Laptop External Monitor Activation Chart

Some laptop computers de-activate their built-in monitors when a second display device (data projector) is connected.

In order to activate/re-activate your laptop's built-in monitor or external monitor port for projection, refer to the chart below for instructions for your operating system:

       Key commands for PC laptop models

       Steps for Mac laptop models

For more information on setting up your laptop to display content on a data projector screen, refer to the following:

       Setup instructions for PC

       Setup instructions for Mac

Key commands for PC laptop models

Before you begin go to in the Classroom AV Instructions tool and check the Data Projector instructions for the classroom. The basic instructions are as follows:

1. Make sure your laptop is turned off.
2. Ensure all AV cables (HDMI or VGA, Audio and Network) are connected to your laptop.
3. Press the LAPTOP button on the AV control panel. The data project may take a minute to warm up.
4. When the projector is running, turn on your laptop.
5. Decide whether to use Duplicate Mode or Extended Mode by following the key commands for your operating system from the Lookup chart for PC models below.

Note: The laptop resolution must be set to match the display resolution of the data projector screen being used - 1024 x 768.

Lookup chart for popular PC models:

For Windows 7 and higher:

1. Press the Windows shortcut keys ⊞ Win + P .

2. On the box that appears use the keyboard's left or right arrow keys or the mouse to make a selection:

   Select **Duplicate** to display the same content (mirror) on both your laptop and the data projector screen.

   OR

Select **Extend** to display different content on your laptop monitor and on the data projector screen.
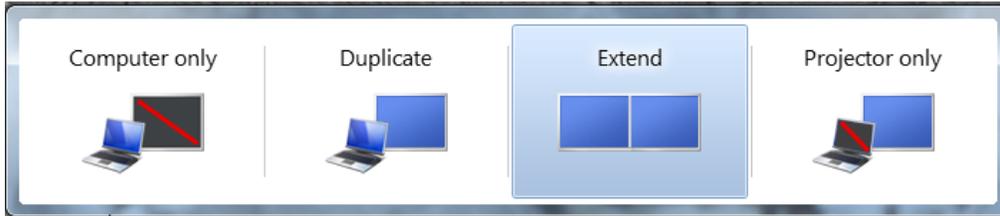
For Operating Systems before Windows 7:

Refer to the chart below. The keys act as a toggle switch, repeat the commands until the desired display mode is achieved. Wait 5 seconds for the command to take effect.

Computer Manufacturer	Key Command to Toggle Display Mode
ACER	fn+F5
ASUS	fn+F5
COMPAQ	fn+F4
DELL	fn+F8
FUJITSU	fn+F10
GATEWAY	fn+F4
HP	fn+F4
IBM-LENOVO	fn+F7
LG	fn+F7
PANASONIC	fn+F3
SAMSUNG	fn+F4
SONY	fn+F7
TOSHIBA	fn+F5

Lookup chart for older PC models:

Computer Manufacturer	Computer Model #	Key Command to Activate or Deactivate Monitor Port
ACER	Note 350, 750, 760, 780	CTRL+ALT+ESC while computer boots will activate the Setup menu; system config; advanced sys config; display device; LCD/CRT
	Note 950	CTRL+ALT+F3 button above function keys will activate Setup menu. Set display mode to Both.
	Note 971	fn+F5
	760IC	CTRL+ALT+ESC from Dos prompt
	Note Lite 350PC	Must terminate with A936 connector
	Note Lite 370PC	fn+F3
Advanced Logic Research	All	CTRL+ALT+V
Altima	All	CTRL+ALT+SHIFT-C, or Setup VGA/Conf. Simulscan
Ambra	All	CTRL+ALT+ESC for Setup screen
	some	fn+F2 or fn+F5
	NB9800D (IBM)	CTRL+ALT+ESC pop-up menu, select simultaneous mode
Amrel	All	Select from Setup screen, or SHIFT+CTRL+D
	some	fn+F6
AMS	Power CD	fn+F2
AMT	NP-743D	Setup (Advanced) Screen Display Mode, select CRT or LCD
Aspen	All	Automatic
AST	some	CTRL+D or CTRL+fn+D
	Ascentia, Ascentia A Series, PowerExec, 9xxN	fn+F5
	Ascentia J Series	fn+F3
	Ascentia P Series, Bravo, 800N, B5N	fn+12
	Premium Exec	fn+D (Plus Terminator)
	Power Exec	fn+F5
AT&T	3181	fn+F3 (3-way toggle)
	Globalyst 200	fn+F6 (3-way toggle)
	Globalyst 250	fn+F3 (3-way toggle)
	Globalyst 3150 Safari	fn+F6 (3-way toggle)
Austin	some	CTRL+ALT+COMMA
	some	fn+12 (plus terminator)
Award	Modular Notebook	fn+F6
BCC	Some	Reboot computer
Bondwell	All	LCD/CRT option appears after boot-up
Canon	BTO	fn+F6
	Innova 386NX	SETUP – Select SIMULSCAN (both Int &

		Ext active) Select Auto – panel must be present at cold boot
	Innova Book 360CD, 490CDS	fn+F7
	NoteJet 3CX	Change CMOS to CRT
Chaplet	All	Select from Setup screen
	some	fn+F4, fn+F6
Chembook	All	fn+F6 (3-way toggle)
Chicony	All	CTRL+ALT+ESC
	Some	Automatic
Commax	All	CTRL+ALT+#6
	some	fn+F6, fn+F7
Compaq	Older LTE	CTRL+ALT+<
	LTE and Contura Series	fn+F4 (3-way toggle)
	Armada 1550, 4130, 4140, 7730MT	fn+F4 (3-way toggle)
	Presario 1065	fn+F2
	Tablet	*See manufacturer's instructions*
CompuAdd	NBE 780	fn+F3 Setup select Display LCD/CRT
	some	ALT + F for screen setup option
Compudyne	Laptop	CTRL+SHIFT+D or SETUP Screen
	N386SXE	fn+F8
Data General	All	*CTRL+ALT+COMMAND*
	some	2 CRT/X at DOS prompt
Data View	All	CTRL+SHIFT+M
DEC	425 SL	fn+F5 (3-way toggle)
	HiNote Ultra 2	fn+F4 (3-way toggle)
	HiNote Ultra CT475	fn+F4 (3-way toggle)
	HiNote Ultra CS433	fn+F4 (2-way toggle)
	HiNote Ultra CS450	fn+F5 (3-way toggle)
	HiNote VP 500, 535	fn+F4 (3-way toggle)
Dell	Some models	CTRL+ALT+< or CTRL+ALT+F10 or fn+D
	Latitude 4/33 C, XL, XP, LX, LM, XPI, CP-Inpiron	fn+F8 or fn+F12 Note: some XL's may need an impedance-matching adaptor and a terminator
	Latitude LS	fn+F8 (LCD/CRT Toggle)
	Latitude D800	fn+F8 (LCD/CRT Toggle) (If projected image dims, disable built-in laptop screen)
Digital	All	fn+F2
	Some	Automatic
Dolch	All	Set dip switch to CRT before boot-up
Epson	650C	Set dip switch to CRT ON before
	Other	fn+F12
EPS Technolog.	L166MMX, MP-975A	fn+F4 (3-way toggle)
Everex	All	Select from Setup screen
	Other	fn+F10 or fn+F12
Fujitsu	Lifebook	fn+F10

GateWay	Colorbook	fn+F1
	Colorbook 2	Option in CMOS setup
	Liberty	fn+ESC
	Liberty (800X600 DSTN)	fn+F3 (3-way switch)
	Solo (800X600 DSTN)	fn+F3 (3-way switch)
Grid	All	CTRL+ALT+TAB or fn+F2
Hewlett Packard	Omnibook 4000, 5000, 5500	fn+F5
	Omnibook 600C	Needs terminator
	some	fn+12
Hitachi	M120T/1000, M100D	fn+F7
	E100D/810	fn+F8
	Windows CE Handheld	Software option, ONLY in PowerPoint
	MX	fn+F12
Honeywell Bull	All	fn+F10
Hyundai	All	Select from Setup screen option
IBM	P70 386	N/A Port Active
	Thinkpad 36X, 310, 380, 560, 770	fn+F7 (not all do simultaneous)
	Thinkpad 350, PS/Note 425C	fn+F1 for Setup (2nd of 3 pgs; display choices: LCD, CRT, or Both)
	Thinkpad 700	CTRL+ALT+S
	Thinkpad 701, 75X, 760	fn+F7 (3-way toggle)
	LX40	Setup > change LCD to CRT
	Thinkpad X-21	fn+F7
	Thinkpad X-30 (available at Schulich Music Library / McLennan Library)	fn+F7
Infotel	Ultra	fn+F12 (3-way toggle)
Internote	286	Needs terminator (jump pins 10 & 11)
Jetbook	All	fn+F6 (3-way toggle)
	some	fn+F12 (3-way toggle)
Kaypro	All	Boot with monitor connected
Kris Tech	All	fn+F8
Leading Edge	Aviva 2000	fn+T (3-way toggle)
Magitronic	All	fn+F4
Mastersport	All	fn+F2
Micro Express	All	Automatic
Micron	Millenia	fn+F2
	Transport DLX	fn+F12
Microslate	All	Automatic
Midwest Micro	Elite	fn+F11
Mitsubishi	All	SW2 ON OFF OFF OFF (activate) SW2 ON ON ON ON (de-activate)
NCR	All	Select from Setup screen
NEC	some	Select "Active" from Setup
	Versa S	fn+F2
	Versa 2000, 4000 series	fn+F3
	Versa 2400	fn+F10
	Versa 4050H, 4080H	fn+F3

	Versa 5000 & 6000 series	fn+F3
	Versa 6000H, 6030H	fn+F3
	Versa M, MX, P, V series	fn+F3
	Ultralite	fn+F3 (LCD/CRT Toggle)
	Ultralite 286v	Must have power supply connected for EXT VIDEO
	Prospeed SX20	Needs terminator (jump pins 10 & 11)
Olivetti	All	Automatic
	some	fn+O
	some	fn+Asterisk
Packard Bell	All	fn+F10
	some	fn+F2
	some	CTRL+ALT+<
Panasonic	All	fn+F2
	CF 25	From "Start" in Win95, select "Panasonic" icon, "Setup 25 Windows"
	CF 61	From "Start" in Win95, select "Panasonic" icon, "Setup 61 Windows"
ProStar	some	CTRL+ALT+S (at bootup)
	5200, 6200, 12000	fn+F6 (3-way toggle)
Sager	All	fn+F6 (3-way toggle)
	NP8600	fn+F9
Sampo	All	CTRL+ALT+SHIFT+C
Samsung	810	fn+F4
	55200	Select from Setup screen Dip Switch #10 ON -- Reboot
	53600	Need terminator (jump pins 10 & 11)
	Pro 500	fn+F5
	Pro 800	fn+F6
	Sens 700	fn+F6
Sanyo	MBC 17NB	Need terminator (jump pins 10 & 11)
	All	Setup screen option
Sharp	All	fn+F5
	some	Set dip switch for CRT ON – Reboot
Sony	some	fn+F7
	VAIO (may need adaptor)	fn+SHIFT+F7 (External Monitor/LCD) fn+F8 (AV-Out)
Sotec	All	fn+F1
	PC3020, PC9000, PC9020	fn+F5 (no simul)
Sun		CTRL+SHIFT+M
Tandy	All	CTRL+ALT+INSERT
	some	Setup option
Tangent	All	fn+F5
Texas Instruments	370, 390, Travelmate 7000 Extensa 36x	fn+F2, fn+F3
	Travelmate 2000	Switch for CRT ON -- Reboot
	Travelmate LT286/45	Press SETUP key on keyboard

	3000	From DOS prompt type ALTVID
	4000	CTRL+ALT+SETUP
	4000M, 4000E	fn+SETUP at DOS prompt – Screen Display = BOTH
	5000	CTRL+ALT+ESC
	5100/5200	Win95 Control Panel>TI SETUP> System Config>Display device> LCD/CRT/Both. Win3.1 Travelmate Setup>TI SETUP> System Config>Display device> LCD/CRT/Both.
	6020, 6030, 6050	fn+F12
	Extensa 5xx/6xx Series	fn+F10 (3-way toggle)
	Extensa 600CD, 650CDT	fn+F12 requires terminator
	Other	fn+F5
Top-Link	All	Select from Setup screen
	some	fn+F6
Toshiba	105CS,110CT,115CS,200CD S 400,410,415,420,430 500CDT,610,650CT	fn+F5
	1000, 1200, 1600	fn+END
	1100	CTRL+ALT+END
	1850	Reboot
	T1910 Satellite	Automatic, can't do Int & Ext display simultaneously –- reboot for output
	T1950CT, T1960CT	Type TSetup at DOS promp>Select Display location>Int/Ext/Both
	2100CT, 2105CT, 2130CS, 2150CS, 2150CDT, 2150CT, 2400CS, 2400CT, 2450CT	fn+F5 (3-way toggle)
	3100	CTRL+ALT+END
	3100E, 3200	fn+END
	3100SX, 3200SX	N/A PORT ACTIVE
	3400	Needs SCSI adaptor for ext. video
	3600DT	fn+F5 (ext only)
	4400SX	N/A PORT ACTIVE
	4500,4700,4800,4850,4900	fn+F5 (3-way toggle)
	5100	CTRL+ALT+END
	5100/100,5200,5200/100	N/A PORT ACTIVE
	400,410,415,420,430,435, 500CDT,610,650CT	fn+F5 (3-way toggle)
	Tecra 700CDT,720CDT, 730CDT, M3 (available at Schulich Music Library / McLennan Library), M5, M9	fn+F5 (3-way toggle)
	610CT	Needs SCSI adaptor for ext. video
	Liberto 50CT	Select screen monitor icon. Popup window Int/Ext, Simul
Twinhead	some	fn+F7

	Slimnote 5100T, 9133CX	fn+F5 (3-way toggle)
	Slimnote 8xx Series	fn+F5 (3-way toggle)
US Logic	All	fn+F8
Winbook	some	CTRL+ALT+F10
	XP, XP5	fn+F6 (simul), fn+F10 (int/ext) (XP5 needs terminator)
	XP5 Pro, FX	fn+F12
	XL	fn+F2
	LM	fn+F8
Wyse	All	Software driven (Automatic)
Zenith	some	fn+F1, or fn+F2
	Z-Noteflex	fn+F10 (3-way toggle)
	Z-NoteGT	fn+F7
	Z-StarEX	fn+F10
Zeos	286	Need terminator (jump pins 10 & 11)
	386	Util Software; File "EAGLE"; Change Display
	486	CTRL+SHIFT+D
	486 Meridian	fn+F1

Steps for Mac laptop models

Before you begin go to in the Classroom AV Instructions tool and check the Data Projector instructions for the classroom. The basic instructions are as follows:

1. Make sure your laptop is turned off.
2. Ensure all AV cables (VGA (with your Mac adapter), Audio and Network) are connected to your laptop.
3. Press the LAPTOP button on the AV control panel. The data project may take a minute to warm up.
4. When the projector is running, turn on your laptop.
5. Select your laptop model from the chart below to use **Mirror mode**. This will display your laptop image on a data projector screen.

   If you do not want your laptop image to display on the data projector screen (**Extended Mode**) ensure "Mirror Display" is not selected.

Note: The laptop resolution must be set to match the display resolution of the data projector screen being used - 1024 x 768 (not stretched).

Computer Model #	Steps to Activate or Deactivate Monitor Port
MacBook Air	Go to **System Preferences > Displays** and select the resolution 1024 x 768 (not stretched) on the left side of the window. Next, select the **Arrangement** tab. Make sure the box next to "Mirror Displays" is checked.

Leopard OS 10.5	Go to **System Preferences > Displays** and click "Show displays in menu bar"> access display preference: click, hold, and select "Open Displays…" OR Open **Display Preferences**> choose window with PROJECTOR heading at top; move laptop's pointer or mouse to right side of screen until mouse movement is projected> click "Arrangement" in projector's window> select "Mirror Displays"> can reboot laptop
PowerBook G4 (15" & 17") OS X 10.2 **Set Display to 1024x768 for 15" PowerBook** **Set Display to 1280x960 for 17" PowerBook**	Go to **System Preferences > Displays** and click "Show displays in menu bar"> access display preference: click, hold, and select "Open Displays…" OR…… Open **Display Preferences**>choose window with PROJECTOR heading at top; move laptop's pointer or mouse to right side of screen until mouse movement is projected> click "Arrangement" in projector's window> select "Mirror Displays"> can reboot laptop
PowerBook G4 (15") OS 9 & OS X	Command + F2 (laptop screen will have black bars on either side)
I-Book OS X	The iBook automatically senses an external monitor because it has 3 standard fixed resolutions