

**INFORMATION FOR OPERATORS
MODEL 6001
CARD READER/PUNCH ADAPTER**

VIATRON

SYSTEM 21

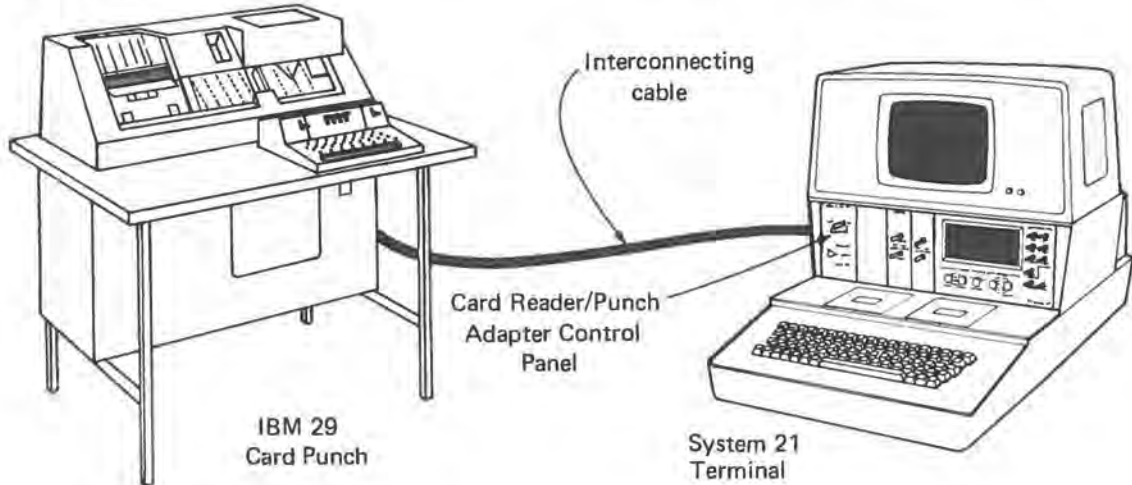
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MODEL 6001 CARD READER/PUNCH ADAPTER

The Model 6001 Card Reader/Punch Adapter provides a direct connection between a System 21 Terminal and a user's IBM 29 card punch. Data from the microprocessor can be punched on cards, or data on cards can be read into the microprocessor. The Card Reader/Punch Adapter is designed to input to and output from a System 21 Terminal on either Data Channel 1 or 2 (DC1 or DC2). In addition to the PUNCH and READ modes of operation, the 29 card punch can be disengaged for independent operation.



There are three optional features available for use with the Model 6001:

Feature Code 601, RECORD TRANSFER BUFFER

Feature Code 602, SHORT RECORD Feature

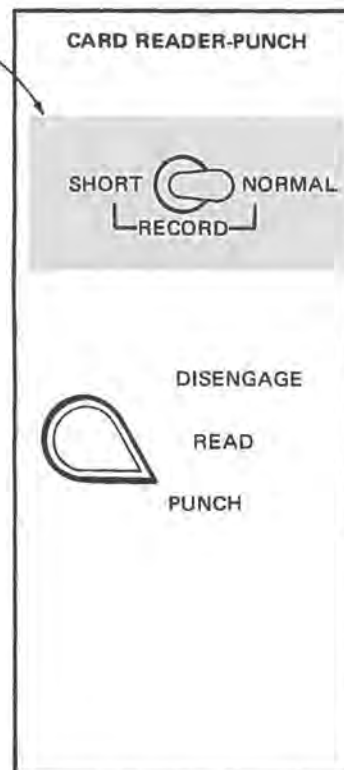
Feature Code 603, SPACE INSERTION Feature

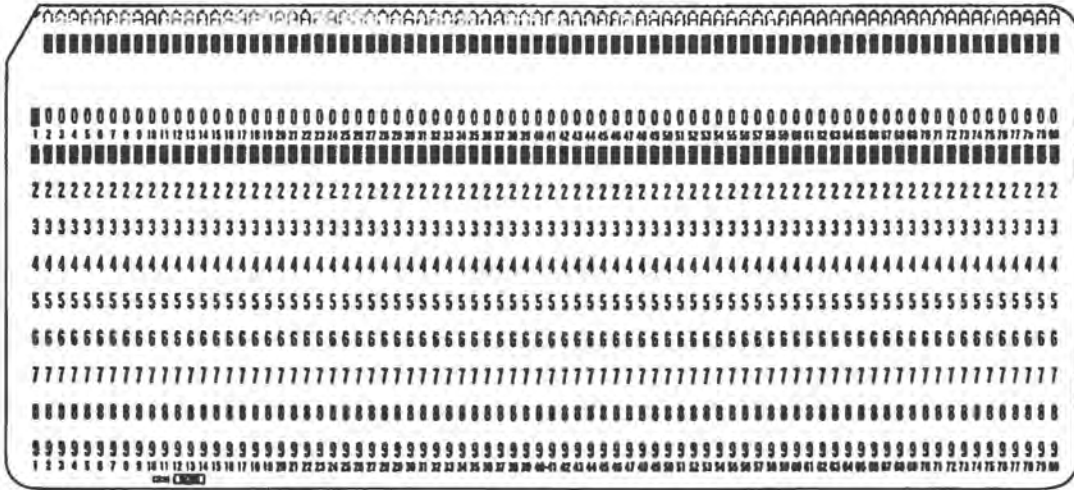
MODES OF OPERATION

A three-position switch on the Card Reader/Punch panel of the Terminal permits the operator to select any of the three modes of operation – DISENGAGE, READ, or PUNCH.

Both the READ and PUNCH modes require the use of a program card on the 29 card punch. For normal operation, the card punch must be in the alphabetic shift auto-duplication mode and the program card should contain a single 80-column automatic alphabetic shift duplication field. The program card must have a 0-1 punch in the first position (obtained by punching a slash, “ / ”, on the card punch keyboard) and 12-1 punches (obtained by punching “A” on the card punch keyboard) in positions 2 through 80. Or, if the alternate program (Program 2) is to be used, a 6-7 punch must appear in the first position and 4-7 punches in positions 2 through 80.

(OPTIONAL WITH FEATURE CODE 602)

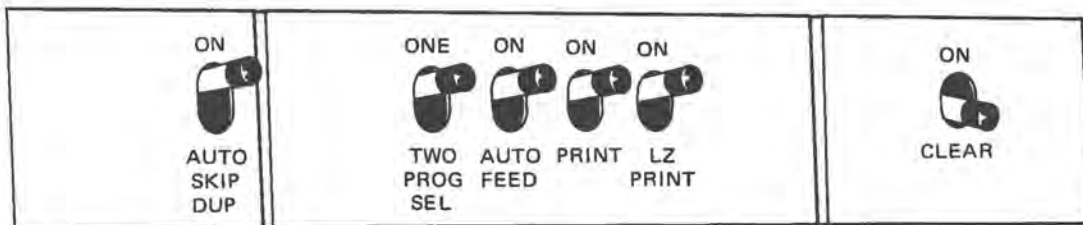




Read and Punch Mode Drum Card for Program 1

The set-up of the 29 card punch is the same for both the READ and the PUNCH modes:

1. Insert the program card on the program drum.
2. Set all control switches except CLEAR in the UP position. If the auto-dup program has been punched as Program 2, the program selection switch must be in the DOWN position.
3. Engage the program drum starwheels by turning the program control lever on.



Example of IBM 29 Controls Set for READ or PUNCH Mode

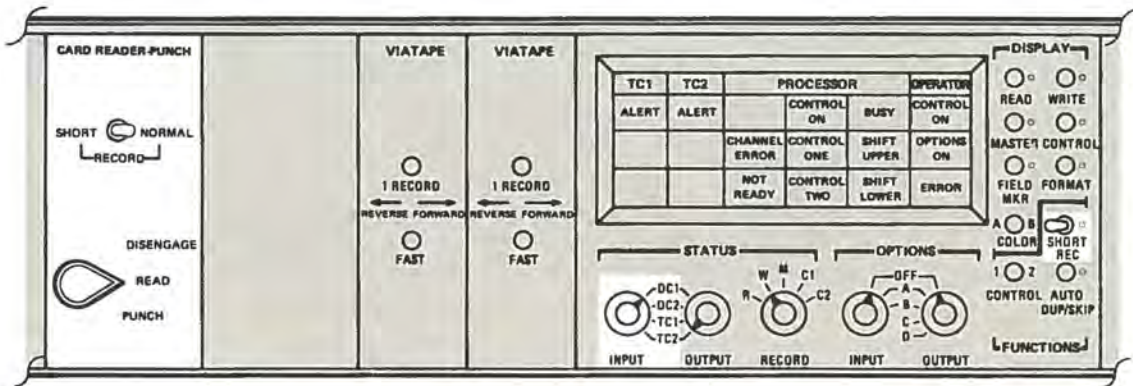
READ MODE

In the READ mode, the Adapter will read the data on the card in the card punch Read Station and input it to the Terminal microprocessor. (For any character other than one in the standard 64-character set of the card punch the Adapter will send a question mark (?) to the Terminal microprocessor in place of the illegal punch.)

After the card punch control switches have been set as described above, place the cards to be read in the card punch card hopper. There must be one blank card at the end of the deck in order for the last data card to be read. Finally, move the first data card to the read station by pressing the REL (release) key three times.

Next, set the switches on the Terminal control panel:

1. Set the Card Reader/Punch Adapter mode switch to READ and the RECORD switch to NORMAL.
2. Set the STATUS INPUT selector to the data channel to which the Card Reader/Punch Adapter is attached (DC1 or DC2).
3. Set the microprocessor SHORT REC switch to the OFF (left) position.
4. Set all other Terminal controls required for performing the desired operation.
5. Press the INPUT key to input the data on the first card.



Terminal Controls Set For READ Mode

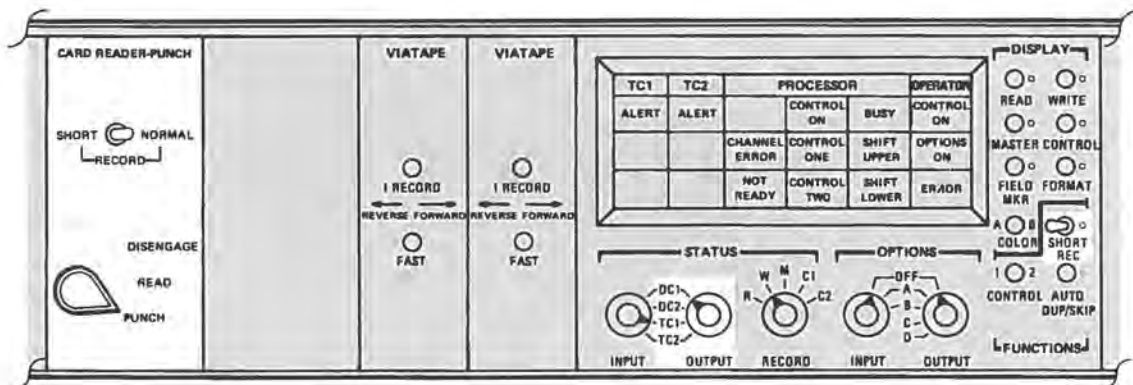
PUNCH MODE

In the PUNCH mode, each output from the Terminal microprocessor is punched on a card. (For any character other than one in the standard 64-character set of the card punch a question mark (?) will be punched.)

To prepare for operation, set the card punch control switches as described above and place blank cards in the card punch card hopper. Position the first blank card in the punch station by pressing the REL (release) key twice.

Next, set the switches on the Terminal control panel:

1. Set the Card Reader/Punch Adapter mode switch to PUNCH and the RECORD switch to NORMAL.
2. Set the STATUS OUTPUT selector to the data channel to which the Card Reader/Punch Adapter is attached (DC1 or DC2).
3. Set the microprocessor SHORT REC switch to the OFF (left) position.
4. Set all other Terminal controls required for operation.
5. Enter data. Then press the OUTPUT key.



Terminal Controls Set For PUNCH Mode

DISENGAGE MODE

In the DISENGAGE mode, the card punch can be operated independently of the System 21 Terminal. Turn the card punch program control lever OFF to disengage the program drum starwheels, or set the AUTO-DUP switch in the down position (off). Then, set the Card Reader/Punch Adapter mode switch to DISENGAGE.

UNATTENDED BATCH OPERATION

Unattended batch operations can be performed in either the READ mode or the PUNCH mode. In the READ mode, the data on each card is automatically read and then output to a selected channel. In the PUNCH mode, data is automatically input one record at a time, and then punched on cards. When the Terminal is equipped with the optional automatic multiple output feature, the data may be output to one or more channels, in addition to being punched on cards. Unattended batch operations can be terminated manually by pressing the CLEAR key on the Terminal keyboard or automatically by the Adapter's detection of an end of batch character.

A typical example of an unattended batch operation is the conversion of data stored on Viatape to punched cards. To prepare for an unattended batch operation, Viatape to punched cards, it is necessary to enter the end of batch character in the last Viatape record to be punched. The end of batch character, "I", which may be entered in any position in the record, is generated by simultaneously pressing the SHIFT UPPER and "Y" keys at the Terminal keyboard. If the last data record contains 80 characters of data, the end of batch character should be entered in the following Viatape record.

Once the data has been prepared, the controls of both the Card Reader/Punch Adapter and the Terminal must be set as in the normal PUNCH mode. The STATUS INPUT selector should be set to TC1 or TC2, depending upon which Viatape recorder is being used, and the STATUS OUTPUT selector to DC1 or DC2, the Data Channel to which the Card Reader/Punch Adapter is attached. In addition, the Terminal OPTIONS INPUT and OPTIONS OUTPUT selectors should both be set to the A position.

To begin the unattended batch operation, first press the OPTION ON/OFF key to activate the settings of the OPTIONS selectors, then press the INPUT key to input the first record from Viatape. When the input has been completed, there will be an automatic output to the Card Reader/Punch Adapter. After the punching of the first card has been completed, the next input will occur automatically from Viatape and so on, until the unattended batch operation has been terminated manually by pressing the CLEAR key at the Terminal keyboard or automatically by the detection of "I", the end of batch character.

When the end of batch character is detected, the Adapter will complete the punching of the card for the record in which the end of batch character appears and the batch operation will end. Both the microprocessor BUSY indicator and the optional yellow keyboard light will go on. The Card Reader/Punch Adapter and the Terminal must then be prepared for further operation by pressing the CLEAR key at the Terminal and the REL (Release) key at the 29.

Unattended batch operations are performed in essentially the same way when cards are to be read. The last card to be read must contain the end of batch character, generated by an 0-2-8 punch, or a numeric shift "T" punch, at the 29 keyboard. Again, the end of batch character may appear in any column in the card and, if all 80 columns in the last card have been punched, the end of batch character should be entered in the following card.

The controls of the Card Reader/Punch Adapter should be set as in the normal READ mode. The STATUS INPUT selector will be set to either DC1 or DC2, the Data Channel to which the Card Reader/Punch Adapter is attached, and the STATUS OUTPUT selector to the desired output channel. When the OPTIONS INPUT and OPTIONS OUTPUT selectors have both been set to the A position and the OPTION ON/OFF key has been pressed, pressing the INPUT key will begin the unattended batch operation. This time, the input will be the data on the card being read and the output will be to the selected channel.

When the end of batch character is detected, the data on the last card read will output to the selected channel, the batch operation will end, and the optional yellow keyboard light will go on. The Card Reader/Punch Adapter and the Terminal may be prepared for further operation by pressing the CLEAR key at the Terminal and the REL (Release) key at the 29.

When the Terminal is equipped with multiple output options which will be used in the unattended batch operation, the setting of the OPTIONS OUTPUT selector will depend upon the output sequence required by the particular application. Otherwise, all procedures described above for single output unattended batch operations apply.

RECOVERY FROM INCORRECT OPERATING PROCEDURES

If an attempt is made to *output* to the 29 card punch with the mode selector switch set to *READ*, the OP ERROR and BUSY indicators and the optional yellow keyboard light will go on. To reset the Terminal, press the CLEAR key. To reset the 29 card punch, press the REL (Release) key.

If an attempt is made to *input* to the microprocessor from the 29 card punch with the mode selector switch set to *PUNCH*, the optional yellow keyboard light will go on. To reset the Terminal, press the CLEAR key. To reset the 29 card punch, press the REL (Release) key.

If an attempt is made to input (READ) and there is no card in the 29 read station, the optional yellow keyboard light will go on. If an attempt is made to output (punch) and there is no card in the 29 punch station, the OP ERROR and BUSY indicators and the optional yellow keyboard light will go on. To reset the Terminal, press the CLEAR key. Then reset the 29 by pressing the REL (Release) key. Load and position cards, then proceed.

If the mode switch is set to DISENGAGE before the 29 controls have been set for independent operation, cards will begin to move from the 29 card hopper and will continue through the read and punch stations, to the card stacker, until the 29 AUTO-DUP switch is set to the DOWN position.

OPTIONS

There are three optional features for use with the Model 6001:

Feature Code 601 – RECORD TRANSFER BUFFER

Feature Code 602 – SHORT RECORD Feature

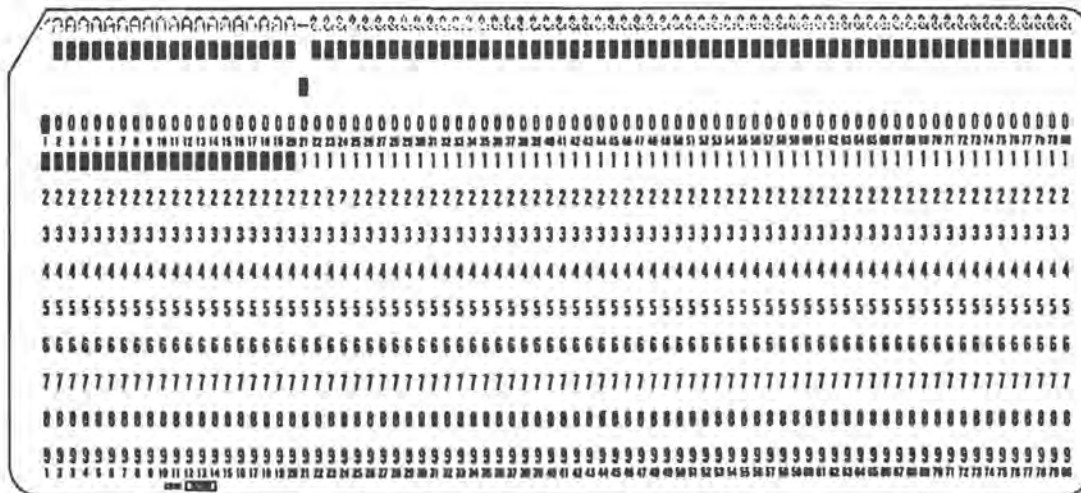
Feature Code 603 – SPACE INSERTION Feature

When the Model 6001 is equipped with Feature Code 601, RECORD TRANSFER BUFFER, input and punching can be simultaneous. The microprocessor is able to accept keyboard data entry, for example, while the Card Reader/Punch Adapter is punching the previous output from the microprocessor onto a card. Otherwise, all operating procedures are the same as in the normal PUNCH mode.

Feature Code 602, SHORT RECORD Feature, allows the release of cards of a *fixed length* of less than 80 characters as soon as the last data character is punched. For example, if a group of records contains only 47 characters, the SHORT RECORD feature can be used to expedite the punching operation by releasing each card as soon as the forty-seventh character has been punched, instead of spacing through the last 33 card positions.

With the SHORT RECORD Feature, a different program card must be used to automatically release the card at the punch station as soon as the *fixed length* record has been punched. This program card must have a 0-1 punch in the first position (slash), 12-1 punches (A's) in the remaining positions of the fixed length record, an 11 punch (dash) in the first position after the fixed length record, and 12 punches (numeric shift P's) for each of the remaining positions. If the alternate program (Program 2) is used, the card must have a 6-7 punch in the first position, 4-7 punches in the remaining positions of fixed length record, a 5 punch in the first position after the fixed length record, and 4 punches in each of the remaining positions.

For example, for punching a number of cards with only 20 data characters, the program card would have a 0-1 punch (slash) in the first position, 12-1 punches (A's) in the next 19 positions, an 11 punch (dash) in the 21st position, and 12 punches (numeric shift P's) in the remaining 59 positions.



Short Record Card for 20-Character Records

To operate with the SHORT RECORD Feature, the Card Reader/Punch Adapter RECORD switch must be set to SHORT. After inserting the short record program card on the program drum, the procedure is the same as for the normal PUNCH mode.

With Feature Code 603, SPACE INSERTION Feature, the card punch will space instead of punching a question mark for each character not in the standard 64-character set of the card punch. There is no change in operating procedure when the Card Reader/Punch Adapter is equipped with the SPACE INSERTION Feature.



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