# ISI 487/468 Control Panel Functions
## Version 1.1

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This specification details the function of the keys and displays on the control panel of the ISI Models 487 and 468 printers. It is intended as an internal document for use in design, programming, and maintenance; and for use in preparing an instruction manual. It is NOT to be distributed to customers.

## Keyboard Layout

| P | HOLD PRINT | ENABLE PRINT | INDEX | FORM FEED | PAPER UP | PAPER DOWN |
|---|---|---|---|---|---|---|
| S | | | | | | |
| C | 00 | 01 | 02 | 03 | 0D | 11 |
| P | SETUP | BUFFER REPRINT | RESET | PA1 | PA2 | CANCEL |
| S | SET FORMS | SET MPP | CONFIGURE | 100 | 10 | 1 |
| C | 04 | 05 | 06 | 07 | 0E | 12 |
| P | CHANGE LPI | CHANGE SPACE | CHANGE CASE | CHANGE MODE | CHANGE SPEED | CHANGE FUNCTION |
| S | TEST | DIAGNOSE | F1 | F2 | F3 | |
| C | 08 | 09 | 0A | 0B | 0F | 13 |

P — Primary function    S — Secondary function    C — Scan code

## Keyboard Functions

The keyboard is a flat plastic "membrane" keyboard with 18 keys. It is interfaced to the microprocessor via a 74C923 keyboard encoder.

Hold Print - The only function of this button is to put the printer into a Hold Print state. It is the same as the IBM "Hold Print" button. The scan code for this key is 00.

Enable Print - The only function of the key is to enable printing after the printer has been in a Hold Print state. This key is the same as the IBM "Enable Print" button. The scan code for this key is 01.

Index - The only function of this key is to cause the paper to index by one line. It is only active when in Hold Print mode. This key is the same as the IBM "Index" button. The scan code for this key is 02.

Form Feed - The only function of this key is to cause the paper to move to the top of the next page. It is only active when in Hold Print mode. This key is the same as the IBM "Form Feed" button. The scan code for this key is 03.

Paper Up - The only function of this key is to move the paper upwards. Along with paper down it replaces the forms advance knob on the IBM printer. The scan code for this key is 0C.

Paper Down - The only function of this key is to move the paper downwards. Along with paper up it replaces the forms advance knob on the IBM printer. The scan code for this key is 10.

Setup/Set FL - The primary function of this key is to print a setup line. It is the same as the IBM "Setup" button. The secondary function of this key is to allow setting the forms length. When activated this function will display the current setting of the forms length in the numeric display and will allow it to be changed via the 100, 10, and 1 keys. The scan code for this key is 04.

Buffer Reprint/Set MPP - The primary function of this key is to cause the printer buffer to be reprinted. It is the same as the IBM "Buffer Reprint" button. The secondary function of this key is to allow setting the maximum presentation position. When activated this function will display the current setting of the MPP in the numeric indicator and allow it to be changed via the 100, 10, and 1 functions. It is similar to the IBM "Set Parameter" button. The scan code for this key is 05.

<u>Reset/Configure</u> - The primary function of this key is to reset the error indication in the numeric display. It is the same as the IBM "Reset" button. The secondary function of this key is to cause the current settings of forms length, maximum presentation position, LPI, spacing, case, speed, and forms mode to be saved in the non-volatile RAM so that the printer will "power up" in this configuration. The scan code for this key is 06.

<u>PA1/100</u> - The primary function of this key is to generate the PA1 status. It is the same as the IBM "PA1" button. The secondary function of this key is to increment the 100's digit of the numeric display. It is the same as the IBM "Hundreds" button. The scan code for this key is 07.

<u>PA2/10</u> - The primary function of this key is to generate the PA2 status. It is the same as the IBM "PA2" button. The secondary function of this key is to increment the 10's digit of the numeric display. It is the same as the IBM "Tens" button. The scan code for this key is 0D.

<u>Cancel/1</u> - The primary function of this key is to invoke the type A cancel function. It is the same as the IBM "Cancel Print" button. The secondary function of this key is to increment the 1's digit of the numeric display. It is the same as the IBM "Units" button. The scan code for this key is 11.

<u>Change LPI/Test</u> - The primary function of this key is to change the printer between 6 and 8 lines per inch. Whenever in 8 lines per inch the "8 LPI" indicator will be on. This key is the same as the IBM "Change LPI" button. The secondary function of this key is to invoke the printer self test feature. It is the same as the IBM "Test" button and is only active in Hold Print mode. The scan code for this key is 08.

<u>Change Space/Diagnose</u> - The primary function of this key is to change the printer between single and double spacing. Whenever in double space the "Double" indicator will be on. This key is the same as the IBM "Change Space" button. The secondary function of this key is to allow the function of the "TEST" key to be defined. When activated this function allows you to select the test to be performed using the 10 and 1 keys and the numeric display. The scan code for this key is 09.
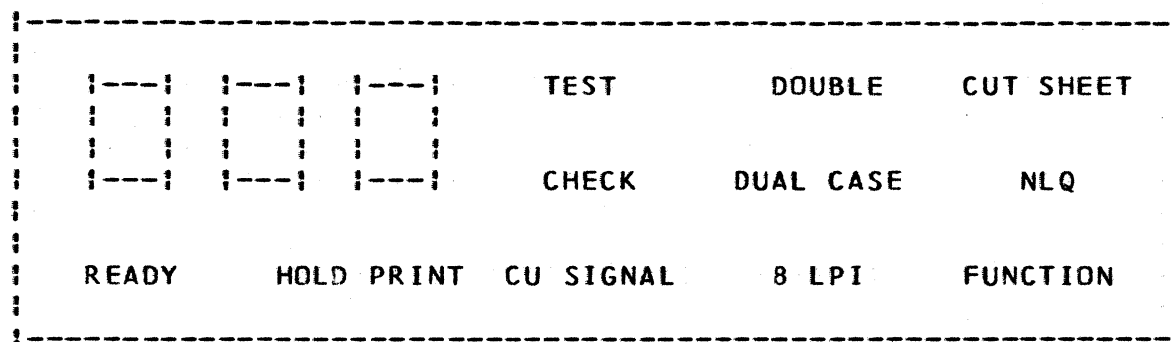
<u>Change Case/F1</u> - The primary function of this key is to change the printer between mono case and dual case. Whenever the printer is in dual case the "Dual Case" indicator will be on. This key is the same as the IBM "Change Case" button. The secondary function of this key is application defined. It will likely be needed for the triple sheet feeder. The scan code for this key is 0A.

Change Mode/F2 - The primary function of this key is to change
the printer between tractor feed and cut sheet modes.
Whenever the printer is in the cut sheet mode the
"Cut Sheet" indicator will be on. The secondary function of
this key is application defined. It will likely be needed
for the triple sheet feeder. The scan code for this key is
08.

Change Speed/F3 - The primary function of this key is to change
the print speed between the data processing speed and the
near letter quality speed. Whenever at the near letter
quality speed the "NLQ" indicator will be on. The secondary
function of this key is application defined. It will likely
be needed for the triple sheet feeder. The scan code for
this key is 0E.

Change Function - The only function of this key is to change
between the primary and secondary functions available on
some keys. Depressing this key will toggle the internal
indicator which decides which set of functions is active.
Whenever the second set of functions is active the "Hold
Print" indicator will be blinking. This key combines the
functions of the IBM "Set Alternate" and "Reset Alternate"
buttons. The scan code for this key is 12.

## Numeric Display and Indicator Layout

```
!------------------------------------------------------------------!
!                                                                  !
:    !---!   !---!   !---!       TEST       DOUBLE     CUT SHEET    !
:    :   :   :   :   :   :                                         !
:    :   :   :   :   :   :                                         !
:    !---!   !---!   !---!       CHECK      DUAL CASE     NLQ       !
:                                                                  !
:                                                                  !
:   READY       HOLD PRINT   CU SIGNAL      8 LPI     FUNCTION      !
:                                                                  !
!------------------------------------------------------------------!
```

## Numeric Display

The primary function of the numeric display is to indicate
printer errors. It is similar to the IBM two digit status
display. The third (100's) digit is used for setting form
length, maximum presentation position, and for some diagnostics.

## Indicators

The indicators show printer status and the settings of
certain "firmware switches". Rather than being lamps with a
legend underneath as is done on the IBM printer they are
"deadfront" indicators where the lettering only shows up when the

indicator is on.

Ready - This indicator is on when the printer is ready to print. It is the same as the IBM "Ready" indicator.

Hold Print - This indicator is on when the printer is in Hold Print mode. In this mode it is the same as the IBM "Hold Print" indicator. When this indicator is blinking it indicates the secondary keyboard functions are selected.

Test - This indicator will be on whenever the printer is running self-test or diagnostic firmware. It is similar to the IBM "Test" indicator.

Check - This indicator is on whenever a printer problem prevents printing. It is the same as the IBM "Check" indicator.

CU Signal - This indcator will flicker or remain on any time the printer is connected to an active Type A coax. It is similar to the IBM "CU Signal" indicator.

Double - This indicator will be on whenever the printer is set to print double spaced. It is the same as the IBM "Double Space" indicator.

Dual Case - This indicator will be on whenever the printer is set to print dual case letters. It is the same as the IBM "Dual Case" indicator.

8 LPI - This indicator is on whenever the printer is set to print at eight lines per inch. It is the same as the IBM "8 LPI" indicator.

Cut Sheet - This indicator will be on whenever the printer is using single sheets as opposed to continuous forms.

NLQ - This indicator will be on whenever the printer speed is set to the the slower near letter quality speed.

Function - This indicator is reserved for special functions.