SECTION 3: OPERATOR PANEL

3-1 GENERAL

The operator panel, which is normally accessible from the outside of a panel or door, provides a means for being alerted to specific conditions, receiving functional help, programming, and parameter monitoring/selection (Figure **2-1**). For the purpose of familiarization, the panel is divided into three sub-sections and discussed individually:

- LEDs
- Display Window
- Pushbuttons

3-2 LEDS

LEDs are used to indicate a number of functions, operations and/or events (Figure **2-1**). Four LEDs at the top of the IQ Analyzer provide a quick snapshot of the unit's status. Twelve LEDs located next to the "Up" and "Down" pushbuttons indicate the Meter Menu category.

Normal LED

This LED is blinking green and indicates power to the unit, normal system operation and that all parameters are within programmed thresholds. This LED will not be lighted if the unit experiences a malfunction. The display window will show the cause of the error or failure upon power-up or in dim screen saver mode.

Event LED

This LED will blink red to indicate that an event has occurred with data available for review via Event Analysis Screens. It continues to blink until data is acknowledged by entries to the event screen or remotely via IMPACC. The event conditions are defined during programming.

Relay LED

This LED will be a continuous red to indicate one or more of the Form-C relays have changed from a normal operating state. It remains lighted until normal relay conditions are reset. The relay conditions are defined during programming and the Reset Mode.

Program LED

This LED will be a continuous red to indicate that the Program Mode has been selected and program screens are displayed. While in the Program Mode, the IQ Analyzer continues to perform all the functions it normally performs when not in the Program Mode.

Function LEDs

These LEDs are red and indicate the general grouping of the metered parameters within the "Meter Menu" (current, voltage etc.). The individual LED lighted depends upon the particular group of parameters being displayed at that particular time.

3-3 DISPLAY WINDOW

The IQ Analyzer provides a comprehensive array of metered parameters via its Display Window (Figure **2-1**). Eight different categories of Display Screens can be presented via the Display Window.

Eight Basic Display Screen Categories

- Programming
- Meter Menu
- Trend Analysis
- Event Analysis
- Harmonic Analysis
- Demand Analysis
- Help
- Reset Menu

For all the screens, the flashing parameter is active and will be used when a selection or entry is to be made within a screen.

Program Mode Screens

When the Program Mode Pushbutton is pressed, the IQ Analyzer displays the top level screen of the Program Mode which includes (Figure **6-1**):

- Date/Time of Last Programming
- INCOM Network Address
- Software Version
- Password Entry Fields

The device, upon correct password entry, will enter the tree of screens for setting up the IQ Analyzer (Figure **6-3**). Up to eight lines of text are displayed on each screen (Figure **3-1**).

Meter Menu Screens

The IQ Analyzer allows viewing of commonly used parameters by scrolling through its LED indicator Meter Menu. These screens each show one or more of the main parameters being metered (Figure **3-2**). Movement between the different screens is accomplished using the Up, Down, and Home pushbuttons. The four function pushbuttons just below the Display Window permit access to expanded metering and analysis screens

which provide detailed trend, harmonic, event and demand data (Figures **3-3** to **3-6**).

Trend Analysis Screens (min./max. values)

When the F1 function pushbutton is pressed, the unit enters the tree of screens which stores trending information. They consist of time and date stamped minimum and/or maximum values for current, voltage, power and power factor. Eight lines of text are displayed per screen (Figure **3-3**). For additional information, refer to paragraph 5-5.

Event Analysis Screens

When the F2 function pushbutton is pressed, the unit enters a tree of screens with complete information for up to ten event conditions. Eight lines of text are displayed per screen (Figure **3-4**). For additional information, refer to paragraph 5-5.

Harmonic Analysis Screens

The F3 function pushbutton is used to access a tree of screens which contains complete harmonic data for each voltage and current. Eight lines of text are displayed per screen (Figure **3-5**). For additional information, refer to paragraph 5-5.

Demand Analysis Screens

The F4 function pushbutton is used to access a tree of screens with detailed demand data. Eight lines of text are displayed per screen (Figure **3-6**). For additional information, refer to paragraph 5-5.

Help Screens

When the Help Pushbutton is pressed, the IQ Analyzer displays the top level Help Screen. The category of help is selected from the top level Help Screen followed by screens offering different levels of help in a selected category (Figure **3-7**). Troubleshooting includes the firmware revision and date.

Reset Menu Screens

The “Reset” pushbutton is used to access a password protected tree of screens (Figures **3-8** and **5-40**). Up to eight lines can be displayed to direct actions for resetting a variety of programmed parameters. Refer to Reset Pushbutton in paragraph 3-4 and paragraph 5-7 for additional information.

3-4 PUSHBUTTONS

The front operations panel supports eleven membrane pushbuttons (Figure **2-1**). All pushbuttons are blue except for the “Reset” pushbutton which is red to distinguish its unique overall function from other functions. Pushbuttons accomplish their function when pressed and released. The “Up” and “Down” pushbuttons and certain function pushbuttons will, however, continue to scroll if they are pressed and not released.

Reset Pushbutton

The “Reset” pushbutton causes the IQ Analyzer to enter a menu of reset functions. If the condition that is outside normal thresholds remains, the IQ Analyzer’s relays will remain in the alarm state.

Pressing and releasing the “Reset” pushbutton prompts the password protected “Reset Display Screen,” allowing an operator to perform certain activities.

Operator Permitted Activities

- Reset Peak Demands
- Reset Minimum/Maximum Values
- Reset Relay Outputs
- Reset Event and Alarm Triggers (delete event)

While in the Reset Mode, the unit continues to monitor the line. Refer to Section 5 for the IQ Analyzer’s operational details.

Program Pushbutton

The IQ Analyzer may be completely programmed via the “Program” pushbutton or through the communications port. Programming is password protected in either case. While in the Program Mode, the unit continues to monitor the line.

The “Program” pushbutton may be used at any time the IQ Analyzer is operational. When pressed and released, the display will change to the top level of the Program Mode hierarchy which displays:

- Date/Time of Last Programming Activity
- INCOM Network Address
- Software Version
- Password Entry Fields

The Program Mode will be exited when the “Program” or “Home” pushbutton is pressed and released. The IQ Analyzer automatically returns to the Meter Menu if no programming activity is detected for the optionally programmed time-out period of up to 15 minutes.

Help Pushbutton

The “Help” pushbutton will function any time the IQ Analyzer is operational. When the pushbutton is pressed and released, the displayed screen will change to present a main menu for help. From the main menu a help category is selected with several levels of help

screens. The Help message will remain in the screen for the shorter of a programmed time-out period of up to 15 minutes or until any other pushbutton is pressed.

The normal Help Mode, when activated by the “Help” pushbutton, allows the operator to view Help Screens.

Help Screens

- How Help Works
- Faceplate Operation
- Meter Menu Screens
- Trend, Harmonic, Event and Demand Analysis Screens
- Programming
- IMPACC Option
- Troubleshooting
- Technical Support

Refer to paragraph 5-3 for more detailed information on the Help Mode.

Previous Level Pushbutton

The “Previous Level” pushbutton is used in the Analysis, Program or Help Modes to move the display back to the previous higher level in the tree structure until it ultimately reaches the last “Meter Menu” screen viewed.

Home Pushbutton

When pressed and released while the IQ Analyzer is in any mode except for the “Meter Menu,” the “Home” pushbutton returns the display back to the top level of the menu tree. Pressing again returns back to the last Meter Menu screen viewed. If the “Home” pushbutton is used while in the “Meter Menu” screens, the display returns to the top level screen either Current or Demand, depending upon which column of “Meter Menu” functions the IQ Analyzer is in at that time. Continued use of the “Home” pushbutton causes the IQ Analyzer to alternate back and forth between the top levels of the two “Meter Menu” columns, namely Current and Demand.

Up Pushbutton

The “Up” pushbutton steps up through the “Meter Menu” screens of the IQ Analyzer and wraps around from the first menu to the last menu. The display will scroll continuously if the pushbutton is held depressed with a momentary pause on each screen.

Down Pushbutton

The “Down” pushbutton steps down through the “Meter Menu” screens of the IQ Analyzer and wraps around from the last menu to the first menu. The display will scroll continuously if the pushbutton is held depressed with a momentary pause on each screen.

F1-F4 Function Pushbuttons

Four “Function” Pushbuttons located between the “Previous Level” and “Home” pushbuttons provide different operational functions, depending upon the specific screen being viewed. Which pushbutton to use and when will be determined by the individual key labels (definitions) in the display for a specific “Mode”. In the “Meter Menu,” F1 - F4 are:

- Trending (TRND) = F1
- Event (EVNT) = F2
- Harmonics (HARM) = F3
- Demand (DEMD) = F4

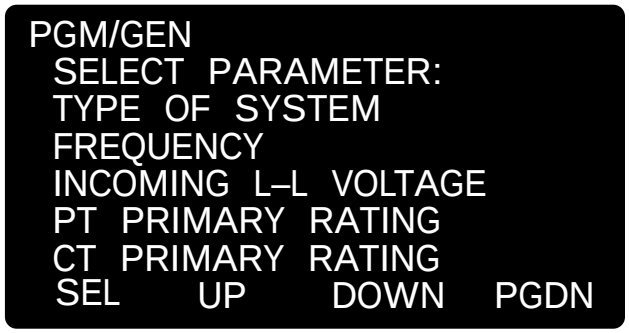

Figure 3-1 Typical Programming Screen

Figure 3-2 Typical Meter Menu Screen

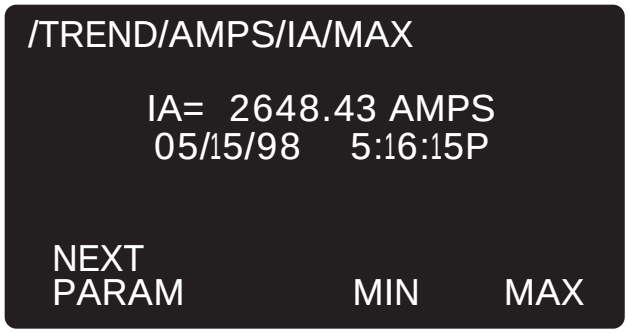

Figure 3-3 Typical Trend Analysis Screen

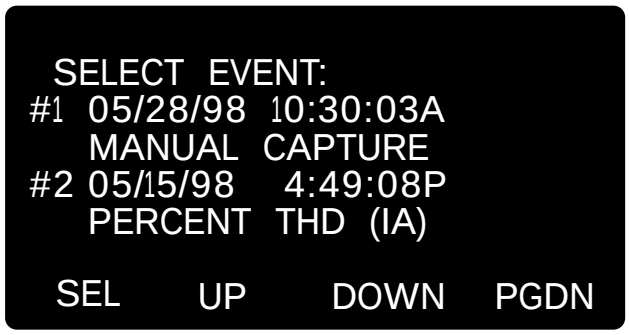

Figure 3-4 Typical Event Analysis Screen

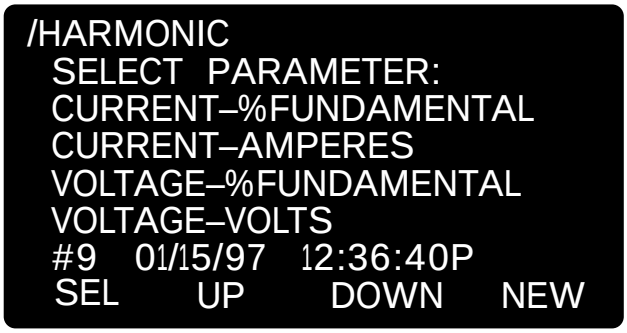

Figure 3-5 Typical Harmonic Analysis Screen

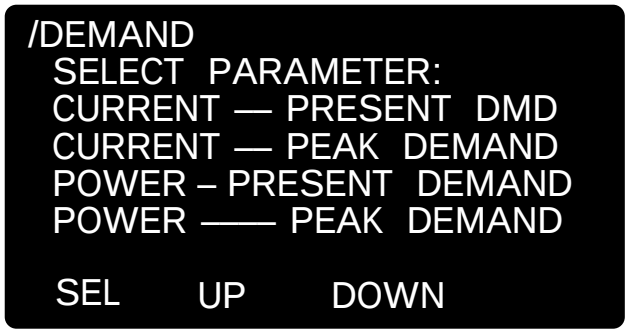

Figure 3-6 Typical Demand Analysis Screen

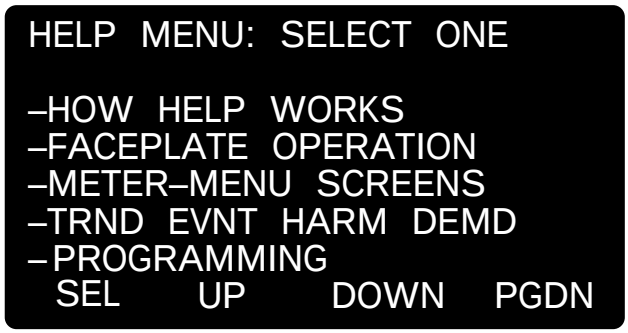

Figure 3-7 Typical Help Screen

Figure 3-8 Typical Reset Screen