.

**Leo:** I'VE SEEN THOSE.

**Ray Maxwell:** YES.

**Leo:** WHY NOT?

**Ray Maxwell:** BECAUSE IF YOU  
LEARN FROM THAT, YOU -- WHAT  
YOU DO IS YOU GO THROUGH A  
TWO-STAGE THING IN LEARNING  
WHAT IT IS.

YOU SAY 'A' AND YOU SEE DOT DASH --

**Leo:** RIGHT.

**Ray Maxwell:** -- AND YOU HAVE  
A VISUAL IMAGE AND THEN YOU  
HEAR DIT-DAH.

**Leo:** RIGHT.

**Ray Maxwell:** AND YOU GO, OH.  
AND WHEN YOU HEAR IT, YOU GO  
DIT-DAH.

OH, THAT'S DOT DASH.

OH, THAT'S 'A'.

**Leo:** ONE EXTRA STAGE IN EFFECT.

**Ray Maxwell:** IT'S AN EXTRA STAGE.

**Leo:** YOU WANT TO LEARN BY SOUND.

**Ray Maxwell:** YOU BET.

**Leo:** YEAH.

**Ray Maxwell:** AND SO YOU WANT  
TO GET A PROGRAM AND THERE ARE  
SOFTWARE PROGRAMS OR --

**Leo:** THAT'S THE NICE THING NOW --

**Ray Maxwell:** YEAH.

**Leo:** -- COMPUTERS MAKE THIS EASY.

**Ray Maxwell:** MAKE IT TRIVIAL.

**Leo:** YEAH.

**Ray Maxwell:** THE OTHER THING IS IF YOU GET AN OPERATOR, A SKILLED OPERATOR TO SEND TO YOU, THAT'S AN IDEAL THING.

**Leo:** RIGHT.

IS THERE ANY REASON TO LEARN THIS NOWADAYS THOUGH REALLY?

**Ray Maxwell:** WELL, THE ADVANCE CLASS LICENCES IN BOTH CANADA AND THE U.S. --

**Leo:** STILL REQUIRE IT.

**Ray Maxwell:** -- STILL REQUIRE IT, BUT YOU -- IF YOU WANT TO WORK HF, WHICH IS THE LONG RANGE STUFF, YOU STILL HAVE TO KNOW CODE. IF YOU WANT TO ONLY DEAL WITH VHF AND PACKET RADIO AND EVERYTHING, YOU DON'T HAVE TO KNOW THE CODE.

**Leo:** NOW, YOU'VE GOT SOMETHING EVEN A LITTLE MORE MODERN HERE.

THIS IS A HEATHKIT.

**Ray Maxwell:** YES. (laughing)

**Leo:** I RECOGNIZE THE HEATHKIT LOOK. BUILT A FEW OF THOSE.

**Ray Maxwell:** NOW, THIS IS A COMPLETELY ELECTRONIC KEYSER.

AND IF YOU WATCH MY FINGERS  
HERE, WHEN I PRESS ON-- WHEN I  
TOUCH, I DON'T PRESS.  
NOTHING MOVES. THIS IS CAPACITIES.

**Leo:** UH-HUH.

(sounds of Morse Code)

**Ray Maxwell:** THERE'S THE DAHS.

(sounds of Morse Code)

**Ray Maxwell:** AND HERE'S THE DITS.

**Leo:** NO FIST THERE AT ALL.

**Ray Maxwell:** AND THAT'S  
RIGHT, THIS IS SELF-COMPLETING  
AND COMPLETELY-- IT SENDS VERY  
MECHANICAL CODE AND YOU CAN'T  
IDENTIFY THE PERSON.

**Leo:** THAT'S TOO BAD IN A WAY.

(sounds of Morse Code)

**Leo:** IS THAT A CQ THERE?

**Ray Maxwell:** THAT'S A CQ.

[ Pop captions up ]

**Leo:** WHAT IS CQ?

**Ray Maxwell:** IT'S DAH-DI-DAH-DIT --

**Leo:** YEAH.

**Ray Maxwell:** --

DAH-DAH-DAH-DI-DAH, AND IT'S--

**Leo:** I RECOGNIZE IT.

**Ray Maxwell:** YES, AND IT  
MEANS CALLING ANYONE THAT WANTS  
TO HAVE A QSO WITH ME.

**Leo:** HELLO.

RIGHT, RIGHT.

[ Pop captions down ]

**Ray Maxwell:** AND A

COMMUNICATION WAS A QSO.

**Leo:** WE USED TO SEND QSL CARDS.

**Ray Maxwell:** YES.

**Leo:** WHEN PEOPLE HEARD US ON  
THE RADIO, WE'D SEND THEM A QSL --

**Ray Maxwell:** RIGHT.

**Leo:** -- SAYING, YES, YOU DID  
RECEIVE OUR SIGNAL --

**Ray Maxwell:** RIGHT.

**Leo:** -- AND PEOPLE WOULD TRY  
FROM ALL OVER THE WORLD --

**Ray Maxwell:** THAT'S RIGHT.

**Leo:** -- TO HEAR RADIO STATIONS.  
IT'S KIND OF A FUN THING.

**Ray Maxwell:** I HAVE A  
COLLECTION OF QSL CARDS FROM  
ALL OVER THAT I HAD FROM PEOPLE.

**Leo:** IT'S REALLY NEAT, YEAH.

[ Pop captions down ]

**Ray Maxwell:** NOW, IF YOU ARE  
SERIOUS ABOUT LEARNING THE  
CODE, YOU CAN GO ON THE WEB AND  
I'VE PUT THE WEBSITE UP.  
AND YOU CAN GET Morse Mania FOR OS X.

**Leo:** NOW, IS THIS PAID OR IS IT FREE?

**Ray Maxwell:** THIS IS 19.95.

**Leo:** OKAY.

**Ray Maxwell:** ALTHOUGH, TO  
TRY IT OUT IT HAS A VERY CLEVER  
KIND OF COPY PROTECTION.  
EVERY TIME YOU FIRE IT UP, IF  
YOU HAVEN'T PAID, IT MAKES YOU  
WAIT 10 SECONDS --

**Leo:** (laughing)

**Ray Maxwell:** -- AND IT COUNTS DOWN.

**Leo:** THAT'S VERY ANNOYING.

**Ray Maxwell:** YOU KNOW, IT'S  
JUST VERY ANNOYING.

**Leo:** OKAY.

[ Pop captions down ]

**Ray Maxwell:** AND YOU GO, OH,  
FOR 20 BUCKS LET'S--

**Leo:** BUT THIS COULD TEACH  
YOU PRETTY QUICKLY, I WOULD  
IMAGINE.

**Ray Maxwell:** THIS TEACHES YOU.

**Leo:** BECAUSE IT'S ALL BY EAR, RIGHT?

**Ray Maxwell:** RIGHT.

SO, I'M GOING TO SAY I WANT IT  
TO SEND WORDS HERE.

(sounds of Morse Code) R - M - A - L.

SO, IT'S JUST SENDING RANDOM WORDS.

**Leo:** SO, THAT'S GOOD, SO YOU  
ACTUALLY STILL REMEMBER ALL OF THIS.

**Ray Maxwell:** OH, YEAH. YEAH.

**Leo:** IT'S BEEN A FEW YEARS.

DO YOU EVER USE YOUR KEYS ANY MORE?

**Ray Maxwell:** I DON'T ANYMORE.

I DON'T, TO BE HONEST.

**Leo:** IT'S GATHERING DUST IN RAY'S --

**Ray Maxwell:** YEAH, IT'S  
GATHERING DUST IN MY BASEMENT --

**Leo:** -- MUSEUM OF MAGICAL MARBLES.

**Ray Maxwell:** -- BUT I  
CERTAINLY DID WHEN I WAS A TEENAGER.

**Leo:** THAT'S REALLY COOL.

**Ray Maxwell:** YEAH.

**Leo:** REALLY FUN.

AND THAT'S HOW REALLY PROBABLY  
THE DIGITAL CONCEPT EVEN BEGAN --

**Ray Maxwell:** RIGHT. WELL --

**Leo:** -- WAS THIS NOTION OF ON OR OFF.

**Ray Maxwell:** -- TO TIE IT  
ALL TOGETHER, WE STARTED OFF  
WITH THIS.

THE NEXT THING THE HAM RADIOS  
DID -- OPERATORS DID WAS THEY GOT TELETYPES.

**Leo:** RIGHT.

**Ray Maxwell:** AND THEY WENT  
RADIO TELETYPE WHICH USED  
FREQUENCY-SHIFT KEYING.

**Leo:** MM-HMM.

**Ray Maxwell:** OKAY.  
WHEN I GOT MY FIRST  
MICROCOMPUTER AND STARTED TO  
DEVELOP CODE, I USED AN ASR33 TELETYPE.

**Leo:** (imitating teletype sounds)

**Ray Maxwell:** SO, THAT'S THE  
CONTINUATION IN THE COMPUTER WORLD.

**Leo:** IT'S A NON-- IT'S A  
CONTINUOUS STREAM FROM THE OLD  
DAYS TO TODAY AND, YOU KNOW,  
THESE ARE JUST THE OLD DAYS FOR  
THE FUTURE.

**Ray Maxwell:** THAT'S RIGHT.

**Leo:** JUST REMEMBER THAT.

**Ray Maxwell:** YEAH.

**Leo:** SOMEDAY I'LL BE ON A  
SHOW SHOWING OFF MY LAPTOP.

**Ray Maxwell:** (laughing)

**Leo:** YES, WE USED TO HAVE LAPTOPS.

[ Pop captions up ]

**Leo:** RAY MAXWELL IS AN  
ELECTRONICS ENGINEER, COLOUR  
SCIENTIST, TEACHER AND SPEAKER  
AND IT'S SO GOOD TO HAVE YOU ON.  
YOU CAN FIND OUT MORE ABOUT RAY  
AND HIS WORK AT  
maxwellmultimedia.com AND WE'LL  
PUT A LINK TO THE Black Cat  
Systems AND THE SOFTWARE ON OUR  
WEBSITE labwithleo.com.

[ Pop captions down ]

**Leo:** NOW, LET'S TAKE A  
CLOSE-UP LOOK AT SOMETHING  
YOU'D FIND AROUND THE LAB.  
SEE IF YOU CAN SEE WHAT THIS IS.  
OH, YOU SEE, HE GIVES US THESE  
LITTLE HINTS HERE.

TARG.

TARG.

WHAT COULD THAT BE?

I'LL TELL YOU WHAT, WE'LL ZOOM  
OUT AND FIND OUT WHEN

“THE LAB” CONTINUES.

YOU STAY RIGHT HERE.

(incidental music)

[ BLACK/COMMERCIAL ]

[ Pop captions down ]

**Leo Laporte:** WELCOME BACK TO “THE LAB.”  
BEFORE THE BREAK WE SHOWED YOU  
THIS ZOOMED IN MACRO CLOSE-UP

OF SOMETHING YOU'D COMMONLY  
FIND AROUND THE LAB.  
IT'S GOT A TARG BUTTON.

[ Pop captions up ]

**Leo:** OH, THE SkyScout FROM Celestron.  
SEE, I WOULDN'T HAVE THOUGHT OF THAT.  
THAT WAS ONE OF SEAN'S SHINIES  
A COUPLE OF WEEKS AGO.  
THAT WAS THE THING THAT YOU AIM  
AT THE SKY THAT TELLS YOU WHAT  
YOU'RE LOOKING AT OR TELLS YOU  
HOW TO FIND THE MOON, THINGS LIKE THAT.  
VERY CLEVER, SEAN.  
YOU FOOLED ME ONCE AGAIN, DARN RAT.  
DARN YOU.

AND NOW KATE ABRAHAM HAS  
ANOTHER CALL FOR US.

**Kate:** I WON'T FOOL YOU.

**Leo:** YOU WON'T?

**Kate:** NO, I WON'T.

**Leo:** YOU WOULDN'T LIE TO ME?

**Kate:** NO, I WOULDN'T LIE TO YOU.

**Leo:** GOOD.

**Kate:** THIS IS GARY AND HE IS  
FROM ENGADINE IN NEW SOUTH  
WALES.

[ Pop captions up ]

**Leo:** WELL, HELLO, GARY.  
HOW ARE YA?

**Gary:** HI, LEO. HOW ARE YOU?

**Leo:** I'M FANTASTIC.

WELCOME TO "THE LAB."

**Gary:** THANK YOU.

**Leo:** WHAT CAN I DO FOR YOU?

**Gary:** I'VE GOT A PROBLEM.

I'VE GOT A COMPUTER THAT'S  
RUNNING A PRESCOTT 3.4 Pentium 4 IN IT.

**Leo:** MM-HMM.

**Gary:** AND IT RUNS EXTREMELY HOT.

**Leo:** IT SURE DOES, HA.

**Gary:** YEAH.

**Leo:** THAT'S ONE OF THE  
REASONS THE PRESCOTT IS A FLOP.

[ Pop captions down ]

**Gary:** YEAH.

WELL, I FOUND OUT THAT  
AFTERWARDS, DIDN'T I?

**Leo:** YEAH, SO DID WE ALL.

SO DID Inte-- YOU KNOW WHO WAS  
REALLY DISAPPOINTED WAS Intel.  
THEY WERE TALKING ABOUT GETTING  
THAT CHIP UP TO 4 GIGAHERTZ  
UNTIL THEY REALIZED THAT THE  
THING WAS PUTTING OFF SO MUCH  
HEAT YOU COULD BOIL WATER ON IT.  
AND THEY ACTUALLY KIND OF  
CHANGED THEIR WHOLE CHIP  
STRATEGY BECAUSE OF THAT ONE  
Pentium 4 CHIP.

THEY SAID WE'RE GOING IN THE  
WRONG DIRECTION AND THAT'S WHEN  
THE Core 2s CAME OUT.

**Gary:** COOL.

WELL, THAT'S WHAT MY QUESTION  
IS IS TWO-FOLD.  
IS CAN I REPLACE THE CHIPSET IN

THIS MACHINE --

**Leo:** MM-HMM.

**Gary:** -- EASILY?

AND SECONDLY, CAN YOU

RECOMMEND -- LIKE THERE'S SO

MANY DIFFERENT Dual Core CHIPS

AND IT'S QUITE CONFUSING.

WHAT WOULD BE A COMPARABLE CHIP

TO A 3.4 IN A Dual-Core?

**Leo:** ALMOST ANYTHING IS FASTER,

BELIEVE IT OR NOT, THAN 3.4.

THAT IS WHAT'S --

**Gary:** COOL.

**Leo:** -- SO DISAPPOINTING

ABOUT THE WHOLE THING FROM

Intel'S POINT OF VIEW.

YOUR PRESCOTT IS A SOCKET 775.

UNFORTUNATELY YOU DON'T HAVE AS

MANY CHOICES WITH A 775, BUT I

DO THINK THAT YOU CAN GET A

Core 2 IN THERE.

SO, WHAT YOU'RE GOING TO LOOK

FOR IS SOME Intel CHIP THAT

WILL OPERATE WITH THAT SAME SOCKET.

NOW, THEY CHANGED -- THEY

CHANGED THE VOLTAGE AND THINGS,

SO I'M NOT COMPLETELY SURE THAT

YOU'LL BE ABLE TO MAKE THE

DIRECT REPLACEMENT.

YOU BETTER CHECK-- WHO MADE THE

MOTHERBOARD THAT YOU'RE USING?

**Gary:** IT'S Medion, SO IT'S A

GERMAN COMPANY.

**Leo:** OKAY.

SO, I WOULD CHECK WITH THE  
Medion WEBSITE AND SEE WHAT  
CHIPS THEY SUPPORT IN THAT  
PARTICULAR MACHINE.

I-- THERE ARE SOME Core 2s THAT  
USE, IN THEORY, THE SAME  
SOCKET, BUT AS I REMEMBER  
THERE'S SOME VOLTAGE ISSUES  
THAT MIGHT CAUSE SOME PROBLEMS,  
SO YOU WANT TO MAKE SURE THAT  
IT'LL SUPPORT THAT.

[ Pop captions up ]

**Leo:** IN MOST CASES NOWADAYS  
IT'S BETTER TO BUY A NEW  
MOTHERBOARD DESIGNED FOR THAT  
CHIP FOR A LOT OF REASONS.  
MOSTLY BECAUSE MOTHERBOARDS ARE  
CHEAP COMPARED TO THE CHIP AND  
YOU'LL GET A LOT OF ADVANTAGES  
BY GOING TO A NEWER  
MOTHERBOARD.

[ Pop captions down ]

**Leo:** THE Core 2s RUN AT  
SLOWER CLOCK SPEEDS.  
YOU'RE NOT GOING TO SEE ANOTHER  
3.4 GIGAHERTZ CHIP PROBABLY.  
WHAT Intel FOUND, AND THIS WAS  
THE BIG DISAPPOINTMENT WITH  
PRESCOTT - PRESCOTT WAS A VERY  
BIG CHIP WITH LONG PIPELINES,  
LOTS OF THEM, A LOT OF  
TRANSISTORS IN THAT CHIP, AND

WHAT THEY FOUND WAS THEY HAD GONE KIND OF DOWN THE RABBIT HOLE WITH THAT CHIP DESIGN. THEY PUSHED IT TOO FAR AND IT WAS GETTING TOO HOT, IT WAS TOO INEFFICIENT. SO, THEY WENT BACK TO THE DRAWING BOARD AND FORTUNATELY THEY HAD A LITTLE SKUNK WORKS PROJECT GOING ON IN ISRAEL. THEY HAD DESIGNED THE LITTLE PORTABLE CHIPS FOR Intel THAT WERE SO SUCCESSFUL AND THEY SAID, GUYS, WE NEED A NEW DESKTOP PROCESSOR AND THAT'S WHEN THEY CAME UP WITH THE Core, FIRST THE Core Duo AND THEN THE Core 2. BELIEVE IT OR NOT, THESE CHIPS ARE ACTUALLY CLOSER TO A Pentium 3 THAN THEY ARE A Pentium 4. THEY HAVE SHORTER PIPELINES, BUT THEY RUN COOLER AND THEY RUN MORE EFFICIENTLY. AND MOST IMPORTANTLY, THEY GET MORE WORK DONE IN FEWER CYCLES. SO, YES, THEY'RE NOT RUNNING AT 3.8, 3.4 GIGAHERTZ. THEY'RE RUNNING, YOU KNOW, 2.4, 2.8, 3 GIGAHERTZ. BUT EVEN AT THOSE SLOWER CLOCK SPEEDS THEY'RE MORE EFFICIENT AND THEY'RE A HECK OF A LOT COOLER.

SO, MY RECOMMENDATION, IF YOU WANT TO UPGRADE, IF YOU'RE FINDING THAT THAT PRESCOTT IS TOO HOT, MY RECOMMENDATION WOULD BE GET A NEW MOTHERBOARD THAT SUPPORTS THE Core 2, GO WITH A Core 2 Duo; I THINK THEY'RE VERY GOOD.

IF YOU WANT TO STAY COOL, GO WITH THE SLOWER CLOCK SPEEDS BECAUSE THEY -- YOU KNOW, WHEN THEY'RE WORKING, THEY'LL GET HOT JUST AS MUCH AS ANY OTHER ONE. YOU KNOW, THESE COMPUTERS ARE HOT NOWADAYS, BUT THEY'RE MUCH MORE EFFICIENT AND MUCH COOLER THAN THE PRESCOTT.

THE PRESCOTT WAS JUST AN UNFORTUNATE CHIP DESIGN AND Intel BACKED OFF ON THAT COMPLETELY. THAT WAS AN EMBARRASSMENT, FRANKLY, FOR THEM.

BUT WHAT'S INTERESTING IS THEY WERE ABLE TO TURN ON A DIME THANKS TO THIS LITTLE ISRAELI SKUNK WORKS AND THEY WERE ABLE TO COME UP WITH A NEW DESIGN, A NEW PLATFORM THAT'S REALLY BEEN A HUGE SUCCESS.

THEY CERTAINLY ARE THE FASTEST CHIPS OUT THERE RIGHT NOW. OKAY?

**Gary:** (indiscernible) Dual-Core 6?

IS THAT GOING TO STILL BE COOL?

**Leo:** WELL, NO, I MEAN, LOOK  
IT, THESE ARE ALL HOT, EVEN A Core 2.  
I HAVE A Quad THAT'S Dual Xeon  
AND, BOY, YOU GET SOME HEAT  
COMING OFF (laughing) THAT PUPPY.  
IF YOU WANT COOL, YOU NEED SLOW  
AND THERE'S NO TRADEOFF ON IT.  
YOU JUST-- IT'S GONNA END UP  
BEING HOT, SO YOU WANT TO GET  
GOOD COOLING ON ALL OF THESE  
THINGS, BUT THEY ARE AT LEAST  
MORE EFFICIENT AND COOLER THAN  
THE OLDER CHIPS WERE.  
THEY'RE NOT COOL BY ANY MEANS.  
THEY'RE COOLER THAN THE OLDER  
CHIPS WERE.  
THERE'S A BIG DIFFERENCE.  
THANKS FOR THE CALL, I REALLY  
APPRECIATE IT, GARY.  
LET'S MOVE ON.  
WE'VE GOT TO GO OVER AND SEE  
WHAT SEAN'S GOT.  
HE'S GOT A SHINY.

**Sean:** YES.

**Leo:** IT'S ACTUALLY AN INTERNAL SHINY.

**Sean:** YES.

WHAT DOES THAT LOOK LIKE TO  
YOU, Mr. LAPORTE?

**Leo:** LOOKS LIKE A HARD DRIVE --

**Sean:** IT DOES.

**Leo:** -- BUT IT'S A LITTLE LIGHT.

[ Pop captions up ]

**Sean Carruthers:** IT IS A HARD DRIVE.

IT'S A Samsung HARD DRIVE.

IT'S A FLASH SOLID STATE HARD DRIVE.

**Leo:** NO MOVING PARTS.

**Sean:** NO MOVING PARTS.

SPEAKING OF HEAT LIKE WE JUST WERE --

**Leo:** THAT WILL COOL THINGS OFF.

**Sean:** -- ONE OF THE BIG

PROBLEMS THAT WE HAD IN THE

PAST WITH HARD DRIVES IS THEY

SPUN UP AT VARIOUS RPMs.

**Leo:** RIGHT.

**Sean:** AND WHEN YOU DO THAT,

YOU GENERATE HEAT.

[ Pop captions down ]

**Leo:** THIS IS AN SATA DRIVE.

**Sean:** THIS IS A SATA DRIVE,

SO YOU CAN ACTUALLY FLIP OUT A

REGULAR SATA DRIVE INSIDE YOUR

NOTEBOOK WITH THIS AND PUT IT

IN THERE, BUT IT'S ALL MADE OF

FLASH MEMORY.

NO MECHANICAL PARTS, NO

MAGNETICS IN THERE.

**Leo:** COUPLE QUESTIONS FOR YOU.

**Sean:** YES.

**Leo:** IS IT AS FAST?

**Sean:** I HAVEN'T HAD A CHANCE

TO BENCHMARK IT YET.

JUST FRESH OUT OF THE BOX.

**Leo:** AND HOW ABOUT LIFE EXPECTANCY?

BECAUSE THAT'S --

**Sean:** OKAY, THAT'S --

**Leo:** -- ONE WORRY ABOUT

THESE FLASH DRIVES.

**Sean:** THAT'S ONE OF THE DULL  
PARTS OF THE THING.  
WITH OPERATING SYSTEMS ON THIS,  
YOU'RE WRITING TO THEM AN AWFUL LOT.

**Leo:** YEAH.

**Sean:** SO, WITH A Windows  
MACHINE WHERE YOU'RE CONSTANTLY  
UPDATING THE REGISTRY --

**Leo:** RIGHT.

**Sean:** -- YOU DO RUN THE RISK  
OF BURNING OUT SOME OF THE  
CELLS IN THERE.  
THEY'VE GOT SOMETHING LIKE  
10,000 WRITE CYCLES IN THEM.

**Leo:** THAT'S THE PROBLEM,  
THEY DON'T HAVE --

**Sean:** SO.

**Leo:** -- AS MANY REWRITE  
CYCLES AS A HARD DRIVE AND  
THEY'RE MORE EXPENSIVE, RIGHT?

**Sean:** THAT'S THE REAL DULL  
PART ABOUT THIS.

**Leo:** LET'S LOOK AT --

**Sean:** YEAH, THERE WE GO.

**Leo:** LET'S LOOK AT THE  
SHINIES AND DULLS.

[ Pop captions up ]

**Sean:** \$2,000.

**Leo:** (outcry) OKAY.

**Sean:** OH, I SHOULD HAVE  
TAKEN THAT FROM YOU.

**Leo:** 64 GIGABYTES, OKAY.

**Sean:** YEAH, SO IT'S --

**Leo:** VERY PRICEY.

**Sean:** AND DATA RECOVERY, IF  
IT EVER DOES DIE, MIGHT BE WAY  
MORE DIFFICULT BECAUSE THERE'S  
NO MAG-- OR THERE'S NO ACTUAL  
MECHANICAL THING THAT YOU CAN  
PULL OUT --

**Leo:** RIGHT.

**Sean:** -- AND PUT INTO THEIR DEVICE.

**Leo:** RIGHT.

**Sean:** IT MIGHT JUST BE COMPLETELY GONE.

**Leo:** OKAY.

**Sean:** GOOD THINGS, NO MOVING  
PARTS AND NO HEAT.

WELL, THERE IS A BIT OF HEAT,  
BUT NOT A LOT.

**Leo:** AND LOWER BATTERY USAGE.

**Sean:** LOWER BATTERY USE.

**Leo:** SO, THESE ARE GOOD FOR LAPTOPS.

**Sean:** RIGHT, AND IT IS  
LIGHTWEIGHT AS WELL, SO IT  
DOESN'T ADD TO THE WEIGHT OF THE--

**Leo:** YEAH. BOY, IT'S REALLY LIGHT.

**Sean:** YEAH.

[ Pop captions down ]

**Leo:** IT'S ABOUT HALF THE  
WEIGHT OF A HARD DRIVE.

**Sean:** IT'S VERY SHINY.  
LISTEN, IF I HAD \$2,000, I'D  
PROBABLY BE SPENDING IT ON  
SOMETHING ELSE. (laughing)

**Leo:** BUT REME-- (laughing)

BUT REMEMBER, HARD DRIVES ARE  
EXPENSIVE.

I MEAN, MY FIRST HARD DRIVE --

**Sean:** YES.

**Leo:** -- WAS 5 MEGABYTES AND  
COST THOUSANDS OF DOLLARS.

WE'LL SEE PRICE DROPS.

**Sean:** AS FLASH MEMORY GETS  
EVEN BETTER --

**Leo:** SURE.

**Sean:** -- AND CHEAPER, THESE  
WILL DO THE SAME.

**Leo:** WOW, THAT'S COOL, YOU  
GOT ONE OF THESE. OOH.

[ Pop captions up ]

**Sean:** I'M GOING TO TRY  
BENCHMARKING THIS NEXT TIME  
AROUND.

**Leo:** OOH, VERY NICE.

**Sean:** YES.

**Leo:** COMING UP, DIGITAL FRAMES.  
THESE ARE THE KINDS OF THINGS  
THAT CAN MAKE A BIG DIFFERENCE --

**Sean:** OH, YEAH, YEAH.

**Leo:** -- IN THOSE DEVICES.  
HOW ABOUT GETTING YOUR PICTURES  
OVERSEAS (snaps fingers) LIKE  
THAT SO GRANDMA CAN SEE 'EM?  
WE'LL SHOW YOU HOW IN JUST A  
BIT, BUT FIRST OUR QUICK QUIZ  
QUESTION OF THE DAY.

ONE MORE CHANCE TO ANSWER THIS  
ONE-- ACTUALLY, OUR FIRST

CHANCE TO ANSWER THIS ONE.

**Sean:** YES.

**Leo:** WHICH DOCUMENTARY  
SHOWED BILLY MITCHELL & STEVE  
WIEBE - IS THAT HOW YOU SAY IT?

**Sean:** WIEBE.

**Leo:** WIEBE.

HE WAS A DWEEB.

- THEIR FIGHT FOR THE DONKEY  
KONG CROWN?

THAT'S HOW YOU REMEMBER THAT.

A FISTFUL OF QUARTERS; BILLY  
vs. STEVE; THE KING OF KONG, OR  
THEY MADE A MOVIE ABOUT THIS?!

THAT'S MY CHOICE.

ALL RIGHT, THINK ABOUT IT.

WE'LL TALK ABOUT IT.

DO YOU REMEMBER THAT MOVIE?

WE'LL TALK ABOUT IT A LITTLE

LATER ON WHEN "THE LAB" CONTINUES.

(incidental music)

[ BLACK/COMMERCIAL ]

[ Pop captions down ]

(Theme music playing)

**Leo Laporte:** WELCOME BACK TO "THE LAB."

I THINK IT'S BEEN ABOUT FIVE OR  
SIX YEARS SINCE WE DID OUR  
FIRST REVIEW ON "CALL FOR  
HELP" OF THESE DIGITAL PHOTO FRAMES.  
IT WAS A CIEVA I BELIEVE THAT  
WE DID THIS.

AND AT THAT TIME THEY WERE VERY  
EXPENSIVE; THEY WEREN'T VERY

GOOD LOOKING; THEY WERE PASSIVE  
MATRIX DISPLAYS; THEY WEREN'T BRIGHT.

**Kate:** MM-HMM.

**Leo:** BOY, WE'VE COME A LONG WAY.

**Kate:** THEY ARE COMING  
FORWARD, AREN'T THEY?

**Leo:** KATE ABRAHAM HAS BEEN  
LOOKING AT ALL OF THESE MODELS --

**Kate:** YEAH.

**Leo:** -- AND WE'RE GOING TO  
TAKE A LOOK AT SOME OF THE BEST.

[ Pop captions up ]

**Kate Abraham:** ABSOLUTELY,  
AND THE GOOD THING IS I'VE GONE  
FOR A BROAD ARRAY OF SIZES AND PRICES.

**Leo:** NO KIDDING. I MEAN--

**Kate:** SO, THE IDEA IS  
WHATEVER YOUR HOUSE LOOKS LIKE --

**Leo:** RIGHT.

**Kate:** -- OR WHATEVER YOUR  
OFFICE LOOKS LIKE, THE IDEA IS  
THIS WILL FIT IN WITH IT.

**Leo:** THIS MIGHT ALM-- THE  
BIGGEST MIGHT ALMOST BE TOO BIG.  
YOU MIGHT--

**Kate:** IT'S A TV SCREEN.

**Leo:** YEAH. (Laughing)  
I MEAN, THAT'S GIGANTIC.

[ Pop captions down ]

**Leo:** SO, WE'LL START OVER  
HERE ON THE FAR LEFT.

**Kate:** YES, I'M ACTUALLY  
GOING TO COME AROUND BECAUSE

EVERYTHING ACTUALLY DOES HAVE A  
REMOTE CONTROL AND THE SENSOR  
IS ACTUALLY DOWN HERE AT THE FRONT.

**Leo:** OKAY.

**Kate:** SO, THIS IS THE Aluratek.

IT'S 11 INCHES.

AND THIS ONE HERE IS ACTUALLY  
CALLED Smartparts AND THIS ONE  
IS 15 INCHES.

**Leo:** 15.

**Kate:** VERY SIMILAR IN FORMAT.  
DIFFERENT COMPANIES, DIFFERENT  
PRICES, BUT VERY SIMILAR IN DESIGN.

**Leo:** OKAY.

**Kate:** THEY ALL DO -- THEY  
ALL DO PHOTOGRAPHS, AS YOU CAN  
SEE, AND OBVIOUSLY YOU HAVE A  
CHOICE OF THE SLIDE SHOWS OF  
HOW YOU ACTUALLY HAVE THEM.

**Leo:** RIGHT.

**Kate:** SO, YOU CAN HAVE  
DIFFERENT, LIKE DIFFERENT  
TRANSITIONS, DIFFERENT SPEEDS.  
AND THEY OBVIOUSLY-- NONE OF  
THEM HAVE INSTALLATION.  
SO, WHAT YOU CAN DO IS  
BASICALLY PLUG IN YOUR -- YOUR  
USB OR PLUG IN A MEMORY CARD  
AND IT READS OFF THE MEMORY CARD.

**Leo:** SO, IT READS IT FROM A  
CARD THAT YOU'VE USED TO TAKE  
DIGITAL PICTURES.

**Kate:** YES, ABSOLUTELY.

**Leo:** OKAY.

**Kate:** AND ALSO WHAT THEY DO  
IS THEY HAVE AUDIO TO THEM AS  
WELL, SO YOU CAN HAVE YOUR MP3  
ON THERE AS WELL.

**Leo:** SO, YOU GET MUSIC IN  
THE BACKGROUND?

**Kate:** YES.

SO, WHAT YOU CAN DO IS  
ACTUALLY-- YOU CAN ALWAYS  
COORDINATE YOUR SLIDESHOW TO  
YOUR MUSIC --

**Leo:** RIGHT.

**Kate:** -- WHICH IS FANTASTIC.

**Leo:** THAT'S NEAT, YEAH.

**Kate:** MY BIGGEST COMPLAINT  
WITH THESE IS THE VIDEO.  
ACTUALLY THEY BOTH HAVE THE  
FEATURE OF HAVING VIDEO ON THEM.

**Leo:** IN ADDITION TO STILL PICTURES --

**Kate:** YES.

**Leo:** -- YOU CAN HAVE VIDEOS.

**Kate:** SO LET ME SHOW YOU  
THIS. SO, THIS ONE HERE, THIS--

**Leo:** OKAY.

CAN YOU BE DOING A SLIDESHOW  
AND ALL OF A SUDDEN A MOVIE  
WILL START AND THEN IT'LL GO  
BACK TO THE SLIDESHOW?

**Kate:** NO, YOU ONLY --

**Leo:** YOU HAVE TO CHOOSE.

**Kate:** YEAH, YOU HAVE THE  
OPTION OF VIDEO --

**Leo:** OKAY.

**Kate:** -- OR OF THE ACTUAL STILL IMAGE.

**Leo:** GOT IT.

I'M NOT SURE I'D WANT VIDEO.

I MEAN, THAT'S TV.

**Kate:** LET ME JUST SHOW YOU THIS.

THIS IS...

[ Pop captions up ]

**Kate:** THIS TOOK US THREE DAYS.

**Leo:** TO GET THAT ON THERE.

**Kate:** YES.

**Leo:** WAS THAT BECAUSE YOU  
HAD TO ENCODE IT?

**Kate:** BECAUSE BASICALLY WHAT  
HAPPENED IS IS THAT YOU HAVE --  
THEY HAVE CODEC ISSUES  
WHEREFOR THEY WANT --

**Leo:** OKAY.

**Kate:** -- THEY SAY IT'S AVI  
FILES, BUT IT ALSO SAYS IT  
SUPPORTS THE Windows Media  
Player FILE, IT ALSO SUPPORTS MP4.

**Leo:** IT HAS TO BE A CERTAIN  
KIND EXACTLY.

**Kate:** IT'S A NIGHTMARE.

**Leo:** OKAY.

[ Pop captions down ]

**Kate:** AND HONESTLY, IF I  
SEND THIS TO MY MOM OR MY  
GRANDPARENTS --

**Leo:** THEY'RE NOT GOING TO DO IT.

**Kate:** -- AND SAID TO THEM,  
OKAY, THERE'S THE VIDEO.

LIKE, THAT'S MY BIGGEST COMPLAINT.

**Leo:** OKAY.

**Kate:** THESE THINGS, THEY ARE FOR...

**Leo:** YOU KNOW WHAT, LET THEM  
WATCH THE VIDEOS ON COMPUTERS.

**Kate:** YOU KNOW.

**Leo:** LET'S MAKE THIS FOR  
STILL PICTURES.

**Kate:** YEAH, AND THESE --  
THESE ARE GREAT FOR STILL IMAGES.  
I MEAN, THE QUALITY-- LOOK AT  
THE RESOLUTION OF THIS.  
IT'S FANTASTIC.

**Leo:** I HAVE TO SAY THIS  
REALLY LOOKS GOOD.

I MEAN--

**Kate:** YOU CAN ACTUALLY SEE THAT OKAY.

**Leo:** YEAH. THESE ARE BACKLIT SCREENS.

**Kate:** YEAH.

**Leo:** SO, EVEN IN A BRIGHT  
ROOM THEY'D BE PRETTY GOOD.

**Kate:** YEAH.

**Leo:** IT'S PRETTY BRIGHT  
HERE, BUT OF COURSE IN A DARK  
ROOM IT WOULD BE AMAZING.

**Kate:** ABSOLUTELY.

[ Pop captions up ]

**Kate:** AND THE Aluratek HAS  
1 GIG OF INTERNAL MEMORY, WHICH IS --

**Leo:** OKAY.

**Kate:** -- KIND OF COOL.

SO, THE Aluratek IS 229 U.S.

**Leo:** THAT'S FOR AN 11 INCH.

**Kate:** YES. THIS ONE HERE--

**Leo:** FOR THE 15?

[ Pop captions down ]

**Kate:** THIS ONE IS - JUST  
BEAR WITH ME - 229 AS WELL.

**Leo:** OH.

**Kate:** SO, YOU'RE LOOKING AT  
ROUGHLY THE SAME KIND OF PRICE.

**Leo:** WELL, THAT'S INTERESTING.  
HOW COME THIS ONE IS SO MUCH  
LESS EXPENSIVE?

**Kate:** I THINK BECAUSE IT  
HASN'T GOT THE INTERNAL MEMORY.

**Leo:** AH, THAT'S THE KEY.

**Kate:** THAT'S THE KEY.

**Leo:** NOW, WILL EITHER OF  
THESE GET THEM WIRELESSLY?

**Kate:** NO.

**Leo:** BECAUSE WHAT I'D REALLY  
LIKE-- THEY WON'T.

**Kate:** NO.

**Leo:** SEE, WHAT I'D REALLY  
LIKE TO DO IS NOT HAVE TO MAIL  
MOM A CHIP, RIGHT.

**Kate:** PLUG THAT IN AND THEN  
GO FROM THERE.

**Leo:** YEAH, YEAH, YEAH.

**Kate:** YEAH, THIS IS WHERE  
THE Ceiva COMES IN.  
THIS IS ACTUALLY, THIS IS  
AVAILABLE WIRELESSLY AND ALSO  
VIA BROADBAND CONNECTION.

**Leo:** SO, THEY COULD PLUG THIS INTO --

**Kate:** YES.

**Leo:** -- THE INTERNET --

**Kate:** ABSOLUTELY.

**Leo:** -- OR USE A WiFi CARD.

[ Pop captions up ]

**Kate:** EXACTLY.

AND WHAT I COULD DO FROM HERE  
IN CANADA IS I CAN UPLOAD MY  
PHOTOS ONTO THE WEBSITE --

**Leo:** AH.

**Kate:** -- UNDER MY ACCOUNT  
AND THEN WITHIN AN HOUR THEY'LL  
BE ON HERE IN MY MOM'S HOUSE IN  
THE U.K.

**Leo:** SEE, THAT'S A GOOD IDEA.

NOW, THIS-- Ceiva HAS BEEN  
AROUND SINCE BEFORE flickr.

**Kate:** YES.

**Leo:** SO, THEY HAVE A  
SUBSCRIPTION WEBSITE, RIGHT?

**Kate:** YES.

IT'S ABOUT A HUNDRED BUCKS A YEAR.

**Leo:** OKAY.

**Kate:** OR I THINK IT'S  
ABOUT -- FOR THREE IT'S ABOUT 250.

**Leo:** SO, YOU HAVE TO PAY --

**Kate:** YOU HAVE TO PAY.

**Leo:** -- THE RIGHT TO UPLOAD PHOTOS.

**Kate:** AND YOU'RE PAYING FOR  
THE ACTUAL FRAME, WHICH IS 200 AS WELL.

**Leo:** THAT'S SOMETHING TO KEEP IN MIND.

**Kate:** YEAH.

[ Pop captions down ]

**Leo:** THIS IS THE Ceiva SITE.

**Kate:** ABSOLUTELY.

**Leo:** A LOT OF THESE-- SOME  
OF THESE NOW YOU DON'T NEED TO  
SUBSCRIBE.

YOU CAN JUST DO --

**Kate:** YEAH.

**Leo:** -- HAVE THESE THINGS  
GET THEIR PICTURES, SAY, FROM flickr.

**Kate:** MM-HMM.

**Leo:** SO, IF YOU'VE UPLOADED  
YOUR IMAGES TO flickr --

**Kate:** YES.

**Leo:** -- OR SOME OTHER SHARING SITE.  
NOW, I DO LIKE THE FACT THAT  
YOU CAN CHANGE THE FRAME ON THE Ceiva.

**Kate:** ABSOLUTELY.

**Leo:** SO, THAT GIVES YOU--  
YOU CAN MATCH IT TO YOUR DECOR.

**Kate:** ABSOLUTELY.

**Leo:** THAT'S KIND OF NICE, YEAH.

**Kate:** SO, THAT'S COOL.

SO, THIS IS A WIRELESS ONE.  
SO, THIS IS GREAT OBVIOUSLY IF  
YOU DO HAVE FAMILY, YOU  
BASICALLY WANT TO SET IT UP FOR THEM.

**Leo:** I WOULD WANT THE  
WIRELESS, I'LL BE HONEST WITH YOU.

**Kate:** THAT'S VERY COOL.

IT'S VERY COOL FROM THAT POINT OF VIEW --

**Leo:** YEAH.

**Kate:** -- BUT OBVIOUSLY YOU  
DO HAVE TO PAY FOR IT.

**Leo:** RIGHT.

**Kate:** SO, THERE'S THAT.

**Leo:** RIGHT.

**Kate:** IN A LATER SEGMENT WE  
WILL BE LOOKING AT ACTUALLY A  
FREE SERVICE CALLED  
FrameChannel, BUT THAT'S IN A LATER SHOW.

**Leo:** OKAY.

NOW, WHAT'S THIS ONE?  
THIS IS KIND OF A WHACKY ONE.

**Kate:** YEAH.

THIS ONE ACTUALLY IS MY BARGAIN  
OF THE DAY.  
THIS IS A HUNDRED BUCKS.

[ Pop captions up ]

**Leo:** OH, THAT'S NOT BAD AND  
THE PICTURE'S GOOD.

**Kate:** YEAH, EXACTLY.

**Leo:** IT'S SMALL.

**Kate:** AND YOU CAN CHANGE  
THE COVERS TO SUIT YOUR NEED.

**Leo:** OKAY.

**Kate:** IT'S CALLED-- IT'S FROM cenOmax.  
IT'S REMOTE CONTROL.  
IT HAS AN INTERNAL MEMORY FOR  
UP TO 15 PHOTOGRAPHS.

**Leo:** AHH.

[ Pop captions down ]

**Kate:** NOT IDEAL, BUT AS YOU  
CAN SEE, LIKE ALL OF THESE,  
THEY ALL HAVE --

**Leo:** CAN YOU-- THEY HAVE AN SD SLOT.

**Kate:** YEAH.

**Leo:** SO, YOU COULD PUT YOUR SD CARD IN THERE.

**Kate:** ABSOLUTELY.

**Leo:** AND YOU CAN HOOK IT UP TO A COMPUTER VIA USB.

**Kate:** YEAH, EXACTLY.

**Leo:** WIRELESS ON THIS ONE AS WELL OR NO?

**Kate:** NO, NOT AT ALL.

**Leo:** NOT FOR A HUNDRED BUCKS.

**Kate:** THIS ONE IS A VERY BASIC FRAME.

**Leo:** YEAH.

**Kate:** IF YOU-- I MEAN, OBVIOUSLY IF YOU'RE STARTING OUT THAT'S GREAT.

LIKE, THIS WOULD BE SUCH A GOOD THING TO HAVE TO BEGIN WITH.

**Leo:** IT'S KIND OF NEAT.

**Kate:** JUST THE IDEA OF IT. IT'S A HUNDRED BUCKS AS WELL, YOU KNOW.

**Leo:** AND, YOU KNOW, IF YOU PUT A 4 GIG SD CARD IN THERE, THAT'S A LOT OF PICTURES.

**Kate:** EXACTLY, EXACTLY. AND I LIKE THE FACT THAT IT'S VERY SIMPLE TO USE.

IT'S CHEAP.

AND HONESTLY, THE VISUAL QUALITY OF IT, I ACTUALLY WATCHED A TV SHOW ON THERE.

**Leo:** THEY'RE PRETTY CRISP.

OH, REALLY, SO THIS--

**Kate:** AND, YEAH, HONESTLY  
IT'S A REALLY GOOD PLAYBACK.

**Leo:** IT'S A LITTLE TV.

**Kate:** ACTUALLY BETTER  
PLAYBACK THAN THE LARGER ONE.

**Leo:** ISN'T THAT INTERESTING.

**Kate:** YEAH.

**Leo:** WHO MAKES THAT?

**Kate:** THE cenOmax.

**Leo:** cenOmax.

**Kate:** YES.

**Leo:** NOW, THIS MIGHT BE MY  
FAVOURITE ONE.

LOOK AT THIS ONE, IT'S A  
LITTLE, TEENY-WEENY.  
IT'S A KEYCHAIN.

**Kate:** ISN'T THAT SO COOL?

[ Pop captions up ]

**Leo:** YEAH.

**Kate:** AND THAT'S ACTUALLY  
FROM A COMPANY CALLED Tao.  
AND IT'S 50 BUCKS.  
COMES IN DIFFERENT FORMATS.  
SO-- THIS ONE IS MADE OF PLASTIC.  
YOU CAN GET THE METAL ONE AS WELL.  
AND THERE YOU GO, IT --

[ Pop captions down ]

**Leo:** AND HOW DO YOU GET THE  
PICTURES ON IT?

**Kate:** IT'S USB.

**Leo:** OKAY, SO YOU HAVE TO HOOK IT UP.

**Kate:** YEAH.

**Leo:** HOW MUCH MEMORY DOES IT HAVE?

**Kate:** YOU'RE LOOKING AT  
ABOUT 30 PHOTOGRAPHS.

**Leo:** SO, IT'S NOT-- OH.  
IT'S NOT A LOT OF --

**Kate:** YEAH.

**Leo:** IT'S ALSO NOT TOO FRAGILE.

**Kate:** IT'S VERY DURABLE.

**Leo:** IT'D HAVE TO BE IF  
YOU'RE GOING TO CARRY IT IN  
YOUR POCKET.

**Kate:** (laughing) YEAH, EXACTLY.

**Leo:** BUT, YOU KNOW, HOW FUN  
TO HAVE 30 PHOTOGRAPHS OF YOUR  
LOVED ONES IN YOUR POCKET --

**Kate:** IT'S CUTE.

**Leo:** -- ON YOUR KEYCHAIN.

**Kate:** IT'S REALLY CUTE.

**Leo:** HOW MUCH IS THAT ONE?

**Kate:** \$50.

**Leo:** 50 BUCKS FOR Tao.

**Kate:** THAT'S NOT BAD, YOU KNOW.

**Leo:** OKAY.

THERE'S SOME GREAT CHOICES.

**Kate:** SO, THERE YOU GO.

[ Pop captions down ]

**Leo:** KATE ABRAHAM, THANK YOU  
SO MUCH.

NICE PICTURE.

YOU CAN-- (laughing) BOY.

YOU CAN FIND OUT MORE ABOUT  
THIS ON OUR WEBSITE [labwithleo.com](http://labwithleo.com).

**Kate:** ABSOLUTELY.

**Leo:** ALL OF THE LOCATIONS

WHERE YOU CAN BUY THESE TOO AND  
THE PRICES.

**Kate:** MM-HMM.

**Leo:** SO, IF YOU HAD TO PICK  
ONE, WOULD IT BE THIS ONE FOR --

**Kate:** FOR VALUE --

**Leo:** -- FOR A HUNDRED BUCKS.

**Kate:** -- FOR THIS ONE.

FOR GIMMICK FACTOR, I'M GOING TO  
PICK THAT RIGHT THERE.

**Leo:** cenOmax AND THE Tao FOR  
JUST CARRYING IT IN YOUR POCKET.

**Kate:** ABSOLUTELY.

**Leo:** AND WE'LL PUT YOUR  
BOYFRIEND ON THERE AND YOU CAN  
CARRY IT AROUND.

OH, I'M ALREADY ON IT.

ALL RIGHT.

GO AHEAD, PUNCH ME.

**Kate:** (laughing)

**Leo:** WE'LL BE BACK IN JUST A MINUTE.  
YOU STAY RIGHT HERE.

**Leo:** THAT'S GREAT.

I REALLY LIKE THAT.

**Kate:** IT'S REALLY GOOD, EH?

(incidental music)

[ BLACK/COMMERCIAL ]

[ Pop captions down ]

(Theme music playing)

**Kate:** HEY, WELCOME BACK  
TO "THE LAB WITH LEO."  
I'VE COME ACROSS TO THIS SIDE  
OF THE SET NOW TO SHOW YOU

MY TIP OF THE DAY AND THIS IS  
ACTUALLY BACK TO THE OLD DAYS  
OF Facebook.

THIS IS THE TV TRIVIA QUIZ, THE  
BIGGEST ADDICTION POSSIBLE I  
THINK TO ANYBODY EVER IF YOU  
EVER LOVED TV.

[ Pop captions up ]

**Kate:** AND IT HAS A HUGE  
AMOUNT OF TV SHOWS WITHIN IT.  
SO, THE IDEA IS YOU ASK THE QUESTION.  
NOW, I NEVER WATCHED  
“ANGEL,” SO I CAN ACTUALLY  
BLOCK “ANGEL” FROM THIS --

**Leo:** (laughing)

**Kate:** -- AND GO TO A “FRIENDS” QUESTIONS.

**Leo:** THAT'S ONE WAY TO DO IT.

[ Pop captions down ]

**Kate:** AND THE GREAT THING IS  
YOU GET SCORED AGAINST YOUR  
FRIENDS AND YOU CAN EVEN SUBMIT  
YOUR OWN QUESTIONS TO THIS AND  
YOU GET EXTRA POINTS FOR  
SUBMITTING QUESTIONS.

**Leo:** WOW.

**Kate:** EXACTLY.

AND HONESTLY, PRODUCER MATT  
SPENDS HOURS ON THIS.

**Leo:** DOES HE?

**Kate:** YES.

**Leo:** IS HE GOOD AT THIS?

**Kate:** I THINK SO.

I'M REALLY BAD AT IT.

**Leo:** WELL, YOU'RE A BRIT.

YOU DON'T KNOW.

YOU DIDN'T WATCH THE SAME TV  
SHOWS GROWING UP.

**Kate:** HONESTLY, A LOT OF  
STUFF COMES OVER THOUGH.

**Leo:** OH.

**Kate:** A LOT OF STUFF COMES--

**Leo:** SO, YOU MIGHT HAVE SEEN IT.

**Kate:** YEAH.

**Leo:** WELL, IT GOES BOTH WAYS.

**Kate:** EXACTLY.

**Leo:** A LOT OF OUR BEST SHOWS  
ARE FROM GREAT BRITAIN, SO  
THERE YOU GO.

**Kate:** "FAULTY TOWERS,"  
EXACTLY. (laughing)

**Leo:** YEAH, OR  
"THE OFFICE," WHICH IS  
A KNOCKOFF --

**Kate:** MM-HMM.

**Leo:** -- OF THE BRITISH VERSION, SO.

**Kate:** YEAH, THE BRITISH ONE,  
DON'T EVEN GET ME STARTED ON THAT.

**Leo:** LOVE RICKY GERVAIS.

**Kate:** GOOD STUFF.

**Leo:** FUNNY MAN.

[ Pop captions up ]

**Kate:** YEAH, FOR THE Facebook  
APPS, IT'S facebook.com/apps.

**Leo:** I LIKE WHEN WE DO THAT.  
DO THAT AGAIN.

**Kate:** facebook.com/apps.

**Leo:** I'M WORKIN' ON IT.

**Kate:** ACTUALLY THAT'S A BACKSLASH,  
ISN'T IT, FROM THIS ANGLE.

**Leo:** IT DOESN'T MATTER.

**Kate:** ANYHOW, MOVING ON TO  
MY CALLER --

**Leo:** YES.

**Kate:** -- WE HAVE KEVAN ON  
THE LINE AND HE IS FROM GRAND  
JUNCTION IN COLORADO.

**Leo:** THANK YOU, KATE.

**Kate:** THANK YOU.

**Leo:** HELLO, KEVAN.

**Kevan:** HEY, LEO.

**Leo:** HOW ARE YOU TODAY?

**Kevan:** GOOD. HOW YOU DOIN'?  
HAVE A GOOD THANKSGIVING?

[ Pop captions up ]

**Leo:** OH, I SURE DID.

I ATE TOO-- WE MADE TWO TURKEYS  
BECAUSE I HAD 25 OR SOMETHING  
IN-LAWS IN THERE, BUT, YOU  
KNOW, AND I WAS RESPONSIBLE FOR  
THE TURKEYS, SO I WAS-- AND WE  
HAD TWO OVENS IN DIFFERENT HOUSES.  
I WAS RUNNING BACK AND FORTH,  
BUT IT ALL WORKED OUT GREAT AND  
EVERYBODY GOT FED AND WE -- AND  
I THINK I'M STILL EATING TURKEY  
SANDWICHES.  
SO, NOW EVERYBODY IN CANADA  
SAYS YOU'RE EATING TURKEY SANDWICHES?  
THANKSGIVING WAS BACK IN OCTOBER.

WHAT, ARE YOU CRAZY?

BUT WE HAVE IT A LITTLE LATER  
IN THE STATES, DON'T WE, KEVAN?

**Kevan:** RIGHT, RIGHT.

**Leo:** YES.

WHAT CAN I DO FOR YOU?

**Kevan:** HEY, I WAS JUST  
WONDERING, I PROBABLY COULD  
HAVE FIGURED THIS OUT ON MY  
OWN, BUT I THOUGHT I'D RUN IT BY YOU.

[ Pop captions down ]

**Leo:** NO.

NO, NO, NEVER FIGURE OUT  
ANYTHING ON YOUR OWN.  
YOU CALL ME.

THAT'S WHAT I'M HERE FOR.

**Kevan:** OKAY.

**Leo:** YES.

OF COURSE EVERYBODY CAN FIGURE  
EVERYTHING OUT ON THEIR OWN AND  
I'D HAVE NO SHOW!

**Kevan:** OR THEY CAN PAY ME TO DO IT.

**Leo:** OR WE CAN MAKE YOU DO IT.

**Kevan:** YEAH.

**Leo:** ARE YOU IN THE BUSINESS?

**Kevan:** NO.

**Leo:** NO. ALL RIGHT.

YOU DON'T WANT TO GET IN THE  
BUSINESS, TRUST ME.

IT'S A THANKLESS TASK.

(laughing) WHAT CAN I-- I'M  
SORRY, KEVAN.

WHAT CAN I DO FOR YOU?

**Kevan:** BACK TO THE SUBJECT --

**Leo:** BACK TO THE SUBJECT.

**Kevan:** -- I'VE GOT A NEW MacBook Pro --

**Leo:** OKAY.

**Kevan:** -- AND THAT'S WHAT

I'M USING TO DO THE Skype CALL.

**Leo:** LOOKS GOOD.

**Kevan:** (indiscernible) AND

ANYWAY, I WAS LOOKING ABOUT

GETTING THE - YOU KNOW, THE

AUDIO AND THE VIDEO ONTO AN LCD

TV AND IT'S BEEN KIND OF

PROBLEMATIC.

I DON'T KNOW IF YOU HAD A GOOD

OF WAY DOING THAT.

**Leo:** WELL, THE AUDIO SHOULD

BE PRETTY STRAIGHTFORWARD.

YOU HAVE, AS I REMEMBER ON THE

MacBook Pro, A DVI OUT, DO YOU NOT?

**Kevan:** YES.

**Leo:** YES.

AND ANY HDTV SHOULD HAVE A DVI IN.

IF IT DOESN'T, IT WILL HAVE

HDMI IN AND THAT'S THE SAME.

[ Pop captions up ]

**Leo:** YOU CAN EASILY GET AN

HDMI TO DVI CONNECTOR.

SO, IF YOU HAVE THIS DVI

CONNECTOR, THAT'S WHAT YOU NEED

AND YOU'LL JUST CONNECT THAT TO

YOUR MacBook AND THEN THE OTHER

END YOU'LL CONNECT UP TO YOUR TV.

[ Pop captions down ]

**Leo:** NOW, THAT'S ONLY GOING  
TO GET YOU THE PICTURE.  
SO, NEXT WE GO-- HAVE YOU BEEN  
ABLE TO DO THAT AT ALL?

**Kevan:** OH, YEAH.

I DID THAT WITH MY OLD iBook --

**Leo:** OKAY.

**Kevan:** -- BUT GETTING THE  
SOUND WITH THE VIDEO TOGETHER  
IN THE SAME INPUTS IS -- IS THE TROUBLE.

**Leo:** WELL, THE AUDIO IS DIFFERENT.

NOW-- AND ESPECIALLY ON THAT  
MacBook Pro I BELIEVE IT HAS

OPTICAL AUDIO OUT.

SO, THAT'S-- NOW, THAT'S GOOD  
BECAUSE IT'S DIGITAL, BUT  
IT'S BAD BECAUSE IT'S, YOU  
KNOW, I'VE GOT TO GET A SPECIAL CONNECTOR.

DOES YOUR TV HAVE OPTICAL AUDIO  
IN OR A TOSLINK IN OR A SPDIF IN?

**Kevin:** ON MY NEW Samsung IT MIGHT.

**Leo:** YEAH, SO THAT'S THE KEY.

IT'LL LOOK-- THE CABLE LOOKS A  
LITTLE BIT LIKE THIS.

AND YOU CAN SEE IT'S GOT KIND  
OF A SQUARISH CONNECTOR.

AND THIS - EVEN THOUGH IT LOOKS  
LIKE IT'S ELECTRICAL, THIS TIP  
HERE, THIS IS ACTUALLY OPTICAL.

IF YOU LOOK VERY CLOSELY AT THE  
TIP, YOU'LL SEE THAT'S WHERE  
THE LIGHT GOES IN.

BOOP-BOOP, RIGHT IN THERE.

AND -- (laughing) BOOP.

AND THAT'S -- THAT'S WHAT'S  
GOING TO HAPPEN IS THE SOUND IS  
SENT AS LIGHT DOWN THIS PIPE,  
IT'S AN OPTICAL LIGHT, AND  
THAT'S DIGITAL.

NOW, THAT'S THE BEST WAY TO DO IT.  
SO, YOU'RE GOING TO HAVE AN  
OPTICAL IN ON THE TV THAT LOOKS  
LIKE THIS.

NOW, THE WEIRD THING IS THAT  
THE CABLE ON THE Mac LOOKS LIKE  
A REG-- AND THIS CONFUSES  
PEOPLE, IT LOOKS LIKE A REGULAR  
MINI JACK.

IT'S NOT.

YOU'LL WANT TO GET A TOSLINK  
CABLE THAT HAS A MINI JACK,  
OPTICAL MINI JACK ON THE OTHER  
END OF IT, OKAY?

THEN YOU CONNECT THOSE TWO UP  
AND THAT SHOULD WORK FINE.

YOU'LL HAVE TO TELL THE Mac, OF  
COURSE, TO SEND AUDIO OUT THE  
OPTICAL PORT.

YOU'LL HAVE TO MAKE SURE THAT  
IT'S SENDING VIDEO AT THE RIGHT  
RESOLUTION OUT THE DVI PORT,  
ALTHOUGH IT SHOULD  
AUTOMATICALLY SENSE THAT TV.

NOW, HERE'S SOMETHING  
INTERESTING THAT SEAN HAS.  
THIS IS A DVI TO HDMI

CONNECTOR.

WHAT I'D REALLY LIKE--

Extreme HD SELLS THESE.

WHAT I'D REALLY LIKE IS ONE  
THAT HAS THE AUDIO IN AND WE  
CAN COMBINE IT INTO THE HDMI.

**Sean:** YES.

**Leo:** THAT WOULD BE KIND OF NICE.  
I DON'T KNOW IF ANYBODY'S DONE  
THAT WHERE OPTICAL AUDIO GOES  
INTO THE HDMI.

**Sean:** I'LL KEEP AN EYE OUT FOR THOSE.

**Leo:** IT'S PROBABLY EXPENSIVE  
BECAUSE YOU'D HAVE TO HAVE A  
BOX THAT WOULD CONVERT IT.

**Sean:** YEAH.

THE GOOD NEWS ABOUT THESE, THE  
XtremeMac ONES, IS THEY'RE 20  
BUCKS A CABLE, SO YOU CAN GET  
THAT, PLUS THE OPTICAL CABLE --

**Leo:** IT'S CHEAP.

**Sean:** -- FOR 40 BUCKS FOR  
THE TWO OF THEM.

**Leo:** THAT'S PROBABLY A GOOD  
PLACE TO GO.

X-t-r-e-m-e Mac.

THEY MAKE A LOT OF iPod STUFF,  
BUT NOW THEY'RE ALSO MAKING  
CABLES FOR EXACTLY THIS, AV  
CABLES FOR EXACTLY THIS.

SO, XtremeMac.

X-- NOT E-X, BUT X-T-R-E-M-E

Mac.com.

[ Pop captions up ]

**Leo:** AND IF YOU GO TO THE AUDIO VIDEO SECTION AND GO TO THE HD PRODUCTS, YOU'LL SEE THEY HAVE EXACTLY THE KIND OF HD PRODUCTS YOU NEED.

THERE'S THE TOSLINK CABLE.

THAT'S A Macintosh-ISH, A

Mac-ISH VERSION OF THE HDMI

CABLE RIGHT THERE THAT I WAS

JUST TALKING ABOUT.

[ Pop captions down ]

**Leo:** BOOP-BOOP.

THAT'S WHERE THE LIGHT GOES IN, BOOP.

(whispers) OKAY.

**Sean:** (laughing)

**Leo:** HOPE THAT HELPS, KEVAN.

**Kevan:** YEAH.

**Leo:** YOU'RE GOING TO HAVE A

GREAT SIGNAL THOUGH BECAUSE

IT'S ALL DIGITAL.

SO, IT'S COMING FROM THE

COMPUTER DIGITALLY TO THE TV DIGITALLY.

I MEAN, WHAT BETTER WAY IS

THERE TO DO IT?

NOW LET'S TAKE A WALK OVER TO

RYAN YEWELL, WHO HAS A FREE FILE.

**Ryan:** I DO.

**Leo:** A DIGITAL JEWEL FOR US.

[ Pop captions up ]

**Ryan Yewell:** I DO.

IT'S FOR Windows.

IT'S CALLED ClearType Tuner AND--

**Leo:** OH-OH-OH-OH-OH-OH!

**Ryan:** YOU KNOW THE ANSWER?

**Leo:** THIS IS A MUST-HAVE.

**Ryan:** YOU KNOW THE ANSWER.

**Leo:** YES!

**Ryan:** OKAY.

**Leo:** THIS IS REALLY GOOD.

[ Pop captions down ]

**Ryan:** IT IS.

IT'S FOR PEOPLE THAT HAVE LCD  
MONITORS, LIQUID CRYSTAL  
DISPLAYS, LAPTOP SCREENS,  
POCKET PCs.

AND WHAT IT ALLOWS YOU TO DO IS  
I'M JUST GOING TO ZOOM IN.

I'VE GOT SOME PICTURES WORTH A  
THOUSAND WORDS.

YOU INSTALL THIS AND IT GOES  
INTO YOUR ControlPanel.

AND THEN WHEN YOU TURN IT ON,  
I'LL TRY TO JUST-- YOU CAN SEE  
HOW IT'S AFFECTING THE TEXT THERE.

**Leo:** WATCH, IT'S DOING IT RIGHT THERE.

**Ryan:** YEAH.

SO, THIS IS REALLY ZOOMED IN.  
SO, IF I ZOOM OUT NOW, YOU'RE  
PROBABLY NOT GOING TO BE ABLE  
TO SEE THE DIFFERENCE, BUT IF  
THIS IS ON YOUR LAPTOP.

**Leo:** MAKES A BIG DIFFERENCE.

[ Pop captions down ]

**Ryan:** AND IT HAS OTHER  
SETTINGS AS WELL.

SO, IF I--

**Leo:** ClearType IS A

Microsoft TECHNOLOGY.

IT'S REALLY ANTIALIASING --

**Ryan:** YEAH.

**Leo:** -- BUT IT MAKES SUCH A

DIFFERENCE ON AN LCD SCREEN.

[ Pop captions down ]

**Ryan:** AND IT HAS SOME

ADVANCE FEATURES WHERE YOU CAN

SET THE CONTRAST.

**Leo:** RIGHT.

**Ryan:** SO, BASICALLY JUST

PLAY AROUND WITH IT AND YOU

MIGHT BE ABLE OR PROBABLY WILL

BE ABLE TO GET A BETTER TEXT

LOOK ON YOUR--

**Leo:** GUARANTEE YOU.

**Ryan:** YEAH.

**Leo:** THE DEFAULT SETTINGS

ARE NOT OPTIMIZED FOR LCDs.

YOU WANT TO TURN ON ClearType

AND MAKE SURE YOU PLAY WITH THE

SETTINGS --

**Ryan:** YEAH.

**Leo:** -- TO MAKE IT LOOK AS

CRISP AS POSSIBLE AND YOU'LL

SEE A HUGE DIFFERENCE.

**Ryan:** YOU WILL.

**Leo:** YEAH.

YOUR EYE FATIGUE WILL GO DOWN.

THIS IS REALLY A GOOD, A

WONDERFUL TECHNOLOGY.

[ Pop captions down ]

**Ryan:** OH, YOU APPROVE IT, IT SOUNDS LIKE.

**Leo:** I HIGHLY APPROVE.

IT'S FREE.

WHERE DO WE GET IT THOUGH?

THAT'S THE PROBLEM, I HAVE NO IDEA.

**Ryan:** labwithleo.com.

GO TO FREE FILES YEWELL'S JEWELS.

I'LL SEND YOU A LINK.

IT'S ON Microsoft'S WEBSITE.

IT'S CALLED ClearType Tuner,

BUT COME TO US AND I'LL SEND

YOU THERE.

**Leo:** ARE YOU SURE?

**Ryan:** UM, YEAH.

**Leo:** I'M, I'M CONCERNED.

**Ryan:** UH...

**Leo:** NOBODY'S GOING TO GET LOST?

WE'RE JUST GOING TO GO RIGHT

THERE?

[ Pop captions down ]

**Ryan:** UH, JUST GO TO THE

FREE FILES, labwithleo.com,

IT'S THERE.

**Leo:** OKAY, I TRUST HIM, DON'T YOU?

**Ryan:** IT'S THERE.

**Leo:** HE'S A GOOD LOOKIN'

TRUSTWORTHY KIND OF FELLA.

**Ryan:** TRUST US.

DON'T JUST TRUST ME.

TRUST US.

**Leo:** TRUST US.

[ Pop captions down ]

**Leo:** COMIN' UP, RANDAL  
SCHWARTZ IS HERE.  
HE'S GOING TO TALK ABOUT  
SCREENSAVERS.

**Ryan:** OKAY.

**Leo:** I LOVE The Screen Savers,  
ONE OF MY FAVOURITE SHOWS.  
I MISS THAT SHOW.

[ Pop captions down ]

**Leo:** I CAN'T WAIT TO SEE  
WHAT RANDAL HAS TO SAY ABOUT  
IT, BUT RIGHT NOW IT'S TIME FOR  
OUR QUICK QUIZ QUESTION OF THE DAY.  
WHO WAS THAT GUY ON The Screen Savers?  
THE KIND OF HEAVYSET FUNNY GUY?

**Ryan:** UH, JIM BROWN OR SOMETHING.

**Leo:** I LOVED HIM.  
WHAT DOCUMENTARY SHOWED BILLY  
MITCHELL & STEVE WIEBE - AS IN  
DWEEB - FIGHT FOR THE DONKEY  
KONG CROWN?

WAS IT A FISTFUL OF QUARTERS  
(wolf howl), BILLY vs. STEVE,  
OR THE KING OF KONG?  
MAYBE IT WAS JUST THERE'S NO MOVIE.  
WHAT ARE YOU, CRAZY?  
GO TO THE WEB, GIVE US YOUR ANSWER.  
WE'LL TALK ABOUT IT WHEN  
"THE LAB" CONTINUES RIGHT  
AFTER THESE IMPORTANT MESSAGES.

(incidental music)

[ BLACK/COMMERCIAL ]

[ Pop captions up ]

**Leo Laporte:** ALL RIGHTY,  
FOLKS, WELCOME BACK TO “THE LAB.”  
WHAT DOCUMENTARY SHOWED BILLY  
MITCHELL & STEVE WIEBE'S FIGHT  
FOR THE DONKEY KONG CROWN?  
THEY DIDN'T MAKE A MOVIE ABOUT  
THAT, DID THEY?  
YES, THEY DID.  
IT WAS CALLED  
“THE KING OF KONG.”

I DIDN'T SEE THAT.  
WAS IT A GOOD MOVIE?  
WAS IT HIGHLY DRAMATIC.

[ Pop captions down ]

**Leo:** WIEBE AS IN DWEEB, RIGHT?

WHO WON?

WIEBE, RIGHT?

**Sean:** IT'S CONTESTED.

**Leo:** CONTESTED!?

ALL RIGHT.

I LOVED THAT.

ACTUALLY IT WAS A FUN GAME,

“DONKEY KONG,” DO YOU

REMEMBER?

DID YOU EVER PLAY

“DONKEY KONG?”

**Randal Schwartz:** I PLAYED

“DONKEY KONG” A LOT.

WAY TOO MANY TIMES, YEAH.

**Leo:** A LOT OF FUN.

SPENT A LOT OF QUARTERS, YEAH,

I KNOW.

RANDAL SCHWARTZ IS HERE.

HE IS THE GENERAL MANAGER OF  
STONEHENGE INC. AT stonehenge.com.  
HE'S A PERL PROGRAMMER, BUT  
ALSO HE LIKES TO MESS AROUND  
WITH COMPUTERS A LITTLE BIT  
HITHER AND THITHER, HERE AND THERE.  
YOU NO LONGER REALLY NEED A  
SCREENSAVER, BUT, BOY, THEY  
SURE ARE FUN, AREN'T THEY?

[ Pop captions up ]

**Randal Schwartz:** I LIKE THEM  
BECAUSE I CAN LEAVE SOMETHING  
WHILE MY SCREEN IS LOCKED AND  
TO KEEP YOU FROM SEEING WHAT'S  
ON THERE.

**Leo:** OH, THAT'S A VERY GOOD POINT.

**Randal Schwartz:** SO, IT'S  
ACTUALLY PRETTY HANDY.  
SO, I USE THAT WHEN I WALK AWAY  
FROM MY LAPTOP FOR A FEW MINUTES.  
AND WHEN I, LIKE, CLOSE IT DOWN  
AND UNPLUG IT, I'LL PUT UP  
SCREENSAVER.

[ Pop captions down ]

**Leo:** SO, REALLY IT'S NOT APTLY NAMED.  
IT'S NOT ABOUT SAVING THE  
SCREENS, BUT SAVING YOUR DATA.

**Randal Schwartz:** SAVING  
PEOPLE FROM PRYING EYES.

**Leo:** PRYING EYES, EXACTLY.

**Randal Schwartz:** IT'S VERY HANDY FOR THAT.

**Leo:** ALL RIGHT.

**Randal Schwartz:** SO, I HAVE

A FEW THAT I HAVE THAT I'VE  
DOWNLOADED OVER TIME AND  
THEY'RE ALL FREE.  
THEY'RE STUFF--

**Leo:** SO, YOU (indiscernible)  
THE BUILT-IN SCREENSAVER.  
YOU LIKE TO FIND YOUR OWN OUT  
THERE, SOMETHING DIFFERENT.

**Randal Schwartz:** THE  
BUILT-IN ONES ARE OKAY, BUT  
THERE'S A COUPLE OF REALLY GOOD  
SITES THAT HAVE SOME REALLY  
GOOD STUFF ON THERE.  
THE FIRST ONE I'M GOING TO SHOW  
IS FIELDS.

AND I TELL YOU, FIELDS IS VERY  
CONFIGUREABLE.

**Leo:** LET'S SEE.

**Randal Schwartz:** THERE'S,  
LIKE, SO MANY DIFFERENT OPTIONS  
ON THAT, SO MANY DIFFERENT  
THINGS ON THERE LIKE THAT.  
SO, I'M GOING TO JUST TRY  
BOUNCING COLOUR CLUSTERS.  
I'LL GO IN TEST MODE HERE.

**Leo:** OOH.

**Randal Schwartz:** I MEAN,  
IT'S JUST -- IT'S JUST --

**Leo:** THAT'S PURDY.

**Randal Schwartz:** -- LITTLE  
BRIGHT LIGHTS, THINGS THAT ARE COOL.  
SO, AGAIN, FREE.

**Leo:** THESE ARE ALL Mac ONLY,

ALTHOUGH YOU'LL FIND WITH MANY  
SCREENSAVERS THAT YOU CAN FIND  
VERSIONS ON THE -- ON BOTH SIDES --

**Randal Schwartz:** RIGHT.

**Leo:** -- BECAUSE IT ALL KIND  
OF DOES THE SAME THING.

**Randal Schwartz:** NOW, THIS  
NEXT ONE IS ACTUALLY REALLY  
SORT OF BIZARRE.

IT'LL TAKE A MINUTE TO COME UP.

**Leo:** Hotel Gadget.

[ Pop captions up ]

**Randal Schwartz:** YOU'RE  
BASICALLY, YOU HAVE THIS  
SLOW-MOVING VISUAL THAT PICKS  
UP RANDOM WORDS AND PUTS RANDOM  
GRAPHICS --

**Leo:** (laughing) THAT'S FUNNY.

**Randal Schwartz:** -- OF OLD LOOKING GRAPHICS.  
AND THE WORDS, IF YOU LOOK AT  
IT LONG ENOUGH, IT'S LIKE  
THERE'S A ZEN RELATIONSHIP  
BETWEEN THE WORDS --

**Leo:** AMBER INFINITY.

**Randal Schwartz:** -- AND YOU  
KIND OF GO HOW DOES IT RELATE  
TO THE EGO.

**Leo:** OH.

**Randal Schwartz:** YOU START  
ACTUALLY THINKING THERE'S A CORRELATION.  
IN FACT, IT'S JUST COMPLETELY RANDOM, SO.

**Leo:** IS THIS -- IS IT  
GETTING STUFF OFF THE NET --

**Randal Schwartz:** NO.

**Leo:** -- OR IS IT ALL BUILT IN?

IT'S JUST KIND OF--

**Randal Schwartz:** THIS IS ALL  
WITHIN THE SECTION.

THIS IS DONE IN Quartz Composer.

**Leo:** VIGILANT TASTE.

**Randal Schwartz:** YOU CAN  
ACTUALLY TAKE THIS APART IN  
Quartz Composer AND SEE WHAT IT  
ACTUALLY LOOKS LIKE.

**Leo:** DOES IT REPEAT AFTER A WHILE OR?

**Randal Schwartz:** I'VE HAD IT  
ON FOR LIKE AN HOUR OR TWO AND,  
NO, IT'S ALWAYS RANDOM.

**Leo:** (laughing) THAT'S VERY INTERESTING.

[ Pop captions down ]

**Randal Schwartz:** AND IT PUTS  
DIFFERENT WORDS IN THERE.  
SO, THAT'S REALLY COOL.  
I LIKE THAT ONE.

**Leo:** THAT'S REALLY NEAT.  
THAT'S CALLED Hotel Gadget.

**Randal Schwartz:** THAT'S Hotel Gadget.  
FieldLines IS-- NOW, THE NEXT  
FOUR OR FIVE ALL COME FROM THE  
SAME GROUP.

**Leo:** SAME IDEA.

**Randal Schwartz:** YEAH.

**Leo:** THAT'S PRETTY.

[ Pop captions up ]

**Randal Schwartz:** I LIKE THIS.  
AGAIN, LOTS OF CONFIGURATION

OPTIONS ON THIS ONE.

I REALLY LIKE THIS ONE.

THIS IS -- THIS ONE'S KIND OF  
NICE BECAUSE IT'S NOT TOO  
DISTRACTING AND WE'LL ACTUALLY  
NEED THIS IN A MINUTE.

WE WANT SOMETHING THAT'S NOT  
TOO DISTRACTING FOR OUR NEXT TASK.

I LIKE FieldLines.

I ALSO LIKE Helios, WHICH IS  
SORT OF A FIELD SORT OF THING.

I MEAN --

**Leo:** OH, THAT'S NICE.

**Randal Schwartz:** AND, AGAIN,  
LOTS OF CONFIGURATION OPTIONS  
ON ALL THESE BECAUSE WHOEVER  
MADE THESE THINGS IS, LIKE,  
REALLY INTO CONFIGURATION  
STUFF, SO.

[ Pop captions down ]

**Leo:** AND IF YOU PICK A FEW  
THAT YOU REALLY LIKE, YOU CAN  
ALSO PUT THE RANDOM ON --

**Randal Schwartz:** YEAH.

**Leo:** -- AND THEN IT'LL  
ROTATE THROUGH THEM SO YOU  
DON'T GET BORED WITH THE SAME  
SCREENSAVER ALL THE TIME.

**Randal Schwartz:** EXACTLY.  
AND I ALSO LIKE Hyperspace,  
WHICH DOES PRETTY MUCH WHAT IT  
SAYS IT'S GOING TO DO, WHICH IS  
SEND US THROUGH HYPERSPACE.

**Leo:** OHH.

**Randal Schwartz:** SO, THERE  
WE GO, “OOOH.”

**Leo:** “OHHH.”

[ Pop captions up ]

**Randal Schwartz:** AND THERE'S  
SOME EXTRA FIELDS AND STUFF IN  
THERE LIKE THAT.

AND THEN --

**Leo:** THAT'S LIKE AN EPISODE OF “STAR TREK.”

**Randal Schwartz:** -- MY  
FAVOURITE ONE HAS SOUND.  
SO, I CAN'T LEAVE THIS GOING  
UNLESS I KNOW THAT THERE'S  
SOMETHING GOING ON.

IT'S CALLED Skyrocket.

AND I OFTEN LOVE TO WATCH  
FIREWORK DISPLAYS.

THIS ACTUALLY HAS SOUND IN  
THREE DIMENSIONS.

**Leo:** OH, WOW.

[ Pop captions down ]

**Randal Schwartz:** IT USES THE  
OPEN AUDIO SOUND.  
YOU ACTUALLY HEAR THE BURST OF  
THESE SOUNDS IN THE RIGHT PLACE  
IF YOU HAVE QUADRA SOUND SET UP.

**Leo:** OH, THAT'S REALLY NEAT.  
YOU KNOW, IT'S FUNNY SOME OF  
THE EARLIEST SCREENSAVERS WERE  
FIREWORKS --

**Randal Schwartz:** YES.

**Leo:** -- BUT THIS IS

(laughing) A LOT NICER THAN  
THEY WERE.

**Randal Schwartz:** THIS IS 3D FIREWORKS.  
AND I CAN'T LET IT GO LONG  
ENOUGH, BUT IT REALLY SWOOPS  
THROUGH THE FIREWORKS A LOT.

**Leo:** WOW.

**Randal Schwartz:** IT'S  
ACTUALLY VERY, VERY COOL.  
SO, LET'S SAY WE HAVE ONE OF  
THESE SCREENSAVERS AND WE KIND  
OF LIKE ABOUT-- WE'RE TIRED OF  
OUR BORING BACKGROUND.  
LIKE, HERE I'VE GOT ON MY -- ON  
MY DESKTOP I HAVE --

**Leo:** THAT'S PRETTY.

**Randal Schwartz:** THAT'S  
ACTUALLY-- THAT'S--

**Leo:** IS THAT ANGEL FALLS?  
WHERE IS THAT?

**Randal Schwartz:** NO, THAT'S  
ELOWAH FALLS.

I SHOT THIS WITH MY 40Ds.

**Leo:** WAS THAT IN PANAMA?

**Randal Schwartz:** NO, NO,  
THIS IS ACTUALLY IN -- THIS IS  
IN OREGON.

**Leo:** THAT'S HERE.

**Randal Schwartz:** THIS IS THE  
SECOND TALLEST FALLS IN--

**Leo:** OH, THAT'S INCREDIBLE.

**Randal Schwartz:** WELL, NOT UP HERE.  
IN OREGON, YES.

SO, LET'S SAY --

**Leo:** HERE, OREGON, IT'S PRETTY CLOSE.

**Randal Schwartz:** PRETTY CLOSE, RIGHT.

SO, LET'S GO BACK TO THAT

FIELDS ONE-- NO, NOT FIELDS, IT

WAS CALLED FieldLines.

SO, THAT'S KIND OF A NICE ONE THERE.

SO, THAT'S A NICE SCREENSAVER,

BUT I WANT TO USE THAT AS MY BACKDROP.

**Leo:** AS YOUR DESKTOP?

**Randal Schwartz:** AS MY DESKTOP.

**Leo:** YOU CAN'T DO THAT.

**Randal Schwartz:** SO, WE'LL

GO TO Wallsaver.

**Leo:** Wallsaver.

**Randal Schwartz:** A FREE PROGRAM AGAIN.

WE HIT ACTIVATE FOR THAT.

**Leo:** NO.

**Randal Schwartz:** AND IN A

MOMENT HERE-- IT TAKES A SECOND

OR TWO.

**Leo:** NOW, WHAT HAPPENS TO

YOUR COMPUTER?

DOES IT SLOW DOWN BECAUSE IT'S

SO BUSY DRAWING PICTURES ON IT?

**Randal Schwartz:** WELL, MOST OF THESE --

**Leo:** "OOH."

**Randal Schwartz:** -- MOST OF

THESE SCREENSAVERS ARE SET UP

SO THAT-- THERE IT IS, THERE'S

MY DESKTOP.

NOW MY DESKTOP IS THAT

PARTICULAR THING THERE.

SO, THAT'S KIND OF NICE.

**Leo:** AND IT'S NOT TOO BAD.

YOU'RE STILL--

**Randal Schwartz:** IT'S NOT TOO BAD.

CPU IS STILL PRETTY LOW, MAYBE

5 OR 10%.

BUT, YOU KNOW, I HAVE A CPU

METRE ON THE TOP BAR THERE AND

YOU SEE IT'S LIKE NOTHING --

**Leo:** OH, I CAN SEE IT RIGHT THERE.

**Randal Schwartz:** -- NOTHING ON IT AT ALL.

AND IF I EVER WANT TO PUT IT

BACK AND GO BACK TO THAT.

NOW, IF YOU REALLY WANT TO GO

WHOLE HOG WITH SCREENSAVERS,

THERE'S THIS THING CALLED

SaverLab WHICH IS REALLY COOL.

YOU CAN ACTUALLY OPEN UP

MULTIPLE SCREENSAVERS AT ONCE

EACH IN THEIR OWN WINDOW.

**Leo:** OH, JEEZ LOUISE.

**Randal Schwartz:** SO, WE CAN

HAVE THAT.

WE CAN HAVE, YOU KNOW, A NEW

WINDOW HERE.

SO, WE CAN PLAY THEM-- WELL,

WHAT'S GREAT IS THESE CAN MAKE

MOVIES OF THEM.

**Leo:** WOW.

**Randal Schwartz:** AND SO IF

YOU WANT TO SEND THIS TO

SOMEBODY ELSE.

THERE'S LOTS OF THINGS THIS CAN DO.

LIKE, YOU CAN CHANGE THE SPEED  
AND EVERYTHING.

SO, IT'S REALLY A GREAT WAY TO  
KIND OF PLAY WITH A LOT OF  
DIFFERENT SCREENSAVERS AT ONCE.

[ Pop captions up ]

**Leo:** IF YOU WERE TRYING TO,  
YOU KNOW, ACT LIKE YOU WERE  
REALLY WORKING ON SOMETHING,  
YOU COULD HAVE A BUNCH OF THESE  
RUNNING IN THE BACKGROUND --

**Randal Schwartz:** YOU COULD.

**Leo:** -- AND SAY, WELL, I'M  
RUNNING SOME SIMULATIONS RIGHT NOW.

[ Pop captions down ]

**Randal Schwartz:** EXACTLY, RIGHT.

**Leo:** PLEASE DON'T TOUCH THE COMPUTER.  
THEY'RE VERY-- IT'S VERY, VERY  
IMPORTANT CALCULATIONS.

**Randal Schwartz:** IT'S GREAT.

**Leo:** AND HAVE THAT STUFF  
RUNNING IN THE BACKGROUND.

**Randal Schwartz:** YEAH, EXACTLY.

Screen Savers, THAT'S A SHOW I  
REMEMBER HEARING ABOUT MANY--

**Leo:** THERE USED TO BE A SHOW  
CALLED The Screen Savers.

I DON'T KNOW WHAT HAPPENED.

**Randal Schwartz:** HAVE YOU EVER SEEN IT?  
HAVE YOU EVER SEEN IT?

**Leo:** NO.

**Randal Schwartz:** OH, OKAY, ALL RIGHT.

**Leo:** YOU KNOW, IT'S LONG

GONE NOW ANYWAY.

**Randal Schwartz:** YEAH.

(laughing)

**Leo:** I DON'T REMEMBER

ANYTHING ABOUT IT.

**Randal Schwartz:** I NEVER GOT

TO SEE IT EITHER, SO I DON'T KNOW.

**Leo:** YEAH, YOU KNOW, IT'S

FUNNY, RANDAL SAID, "WERE YOU

ON The Screen Savers?"

**Randal Schwartz:** (laughing) SORRY.

**Leo:** MAYBE, I DON'T KNOW.

ONCE IN A WHILE.

RANDAL SCHWARTZ.

[ Pop captions up ]

**Leo:** ARE YOU [stonehenge.com](http://stonehenge.com)?

**Randal Schwartz:** I AM [stonehenge.com](http://stonehenge.com).

**Leo:** HE IS!

**Randal Schwartz:** AND I'VE

BEEN TO STONEHENGE.

**Leo:** AND HE HAS BEEN THERE.

**Randal Schwartz:** ALL RIGHT.

**Leo:** AND HE JOINS US FROM

TIME TO TIME TO TALK ABOUT

REALLY GEEKY STUFF, SOMETIMES

REALLY FUN STUFF.

**Randal Schwartz:** YEAH.

**Leo:** THANKS FOR -- THANKS

FOR STOPPING BY, RANDAL.

**Randal Schwartz:** NO PROBLEM.

**Leo:** I REALLY APPRECIATE IT.

**Randal Schwartz:** THANKS, LEO.

**Leo:** A FINAL WORD COMIN' UP

RIGHT AFTER THIS.

YOU STAY RIGHT HERE.

(Theme music playing)

[ BLACK/COMMERCIAL ]

[ Pop captions down ]

(Theme music playing)

**Leo Laporte:** WE SENT RANDAL  
OFF TO GET OUT OF HERE BEFORE  
THE STORM HITS.

**Kate:** ABSOLUTELY.

**Leo:** HE HAS TO DRIVE OVER  
THE MOUNTAINS TO OREGON.

**Kate:** HE'S WORRIED.

APPARENTLY IF YOU CAN'T GET UP  
IT YOU CAN'T COME DOWN IT.

[ Pop captions up ]

**Leo:** I'VE HEARD THAT.

**Kate:** (laughing) THAT'S WHAT HE SAID.

**Leo:** NOW, WE WANT TO CORRECT  
SOMETHING BECAUSE -- AND THIS  
MAKES SENSE.

BECAUSE YOU SAID THAT IT WAS  
THE 11 INCH WAS 246 OR 250.

**Kate:** YEAH.

**Leo:** THAT IS MUCH MORE ACTUALLY.

**Kate:** THIS ONE, ACTUALLY

THIS IS THE Smart Tech.

IT'S ACTUALLY 360 --

**Leo:** OKAY.

**Kate:** -- SO I DO APOLOGIZE.

BUT IF YOU WANT TO GET A HUGELY  
BIG ONE, 15 INCHES, \$360.

**Leo:** IT MAKES SENSE.

THE LARGER IT IS --

**Kate:** YES.

AND IT'S GOT A NICE WOODEN FRAME.

**Leo:** -- AND THE SCREENS ARE  
MUCH MORE EXPENSIVE.

AND IT'S GOT THAT NICE  
MAHOGANY-

**Kate:** YEAH.

**Leo:** -LIKE, I DON'T KNOW IF IT IS.

**Kate:** FAUX MAHOG.

FAUX MAHOG.

**Leo:** I DON'T KNOW IF IT IS A  
MAHOGANY-LIKE FRAME.

IT'S A NICE-- YOU KNOW, IT'S  
LIKE A TV SET.

**Kate:** MM-HMM.

**Leo:** WELL, WE ARE OUT OF TIME.

**Kate:** WE ARE.

**Leo:** I THANK YOU SO MUCH.

**Kate:** THANK YOU.

**Leo:** GREAT JOB TODAY, AND  
THANK YOU FOR BEING HERE.

WE DO INVITE YOU IF YOU'D LIKE  
TO BE ON THE SHOW.

JUST GO TO THE WEBSITE, RIGHT?

**Kate:** ABSOLUTELY.

[labwithleo.com/techquestions](http://labwithleo.com/techquestions).

**Leo:** AND KATE WILL CALL YOU,  
PUT YOU ON THE SHOW.

WE'LL HAVE YOU-- YOU'LL BE A STAR.  
THANKS FOR BEING HERE.

WE'LL SEE YOU NEXT TIME ON THE LAB.

BYE-BYE.

**Kate:** BYE-BYE.

**Leo:** BYE-BYE.

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[ Pop captions down ]