KEYBOARD COMPONENT OWNER'S BOOK

The family computer... right at home at your house

If you're still thinking of computers as overwhelming machines...relax.

That was yesterday.

Your INTELLIVISION™ system will domesticate itself in no time. Very soon, you will become familiar with the many ways this sophisticated, but superbly simple instrument can enrich your family's life.

How about some real education, fun & games, money & budget matters, or a pet personal improvement project for starters!

Fit the Master Component into the Keyboard and your INTELLIVISION™ home computer is ready for hook-up to the family room TV set. You'll have all the power you need for the multitude of jobs the system will be doing for you.

You won't have to learn special computer talk. (But you can add a language, BASIC, with the special option we offer.) Nor will you need a separate cassette recorder. Your system has its own, built in.

Everything you need to know about putting your INTELLIVISION™ together, how to use and take good care of it, is here in this book. Keep the book handy, for easy reference.

Once your INTELLIVISION™ is assembled and hooked up, take a little time to get acquainted! Turn it on and run your fingers over the keys. (Don't worry if you hit a wrong key. This book will show you how easy it is to get unsnarled if need be.)

Treat your INTELLIVISION™ like a new piano in the family. The more you play with it, the better you will understand and enjoy it.

YOUR TOLL-FREE QUESTION NUMBER:

(800) 421-2826
except California, Hawaii and Alaska residents call direct or collect:

(213) 644-2752

FEEL FREE TO CALL IF YOU HAVE **ANY** QUESTIONS OR PROBLEMS WITH YOUR SYSTEM.
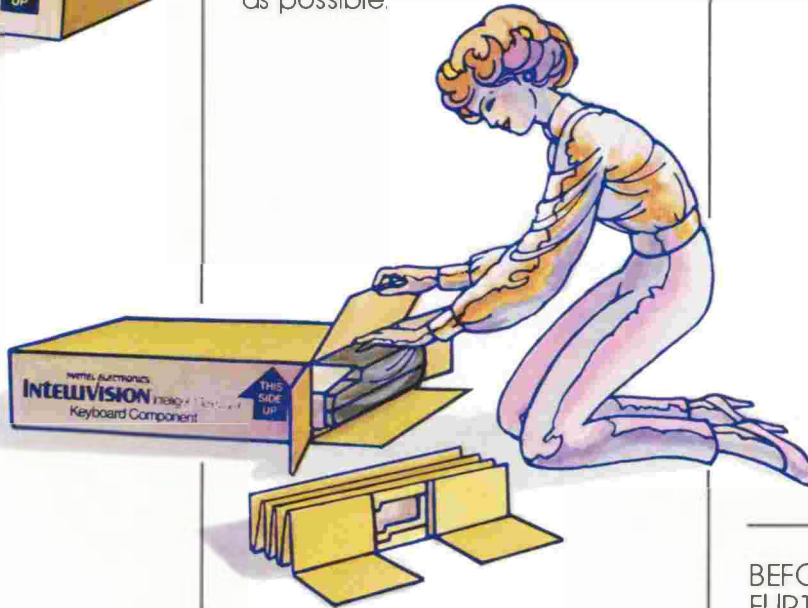
MODEL NO.
_____

SERIAL NO.
_____

Table of Contents

Let's get
unpacked...

1. Set your Keyboard Component on the floor, right-side-up.

2. Open one end. Try to keep the box intact, as much as possible.

3. Slide the Keyboard Component out of the box, onto the floor.
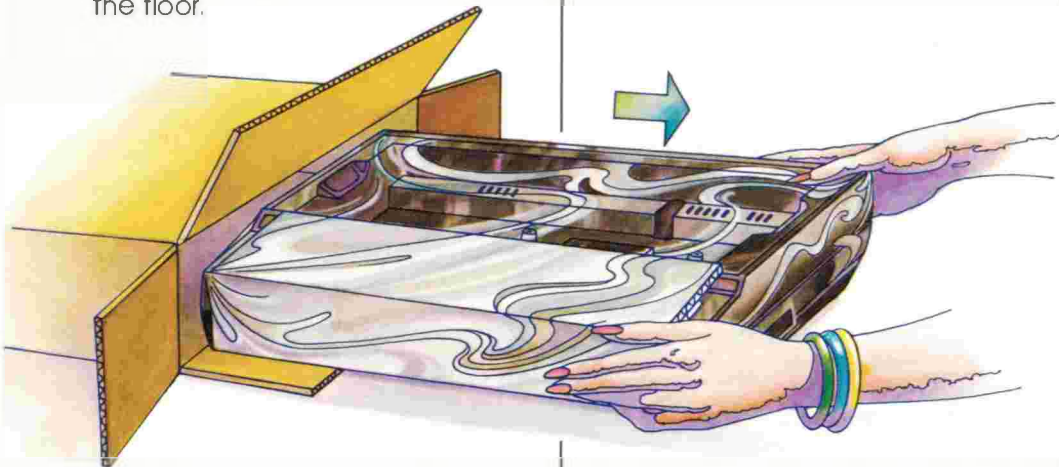
It's a good idea to save the packing materials, in case you need to move or ship your Keyboard Component in the future.

BEFORE YOU GO ANY FURTHER...

Tilt the Keyboard Component and look on the bottom. You will see two numbers—a model number and a serial number. Take a minute to jot these numbers in the spaces provided on the inside front cover of this book.

MATTEL ELECTRONICS® INTELLIVISION..
5150 ROSECRANS AVENUE HAWTHORNE CALIFORNIA 90250

MODEL 1149
SERIAL [400350]

1149-0410-G1

You should find all of these parts:

FLAT RIBBON
CABLE (attached)

POWER CORD
(attached)

KEYBOARD COMPONENT

CABLE EXTENDER

MICROPHONE WITH STAND

OWNER'S BOOK

FIVE 1/2-INCH SCREWS

Step by step
to a painless assembly

1. Put both HAND CONTROLLERS in place on the Master Component.

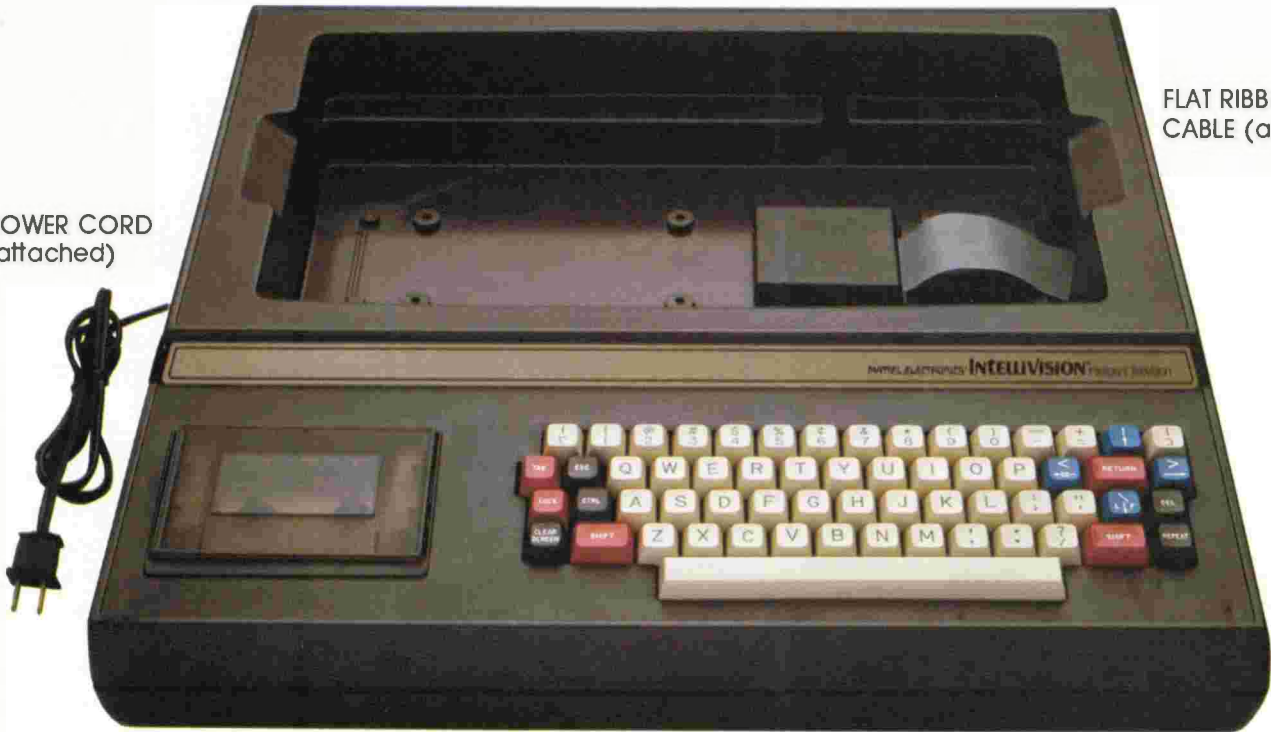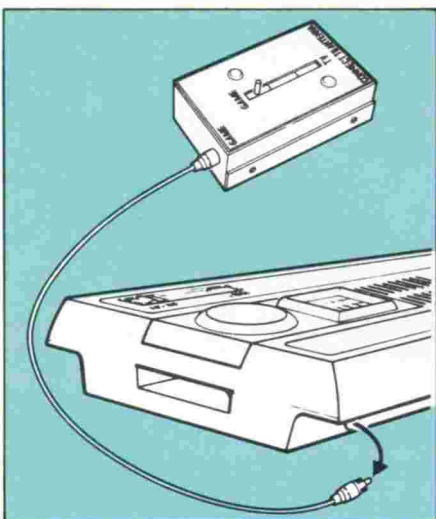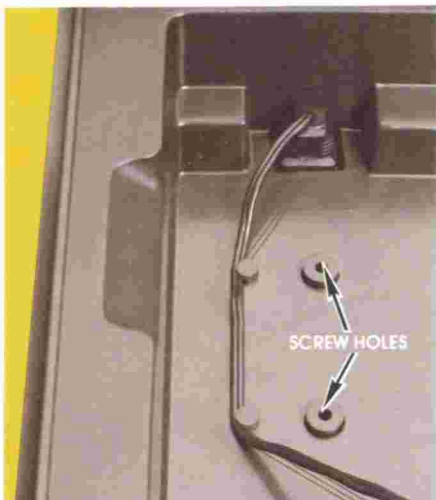**2.** Unplug the SWITCH BOX CABLE from the back of the Master Component.

SCREW HOLES

3. Plug the MASTER COMPONENT POWER CORD into the outlet in the recessed area of the Keyboard Component.

Draw the power cord around the plastic safety posts on the Keyboard Component, following the etched lines. Be sure the power cord is out of the way of the screw holes.

A WORD TO THE WISE...Leave your Keyboard Component on the floor while you fit the Master Component into it. You won't have to worry about dropping it and you can spread out as much as you like. Of course, UNPLUG YOUR MASTER COMPONENT AND TV SET from their wall outlets before you begin.

THE ONLY TOOL YOU WILL NEED IS A PHILLIPS-HEAD SCREWDRIVER.

FLAT RIBBON CABLE

CARTRIDGE PORT
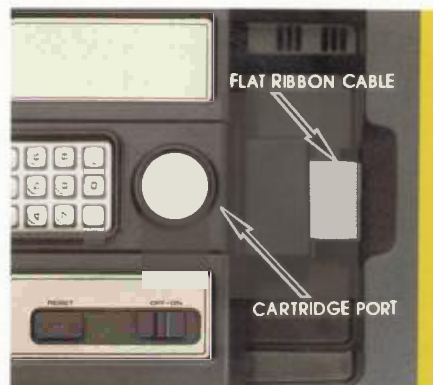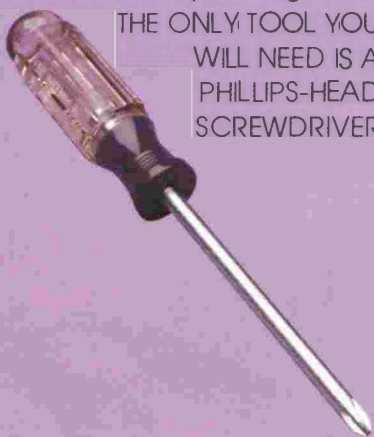
4. Set the Master Component into the Keyboard Component. Tilt the Master Component up on its left side.

5. Find the wide, FLAT RIBBON CABLE extending from the Keyboard Component, inside the recessed area. Plug this cable into the Master Component cartridge port.

6. Ease the Master Component all the way down into the Keyboard Component, pushing excess ribbon cable and power cord into their storage areas.

7. Turn the entire unit upside-down, holding the Master Component in place with one hand.

Use a Phillips-head screwdriver to fasten the FIVE 1/2-INCH SCREWS through the holes in the bottom of the Keyboard Component. Make sure the unit is unplugged from the wall outlet before you begin.

Turn your INTELLIVISION™ system right-side-up.

SWITCH BOX CABLE

8. Snap the Cable Extender onto the plug of the Switch Box Cable.

BEFORE FINAL HOOK-UP...

Find a place for your INTELLIVISION™ to live. Look for:

1. A flat surface and a sturdy base. A small table or desk will do nicely.

2. A temperate climate. Best to avoid direct sunlight, heat sources or air-conditioners.

3. Breathing space, between the air vents on the back of your INTELLIVISION™ and the wall.

4. A location close to your TV set.

5. A wall outlet nearby.

THE LAST CONNECTIONS...

CABLE OPENING

BACK OF COMPONENT

1. Plug the Cable Extender into the Master Component, THROUGH THE OPENING in the back of the Keyboard Component.

2. Plug the POWER CORD ON THE KEYBOARD COMPONENT into a standard wall outlet (120-volt AC ± 10%, 60 cycle).

...AND YOU'RE READY TO "POWER UP!"

POWER UP!!
(That means "turn it on.")

1. TURN YOUR TV SET **ON.**

2. TURN YOUR **MASTER COMPONENT OFF/ON SWITCH TO ON.**

3. Make sure your antenna switch box is set at **GAME** and your TV is set to **CHANNEL 3 OR 4.** (See your Master Component Owner's Manual for details).

4. Press the **RESET BUTTON** on your master component. You will see this display on your TV screen:
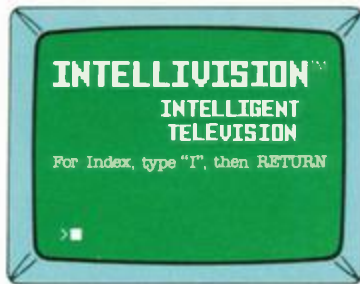
INTELLIVISION™
INTELLIGENT TELEVISION
For Index, type "I", then RETURN
>■

5. Take a minute to adjust the picture controls on your TV set to a pleasing level. The illustration above shows you the correct background color. Adjust your color controls to match. Adjust brightness and contrast for comfortable viewing.

A LITTLE LINGO...

A display on your TV set, like the one above, is called a FRAME. This particular frame is called the MONITOR FRAME.

We'll talk more about the **monitor frame** later. For now, let's say it tells you that you are set to choose the way in which you want to use your INTELLIVISION™

A shorter, computer way of saying this is that you can choose your MODE.

6. Type the letter **I** then press the **RETURN** key. An index of commands that will take you to different modes or special capabilities (like Clean) will print out below the MONITOR frame, pushing it part-way off the top of the screen. (We call this SCROLLING.) The INDEX looks like this:

Type one of these commands, then RETURN
TAPE   — Start Cassette Program
CARTRIDGE   — Start Cartridge Program
INDEX   — List Commands
RESUME   — Return to Program
EJECT   — Rewind and Eject Tape
CLEAN   — Enter Head Cleaning Mode
SCREEN   — Enter Typewriter Mode
>■

COMMANDS

SCREEN ———
TAPE ———   MODES
CARTRIDGE ———
INDEX
RESUME ———
EJECT ———   SPECIAL
CLEAN ———   CAPABILITIES
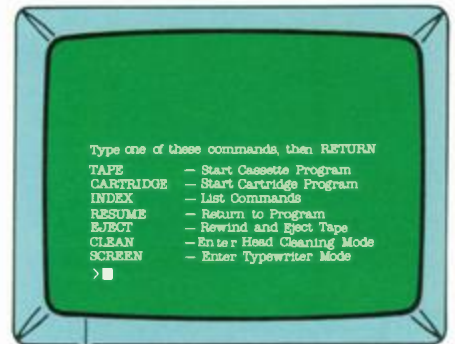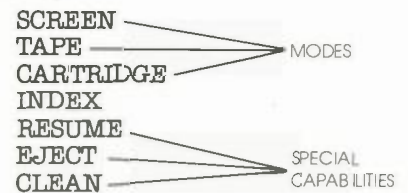
Your INTELLIVISION system—
it gives you all you need....

TO DEVELOP NEW SKILLS

Drop a cassette into the built-in recorder and let the computer guide you through programs in foreign language, physical fitness, stock market analysis... even your astrological chart!

LA VALISE

REPÉTEZ

Computer keeps track of your progress and stores individual information, so programs are uniquely personal to each family member using them.

Use cassettes with the Master Component and the Keyboard Component **in combination.**

TO PLAY GAMES

It's as simple as plugging in a game cartridge. Choose from a wide array of sports, gaming, strategy, action and children's learning networks. All are easy to learn, difficult to master.
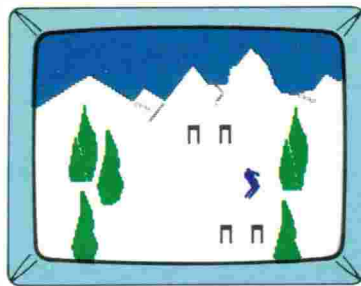
All games feature a full range of sound effects, broad color spectrum, and a superb level of resolution. Animated figures are lifelike, not blips or stick men.

Game cartridges can be used with the Master Component alone or in combination with the Keyboard Component.

TO WRITE YOUR OWN PROGRAMS

It's easy with BASIC, the high level computer language. The program comes on cartridge and includes a cassette to store your programs and a step-by-step beginners manual that shows you how to make up your own games, plan your vacation, balance your checkbook, convert recipe amounts, and more.

BASIC 1 Copr Microsoft, Mattel, 1980
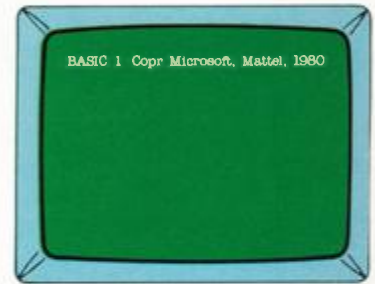
The specially coded cassette can store up to 200K (204,800) bytes of information. And an innovative Automatic Index System lets you get to that information faster than any other computer cassette system.

Use the Master Component and Keyboard Component **in combination.**

Let's start with a cassette....

Not just **any** cassette. Use ONLY **Mattel Electronics**® cassettes in your INTELLIVISION™ system. Others may look the same, but they will not work because they do not have the special electronic coding on all **Mattel Electronics**® cassettes.

Notice that you only need to type the FIRST LETTER of a command ($\boxed{T}$ for Tape, $\boxed{E}$ for Eject, $\boxed{R}$ for Resume, etc.) The exception is CLEAN, Type $\boxed{C}$ $\boxed{L}$ for Clean.

FOR DIRECTIONS ON STOPPING OR INTERRUPTING A CASSETTE PROGRAM, SEE PAGE 14.

WHILE YOU HAVE A CASSETTE IN, TAKE A COUPLE OF MINUTES TO SET THE VOLUME LEVELS ON THE KEYBOARD COMPONENT. DIRECTIONS FOR THIS PROCEDURE ARE ON PAGE 9.

1. PRESS **LETTER KEY** $\boxed{E}$. THEN PRESS THE $\boxed{RETURN}$ KEY.

The cassette door will open. Put a cassette in, TITLE FACING UP. (If you put the cassette in upside-down, the computer will eject it and print out "?BAD TAPE."

Close the cassette door.

2. NOW PRESS **LETTER KEY** $\boxed{T}$ AND THE $\boxed{RETURN}$ KEY.

The computer will automatically rewind the tape to the beginning, if need be. It will tell you if it's doing this by printing "Rewinding..."

The message "Loading..." tells you the computer is transferring pre-programmed information from the cassette to its memory. This can take anywhere from a few seconds to a minute.

3. WHEN THE COMPUTER IS FIN-ISHED LOADING, THE CASSETTE PROGRAM TITLE WILL APPEAR ON YOUR TV SCREEN.

4. FOLLOW THE INSTRUCTIONS THAT COME WITH YOUR CASSETTE.

If you forget to insert a TAPE before typing $\boxed{T}$ and $\boxed{RETURN}$, the computer will remind you with this little message: I CAN'T SEE A CASSETTE TAPE.

TO GET FROM ANY MODE (like Cassette) BACK TO THE MONITOR FRAME, SIMPLY HOLD DOWN THE BROWN $\boxed{CTRL}$ KEY WHILE TAPPING THE LETTER $\boxed{C}$ KEY TWICE, RAPIDLY.
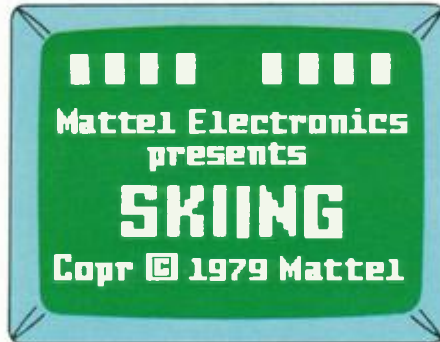
...and on to a cartridge

1. PLUG A CARTRIDGE IN THROUGH THE OPENING ON THE RIGHT SIDE OF THE KEYBOARD COMPONENT.

Make sure the cartridge is in as far as it will go.

2. PRESS THE `RESET` BUTTON ON THE MASTER COMPONENT.

3. NOW PRESS LETTER KEY `C` AND THE `RETURN` KEY.

Your TV screen will immediately go to the Title Frame of the cartridge you inserted.

4. FOLLOW THE INSTRUCTIONS THAT COME WITH YOUR CARTRIDGE.

If you forget to insert a cartridge before typing `C` and `RETURN`, the computer will remind you with this little message: "I don't see a cartridge."

TO REMOVE A CARTRIDGE when you're finished, simply pull it straight out of the cartridge port.

FOR DIRECTIONS ON STOPPING OR INTERRUPTING A GAME CARTRIDGE WHILE IN PLAY, SEE PAGE 14.

TYPEWRITER MODE– No better way to get acquainted

The best way to get thoroughly familiar with your keyboard is to play with it. Simply put the system into Typewriter Mode and go at it! Try out all the keys and all the combinations of keys. Build graphics and experiment with special characters. (We'll explain how later in the book.) Fill up the screen, then erase it and fill it up again.

The nice thing about Typewriter Mode is that once an image is off the screen, it's gone for good...unless you type it back on. Typewriter Mode has no memory, so you don't have to worry about wasting memory space while you make friends with your INTELLIVISION™ system.

So sit down with the TABLE OF KEYS (pages 18 and 19) and the section on SPECIAL "CONTROL" COMMANDS (pages 20 and 21) and fire away! Remember your start sequence:

1. TURN YOUR TV SET AND MASTER COMPONENT ON. PRESS `RESET`.
2. TYPE `S` (for Screen) AND PRESS THE `RETURN` KEY. (It is not necessary to go to the Index every time, if you know what command to type.) THE SCREEN WILL LOOK LIKE THIS TO START—A PERFECT BLANK FOR YOU TO FILL.

DON'T WORRY ABOUT HURTING THE KEYBOARD. YOU CAN'T HURT IT BY USING IT. At worst, the cursor
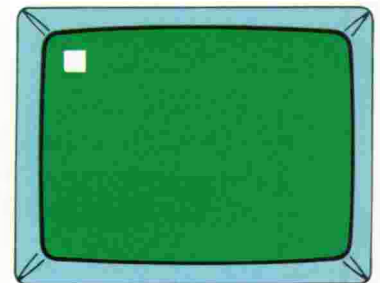
might stick, if you press a number of keys together. Should this occur, simply PRESS THE `DEL` (DELETE) KEY SEVERAL TIMES, until the cursor starts to move again. If this doesn't work, TYPE `CTRL-C` TWICE. (See page 11.) Now you're back to the Monitor Frame, so you can start over again by typing `S` and `RETURN`.

For those who bought basic...

BASIC is a computer language that lets you write your own programs. It comes on cartridge and includes a specially coded cassette for storing your programs.

• Insert the cassette as you would any other cassette (see page 7).

• The BASIC cartridge goes into a SPECIAL CARTRIDGE PORT (opening) in the BACK of the **Keyboard Component.**

There are two special ports (called I/O ports for Input/Out-

BACK OF COMPONENT

put) in the back of the Keyboard Component. The BASIC cartridge will work in either one.

Lift the protective cover over either port and plug the BASIC cartridge in. Be sure to push it in as far as it will go.

TURNING BASIC ON...

1. TURN YOUR TV SET AND MASTER COMPONENT **ON.** (POWER UP.) PRESS THE `RESET` BUTTON.

2. TYPE `I` FOR INDEX, THEN PRESS THE `RETURN` KEY. Notice that you now see BASIC listed in the index.

3. TYPE `B` , THEN PRESS THE `RETURN` KEY. This will take you into BASIC Mode.

4. Follow the instructions in the book that accompanies your BASIC cartridge and cassette.

Initial volume levels-- set'em and forget'em!

It only takes a couple of minutes to set the volume controls on your Keyboard Component. And you only need to do it once, unless you change the controls for any reason.

YOU WILL NEED AN INTELLIVISION™ CASSETTE AND ANY GAME CARTRIDGE FOR THIS PROCEDURE.

FIRST, LOCATE YOUR VOLUME CONTROLS.

Both controls are on the LEFT side of the Keyboard Component (as you face it).

The FRONT dial controls volume for PRE-RECORDED material on cassette tapes. This is what's on the tape when you get it.

The REAR dial controls volume for material YOU RECORD on the tape.

HOME-RECORDED   PRE-RECORDED

NEXT, INSERT BOTH CARTRIDGE AND CASSETTE. If you need a reminder of how to do this, check back to pages 7 and 8.

THEN FOLLOW THESE STEPS:

1. POWER UP. (Turn TV and Master Component ON. Press `RESET` button.)

2. START THE CARTRIDGE. Press letterkey `C` , then `RETURN` key. Then press the round "direction disc" on either hand controller.

3. Adjust the TV VOLUME CONTROL to a pleasing level. Start at about 50% of the maximum volume and raise it higher if need be.

4. Press `RESET` again and START THE CASSETTE. Type letter key `T` , then the `RETURN` key. Follow the instructions that appear on the screen to start the cassette program. (This will vary depending on which cassette you insert.)

5. Adjust the **FRONT** KEYBOARD COMPONENT VOLUME CONTROL to a pleasing level.

6. Set the **REAR** KEYBOARD COMPONENT CONTROL to the SAME level.

That's all there is to it. From now on, the volume can be adjusted with the TV volume control only.

Keeping control
with the cursor
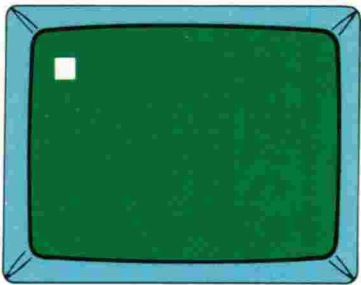
The little white square that you see on the screen, that moves when you type, is called the CURSOR. The cursor is a sort of guide, that tells you where the next character you type will appear.
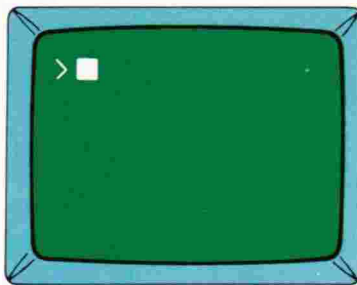
Its sidekick is a small arrow pointing to the right, called the PROMPT CHARACTER. When the prompt character appears at the beginning of a line, it is letting you know that the computer is ready to receive a new command or a new line of information (in BASIC).

Getting back to
the monitor frame

On page 5, we talked about the ways in which you can use your INTELLIVISION™ system—that is, its MODES.

A very important mode, not listed in the index, is a sort of "master mode," which we call the MONITOR. The monitor lets you pick from all the other modes and special capabilities—like TAPE, CARTRIDGE, EJECT, etc.

It's good to know about the monitor, because you cannot jump directly from one mode or special capability to another (say, from cartridge to tape). You have to go through the monitor first.

Whenever you go to the monitor, you see this frame, what we called the MONITOR FRAME on page 5.

INTELLIVISION™
INTELLIGENT TELEVISION
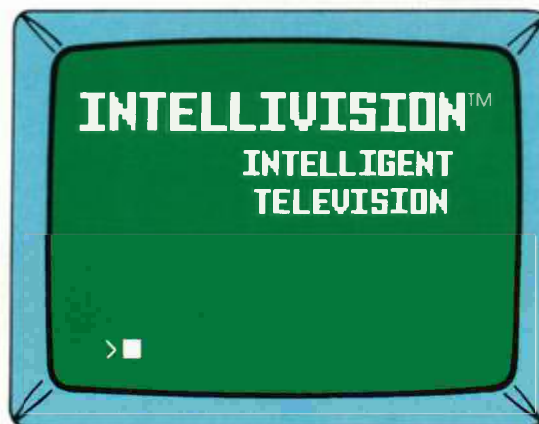
To go to the monitor...

• You will automatically go to the monitor whenever you turn your INTELLIVISION™ system on.

• If you are in another mode and want to go back to the monitor...

HOLD DOWN THE BROWN `CTRL` (Control) KEY WHILE YOU PRESS THE LETTER KEY `C` **TWICE** — one right after the other. When you return to the Monitor Frame, you will not see the message: Type "I" for INDEX, then RETURN .

This special "control command" is a very useful one, that will pop up again in the section on interrupting a program. From now on, it will be written as `CTRL-C`

Using the keyboard to talk to the monitor....

The monitor is a real bureaucrat. It does a very specific job (takes you into and out of other modes and special capabilities) and it's a stickler for procedure. The only commands it will listen to are the ones it recognizes from the index (see page 5).

It will only hear these commands if you press the `RETURN` key after you type your command (`T` for tape, `C` for cartridge, etc.).

If you try to give the monitor any other command, it will get suddenly stupid. The results will look like this:

When you type in a command to the monitor, this is called ADDRESSING THE MONITOR. (Example: when you type in `C` for Cartridge.)

INTELLIVISION™
INTELLIGENT
TELEVISION

For Index, type "I", then RETURN

WHAT'S FOR DINNER?
I don't understand "WHAT"
>■
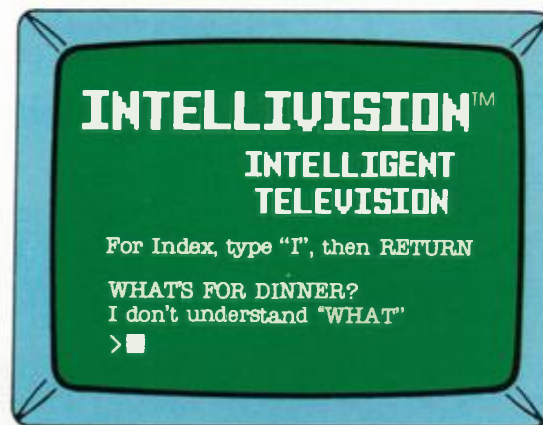
A quick overview of the keyboard

Take a look at the keyboard. Notice that the keys are divided into color groups. Keys in the same color group have similar **types** of functions—that is, they do the same kinds of things.

There is a complete TABLE OF KEYS on page 18, that lists the functions of all keys in different modes.

BEIGE keys work as typewriter keys when you use them alone. This works in TYPEWRITER, MONITOR, BASIC, OR TAPE modes (in certain cassette programs).

Beige keys take on special meaning when they are used with the `CTRL` key. They are then called "command keys." You will find a list of command keys and what they do on page 20.

RED keys are much like their typewriter counterparts. Use them with the beige keys to switch from lower to upper case characters, or use them alone to move the cursor (`TAB` and `RETURN`).

The `RETURN` key has a special job when you address the monitor. It carries the message "I'm finished with this command."

BROWN keys are special computer keys. You can use them alone, with the beige keys (`CTRL-C` is an example) or with each other (`REPEAT` with `DEL`). These keys differ a great deal from each other, so check directly with the Table of Keys to find out about them.

BLUE keys are manipulators. In TYPEWRITER and BASIC modes, they move the cursor and cause the screen to scroll up. In some CASSETTE programs, they manipulate the image on the screen. In MONITOR mode, only the `↓` key works, acting as a carriage return.

Some of the cassette programs, such as Conversational French, allow you to record your responses and play them back, so you can listen and compare your responses to your teacher's. This is an invaluable learning device, especially for conversational language study.

Getting the most from the microphone

When a program calls for you to use the microphone, it will give you exact instructions on how to use it. Here are some general directions.

1. Plug the microphone into the left side of the Keyboard Component, as shown.

2. Hold the microphone upright, about 6 inches from your mouth.
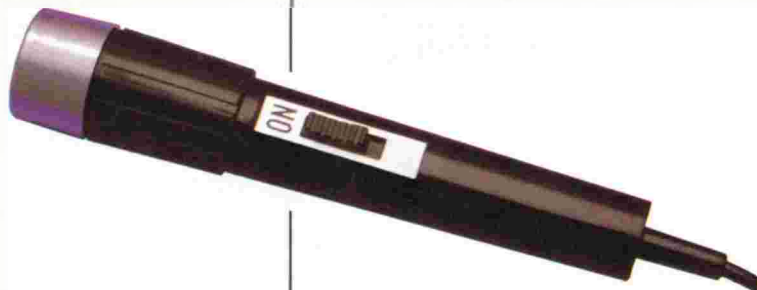
3. When you're ready to record, push the microphone switch (on the microphone) to the ON position.

4. When you record, speak in a normal, conversational tone. The volume level will automatically adjust to your voice, unless you are whispering or shouting.

5. Follow the instructions with your cassette program for directions on recording and playback.

How to shut down without shutting off

You're in the middle of a French lesson and the phone rings. What do you do? Relax. You can interrupt your INTELLIVISION™ program and come back to it later. Here's how.

CASSETTE

You have two options.

1. When you have a little time, TYPE `CTRL-C` **ONCE.** (Hold down the `CTRL` key while you press `C` once.) Your program will play on for a few frames, then stop. The screen will return to the Monitor Frame.

When you're ready to start again, simply type in `R` (for RESUME) and press the `RETURN` key. Your program will pick up again at the point where it stopped.

DO NOT press `T` (for Tape) or the cassette will rewind to the beginning before starting again.

```
INTELLIVISION™
INTELLIGENT
TELEVISION
For Index, type "I", then RETURN


> R ■
```
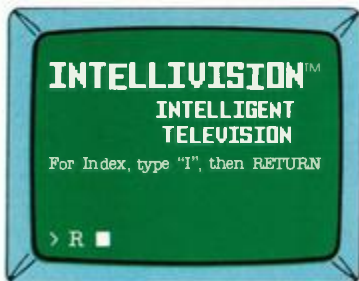
2. When you're in a hurry, TYPE `CTRL-C` **TWICE.** (Hold down the `CTRL` key while you press `C` twice, rapidly.) Your program will stop immediately. The screen will return to the Monitor Frame.

When you type in `R` and press `RETURN`, th e computer will back the program up a frame or two, to find a point where it can start again.

> When you type `CTRL-C` TWICE, be sure to hold down the `CTRL` key while tapping the `C` key twice **in rapid succession.** If you wait more than a second between typing the first and second `C`, the computer will not understand your command. It will interpret your command as only ONE `CTRL-C`.

TO SHUT A CASSETTE OFF COMPLETELY...

TYPE `CTRL-C` TWICE, to return to the Monitor Frame. Then TYPE `E` and PRESS `RETURN`. The cassette will automatically rewind and eject. Remove the cassette and turn the Master Component and your TV set OFF. Remember that you MUST go to the Monitor Frame before giving the Eject command.

(For emergency eject procedure, see "Computer in Distress", page 27.)

CARTRIDGE

You have three options.

1. JUST GET UP AND LEAVE, without doing anything. After 5 minutes, the computer will automatically turn the screen blank. When you're ready to play again, just press the direction disc or any key on a hand controller keypad. Your game will resume where you left off.

2. SIMULTANEOUSLY PRESS KEYS `1` AND `9` ON YOUR HAND CONTROLLER KEYPAD. The screen will go blank. Restart the same as in 1) above.

3. TYPE `CTRL-C` TWICE. Your game will stop and the screen will return to the Monitor Frame. When you're ready to play again, type `R` and press `RETURN`. Yo u will be returned to your game at the point where you stopped. (Typing `CTRL-C` once does not work in cartridge mode.) DO NOT type `C` only, as this will return you to the START of the game.

BASIC

1. TYPE `CTRL-C` **ONCE.** The computer will stop running your program, but it will NOT return to the Monitor Frame. Type `R` and press `RETURN` to run your program again.

2. TYPE `CTRL-C` **TWICE.** Your program will be interrupted and the screen will return to the Monitor Frame. When you're ready to go again, type `R` and press `RETURN`. DO NOT type BASIC (or `B`) and press `RETURN`, as this will erase your interrupted program.

TYPEWRITER

The screen will automatically go blank anytime you leave it for 5 minutes or longer without pressing any of the keys. To restore your last image to the screen, just press one of the blue directional keys.

(Any key will work to restore the image, but most will add the character you type ... or erase one.)

Don't forget the kids

Your INTELLIVISION™ is a **family** system and that means children can use it too. The Master Component and Keyboard Component are not fragile. They are tough and easy to use, and that makes them ideal for everyone in the family.

Show your children how to use the family INTELLIVISION™ system. You've probably noticed how quickly they catch on to new ideas. Plug in a Math Fun™ or Word Fun™ cartridge... or introduce them to a foreign language cassette. They'll have a ball.

But that's not all. Show them the Typewriter Mode and let them make up their own word games. We've included some examples in this section. Show them the special graphics characters too, and let them create their own "computer graphics." Of course, children should use the INTELLIVISION™ system only under adult supervision.

While you're at it, let them learn from the beginning how to take care of the family INTELLIVISION™ Older children can even help with regular maintenance tasks, like cleaning the tape heads.

The important thing is to involve your children with the INTELLIVISION™ system early on... because kids and computers make a great combination. After all, they are both a part of the future.
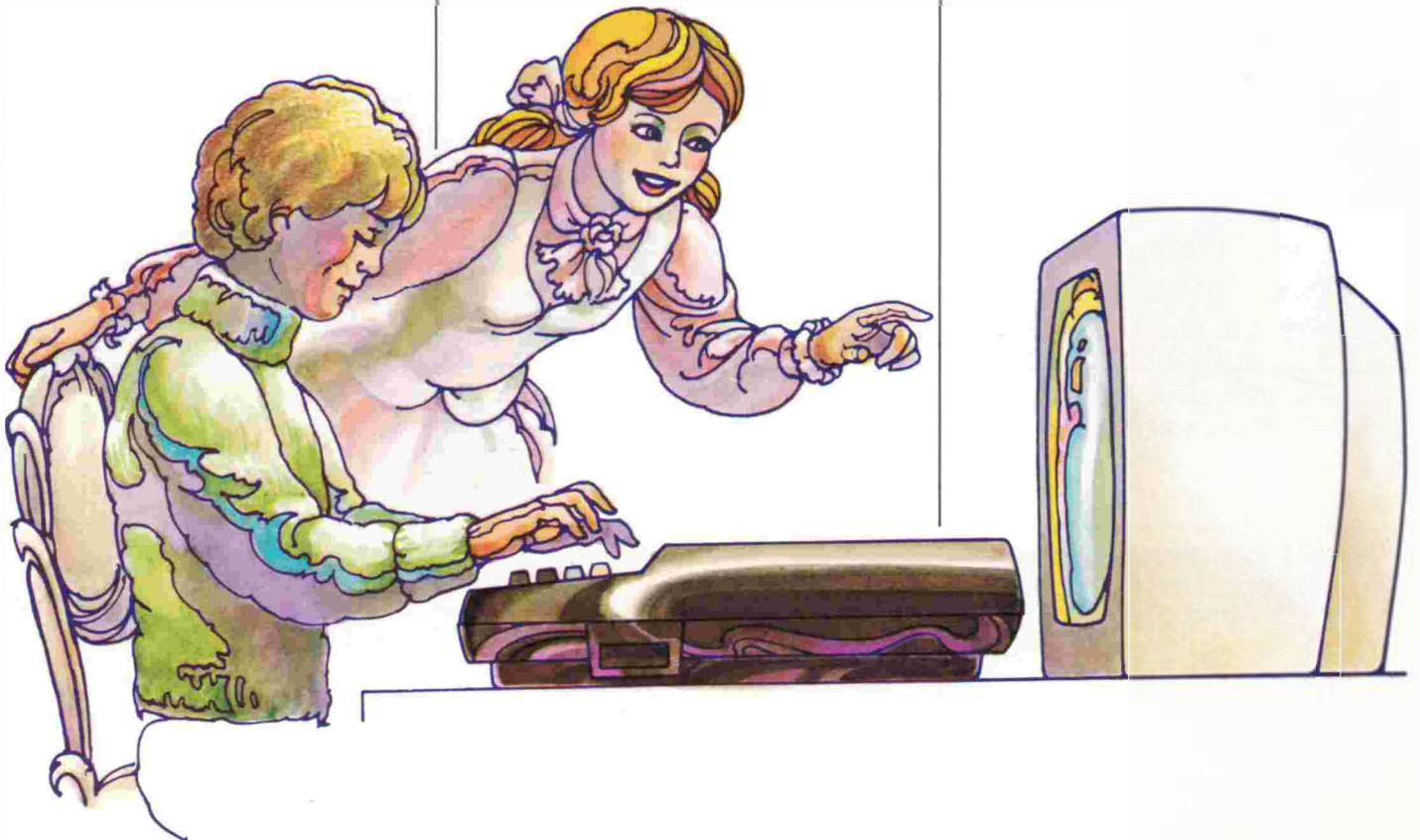
Brain games for typewriter mode

These are only a few examples of "brain" games you can play in Typewriter Mode. You can probably think of more yourself.

MAKING THE MOST OF A GHOST
(for 2 or more players)

First player think of a word with 3 to 8 letters. Type the first letter only of your word on the screen. Do not press `RETURN`.

Next player think of a word that begins with the letter already typed. Add one letter to the screen, without completing any word. Continue like this, with each player adding a letter, until one player completes a word. That player becomes a "fifth of a ghost."

Ex: The first player, thinking of donkey, types D. The second player, thinking of drink, types R. The third player, thinking of droid, types O. The fourth player, thinking of droop, types O. The fifth player can only think of droop and drool. He types P and ends the word.

Allow only one minute for a player to add a letter or challenge by asking the last player to say what word he or she had in mind. If the last player has no word in mind or can't spell it, he or she becomes a "fifth of a ghost." If the last player does have a word in mind and can spell it, the challenger becomes a "fifth of a ghost." No dictionaries allowed, except to check a challenge.

Five fifths make a whole ghost and that player is out of the game. The winner is the player who is left at the end.

WHAT'S IN A CATEGORY?
(for 2 or more players)

Say a category, such as fruit, animals, colors, trees, fish, and then type a word that is in this category.
(Example: "animal"   cat)

Take turns typing the words in a category and see who can type the most words that are correct for that category. The war ends when all players but one run out of words.

BUILD A CHAIN GAME!
(for 2 or more players)

See how long you and your partner(s) can keep a word chain going. You type a word and the next player begins his or her word with the last letter of the first word. If a player breaks the chain, he or she is out of the game.

(Example: You type **crack** and the next player types **kelp** and the next **play**.)

MAKE A PHRASE!
(for 2 players)

Type a word such as **up, down, in, out** and see if the other player can type a common two word expression containing your word.

(Example: **up   put up; down   pipe down.**)

CREATE A CRAZY ANIMAL!
(for 1 or more advanced players)

See how many strange animals you can create by combining the last letter or syllable of one animal with the first syllable or first letters of the other.

(Example: zebrat   ermink   sealion   doveel

Type as many such combinations as you can or take turns and see who can create the most new animals.

Table of keys

(for MONITOR, TYPEWRITER, BASIC and TAPE modes)

The Keyboard is not generally used in CARTRIDGE mode, so this mode is not included below. Nor are RESUME, CLEAN or EJECT, since these are special capabilities that are very specific in what they do and how they do it. These capabilities are covered throughout the book.

BEIGE keys produce whatever character is on the key. In MONITOR mode, beige LETTER keys print out in upper case only.

KEY	MONITOR	TYPEWRITER	BASIC	TAPE
TAB	Moves cursor 4 spaces to the right.	Same	Same	Same
ESC	No function	No function	See BASIC manual.	No function
LOCK	No function	Locks all LETTER keys in upper case. Number, punctuation & blue directional keys remain in their lower case functions. PRESS AGAIN TO UNLOCK.	Same	No function
CTRL	See "Special Control Commands," page **20**.	Same	Same	See introductory paragraph to Special Command Keys, page 20.
CLEAR SCREEN	Used WITH SHIFT KEY to erase the screen and return the cursor to its "home" position (upper left corner of the screen).	Same	Same	No function
SHIFT	Switches number, punctuation & blue directional keys to their upper case functions. (Ex: 2 becomes @, etc.)	Switches all keys to upper case functions as long as SHIFT is depressed.	Same as Typewriter mode.	
↑	No function	Moves cursor 1 space up without erasing character over which it passes.	Moves cursor 1 space up without erasing character over which it passes.	Scrolls screen down in some cassette programs.
←	No function	Backspaces 1 space without erasing character over which it passes. Wraps cursor around.*	Backspaces 1 space without erasing character over which it passes. Wraps cursor around.*	Backspaces 1 frame in some cassette programs.

KEY	MONITOR	TYPEWRITER	BASIC	TAPE
↓	Enters command and acts as carriage return (moves cursor to the left margin and down 1 line).	Moves cursor 1 space down without erasing character over which it passes. Scrolls screen up when it reaches the bottom of the screen.	Moves cursor 1 space down without erasing character over which it passes. Scrolls screen up when it reaches the bottom of the screen.	Scrolls screen up in some cassette programs.
→	No function	Advances cursor 1 space without erasing character over which it passes. Wraps cursor around.*	Advances cursor 1 space without erasing character over which it passes. Wraps cursor around.*	Advances 1 frame in some cassette programs.
RETURN	Enters command and acts as carriage return.	Acts as carriage return.	Acts as carriage return.	Used in some cassettes to enter typed information.
DEL	Backspaces cursor 1 space, erasing character over which it passes.	Same	Same	
REPEAT	Causes any other key to repeat its function continuously, as long as both Repeat and other key are held down.	Same	Same	
SPACE BAR	Moves cursor 1 space to the right.	Moves cursor 1 space to the right, erasing any character over which it passes. Wraps cursor around.*	Moves cursor 1 space to the right.	

*WRAPPING AROUND...
As a general rule, where keys that move the cursor are concerned, when the cursor reaches the left margin and disappears, it will reappear at the right margin, one line up. When the cursor reaches the right margin and disappears, it will reappear at the left margin, one line down. This is called "wrapping around."

Special "control" commands

All beige LETTER keys are capable of giving special commands, when they are used with the CTRL key. This works whether the letter key is in upper or lower case.

The ONLY special command you will need when using a cartridge or cassette is CTRL-C . This is explained on page 14.

If you happen to hit the CTRL key with a letter key, while you're in Monitor, Typewriter or Basic modes, the table below will tell you what you can expect the results to be. Many of these special commands aren't really useful to you now (though you might have fun playing around with them), but will be useful with future add-ons.

Whenever you give a special control command, HOLD DOWN THE CTRL KEY **WHILE** TYPING THE LETTER.

CTRL +	MONITOR	TYPEWRITER (Screen)	BASIC
A	No present function	Scrolls the screen up	No present function
B	No present function	Scrolls the screen down	No present function
C	(twice) Returns screen to Monitor Frame (once) No function.	Same	Same
D	Deletes line to right of cursor.	Same	Same
E	No present function	No present function	No present function
F	No present function	Moves cursor to end of the line.	No present function
G	No present function	Rings bell	No present function
H	Backspaces cursor without erasing character over which it passes.	Same	Same
I	Tab (4 spaces)	Same	Same
J	Same as RETURN key.	Moves cursor down one space without erasing character over which it passes.	Moves cursor down one space without erasing character over which it passes.
K	No present function	Moves cursor to upper left corner of screen without erasing screen.	
L	Clears the screen and returns the cursor to upper left corner of screen.	Same	Same

| CTRL +	MONITOR	TYPEWRITER (Screen)	BASIC
M	Same as RETURN key.	Carriage return	Carriage return
N	No present function	Special graphics command (see page **22**)	No present function
O	No present function	Special graphics command (see page **22**)	No present function
P	No present function	No present function	No present function
Q	No present function	No present function	Stops the listing function.
R	No present function	Special graphics command (see page **22**)	No present function
S	No present function	No present function	Continues the listing function.
T	No present function	Same as blue → directional key.	No present function
U	Erases line.	Erases line to left of cursor and moves remainder to left margin.	Same as Typewriter Mode.
V	No function	Opens a space where the cursor is, moving the cursor and the rest of the line one space to the right.	Same as Typewriter Mode.
W	No function	Moves all characters right of the cursor down one line and to left margin.	Same as Typewriter Mode.
X	No function	Deletes character cursor is over and closes the space.	Same as Typewriter Mode.
Y	No function	Moves all lines below cursor up one line, replacing characters right of cursor with characters on following line.	Same as Typewriter Mode.
Z	No function	Clears screen inside margins.	Same as Typewriter Mode.
]	No function	Same as blue → directional key.	Same as Typewriter Mode.

FOR DOODLERS ONLY-- Special Graphics

Every character that the Keyboard Component can produce is stored in its memory. This includes all of the characters on the keys (upper and lower case) PLUS some characters that you won't find on the keys.

These are the SPECIAL GRAPHICS CHARACTERS. Some are notated vowels, used in foreign languages. Others are graphics "building blocks" —squares, lines and dots. If you look hard, you may recognize the tiny squares from which animated game figures are built. If you have a language cassette, the foreign vowels might not be so foreign to you.

The special graphics characters are stored WITH the regular characters in the order shown below. We've included them in your Owner's Book because you may want to play with them (as long as they're there).
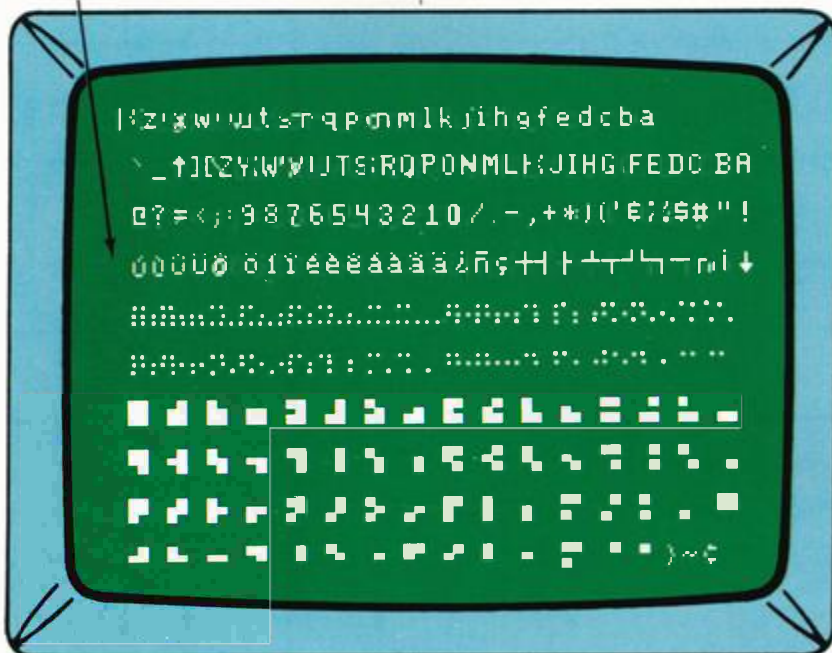
FIRST, GO TO TYPEWRITER MODE.

USE THE BLUE KEYS TO MOVE THE CURSOR TO A PLACE ON THE SCREEN WHERE YOU CAN SEE IT CLEARLY. Your first character will appear to the left of the cursor.

TO GET TO A SPECIAL GRAPHICS CHARACTER (one not shown on the keys):

• Find a character that DOES appear on the keys. Pick one that is close to the special character or group of special characters that you want. (Check the order of characters in the illustration above.) TYPE THAT CHARACTER.

• Move forward or backward along the sequence of characters shown above, until you reach the character or group of characters you want.

—To move forward (advance to the next character), HOLD DOWN `CTRL` WHILE YOU PRESS THE LETTER KEY `O`.

—To move backward (go to the previous character), HOLD DOWN `CTRL` WHILE YOU PRESS THE LETTER KEY `N`.

To move quickly along the sequence of characters, HOLD DOWN `CTRL`, THE LETTER KEY `N` OR `O` AND THE `REPEAT` KEY. (You may feel a little like an octopus, but it can be done.)

• When you reach the character you want, stop pressing `CTRL-O` or `CTRL-N`. Move the cursor to the next place where you want a character to appear. (Use the blue keys so you don't accidentally erase a character.)

• If you want to print out a **group of characters** across the screen, HOLD THE `CTRL` KEY DOWN AND PRESS THE BLUE `→` KEY AFTER EACH `N` OR `O`. This will cause the characters to print from left to right.

Do not use the Space Bar, or it will take you to the blank space in the character sequence (see illustration of all characters).

To print in the opposite direction, use the blue `←` KEY.

A BLANK SPACE

Characters here not proportional to screen.

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*IF YOU WANT TO REPEAT A CHARACTER YOU'VE PRINTED, at another point on the screen, follow these steps:

• Place the cursor over the character you want to repeat. TYPE `CTRL-E` . The computer will remember this character as the one to be repeated, until you type a different character, or use `CTRL-E` to select a different character to be remembered.

• Now move the cursor to the place where you want the character to be repeated. TYPE `CTRL-R` . You can repeat a character in this way as many times as you like, as long as you don't type another character during the repeat process. (To repeat a character a number of times in a string, hold down `CTRL-R` and press the `REPEAT` key.)

*HOW TO USE THE REPEAT COMMANDS TO THEIR BEST ADVANTAGE:

• Find the group of characters you want to use and print them out at the top of the screen. If you need to use a second line, press `RETURN` when you reach the right margin, then press the `▓▓▓` KEY once.

• Use the cursor and the REPEAT commands (`CTRL-E` and `CTRL-R`) to pick up individual characters and take them to the point on the screen where you want them to appear.

• When you've finished, press the blue `↓` KEY until the group of characters at the top of the screen scrolls up off the screen, leaving only the characters you moved.

*See page 32 for Program Update.

WHAT CAN YOU DO WITH GRAPHICS CHARACTERS???

Here are a couple of examples of "computer art" done entirely with the graphics characters in your INTELLIVISION™ system. If you add a printer to your system in the future, you will get even more pleasure from this mental exercise, as you will then be able to print out and keep what you create. Remember that in Typewriter Mode, when an image leaves the screen, it leaves for good.
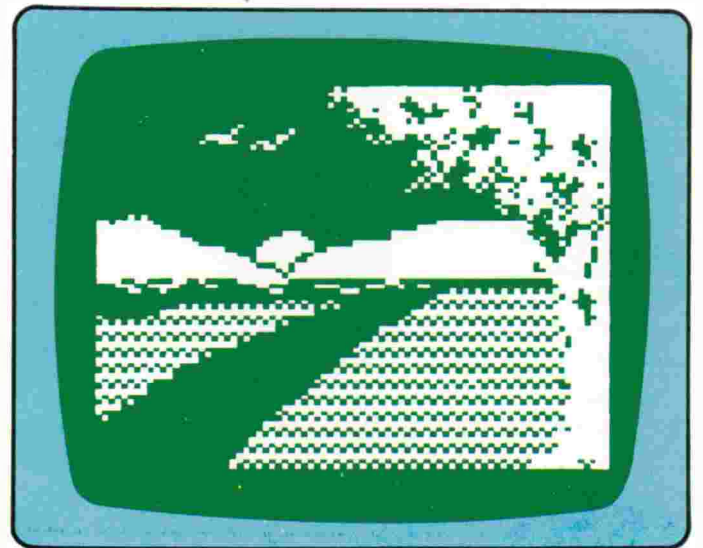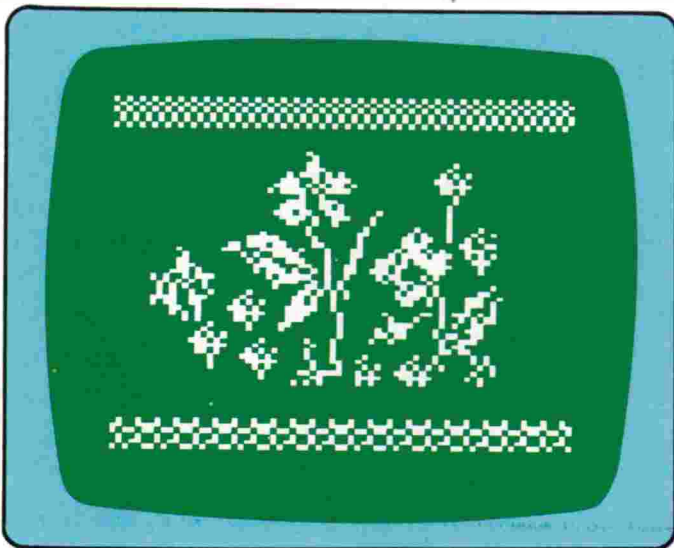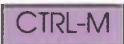
For those who can't resist experimenting....

Some random notes on special conditions you will find if you start a little "serious" fooling around. If you encounter any of these conditions, don't worry. Your INTELLIVISION™ system isn't malfunctioning. It's supposed to work this way.
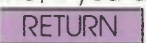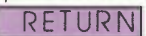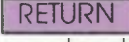
IN MONITOR MODE...

1. Letter keys ONLY print in uppercase.

2. Brackets keys only print in lower case.

3. Blue ←, ↑ and → keys only perform their upper case functions (that is, print characters <, | and >).

4. The following keys perform the same function as the RETURN key (enter a command and carriage return):

BLUE ↓ KEY

C TRL -J

CTRL-M

5. You can type anything you like when you are addressing the monitor...as long as your command isn't much longer than one line. At the end of a line, if you don't press RETURN (which enters and ends your command), your command will continue over to the next line, but only for six spaces. It will then stop. The RETURN key won't work.

You'll have to press the DEL key a few times to back up, and then press RETURN. After all that, the computer still won't understand your command.

6. If you type a command "TAKE ME TO YOUR LEADER..." and the first word (TAKE) begins with the first letter of one of the commands in the index (T), the computer will read your command as the command from the index (in this case, TAPE). When you press RETURN, the computer will take you to Tape Mode. With a little imagination, you can have fun with this feature.

IN TAPE MODE...

As soon as the computer starts rewinding or loading, you are in Tape Mode. If you change your mind at this point, you must go back to the monitor by typing CTRL-C twice, before choosing a different mode or capability.

Because of a special coding on your INTELLIVISION™ cassettes, they cannot be duplicated without a noticeable loss in quality.

CLEAN...

If you type CLEAN (and hit RETURN) with a tape in the housing, the tape will go into head cleaning mode. It will **not** erase or record.

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Keeping your computer happy

CLEANER

COTTON SWABS

1. CLEAN THE RECORD MECHANISM IN THE CASSETTE RECORDER REGULARLY. This includes the tape heads, capstan and roller (see illus. below). Do it after roughly every 5 hours of use. It only takes a couple of minutes and will make a big difference in the sound you hear and the life of your cassette tapes. HERE'S HOW:

HEADS

CAPSTAN

ROLLER (turns clockwise)

Use good quality cotton swabs and a commercial tape head cleaner.

GO TO MONITOR MODE. Then press E and RETURN to open the cassette housing. Start the CLEAN function by typing C   L and pressing RETURN . This will move the tape heads forward and start the roller moving.

Wet a cotton swab in the cleaner. Remove excess moisture but do not use your fingers, as you may leave traces of oil on the swab. (Oil and tape heads are not at all compatible.)

• Clean the heads by gently rubbing the swab back and forth across them (**not** up and down).

• Clean the roller and capstan by holding the swab against the roller (on the right side) as it turns. Do not hold the swab against the left side, as it may get pulled in between the capstan and roller.

When you're finished cleaning the record mechanism, look at the cotton swab you used. What you see on the swab was coming between your cassette tape and the tape head (the part of the mechanism that plays or records the tape).

TWO FINAL CAUTIONS ABOUT CLEANING...

• Do not use water, soap or a dry cloth on the tape heads, as these things will leave a residue or scratch the heads.

• Do not use cleaning cassettes in your recorder. Most are too abrasive and you run the risk of damaging your tape heads if you use them.

2. Keep the dust away from your INTELLIVISION™ system. When it is not in use, cover your INTELLIVISION™ with a clean cloth.

3. Avoid static electricity build-up. This can be a problem in dry climates or in winter, especially if your INTELLIVISION™ system is kept in a carpeted room. Use an anti-static spray on carpets and rugs. (You can buy this in most computer stereo or general merchandise stores.)

If you think the static build-up is high, "ground" yourself by touching a metal surface (you'll feel a slight shock), before you handle a cassette.

4. Store your cassette tapes away from extreme hot or cold areas, moisture, and strong magnetic fields (such as those in high power stereo speakers, the back of a TV set, telephones, etc.).

5. Always remove cassette tapes from the recorder when you are finished using them. Do not leave cassettes in the housing.

Computer in distress

If your INTELLIVISION™ system is not acting as intelligently as it should,
try a few simple troubleshooting procedures.

PROBLEM	SOLUTION	SOLUTION
1. Screen remains blank when you turn your system on.	1. Make sure your TV set is plugged in. (We are not being patronizing—this solves the problem more often than you'd imagine.) Disconnect the Antenna Switch Box at the TV antenna terminals and hook your TV antenna or cable directly to your set's antenna connections. Still nothing? The problem is likely in your TV.	
2. Nothing but snow on the screen.	2. Turn the Master Component OFF then ON again. Press the **RESET** button. Make sure your TV is set on the same channel as your Master Component. (This involves unscrewing the Master Component from the Keyboard Component and checking the bottom of the Master Component.) Turn the Antenna Switch Box from GAME to TV and flip through the channels. Is your regular TV reception okay? • **IF NO,** the problem is either the Antenna Switch Box or your TV. Disconnect the Antenna Switch Box. Connect your TV antenna or cable directly to the TV set. If your TV is okay alone, call the SERVICE NUMBER on the inside front cover of this book. If your TV does not work alone, call your TV repair man. • **IF YES,** check connections at the following places: —the Switch Box Cable into the Switch Box.	—the Switch Box Cable and Cable Extender into the Keyboard Component. —the Power Cord and Flat Ribbon Cable between the Keyboard Component and Master Component. (This involves disassembling the components. Reverse the assembly instructions on pages 4 and 5.) If all connections are secure and the system still doesn't work, disconnect the Master Component from the Keyboard Component. Plug the Master Component Power Cord directly into a wall outlet. Plug the Switch Box Cable into the Master Component and the Antenna Switch Box, bypassing the Keyboard Component. Insert a game cartridge into the right side of the Master Component. If the Master Component works alone, the problem is in the Keyboard Component. If it doesn't, the Master Component is your problem. EITHER WAY, CALL YOUR SERVICE NUMBER.

PROBLEM	SOLUTION
3. Picture jumpy	3. Make sure the Switch Box Cable and Cable Extender are plugged all the way into the back of the Keyboard Component.
4. "BAD TAPE" prints out on screen during cassette play	4. The computer has come across a programming error on the tape. If it can correct the error itself, it will. If it cannot, it will automatically eject the tape. Return the tape to Mattel if it is still under warranty.
5. Tape breaks or becomes tangled in the record mechanism while in play	5. EMERGENCY EJECT PROCEDURE Stop the tape immediately, by typing `CTRL-C` twice. Run a credit card down and along the right side of the cassette housing, from back to front. This will trip the Emergency Eject mechanism and the cassette housing door will open.* If tape is tangled, CAREFULLY untangle it and remove the cassette. If the tape is wrinkled, do not attempt to reuse it, as it may become tangled again. If the tape is not wrinkled, wind it carefully back into the cassette, using a pencil, as shown in this illustration.

*This is an **emergency** procedure only. Do not use it for normal removal of a cassette, since it does not rewind the tape and will leave a small section of tape exposed.

REMEMBER! If these simple procedures don't take care of your problem or if you have ANY questions, CALL THE TOLL-FREE NUMBER LISTED IN THE INSIDE FRONT COVER OF THIS BOOK. California, Hawaii and Alaska residents call the 213 number, collect or direct.

A quick review of the commands you use most

TO DO THIS...	TYPE THIS...
Return to MONITOR	`CTRL-C` (twice)
View INDEX	Return to Monitor. Type `I` . Press `RETURN` .
Go to TYPEWRITER mode	Return to Monitor. Type `S` . Press `RETURN` .
Start CARTRIDGE	Return to Monitor. Type `C` .Press `RETURN` .
Start CASSETTE TAPE	Return to Monitor. Type `T` . Press `RETURN` .
RESUME program after interrupt	Type `R` . Press `R ETU RN` .
Start CLEAN function	Return to Monitor. Type `C` `L` . Press `RETURN` .
EJECT cassette tape	Return to Monitor. Type `E` . Press `RETURN` .
Go to BASIC (when cartridge is inserted)	Return to Monitor. Type `B` . Press `RETURN` .
CLEAR screen (in Monitor, Typewriter and BASIC modes)	Press `SHIFT` and `CLEAR SCREEN` keys. OR type `CTRL-L`

Graphics commands in brief

Cycle forward through character sequence	CTRL-O (letter)
Cycle backward through character sequence	CTRL-N
Repeat character elsewhere on screen.	CTRL-R

Character sequence can be entered by pressing any character key on the keyboard, then cycling forward or backward, using the control commands above.

GLOSSARY

ADDRESSING THE MONITOR. Communicating directly with the monitor by means of commands.

BASIC. The "high level" computer language that allows you to write your own computer programs.

BINARY NUMBER. A two-digit number using only the digits 0 and 1 (00, 01, 10, 11). All information stored in a computer is stored as binary numbers.

BIT. An abbreviation for "binary digit" — a single digit (0 or 1) in a binary number.

BYTE. A series of bits (usually 8) considered as a unit by the computer. A unit of measurement for a computer's memory.

CHARACTER. A letter, number or special symbol (such as #, %, or *).

CURSOR. A small square that tells you where the next character that you type will appear on the screen.

FRAME. The entire image on the TV screen at any given time.

FUNCTION. A word used to describe what a thing does. (DELETE is a function of the keyboard.)

HARDWARE. The actual mechanical and electrical devices and circuitry used in a computer system.

HOME POSITION. The upper left corner of the screen.

INSTRUCTION. Computer information in the form of a word or group of words which tell the computer what operation to perform. Special groups of instructions are called programs.

I/O PORT (INPUT/OUTPUT PORT). An electrical connection through which external equipment (peripherals) can be attached to and communicate with the computer.

K. Abbreviation for the number 1,024. (16K means 16,384)

MEMORY. The part of the computer that holds data and instructions for later use. The amount of information a computer can store is usually measured in bytes. Your INTELLIVISION™ has 16K bytes of Random Access Memory (see below).

MODE. A way in which your computer can be used. Cartridge, Tape, Typewriter and BASIC are ways in which you can use your INTELLIVISION™ system.

MONITOR. Permanently stored memory (ROM) that controls the flow of information within the computer. One of the things it does is take you into and out of different modes.

MONITOR FRAME. Shows the INTELLIVISION™ title and indicates that you are now addressing the monitor.

PERIPHERAL. An external electro/mechanical device (such as a printer) that inputs or outputs information from the computer. These devices are connected to the computer via the I/O ports.

PROGRAM. A special set of instructions that the computer stores until you command it to follow those instructions. The means by which you command the computer to receive, process, store and deliver information.

PROMPT CHARACTER (>). Appears at the beginning of a line, indicating that the computer is ready to receive a new command or line of information.

RAM (RANDOM ACCESS MEMORY). The main memory of the computer, stored in the Keyboard Component. You can "write" information into this memory, using the keyboard, or "read" information out of this memory, using the TV screen, an external printer, etc. The information you write in is erased when you turn the computer off. For permanent storage, the information should be transferred to a cassette tape.

ROM (READ ONLY MEMORY). Permanently programmed memory that cannot be erased or changed. The monitor is an example of Read Only Memory. So are game cartridges.

SCROLL. Describes the upward or downward movement of all information on the screen, to make room for more information.

SOFTWARE. Computer programs, often stored in cartridge ROM's or cassettes. Additional preprogrammed memory that you can add to your computer so that it will do more.

VIDEO TERMINAL. A peripheral device that displays the necessary video information required for you to interact with the computer. Your TV set becomes a video terminal when used with the INTELLIVISION™ system.

WORD. A group of characters recognized by the computer as a single instruction or operation to be performed. A word may consist of one byte or several bytes of information.

Specifications for your INTELLiViSiON™ system

(Master Component and Keyboard Component combined)

CPU: Two processor system:

- —16 bit microprocessor/Master Component
- — 8 bit microprocessor/Keyboard Component

MEMORY: 16K RAM resident (10 bit) words. Memory can be expanded up to 1000 8K pages (8 megabytes).

KEYBOARD: 60 key typewriter-like keyboard including specialized computer control keys. Upper/lowercase.

CONTROLS (Master Component): Two hand controllers; 12 button numeric keypad, four action keys, 16-direction object movement disk.

SOUND: Sound generator capable of producing 3 part harmony.

COLOR: 16 colors.

TAPE CASSETTE DRIVE: Built-in, completely computer controlled. Records/plays two digital and two audio tracks in one direction. 30 minutes of program material and data storage. Drive accepts all Mattel video cassettes.

VIDEO RESOLUTION: Standard; 160 horizontal, 192 vertical picture elements. High resolution graphics; 24 lines of 39 characters.

EXPANDABILITY: Two parallel peripheral I/O expansion ports which allow addition of external memory, peripherals, plus access to CPU bus.

INTENDED PERIPHERALS: Forty column printer; telephone modem; voice synthesizer (planned for 1981 introduction, subject to change).

A look in the crystal ball.....

There's more planned in the future for your INTELLIVISION™ system—add-ons that will allow you to expand your system in the coming years. Some of these future peripherals include:

MODEM—a telephone device that allows you to receive and transfer information to other computer systems, over your telephone line...

and

PRINTER—a special peripheral that lets you print on paper what appears on your TV screen.

90 day limited warranty

Mattel Electronics warrants to the original consumer purchaser of its INTELLIVISION in the United States that the product will be free of defects in material or workmanship for 90 days from the date of purchase under normal in-home use.

During the warranty period Mattel Electronics will, at its option, repair or replace the product without charge for parts or labor, when returned postage prepaid and insured to Mattel Electronics Repair Center, 5150 Rosecrans Avenue, Hawthorne, California 90250 with proof of the date of purchase. Mattel Electronics reserves the right to utilize reconditioned parts in repairing the product or to utilize reconditioned units (carrying this same 90-Day Limited Warranty) in replacing the product.

This warranty does not apply if the product has been altered or repaired by anyone other than Mattel Electronics Repair Center or has been subjected to purchaser abuse, accident, negligence, or damage subsequent to purchase.

Please read the Owner's Book carefully before using the product. If a malfunction occurs, please refer to the trouble-shooting checklist in the Owner's Book. If you cannot correct the malfunction after consulting the troubleshooting checklist, please call the Mattel Electronics Repair Center at the numbers shown below.

Units returned without proof of the date-of-purchase, or units returned after the 90-day warranty period has expired, will be repaired or replaced (at our option) for a service charge. Call the following toll-free telephone number for the amount of the service charge: (800) 421-2826. Alaska, California and Hawaii residents call direct or collect (213) 644-2752. Payments must be made by check or money order payable to Mattel Electronics. All non-warranty units must be returned postage prepaid and insured with a check or money order in the amount of the service charge to Mattel Electronics Repair Center, 5150 Rosecrans Avenue, Hawthorne, California 90250.

This warranty excludes incidental or consequential damages resulting from the product or use of the product. (Some states do not allow the exclusion of incidental or consequential damages, so the above exclusion may not apply to you.)

This warranty gives you specific legal rights, and you may also have other rights that vary from state to state.

IF YOU NEED SERVICE FROM MATTEL ELECTRONICS REPAIR CENTER...

It's available during **and** after the 90-day warranty period.

1. **Pack** the product carefully in its original box. If the box is not available, use a strong carton with plenty of newspaper or other padding. Enclose a brief note telling us the specific problem you are having with the unit, and your **name and home address.**
2. **Print** this address on the box:
   MATTEL ELECTRONICS REPAIR CENTER
   5150 ROSECRANS AVENUE
   HAWTHORNE CA 90250
   ...**and your return address.**
3. **Send** the package by U.P.S. or insured parcel post.

During the warranty period, enclose proof of purchase date. After warranty has expired, enclose check or money order for the amount quoted by the toll-free operator.

NOTES

PROGRAM UPDATE

HOW TO REPEAT THE SPECIAL GRAPHICS
CHARACTERS

You can repeat the LAST special graphics char-
acter you typed, anywhere else on the screen.

Simply move the cursor to the point where you
want the special graphics character to appear.
Then TYPE CTRL-R. (Hold down CTRL while typing R.)

You can repeat a special graphics character as
many times as you like, but you can ONLY repeat
the most recent character you typed, using the
CTRL-O or CTRL-N commands. You cannot type a
string of characters, then pick up and repeat any
character from the line. You can only repeat the
last character in the string.

CTRL-E has no function for special graphics
characters.

MATTEL ELECTRONICS™