Displays Glossary of Terms

Active	Each pixel is driven by a thin film transistor (TFT) in the LCD glass
AF	Anti-fingerprint – film or glass treatment the reduces fingerprint stains
AG	Anti-glare – treatment for polariser that reduces glare from lights
AMOLED	Active matrix organic light emitting diode – full colour OLED panel with an additional layer of thin film transistors, resulting in faster response times
AR	Anti-reflective – film or glass treatment that reduces reflection on glass
Aspect Ratio	Ratio that governs the general size of a display E.g. 16:9 equals 16 inches across for every 9 inches down
Backlight	A light source that is positioned behind the display to light up the screen
Bi-Stable	Mono display type with zero power draw unless the screen is refreshed – no backlight (reflective display)
Brightness	The light intensity of a display, expressed in candela per square meter (cd/m^2)
Capacitive	Touchscreen technology that relies on detecting an electrical current to register input on a screen, usually from a finger or through a stylus,
Character Module	Mono display that shows rows of characters to create text or numbers E.g. 2 x 16 equals 2 rows of 16 characters
COB	Chip on board – IC is positioned on the PCB
COF	Chip on flex – IC is bonded to FPC
COG	Chip on glass – IC is bonded to the shelf edge of the glass
Contrast Ratio	The ratio between the lightest and darkest pixels in the display
Cover Lens	Custom glass top panel for a finished unit with a cut-out for a display; can be used to add things such as branding, user input options, indicator icons etc.

Displays Glossary of Terms

E-paper	Mono display with black digits on white background; zero power draw until the screen is refreshed Eg. Kindle. No backlight (reflective display)
EDP	Embedded DisplayPort – interface found on larger TFT panels >15"
FFC	Flat flexible cable – used to connect a display to the PCB with 1-to-1 or 1-to-n pin-outs
FPC	Flexible printed circuit – used to connect a display to the PCB; can have additional electronic components mounted to it and can have more complex pin-outs than FFC
FSTN	Foil-compensated STN – mono display with good sunlight readability
Graphic Module	Mono display that uses individual pixels that are addressed by row and column to show custom graphics E.g. 128 x 64 equals 128 pixel dots across by 64 pixels down
HTN	Hypo twisted nematic – mono display with grey/yellow background
I2C	Inter-integrated circuit – serial interface for mono displays, uses fewer connections
IPS	In-plane switching – high end TFT technology with all round viewing angles, and high contrast, speed and response times
Landscape Mode	FFC/FPC located on TFT located on long side
LCD	Liquid crystal display
LED	Light emitting diode – used in backlights for TFT displays
Letterbox	Low-height TFT display, usually with an aspect ratio greater than 6:1
LOCA	Liquid optical clear adhesive – liquid bonding process to improve sunlight readability; also reduces moisture ingress and improves durability
LVDS	Low voltage differential signalling – interface for TFT displays
MCU/MPU	Microprocessor unit – used to control a display (TFT Interface)

Displays Glossary of Terms

MIPI	Mobile industry processor interface – high speed interface for TFT displays
Mono	Also referred to as monochrome, meaning single colour
Negative Mode	Light character on a dark background (mono displays)
OCA	Optical clear adhesive – film applied to TFT to improve sunlight readability
OLED	Organic light emitting diode – full colour display; no backlight required as each pixel generates its own light; excellent contrast and viewing angles
Passive	Passive technology – each row and column of a mono display are addressed in turn
Pixel	An individual dot on the display
PMVA	Passive matrix vertical alignment – mono (negative) display with excellent contrast
Polariser	Filtering system that controls the type of light that reaches the pixel layer in order to create visible images on a display
Portrait Mode	FFC/FPC located on short side of TFT
Positive Mode	Dark characters on a light background (mono displays)
Reflective	Viewing mode that doesn't use a backlight and relies only on ambient light E.g. E-paper displays
Resistive	Touchscreen technology that works by registering pressure on a sensor to detect input on a screen
Resolution	Pixel count E.g. 800 x 480 – 800 pixels across and 400 pixels down
Response Time	The time it takes for the pixels in a display to change from one colour to another, measured in milliseconds (ms)
RGB	Red, green & blue; interface type for TFT displays

Displays Glossary of Terms

SPI	Serial peripheral interface - interface for mono displays; fewer connections, faster data transfer
STN	Super twisted nematic – mono display with yellow/green or grey mode
TFT	Thin film transistor – transistor that controls each pixel of the display; common full colour display technology
TFT Driving	Software that controls what is displayed on a TFT E.g. Windows, Android, Linux software etc.
TFT Interface	Hardware for driving a TFT E.g. SBC (single board computers), custom boards, Raspberry Pi etc.
TFT Key Features	Contrast, brightness, resolution (Eg. 800 x 480), interface, MCU, RGB 24 bit, IPS, EDP, operating temperature etc.
TFT Size	TFT glass measured diagonally from corner to corner; common industry standard sizes include (but aren't limited to) 4.3", 7.0", 10.1" 15.6"
TN	Twisted nematic – low end display technology (mono and colour)
Transflective	Viewing mode that works with or without a backlight
Transmissive	Viewing mode that requires a backlight turned on E.g. TFT displays
UI	User interface – how a user interacts with a display E.g. via capacitive or contactless touchscreen, custom cover lens, buttons in a finished unit etc.
Ultra-wide	Wide TFT display, usually with an aspect ratio up to 6:1
Viewing Angle	The angle at which a display is best viewed E.g. TN TFT typically set to 6 or 12 o'clock; IPS has very good viewing angles in all directions (free view)
Zebra Strip	Conductive rubber strip – used to connect LCD glass to PCB
ZIF	Zero insertion force – connectors on the PCB to fit FFC/FPC from a display