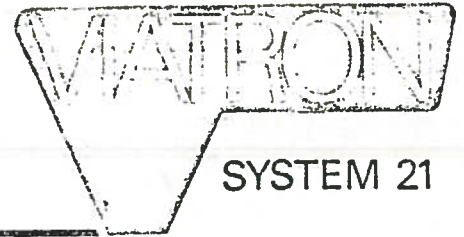


VIAGRAM

Information Note



SYSTEM 21

Subject: Microprocessor Short Record Feature

No: 16

Date: March 4, 1970

The optional Microprocessor Short Record option is now available in two versions: Feature Code 103 which recognizes the USASCII "line feed" (LF) character as the end-of-record indicator, and Feature Code 106 which recognizes the USASCII "carriage return" (CR) character. Both versions of the Short Record option are available with either the Model 2101 or 2111 Microprocessor.

The Short Record option enables the Microprocessor to transmit short records (less than 80 characters in length) to and from a device attached to a data channel. The option is activated by setting the SHORT RECORD toggle switch on the Microprocessor control panel to the "on" position. When the Microprocessor detects the end-of-record indicator (LF or CR) during *input*, blanks are automatically inserted in the remaining Microprocessor buffer positions into which data is being entered. During *output*, the Microprocessor transmits all data characters up to and including the short record indicator.

FUNCTIONAL CONSIDERATIONS

The following paragraphs describe the functional aspects of the Short Record option as they apply to specific operations or devices.

Batch Transfer Operations

Short records can be created and stored on VIATAPE and 9-track computer compatible tape in preparation for batch transmission to a data channel device. Short records, however, *cannot* be stored on 7-track tape, since the applicable code set does not include the LF and CR characters.

Card Reader/Punch Adapter

Short records can be transmitted only *from* the Microprocessor *to* the adapter, since the keypunch cannot generate the LF and CR characters. To transmit short records to the keypunch, the following program drum card must be used:

Column 1

80

/AAAAAAAAAAAAA-&&&&&&&

Defines Length
of Short Data
Record

Numeric Shift "P"
Defines Field
Filled with Blanks

Release
Initiated Here

When the short record is received by the adapter, data is punched until the dash (-) release character is detected in the keypunch drum card, at which time the card is released. If the record transmitted from the Microprocessor is shorter than that indicated by the drum card, the short record character will be punched as a question mark or a space (if Space Insertion option --Feature Code 603--is used). The adapter will then advance the card at the "duplication" rate until the dash is encountered, at which time the card is released. If the record transmitted from the Microprocessor is the same length as the record defined by the drum card, the short record character will be eliminated. As soon as the Microprocessor transmits the short record character, the keyboard is free for data entry.

If the adapter is buffered with the Record Transfer Buffer option (Feature Code 601) and short record operation is desired, the adapter must also be equipped with the Short Record option (Feature Code 602), controlled by a toggle switch on the adapter panel section of the Microprocessor control panel.

Printing Robot

Since both the LF and CR characters are recognized as functional control characters in Printing Robot operations, the short record feature should not be used, except when defining the actual end of a data record. Data characters within the input record, but beyond the short record character, will be lost.

Communication Adapter

In communication operations, the short record feature reduces transmission time by sending records from which trailing blanks have been stripped. Short record transmission operations can be performed bi-directionally between the Microprocessor and any model of the communication adapter.

Foreign Device Attachment

The USASCII Foreign Device Attachment (Model Number 6006) supports the use of the short record capability with local devices in exactly the same fashion as the communications adapter does with remote devices. Model Number 6007 of the Foreign Device Attachment, however, is a Hollerith-oriented device; thus, its short record operations are uni-directional, as described above for the Card Reader/Punch Adapter.

Computer Adapter

The computer adapter supports local bi-directional transmission of short records between System 21 Terminals and Computer Models 2140 and 2150.

Unit Card Reader

Since the Unit Card Reader is an input-only device (to the Microprocessor) which uses the Hollerith code set, it cannot use the short record feature.