program catalog

IBM 3600

RC 3600 Program Catalog

A/S REGNECENTRALEN
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PART ONE:
INTRODUCTION

Three kinds of programs are described in this RC 3600 Program Catalog:

Systems software for the RC 3600, production software for the user who wishes to write his own RC 3600 applications programs, and applications packages for the user who wishes to obtain ready-made RC 3600 applications programs.

All RC 3600 software is composed of modules. This enables the user to acquire only the programs he needs, reducing system cost and improving over-all system efficiency by increasing the speed of program execution and reducing to a minimum the amount of core memory required by the system.

The modularity of the software requires certain prerequisites for any given software module. Such prerequisites may be other software modules, specific types of hardware, amount of core memory available. In describing the programs available an attempt has been made to explain in chart form the main characteristics of a program and the necessary prerequisites. It is hoped that these explanations will enable the user to choose a software system that most efficiently satisfies his current needs while allowing for quick and easy expansion to satisfy future needs as they may occur.

The description format selected for this purpose excludes certain characteristics of the programs in their actual operation. Each software module generates a number of messages to the system operator. These include error messages and messages about exceptional situations. Most software modules also generate requests to the operator for manual operations, such as changing a tape, providing parameters, etc. It is these messages to the operator that have been excluded in the interests of a better arranged catalog. They are available on request.

1.1. SYSTEMS SOFTWARE

RC 3600 systems software is modularized. There are in general two kinds of systems modules: basic systems, which are operating systems, and system drivers, which provide for the operation of peripheral devices.

1.1.1. BASIC SYSTEM

A basic system contains

The Monitor

Basic I/O procedures

Character I/O procedures

Record I/O procedures

Utility procedures

One autoload device driver

One operator console device driver

The "Operating System S"

Initialization procedures

The monitor is responsible for supervising multiprogramming operation. It serves as a message exchange for software modules that must communicate with one another, allocating time slices and providing for prioritization among the various programs running simultaneously in the system.

Basic I/O procedures handle file I/O. Character and record I/O procedures handle character and record I/O, respectively. Utility procedures provide subroutines needed by the system drivers.

The autoload device driver handles the peripheral device that is the primary program load device, and the operator console device driver handles the operator console.

The "Operating System S" is so called because it handles communications between the operator and the running job programs. It also cares for the loading of programs other than itself and the allocation of core memory to them. It is because S cannot load itself that it is necessary to have an autoload device and an autoload device driver.

Initialization procedures help care for orderly system load and start-up.

Utility procedures are those routines used by all drivers. They are collected into one module to enable driver programs to take up as little core as possible.

When an RC 3600 system is started up, the first event is the autoloading of the basic system. That is, the basic system is loaded under hardware control. Once the basic system is loaded, it will handle the loading of the other software modules. Drivers for peripheral devices other than the operator console and the autoload device are loaded next, followed by the MUSIL interpreter.

If the RC 3600 system has an F11 Operator Control Panel as operator console, all program loading must be from the autoload device, unless, for example, the system tape is delivered with command files that permit loading from other devices. If the system has a keyboard device as operator console, these commands may be composed at the console.

There are different kinds of Basic Systems. They differ, however, only in the type of operator console and autoload device that they permit. In systems with more than one operator console it is the main operator console that the Basic System is concerned with. No system may have more than one autoload device, however. Each Basic System expects to deal with one of two sorts of operator console and one of four sorts of autoload device.

The operator consoles that may be specified by the user are

Type	Type Name	Device
Push-button panel with 16-character display	OCP	F11 Operator Control Panel
Teletype	TTY	F12 KSR Teletype
Display/Keyboard	TTY	F13 Alphanumeric Display/Keyboard
Printer/Keyboard	TTY	F14 Silent Printer/Keyboard
Display/Keyboard	TTY	F15 Alphanumeric Display/Keyboard
Display/Keyboard	TTY	F16 Alphanumeric Display/Keyboard

The Basic System itself does not distinguish among the various TTY type devices. It can "see" only the difference between an OCP type device and a TTY type device.

The autoload devices that may be used are

Any 9-track magnetic tape unit (Type Name: MT0)

RC 3610 S	9-track 1600 bpi MTU
RC 3615 S	9-track Dual Density MTU
RC 3620 S	9-track 800 bpi MTU

Any papertape reader (Type Name: PTR)

RC 3675	2000 cps Paper Tape Reader
RC 3676	500 cps Paper Tape Reader

Any 80-column card reader (Type Name: CDR)

RC 3671 C	300 cpm 80-column Card Reader
RC 3672 C	600 cpm 80-column Card Reader

The RC 3650 Flexible Disc Drive (Type Name: FD0)

The "type name" refers to the type of driver that corresponds to the physical device. This will be elaborated on below.

The user may, then, select a Basic system with a combination of autoload device type and operator console device type as follows:

Basic System Number	Console Device Type	Program Load Device Type
RC 36-B0001	OCP	MT0
RC 36-B0002	OCP	PTR
RC 36-B0003	OCP	CDR
RC 36-B0004	OCP	FD0
RC 36-B0011	TTY	MT0
RC 36-B0012	TTY	PTR
RC 36-B0013	TTY	CDR
RC 36-B0014	TTY	FD0
RC 36-B0081	OCP	MT0
RC 36-B0091	TTY	MT0

The last two basic systems are used together with the RC 3601 A Central Unit.

Basic systems occupy about 6200 bytes of core.

1.1.2. DRIVER PROGRAMS

Driver programs are used to make the various types of peripheral equipment uniform to the applications programs. They allow the programmer, for example, to concern himself minimally with the different characteristics of different devices.

Each driver is represented by a type name, such as OCP, TTY, PTR, etc., which we have encountered previously. The names of the drivers and the amount of core they occupy is given by the following table:

Driver Type Name	Device	Size in Bytes
OCP	F11 Operator Control Panel	680
TTY	Any keyboard console device	550
LP0	Any first line printer	366
LP1	Any second line printer	130
SP0	Any serial printer	552
MT0	Any first RC 3600 "S" Series Magnetic Tape Unit connected to a first RC 3685 Magnetic Tape Channel	754
MT4	Any first RC 3600 "S" Series Magnetic Tape Unit connected to a second RC 3685 Magnetic Tape Channel	754
MT1, MT2, MT3, MT5, MT6, MT7	Any other RC 3600 "S" Series Magnetic Tape Unit	118
RDP	Any card reader punch	972
CDR	Any card reader	502

Driver Type Name	Device	Size in Bytes
CPT	The RC 3645 Charaband Printer	650
PTR	Any Paper Tape Reader	342
PTR1	Any second Paper Tape Reader	114
PTP	The RC 3665 75 cps Paper Tape Punch	178
PTP1	A second RC 3665 75 cps Paper Punch	103
DP0, DP1	The first and second RC 3652 2.4 MB Disc Cartridge Drive	854
CT0	The RC 3625 Cassette Tape Unit	1040
FD0	The RC 3650 Flexible Disc Drive	760
BSC	An IBM 2780-compatible Communications Driver for the RC 3680 C BSC Channel	3550
SCD	A general Communications Driver for the RC 3680 C BSC Channel or for the RC 3681 4-Line BSC Multiplexer	1850

It can be seen from the above table that the device drivers after the "first" require less core memory space than the "first" ones. This is possible because a second device driver is only a process description, which uses the re-entrant code in the first device driver. It is therefore impossible to run the second device driver without the first device driver being in core too.

1.2. PRODUCTION SOFTWARE

For those who wish to write their own applications programs, a number of Program Production Packages are available. They contain a compiler, an editor, and a system generator, and all necessary drivers.

The source language used on the RC 3600 is MUSIL (Multiprogramming Utility System Interpretive Language). Programs written in MUSIL are edited by using MUSIL Text Editor. The MUSIL source code that results from the editing procedure is compiled into MUSIL object code by the MUSIL compiler.

A number of such object-coded programs can be input into a System Generator, along with a Basic System, a MUSIL interpreter, all necessary driver programs, and any necessary operator command files to produce a single paper tape, magnetic tape, 80-column card deck, or flexible disc that can be autoloaded into an RC 3600 system.

1.2.1. PROGRAM PRODUCTION PACKAGES

The Program Production Packages are a great convenience for the programmer.

The three programs in the Program Production Package have not the same flexibility with respect to I/O devices. The compiler and editor serve most input and output devices, whereas the system generator exists in several versions, all serving only one input, one output, and one log device. The three packages are defined with the minimum of hardware required for program production, but still providing the flexibility of the compiler and editor.

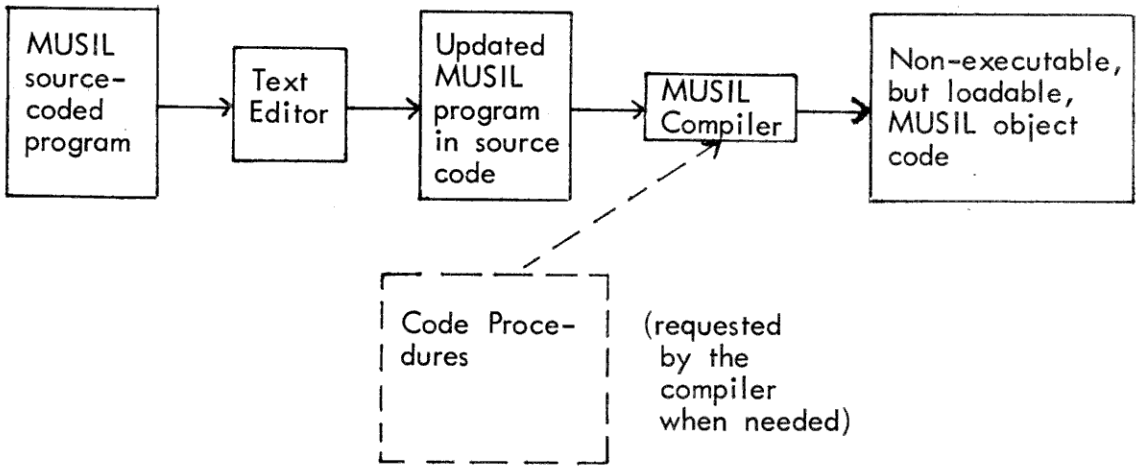
The three programs are

RC 36-B2000 requires a minimum of 32 K bytes of memory, a paper tape reader, a paper tape punch, and an operator console with keyboard.

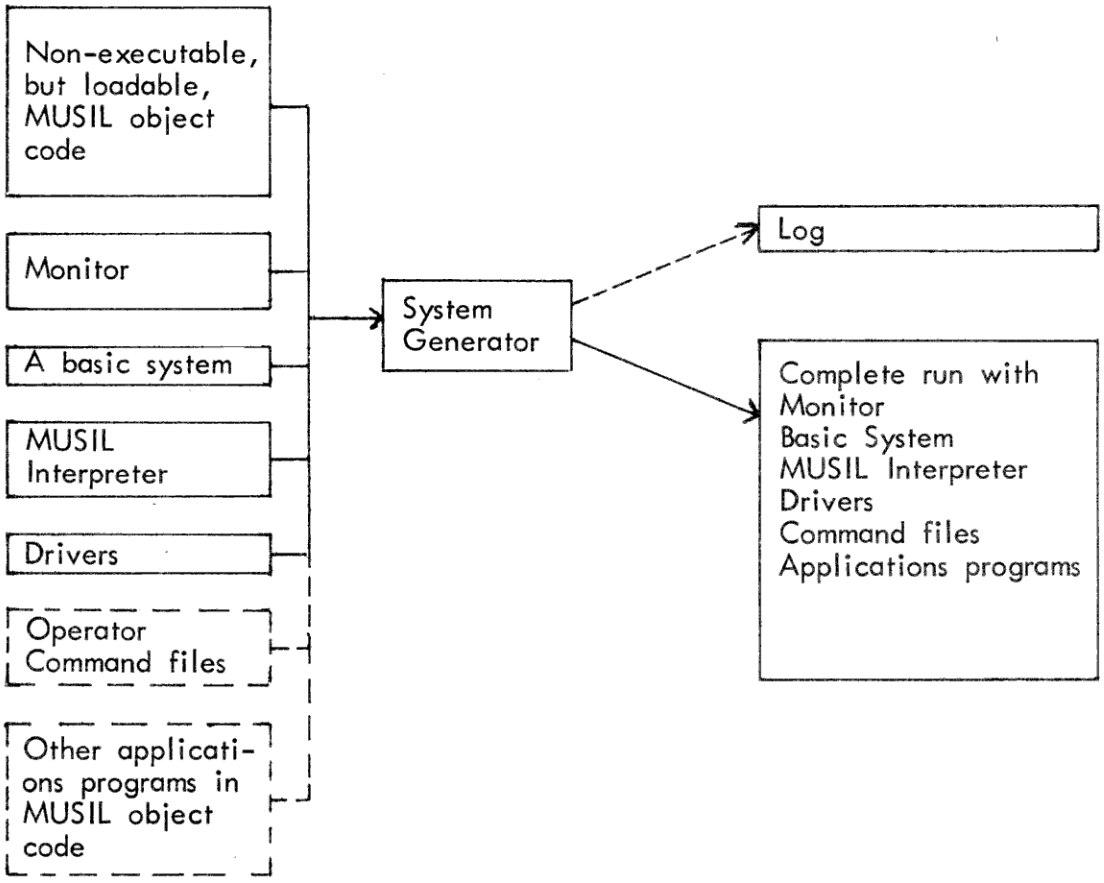
RC 36-B2010 requires a minimum of 32 K bytes of memory, a card reader, a 9-track magnetic tape unit, and an operator console with keyboard.

RC 36-B2020 requires a minimum of 32 K bytes of memory, two 9-track magnetic tape units, and an operator console with keyboard.

The Program Production process, then, takes place in two steps. In the first step an **applications** program is produced, edited, and compiled, thus:



In the second step this compiled program together with systems software, a MUSIL interpreter, necessary drivers and command files, and perhaps also other programs in MUSIL object code, are input to the System Generator, and a complete system is produced for one or more applications. A log can also be produced from the System Generator. This second step can be illustrated as follows:



The components of the Program Production Packages will now be described:

1.2.1.1. MUSIL

MUSIL is a high-level language specifically designed for I/O handling. Programs written in MUSIL source code must be compiled by the MUSIL compiler before they can be executed. The compiler outputs MUSIL object code, which can be executed by the MUSIL interpreter.

Code procedures are assembler-coded subroutines, produced by Regnecentralen, for inclusion in the compilation of MUSIL programs. They are analogous to the assembler-coded subroutines seen, for example, in COBOL programs.

The MUSIL Interpreter is the software module that is responsible for actually executing MUSIL object code.

1.2.1.2. MUSIL Text Editor

The MUSIL Text Editor provides a means of creating, up-dating, or modifying MUSIL programs. Its commands operate on characters, on strings of characters, or on lines. The line numbering system is internal to the edit program.

For input/output the editor can use:

paper tape reader/paper tape punch
card reader
9-track magnetic tape unit
cassette tape unit
flexible disc drive
disc cartridge drive

and for program listing

operator console
any printer

The MUSIL Text Editor lets the user prepare data on the above-mentioned output devices, which can be used as input for the MUSIL compiler.

1.2.1.3. System Generator

The System Generator is not one, but several different programs which all serve to create program systems. Each System Generator used one specific input device for object code, one specific output device for the program system, and one specific log device. When a Program Production Package is delivered to a certain RC 3600 system, the optimal System Generator is automatically supplied.

The System Generator also has the facility of making command files on the data madia used for program loading. Command files are the equivalent of operator commands to the basic system. They can produce the same results as specific operator actions. They allow applications programs to be loaded with a minimum of operator action, and they permit programs to be loaded from device types other than the autoload device type, even though the RC 3600 system has not got a keyboard device as operator console.

1.3. PROGRAMMING AIDS

The user may acquire one or more of the RC 3600 Hexadecimal Print Programs. These allow him to see what is written on a magnetic tape so that in programming for the use of this tape more concise instructions can be used and time can be saved.

Program Numbers

RC 36-00013	RC 36-00088	RC 36-00119
RC 36-00031	RC 36-00107	RC 36-00122

These programs print the contents of any tape in hexadecimal format. Each character from the tape is transcribed into two hexadecimal symbols, representing zone part and numeric part, the graphic symbol corresponding to the character interpreted as EBCDIC is also printed. The file number, block number, and block length are printed for each block from the tape.

	RC 36-00013	RC 36-00031	RC 36-00088
Input			
Device type	MT0	MT0	MT0
Tracks	9 or 7	9 or 7	9 or 7
Parity	Odd	Odd	Odd
Code	Undefined	Undefined	Undefined
Labels	Undefined	Undefined	Undefined
Record format	Undefined	Undefined	Undefined
Max. record length, bytes	Undefined	Undefined	Undefined
Max. block size, bytes	4096	4096	4096
Output			
Device type	LP0	LP0	LP0
Print drum	64 ch ASCII	64 ch RC Standard	64 ch RC Standard Swedish char. set
Console device type	OCP or TTY	OCP or TTY	OCP or TTY
Core requirements, bytes			
Total program size	9820	9812	9810
Input buffers	1 * 4096	1 * 4096	1 * 4096
Output buffers	8 * 134	8 * 134	8 * 134
Special requirements	None	None	None

	RC 36-00107	RC 36-00119	RC 36-00122
Input			
Device type	MT0	MT0	MT0/MT1
Tracks	9 or 7	9 or 7	9 or 7
Parity	Odd	Odd	Odd
Code	Undefined	Undefined	Undefined
Labels	Undefined	Undefined	Undefined
Record format	Undefined	Undefined	Undefined
Max. record length, bytes	Undefined	Undefined	Undefined
Max. block size, bytes	4096	4096	10000
Output			
Device type	SP0	LP0	LP0/LP1
Print drum	64 ch ASCII	64 ch Hungarian	Special
Console device type	OCP or TTY	OCP or TTY	TTY
Core requirements, bytes			
Total program size	9820	9814	20000
Input buffers	1 x 4096	1 x 4096	1 x 10000
Output buffers	8 x 134	8 x 134	8 x 134
Special requirements	None	None	Code procedures

1.4. APPLICATIONS PROGRAMS

Over 200 RC 3600 applications programs can be supplied ready-made to the user. They are normally supplied in MUSIL object code on one magnetic tape, 80-column card deck, flexible disc, or series of paper tapes along with the other software modules that the user will need for a complete run. Thus, a typical package of ready-made programs contains:

A basic system
The MUSIL interpreter
Necessary drivers
Any needed operator command files
Program files containing the required programs

Four types of ready-made applications programs can be supplied: data conversion, data entry, data collection, and communications programs.

Ready-made applications programs can be supplied in one of three ways. The user may select one or more of the programs whose descriptions follow in this RC 3600 Program Catalog. The user may elect to have a totally custom-made program written for him. Finally, the user may choose to select one of the standard programs and have it modified to suit his special needs.

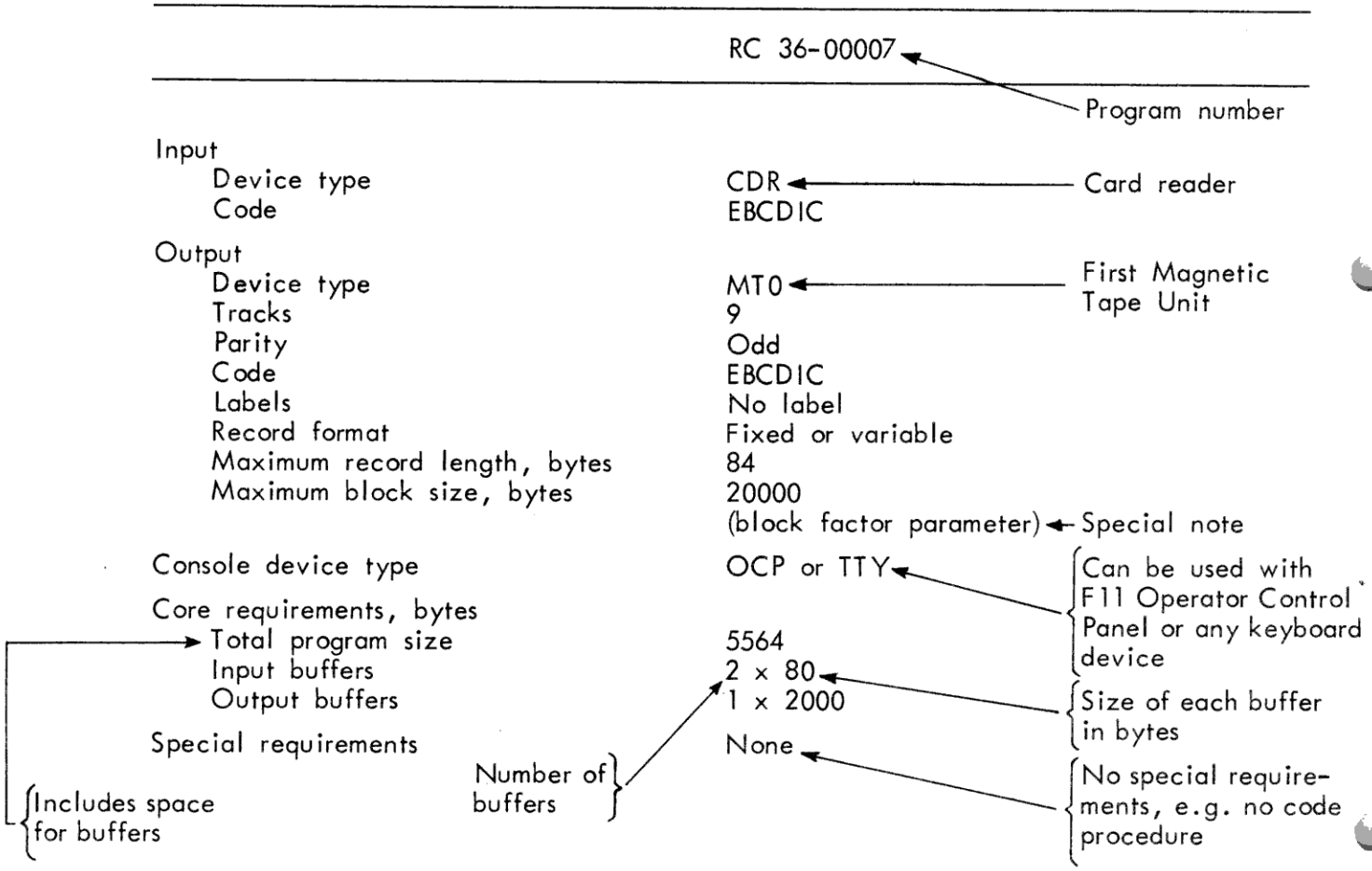
The fewer changes needed, the less time it will take to supply the program and the less it will cost to supply it.

To order a program directly from among those described in this catalog, all that is needed is to specify the program number and the alterations desired.

To specify a totally custom-made program, consultation with technical assistance personnel is required, but the user can facilitate the consultation process by specifying the input, output, and console characteristics according to the scheme used to describe the programs in this catalog.

It should be noted that the program descriptions do n o t include specifications for operator messages, system messages to the operator, or communication between the running programs and the operator. For the programs described below, this information is available on request. For specifying such messages for custom-made or customized programs, special consultation will be required.

In the descriptions that follow the "device type" designations are those of the device system drivers whose type names are given in the section on Systems Software. "Total program size" includes the space needed for the buffers listed below it in the program description.



Program Specification Chart

PART TWO:
DATA
CONVERSION PROGRAMS

The RC 3600 standard data conversion programs can be found in this section. They are generally supplied in MUSIL object code together with a basic system, necessary driver programs, and the MUSIL interpreter, but they can also be supplied separately in MUSIL object code, and sometimes also in MUSIL source code.

RC 3600 standard applications programs are generally supplied on one of the media that can be autoloaded: 9-track magnetic tape, 8-channel paper tape, 80-column cards, or IBM-compatible flexible disc.

In the following descriptions the run-time parameters and error messages used by the program are omitted. This information is available on request.

2.1. DATA CONVERSION WITH PRINTER OUTPUT

2.1.1. FROM MAGNETIC TAPE

2.1.1.1. No Label Magnetic Tape to Printer

Program Numbers

RC 36-00001	RC 36-00032	RC 36-00083
RC 36-00002	RC 36-00060	RC 36-00085
RC 36-00003	RC 36-00077	RC 36-00087
RC 36-00004	RC 36-00082	RC 36-00099

These programs print the contents of no label magnetic tapes containing print line images.

	RC 36-00001	RC 36-00002
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	No label
Record format	Fixed	Fixed
Record length, bytes	134	134
Max. block size, bytes	1340	1340
Control characters	CCW	ANSI
Output		
Device type	LP0	LP0
Print drum	64 ch ASCII	64 ch ASCII
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	5674	5610
Input buffers	1 x 1340	1 x 1340
Output buffers	8 x 133	8 x 133
Special requirements	None	None

	RC 36-00003	RC 36-00004
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	No label
Record format	Variable	Variable
Max. record length, bytes	138	138
Max block size, bytes	1384	1384
Control characters	CCW	ANSI
Output		
Device driver	LP0	LP0
Print drum	64 ch ASCII	64 ch ASCII
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	5660	5696
Input buffers	1 x 1384	1 x 1384
Output buffers	8 x 133	8 x 133
Special requirements	None	None

	RC 36-00032	RC 36-00060
Input		
Device type	MT0	MT0
Tracks	7	9
Parity	Odd	Odd
Code	Bull GE 15	EBCDIC
Labels	No label	No label
Record format	Fixed	Fixed
Record length, bytes	136	138
Max. block size	1360 6-bit characters	1380 bytes
Control characters	Bull GE 15 CCW	CCW
Output		
Device type	LP0	LP0
Print drum	64 ch RC Standard	64 ch Modified PL1
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	5256	5746
Input buffers	1 x 1360	1 x 1380
Output buffers	8 x 133	8 x 137
Special requirements	None	None

	RC 36-00077	RC 36-00082
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	No label
Record format	Fixed	Fixed
Record length, bytes	133	134
Max. block size, bytes	1995	1340
Control characters	ANSI	CCW
Output		
Device type	LP0	LP0
Print drum	64 ch ASCII	64 ch RC Standard
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	6320	5674
Input buffers	1 x 1995	1 x 1340
Output buffers	8 x 133	8 x 133
Special requirements	None	None

	RC 36-00083	RC 36-00085
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	No label
Record format	Fixed	Fixed
Record length, bytes	134	133
Max. block size	1340 bytes	665 8-bit characters
Control characters	ANSI	CCW and ASA CCW
Output		
Device type	LP0	LP0
Print drum	64 ch RC Standard	Special drum
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	5610	5020
Input buffers	1 x 1340	1 x 665
Output buffers	8 x 133	5 x 133
Special requirements	None	None

	RC 36-00087	RC 36-00099
Input		
Device type	MT0	MT1
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No labels	No labels
Record format	Fixed	Fixed
Record length, bytes	134	133
Max. block size, bytes	1340	665 8-bit characters
Control characters	CCW	CCW and ASA CCW
Output		
Device type	LP0	LP1
Print drum	64 ch RC Standard Swedish character set	Special drum
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	5674	5020
Input buffers	1 x 1340	1 x 665
Output buffers	8 x 133	5 x 133
Special requirements	None	None

2.1.1.2. IBM Label Magnetic Tapes to Printer

Program Numbers

RC 36-00005	RC 36-00029	RC 36-00048	RC 36-00166
RC 36-00006	RC 36-00030	RC 36-00089	

These programs print the contents of IBM label magnetic tapes containing print line images.

	RC 36-00005	RC 36-00006
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	IBM Standard	IBM Standard
Record format	Fixed or variable	Fixed or variable
Max. record length, bytes	138	138
Max. block size, bytes	1384	13804
Control characters	CCW and ANSI	CCW and ANSI
Output		
Device type	LP0	LP0
Print drum	64 ch ASCII	64 ch ASCII
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	8186	20606
Input buffers	1 x 1384	1 x 13804
Output buffers	8 x 133	8 x 133
Special requirements	None	None

	RC 36-00029	RC 36-00030
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	IBM Standard	IBM Standard
Record format	Fixed or variable	Fixed or variable
Max. record length, bytes	138	138
Max. block size, bytes	1384	13804
Control characters	CCW or ANSI	CCW or ANSI
Output		
Device type	LP0	LP0
Print drum	64 ch RC Standard	64 ch RC Standard
Control device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	8186	20606
Input buffers	1 x 1384	1 x 13804
Output buffers	8 x 133	8 x 133
Special requirements	None	None

	RC 36-00048	RC 36-00089
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	IBM Standard	IBM Standard
Record format	Fixed or variable	Fixed or variable
Max. record length, bytes	133	133
Max. block size, bytes	1995	1995
Control characters	CCW or ANSI	CCW or ANSI
Output		
Device type	LP0	LP0
Print drum	64 ch ASCII	64 ch RC St., Swed. ch set
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	8020	7966
Input buffers	1 x 1995	1 x 1995
Output buffers	3 x 133	3 x 133
Special requirements	None	None

	RC 36-00166
Input	
Device type	MT0
Tracks	9
Parity	Odd
Code	EBCDIC
Labels	IBM Standard
Record format	Fixed or variable
Max. record length, bytes	
Max. block size, bytes	4000
Control characters	CCW, ANSI
Output	
Device type	LP0
Print drum	64 ch RC Standard Swedish character set
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	9966
Input buffers	1 x 4000
Output buffers	3 x 133
Special requirements	None

2.1.1.3. Assorted Magnetic Tapes to Printer

Program Numbers

RC 36-00028	RC 36-00086	RC 36-00132	RC 36-00142
RC 36-00037	RC 36-00117	RC 36-00134	RC 36-00163
RC 36-00052	RC 36-00125	RC 36-00139	

These programs print the contents of specific types of magnetic tapes.

	RC 36-00037	RC 36-00052
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	Compressed 6-bit ICL	EBCDIC
Labels	ICL George 2	IBM Standard
Record format	ICL variable	Fixed
Max. record length, bytes	220	133
Block size, bytes	1536	1330
Control characters	ICL	Siemens
Output		
Device type	LP0	LP0
Print drum	64 ch Modified PL1	Hungarian
Console device type	TTY	TTY
Core requirements, bytes		
Total program size	8470	6666
Input buffers	1 x 2048	1 x 1330
Output buffers	8 x 133	5 x 133
Special requirements	Code Procedure P0027	None

	RC 36-00086	RC 36-00142
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	BCD 6-bit compressed	BCD
Labels	Honeywell Standard or no label	No Label
Record format	Variable	Fixed
Max. record length	137 bytes	120 6-bit characters
Max. block size, bytes	1920	2040 (1530 6-bit characters)
Control characters	CCW	Special
Output		
Device type	LP0	LP0
Print drum	64 ch RC Standard	64 ch RC Standard
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	7448	6716
Input buffers	1 x 1930	1 x 2040
Output buffers	8 x 137	8 x 117
Special requirements	Code Procedure P0027	Code Procedure P0027

	RC 36-00117	RC 36-00139
Input		
Tracks	MT0 9	MT0 9
Parity	Odd	Odd
Code	BCD 6-bit compressed	ICL 6-bit compressed
Labels	Honeywell label or no label	ICL (composite subfile structured)
Record format	Variable	ICL variable
Max. record length, bytes	137	120
Max. block size, bytes	1920	2048 decompressed
Control characters	CCW	ICL
Output		
Device type	LP0	LP0
Print drum	Special	Special
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	7738	8470
Input buffers	1 x 1930	1 x 2048
Output buffers	8 x 137	8 x 133
Special requirements	Code procedure P0027	Code Procedure P0027

	RC 36-00028
Input	
Device type 1	CDR
Function	To read a modified subset of the IBM OS/360 JCL statements for selection of print types and verification of input data
Device type 2	MT0
Tracks	9
Parity	Odd
Code	EBCDIC
Labels	No label or IBM Standard
Record format	Fixed or variable
Max. record length, bytes	133
Max. block size, bytes	2000
Control characters	IBM machine code, ASA, user defined, line number, line number and print position
Output	
Device type	LP0
Print drum	Special RC Standard
Print types	Print line image Tape print in character representation Tape print in hexadecimal
Console device type	TTY
Core requirements, bytes	
Total program size	18000
Tape input buffer	1 x 2000
Card input buffer	1 x 80
Output buffers	6 x 133
Special requirements	Code procedures
Note	This program can read multivolume data sets from up to 8 volumes.

	RC 36-00125	RC 36-00132
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	No label
Record format	Fixed	Fixed
Record length, bytes	136	133/134
Max. block size, bytes	816	1340
Control characters	Burroughs	CCW, ANSI
Output		
Device type	LP0	LP0
Print drum	64 ch ASCII	64 ch Hungarian
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	5176	5760
Input buffers	1 x 816	1 x 1340
Output buffers	8 x 133	8 x 133
Special requirements	None	None

	RC 36-00134	RC 36-00163
Input		
Device type	MT1	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	No label
Record format	Fixed	Fixed
Record length, bytes	133/134	80
Max. block size, bytes	1340	1040
Control characters	CCW or ANSI	CCW
Output		
Device type	LP0	LP0
Print drum	64 ch Hungarian	64 ch ASCII
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	5760	4676
Input buffers	1 x 1340	1 x 1040
Output buffers	8 x 133	8 x 81
Special requirements	None	None

2.1.2. PAPER TAPE TO PRINTER

Program Number
RC 36-00017

This program prints the contents of paper tape.

	RC 36-00017
Input	
Device type	PTR
Number of channels	8
Parity	Even or Odd
Code	ASCII or Flexo
Format	Any
Control characters	ASCII (CR, LF, FF)
Output	
Device type	LP0
Print drum	64 ch ASCII or 64 ch RC Standard
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	6246
Input buffers	2 x 134
Output buffers	2 x 133
Special requirements	None

Note: See also the section on Multiple Function Conversion Programs.

2.1.3. CARDS TO PRINTER

Program Numbers

RC 36-00008 RC 36-00033 RC 36-00118
RC 36-00024 RC 36-00046

These programs print the contents of 80-column punched cards, with each card printed on a separate line. For RC 36-00024 the beginning of new page depends on the information processing. For the other programs SKIP TO CHANNEL 1 is executed when a page line count specified by the user is exceeded, or when a card containing a form feed in Column 1 has been read.

	RC 36-00008	RC 36-00024
Input		
Device type	CDR	CDR
Code	EBCDIC	EBCDIC
Output		
Device type	LP0	LP0
Print drum	64 ch ASCII	64 ch RC Standard
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	3466	12778
Input buffers	2 x 80	2 x 80
Output buffers	2 x 81	2 x 70
Special requirements	None	None

	RC 36-00033	RC 36-00046
Input		
Device type	CDR	CDR
Code	EBCDIC	ICL 1900
Output		
Device type	LP0	LP0
Print drum	64 ch RC Standard	64 ch Modified PL1
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	3466	3182
Input buffers	2 x 80	2 x 80
Output buffers	2 x 81	2 x 81
Special requirements	None	None

	RC 36-00118
Input	
Device type	CDR
Code	EBCDIC
Output	
Device type	LP0
Print drum	64 ch Hungarian
Console device type	LP0
Core requirements, bytes	
Total program size	3466
Input buffers	2 x 80
Output buffers	2 x 81
Special requirements	None

Note: See also the section on Multiple Function Conversion Programs

2.1.4. DISC CARTRIDGE TO PRINTER

Program Number

RC 36-00039

This program prints the contents of a disc file.

	RC 36-00039
Input	
Device type	CAT(76)
Parity	No parity
Code	ASCII
Labels	No labels
Record format	Undefined
Record length, bytes	Undefined
Max. block size, bytes	Undefined
Control characters	No control characters
Output	
Device type	LP0
Print drum	64 ch ASCII
Console device type	TTY
Core requirements, bytes	
Total program size	4500
Input buffers	1 x 512
Output buffers	2 x 512
Special requirements	None

2.2. DATA CONVERSION WITH MAGNETIC TAPE OUTPUT

2.2.1. MAGNETIC TAPE TO MAGNETIC TAPE

Program Numbers

RC 36-00019	RC 36-00080	RC 36-00112
RC 36-00034	RC 36-00091	RC 36-00116

These programs copy the contents of one magnetic tape to another. The tapes are not processed or interpreted in any way, except in the case of RC 36-00116, which does code conversion.

	RC 36-00019	RC 36-00034
Input		
Device type	MT0	MT1
Tracks	9 or 7	9 or 7
Parity	Odd	Odd
Code	Undefined	Undefined
Labels	Undefined	Undefined
Record format	Undefined	Undefined
Max. record length, bytes	Undefined	Undefined
Max. block size, bytes	8000	8000
Output		
Device type	MT1	MT0
Tracks	9 or 7	9 or 7
Parity	Odd	Odd
Code	Undefined	Undefined
Labels	Undefined	Undefined
Record format	Undefined	Undefined
Max. record length	Undefined	Undefined
Max. block size, bytes	8000	8000
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	18852	18852
Input buffers	1 x 8000	1 x 8000
Output buffers	1 x 8000	1 x 8000
Special requirements	None	None

	RC 36-00080
Input	
Device type	MT0
Tracks	9 or 7
Parity	Odd
Code	Undefined
Labels	Undefined
Record format	Undefined
Max. record length, bytes	Undefined
Max. block size, bytes	8000
Output	
Device type	MT1
Tracks	9 or 7
Parity	Even
Code	Undefined
Labels	Undefined
Record format	Undefined
Max. record length, bytes	Undefined
Max. block size, bytes	8000
Intermediate storage device type	None
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	18852
Input buffers	1 x 8000
Output buffers	1 x 8000
Disc buffers	None
Special requirements	None

	RC 36-00091	RC 36-00112
Input		
Device type	MTn, n=0, 1,...,7	MTn, n=0, 1,...,7
Tracks	9 or 7	9 or 7
Parity	Odd	Odd
Code	Undefined	Undefined
Labels	Undefined	Undefined
Record format	Undefined	Undefined
Max. record length, bytes	Undefined	Undefined
Max. block size, bytes	2400	4000
Output		
Device type	MTn, n=0, 1,...,7	MTn, n=0, 1,...,7
Tracks	9 or 7	9 or 7
Parity	Odd	Odd
Code	Undefined	Undefined
Labels	Undefined	Undefined
Record format	Undefined	Undefined
Max. record length, bytes	Undefined	Undefined
Max. block size, bytes	2400	4000
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	7800	11000
Input buffers	1 x 2400	1 x 4000
Output buffers	1 x 2400	1 x 4000
Special requirements	None	None

Note: See also the section on Multiple Function Conversion Programs.

	RC 36-00116
Input	
Device type	MT1
Tracks	9
Parity	Odd
Code	MDS octal
Labels	None
Record format	Undefined
Record length, bytes	80
Block size, bytes	80
Output	
Device type	MT0
Tracks	9
Parity	Odd
Code	Burroughs, EBCDIC
Labels	None
Record format	Undefined
Record length, bytes	80
Block size, bytes	80
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	2972
Input buffers	1 x 80
Output buffers	1 x 80
Special requirements	None

2.2.2. PAPER TAPE TO MAGNETIC TAPE

Program Numbers

RC 36-00009	RC 36-00055	RC 36-00084	RC 36-00141
RC 36-00010	RC 36-00062	RC 36-00090	RC 36-00143
RC 36-00035	RC 36-00078	RC 36-00109	RC 36-00144
RC 36-00054	RC 36-00079	RC 36-00137	RC 36-00154

These programs copy the contents of paper tapes to magnetic tapes. Many of them have specified ways of handling leading zeroes and final output blocks. Consult the Program Library for details.

	RC 36-00009	RC 36-00010
Input		
Device type	PTR	PTR
Number of channels	8	8
Parity	Undefined	Odd and Even
Code	Undefined	ASCII
Format	Undefined	Undefined
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	No conversion	EBCDIC
Labels	No label	No label
Record format	Undefined	Fixed
Max. record length, bytes	Undefined	133
Max. block size, bytes	1000	2000
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	5300	6196
Input buffers	3 x 100	3 x 132
Output buffers	1 x 1000	1 x 2000
Special requirements	None	None
Notes	Leading zeroes in input are skipped. Final output block is padded.	

	RC 36-00035	RC 36-00054
Input		
Device type	PTR	PTR
Number of channels	8	7
Parity	According to code	None
Code	RCA301, Olivetti, Vadsoe, Sp.B, G.A. Ring, 8-channel, ISO	Hungarian ASCII
Format	Undefined	Undefined
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	Hungarian EBCDIC
Labels	No labels	Standard IBM DOS
Record format	Variable	Undefined
Max. record length, bytes	512	Undefined
Max. block size, bytes	3000	1330
Console device type	OCP or TTY	TTY
Core requirements, bytes		
Total program size	10118	7484
Input buffers	2 x 50	2 x 200
Output buffers	1 x 3000	1 x 3000
Special requirements	None	None

	RC 36-00055	RC 36-00062
Input		
device type	PTR	PTR
Number of channels	8	5 or 8
Parity	Odd	No parity
Code	Honeywell User Standard	Telex or undefined
Format	Undefined	Undefined
Output		
Device type	MT0	MT0
Tracks	7	9
Parity	Odd	Odd
Code	Honeywell User Standard	EBCDIC or no conversion
Labels	Honeywell	IBM OS, Standard, or no label
Record format	Fixed blocked	Undefined
Record length, bytes	200	300 max.
Max. block size, bytes	4100	300
Console device type	OCP or TTY	TTY
Core requirements, bytes		
Total program size	11148	9788
Input buffers	2 x 200	2 x 300
Output buffers	1 x 4100	2 x 300
Special requirements	None	None

	RC 36-00078	RC 36-00079
Input		
Device type	PTR	PTR
Number of channels	5	5
Parity	Undefined	Undefined
Code	Special code*	Special code*
Format	Undefined	Undefined
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	IBM OS Standard
Record format	Undefined	Undefined
Record length, bytes	Undefined	Undefined
Max. block size, bytes	500	500
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	4760	7270
Input buffers	2 x 500	2 x 500
Output buffers	1 x 500	1 x 500
Special requirements	None	None
Notes	The final output block is padded with fill characters	

	RC 36-00084	RC 36-00090
Input		
Device type	PTR	PTR
Number of channels	8	8
Parity	According to code	According to code
Code	IBM 8-channel and Olivetti	25 different codes available on request
Format	Undefined	Undefined
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC upper case	25 codes available *
Labels	No label	No label
Record format	Undefined	Undefined
Record length, bytes	Undefined	Undefined
Max. block size, bytes	900	4000
Console device type	OCP or TTY	TTY
Core requirements, bytes		
Total program size	6600	23548
Input buffers	2 x 900	2 x 200
Output buffers	1 x 900	1 x 4000
Special requirements	None	None

* Consult the Program Library.

	RC 36-00109	RC 36-00137
Input		
Device type	PTR	PTR
Number of channels	5	8
Parity	None	Even
Code	Murray	ASCII
Format	Undefined	Variable
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	System 4	No label
Record format	Undefined	Variable
Max. record length, bytes	Undefined	5005
Block size, bytes	800	Variable, = 1 input record
Console device type		
Operating device type	OCP	OCP or TTY
Log device type	TTY	None
Core requirements, bytes		
Total program size	8350	12694
Input buffers	2 x 800	1 x 5000
Log device buffers	2 x 82	None
Output buffers	2 x 800	1 x 5005
Special requirements	None	None

	RC 36-00141	RC 36-00143
Input		
Device type	PTR	PTR
Number of channels	8	8
Parity	Even	None
Code	ASCII	BCL
Format	Variable	Variable
Output		
Device type	MT0	MT0
Tracks	7	9
Parity	Odd	Odd
Code	BCL	EBCDIC
Labels	No label	No label
Record format	Variable	Variable
Max. record length, bytes	5001	5005
Block size, bytes	Variable, = 1 input record	Variable, = 1 input record
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	12602	12940
Input buffers	1 x 5000	1 x 5000
Output buffers	1 x 5001	1 x 5005
Special requirements	None	None

	RC 36-00144	RC 36-00154
Input		
Device type	PTR	PTR (unit 1 and/or 2)
Number of channels	8	5
Parity	None	None
Code	BCL	Murray
Format	Variable	Variable
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	BCL	EBCDIC
Labels	No label	System 4
Record format	Variable	Variable
Max. record length, bytes	5005	800
Block size, bytes	Variable, = 1 input record	800
Console device type		
Operating device type	OCP or TTY	OCP
Log device type	None	TTY
Core requirements, bytes		
Total program size	12860	8840
Input buffers	1 x 5000	2 x 800
Log device buffers	None	2 x 82
Output buffers	1 x 5001	2 x 800
Special requirements	None	None

Note: See also the section on Multiple Function Conversion Programs.

2.2.3. PUNCHED CARDS TO MAGNETIC TAPE

Program Numbers

RC 36-00007	RC 36-00053	RC 36-00135	RC 36-00162
RC 36-00045	RC 36-00072	RC 36-00138	RC 36-00182

These programs write the data on punched cards to labelled or no-label magnetic tape. Except for RC 36-00182 these programs can handle only 80-column cards.

	RC 36-00007	RC 36-00045
Input		
Device type	CDR	CDR
Code	EBCDIC	ICL 1900 code
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	ICL 1900 6-bit compr.
Labels	No label	ICL sentinels
Record format	Fixed or variable	Fixed
Max. record length, bytes	84	63 bytes compressed = 24-bit length field plus 80 6-bit chars.
Max. block size, bytes	2000 (block factor parameter)	1512
Console device type	OCP or TTY	TTY
Core requirements, bytes		
Total program size	5564	5762
Input buffers	2 x 80	2 x 80
Output buffers	1 x 2000	1 x 1512
Special requirements	None	Code procedure P0029

	RC 36-00053	RC 36-00072
Input		
Device type	CDR	CDR
Code	EBCDIC	EBCDIC or BCD
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	IBM	IBM OS Std. or no label
Record format	Fixed	Fixed
Record length, bytes	80	80
Block factor parameter	1360	3520
Console device type	TTY	TTY
Core requirements, bytes		
Total program size	6748	10466
Input buffers	2 x 80	2 x 80
Output buffers	1 x 1360	1 x 3520
Special requirements	None	None

	RC 36-00135	RC 36-00138
Input		
Device type	CDR	RDP
Code	EBCDIC	EBCDIC or BCD
Output		
Device type	MT1	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	No label or IBM OS Std.
Record format	Fixed or variable	Fixed
Max. record length, bytes	84	80
Max. block size, bytes	2000	3520
Console device type	OCP or TTY	TTY
Core requirements, bytes		
Total program size	5570	10466
Input buffers	2 x 80	2 x 80
Output buffers	1 x 2000	1 x 3520
Special requirements	None	None

	RC 36-00162	RC 36-00182
Input		
Device type	CDR	CDR
Code	EBCDIC	EBCDIC
Output		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No label	No label
Record format	Fixed	Fixed
Record length, bytes	80	80
Block size, bytes	1040	80
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	4306	2984
Input buffers	2 x 80	2 x 80
Output buffers	1 x 1040	1 x 80
Special requirements	None	None
Notes		51-column cards can be handled. Output blocks will be padded with EBCDIC spaces.

Note: See also the section on Multiple Function Conversion Programs.

2.2.4. CASSETTE TAPE TO MAGNETIC TAPE

Program Numbers

RC 36-00140 RC 36-00232
RC 36-00237

These programs convert data from cassette tapes to magnetic tape reels.

	RC 36-00140
Input	
Device type	CT0
Cassette format	ECMA 34, Version 1 or Version 2
Code	ASCII
Read mode	User-selected
Output	
Device type	MT0
Tracks	9
Parity	Odd
Code	No conversion
Labels	None
Tape format	Block-by-block, copied from cassette
Console device type	TTY
Core requirements, bytes	
Total program size	10000
Input buffers	2 x 2000
Output buffers	2 x 2000
Special requirements	None

	RC 36-00232	RC 36-00237
	Program descriptions are under preparation	

Note: See also the Data Collection section and the programs in section 4.1.2.2. RC 3600 and Datapoint 2200.

2.2.5. FLEXIBLE DISKETTE TO MAGNETIC TAPE

Program Numbers

RC 36-00207
RC 36-00235

RC 36-00207	RC 36-00235
Program descriptions are under preparation	

2.2.6. DISC CARTRIDGE TO MAGNETIC TAPE

Note: See the section on Multiple Function Conversion Programs for this function.

2.3 DATA CONVERSION WITH PAPER TAPE OUTPUT

2.3.1. MAGNETIC TAPE TO PAPER TAPE

Program Numbers

RC 36-00012
RC 36-00075

These programs punch the data from magnetic tapes to paper tape, with or without code conversion.

	RC 36-00012	RC 36-00075
Input		
Device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	ASCII, EBCDIC or undefined	EBCDIC or undefined
Labels	No label	IBM OS Std. or no label
Record format	Any, with respect to block size	
Record length		
Max. block size, bytes	4000	3520
Output		
Device type	PTP	PTP
Number of channels	8	8
Parity	No conversion or even	No conversion or even
Code	No conversion or EBCDIC to ASCII with even parity	No conversion or EBCDIC to ASCII with even parity
Format	Undefined	Undefined
Console device type	OCP or TTY	TTY
Core requirements, bytes		
Total program size	7640	8840
Input buffers	1 x 4000	1 x 3520
Output buffers	2 x 100	2 x 80
Special requirements	None	None

Note: See also the section on Multiple Function Conversion Programs.

2.3.2. PAPER TAPE TO PAPER TAPE

Program Number

RC 36-00014

This program punches the data from Flexo or ASCII paper tapes to ASCII paper tapes.

	RC 36-00014
Input	
Device type	PTR
Number of channels	8
Parity	Odd or Any
Code	Flexo or ASCII
Format	Undefined
Output	
Device type	PTP
Number of channels	8
Parity	Any
Code	ASCII
Format	Undefined
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	3996
Input buffers	1 x 100
Output buffers	1 x 100
Special requirements	None

Note: See also the section on Multiple Function Conversion Programs.

2.3.3. PUNCHED CARDS TO PAPER TAPE

Program Number

RC 36-00065

This program transfers information from 80-column cards in EBCDIC code to ASCII paper tape.

	RC 36-00065
Input	
Device type	CDR
Code	EBCDIC
Output	
Device type	PTP
Number of channels	8
Parity	Even
Code	ASCII
Format	Undefined
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	3590
Input buffers	1 x 80
Output buffers	1 x 100
Special requirements	None

Note: See also the section on Multiple Function Conversion Programs.

2.4. DATA CONVERSION WITH PUNCHED CARD OUTPUT

2.4.1. MAGNETIC TAPE TO PUNCHED CARDS

Note: See the section on Multiple Function Conversion Programs for this function.

2.4.2. PAPER TAPE TO PUNCHED CARDS

Program Number

RC 36-00151

This program converts data from paper tape to 80-column cards.

	RC 36-00151
Input	
Device type	PTR
Number of channels	80
Code	Binary or ASCII
Format	Undefined or variable
Output	
Device type	RDP
Code	Binary or EBCDIC
Console device type	TTY
Core requirements, bytes	
Total program size	5870
Input buffers	5 x 80
Output buffers	8 x 80 2 x 133
Special requirements	None

Note: See also the section on Multiple Function Conversion Programs for this function.

2.4.3. PUNCHED CARDS TO PUNCHED CARDS

Note: See the section on Multiple Function Conversion Programs for this function.

2.5. DATA CONVERSION WITH DISC CARTRIDGE OUTPUT

2.5.1. MAGNETIC TAPE TO DISC CARTRIDGE

Note: See the section on Multiple Function Conversion Programs for this function.

2.5.2. PAPER TAPE TO DISC CARTRIDGE

Program Number

RC 36-00038

This program copies the contents of a paper tape to a disc file.

	RC 36-00038
Input	
Device type	PTR
Number of channels	8
Parity	Even
Code	ASCII
Format	Undefined
Output	
Device type	CAT(76)
Parity	No parity
Code	ASCII
Labels	No label
Record format	Undefined
Record length, bytes	Undefined
Max. block size, bytes	Undefined
Console device type	TTY
Core requirements, bytes	
Total program size	4500
Input buffers	2 x 512
Output buffers	1 x 512
Special requirements	None

2.6. MULTIPLE FUNCTION CONVERSION PROGRAMS

Program Numbers

RC 36-00026	RC 36-00041	RC 36-00059	RC 36-00106
RC 36-00027	RC 36-00049	RC 36-00063	RC 36-00206

Each of these programs performs a number of data conversion functions.

This program can convert data from punched cards to magnetic tape or punched cards.

	RC 36-00026
Input	
Device type	RDP
Code	EBCDIC
Output	
Device type 1	MT0
Tracks	9
Parity	Odd
Code	EBCDIC
Labels	No label
Record format	Fixed
Record length, bytes	80
Max. block size, bytes	2000 (block factor parameter)
Device type 2	RDP
Code	EBCDIC
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	6006
Card buffers	1 x 80
Magnetic tape buffers	1 x 2000
Special requirements	None

This program uses cards or paper tape for input and magnetic tape for output. For maximum automation of the run, control is exercised by card input. Paper tapes wound backwards can be rewound during output, using a magnetic tape unit for this background function. Checkpoint and restart information appears on a line printer.

	RC 36-00027
Input	
Device type 1	CDR
Code	EBCDIC
Device type 2	PTR
Channels	8
Parity	None
Code	Undefined
Format	Undefined
Temporary storage	
Storage device type	MT1
Output	
Device type	MT0
Tracks	9
Parity	Odd
Code	Undefined
Labels	No label
Record format	Undefined/fixed
Max. record length, bytes	Undefined
Max. block size, bytes	2000
Console device type	TTY
Log	
Device type	LP0
Print drum	Special
Core requirements, bytes	
Total program size	28500
Card reader buffers	2 x 80
Paper tape input buffer	5 x 200
Storage buffer (MT1)	1 x 4000
Log buffer	2 x 133
Output buffers	2 x 2000
Special requirements	Code procedures

These programs convert data from magnetic tape (RC 36-00041 only), punched cards, or paper tape to line printer, punched cards, or magnetic tape (RC 36-00041 only).

	RC 36-00041	RC 36-00049
Input		
Device type 1	MT0	
Tracks	9	
Parity	Odd	
Code	EBCDIC	
Labels	No label	
Record format	User-defined	
Max. record length, bytes	1024	
Max. block size, bytes	1024	
Control characters	CCW	
Device type 2	CDR	CDR
Code	EBCDIC	EBCDIC
Device type 3	PTR	PTR
Number of channels	8,7,5	8,7,5
Parity	User-defined	User-defined
Code	User-defined	User-defined
Format	Undefined	Undefined
Output		
Device type 1	LP0	LP0
Print drum	64 ch ASCII/64 ch RC Std.	64 ch ASCII/64 ch RC Std.
Device type 2	RDP	RDP
Code	EBCDIC	EBCDIC
Device type 3	PTP	PTP
Number of channels	8	8
Parity	User-defined	User-defined
Code	User-defined	User-defined
Format	Undefined	Undefined
Device type 4	MT0	
Tracks	9	
Parity	Odd	
Code	User-defined EBCDIC default	
Labels	No label	
Record format	User-defined	
Max. record length, bytes	1024	
Max. block size, bytes	1024	
Console device type	OCP or TTY	OCP or TTY
Core requirements, bytes		
Total program size	9522	10208
Input buffers	1 x 1024	1 x 1024
Output buffers	1 x 1024	1 x 1024
Special requirements	Code procedure P0028	Code procedure P0028

This program does medium conversion from paper tape to magnetic tape, from magnetic tape to line printer, or from paper tape to line printer.

	RC 36-00059
Input	
Device type 1	PTR
Number of channels	8
Parity	Specified by a catalog
Code	which is read into the
Format	program
Device type 2	MT0
Tracks	7
Parity	Odd
Code	Specified by catalog
Labels	No label
Record format	Specified by catalog
Max. record length	Specified by catalog
Max. block size, bytes	960
Control characters	Specified by catalog
Output	
Device type 1	MT0
Print drum	96 ch ASCII
Device type 2	MT0
Tracks	7
Parity	Odd
Code	Specified by catalog
Labels	No label
Record format	Specified by catalog
Max. record length	Specified by catalog
Max. block size, bytes	960
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	14708
Input buffers	Specified by catalog
Output buffers	Specified by catalog
Special requirements	Code procedures
Notes	Input magnetic tape is 7-track GIER or CDC Cyber

This program copies magnetic tapes using a disc cartridge as a temporary storage medium, so that only one magnetic tape unit is necessary.

	RC 36-00063
Input	
Device type	MT0
Tracks	9 or 7
Parity	Odd
Code	Undefined
Labels	Undefined
Record format	Undefined
Max. record length, bytes	Undefined
Max. block size, bytes	8000
Output	
Device type	MT0
Tracks	9 or 7
Parity	Odd
Code	Undefined
Labels	Undefined
Record format	Undefined
Max. record langth, bytes	Undefined
Max. block size, bytes	8000
Intermediate storage device type	CAT(76)
Console device type	TTY
Core requirements, bytes	
Total program size	12692
Tape buffers	1 x 8000
Disc buffers	2 x 512
Special requirements	None

This program can dump the contents of a disc cartridge to a magnetic tape or vice versa.

	RC 36-00106
Input	
Device type	DKP0 / MT0
Tracks	/ 9
Parity	/ Odd
Code	Undefined / Undefined
Labels	/ None
Record format	Fixed / Fixed
Record length, bytes	512 / 512
Max. block size, bytes	512 / 512
Output	
Device type	MT0 / DKP0
Tracks	9
Parity	Odd
Code	Undefined / Undefined
Labels	None
Record format	Fixed / Fixed
Record length, bytes	512 / 512
Max. block size, bytes	512 / 512
Console device type	OCP or TTY
Core requirements, bytes	
Total program size	4678
Input buffers	2 x 512
Output buffers	2 x 512
Special requirements	None

This program simulates an RC 3000 converter unit, 9-track version, with line printer, magnetic tape and paper tape reader support. Some extensions, compared with the RC 3000, have been made in the form of a parameter list which can be modified by the user before the execution of a job. The program may be operated from either OCP or TTY.

RC 36-00206

Program description under preparation.

PART THREE:
DATA ENTRY
AND DATA COLLECTION

Regnecentralen distinguishes between Data Entry, which is the accumulation of data from a number of keyboard devices, and Data Collection, which is the accumulation of data from a number of different possible types of data input devices, with or without data transmission.

Regnecentralen's Data Collection programs have been designed as parts of special projects and are, thus, not appropriate for inclusion in this catalog. A brief description of one such program has been included in this section.

3.1. DATA ENTRY

Program Number

RC 36-00113

This program enables the user to collect up to 9.3 MB of clean data from up to 16 local and/or remote key stations on disc, to store the data on magnetic tape, and to transfer the data to a central computer for processing.

	RC 36-00113
Input	
Device type	RC 825
Optimal number of input devices	16
Input device mode	Local or remote
Number of format types	Limited only by disc capacity
Max. number of subformats	32, 64 is optional
Record format	Variable
Max. record length, bytes	511
Max. field length	80 characters
Output	
Device type 1	DKn, n=0, 1, 2, 3
Max. capacity	9.3 MB
*Device type 2	MTn, n=0, 1
Tracks	9
Parity	Odd
Code	User-defined
Labels	User-defined
Record format	User-defined
Max. record length, bytes	User-defined
Max. block size, bytes	User-defined
Supervisor	
Statistics	Job and batch
Translation	Format programs, subprograms, tables
Survey	Job, format, subprogram, table library, disc drive
Management	Saving, loading, deleting, listing, copying
Transfer	To magnetic tape or communications
Maintenance	Close down key station
Communications	
Mode	Synchronous
Speed	Hardware-defined
Code	User-defined

* There are 3 standard magnetic tape formats. Other formats are available at additional cost.

3.2. DATA COLLECTION

The RC 3600 Data Collection systems are all custom-designed software packages. No standard programs are available. The below description is an example of a custom-designed Data Collection system.

Program Number

RC 36-00150

This program receives input from 8 dial-up lines and two local cassette tape readers and outputs the data to magnetic tape. Some validation of data is performed, but the system is in general intended to be transparent to error in the input data. Data security is maintained by keywords between the system and the input terminals. Input data is written in order of arrival and is tagged with an input device number and a sequence number.

Communications packages are of two types: Communications Programs on the one hand, and combination hardware/software packages called Terminal Packages on the other hand.

A word should be said about the IBM Multileaving Work Station programs. These programs are divided into a number of program modules. To configure a Work Station, therefore, some choices have to be made among several different available modules, with some of them, perhaps, requiring customization in order to satisfy user requirements completely.

A Work Station program consists of two main parts. The first part consists of the communications, control, and flow logic, as well as the buffer allocations. The second part consists of one or more device handlers.

There are several versions of the first part to choose from. The choice is based on:

1. The nature of the mainframe operating and spooling system, for which the user may choose HASP, RES, or ASP.

2. The number of concurrent logical data channels assumed, and here the user may choose to have up to 7 input and 8 output devices, besides the console, running concurrently (the number being subject to limitations imposed by the line capacity and core requirements).

3. The multileaving transmission buffer size, where the possible choices here depend on the mainframe systems software.

IBM's mainframe system supports only unit record devices, such as readers, punches, and printers when working from a Work Station, but with an RC 3600 Work Station there is no limit on the actual physical devices used as peripherals. The user selects the I/O devices he desires by specifying device handlers, which are classified as logical readers, printers, and punches, but which can actually handle various of the other sorts of peripherals described in the RC 3600 Hardware Catalog.

Some of the handlers can handle more than one sort of device, but in this case only one of these devices can be active at any one time.

Most of the communications programs supporting a printer give the customer the possibility of selecting the character set, i.e., the specification of which graphics are printed when the central site specifies a certain character value. This possibility is a consequence of separate conversion table modules, and is indicated by the word OPTION, and Special requirements "Printer Character Set".

The Printer Character Set is either selected from among several RC-supported sets, or is specified by the customer. The RC sets are:

1. US/UK (using an ASCII or Modified PL/1 drum)
2. Danish/Norwegian (using the RC Standard drum)
3. Swedish/Finnish (")
4. German/Austrian (")

4.1. COMMUNICATIONS PROGRAMS

4.1.1. RC 3600 to RC 3600

Program Numbers

RC 36-00216
RC 36-00224

These programs are able to copy magnetic tapes using a communication link. A communication line block may contain several compressed blocks to ensure efficient transmission. RC 36-00224 can be used in connection with RC 3600 program tapes.

	RC 36-00216	RC 36-00224
Communications		
Compatibility	RC 3600 running same program	RC 3600 running same program
Device type	SCD	SCD
Format	Modification of IBM BSC	Modification of IBM BSC
Code	Undefined, 8 bit	Undefined, 8 bit
Speed, bps	1200-9600	1200-9600
Features	Full transparency, operator to operator communication	Full transparency, operator to operator communication
Input		
1. Device type	TTY	TTY
2. Device type	MT0, MT1	MT0, MT1
Tracks	7/9	7/9
Parity	Odd	Odd
Code	Undefined	Undefined
Labels	Undefined	Undefined
Record format	Any	Any
Record length	Undefined	Undefined
Maximum block size, bytes	2500	10000
Output		
1. Device type	TTY	TTY
2. Device type	MT0, MT1	MT0, MT1
Tracks, parity, code, labels, record format & length	As input	As input
Maximum block size, bytes	2500	10000
Core requirements, bytes		
Magtape buffers	1 × 2500	1 × 10000
Communication buffers	1 × 1000	1 × 1000
Total size	12600	20000
Special requirements	RC 36-00168	RC 36-00168

4.1.2. RC 3600 Interacting with Other Terminal Equipment

The IBM 2780/3780 terminals are able to run "back-to-back", that is, acting together with other terminals rather than with a central computer. This has the consequence that IBM 2780/3780/2770 emulators will be able to exchange data to a limited extent.

However, care must be taken, as different manufacturers may implement different features and use non-standard formats.

The RC 3600 IBM 2780/3780 simulators are compatible with several other manufacturers' equipment, for further reference see section 4.1.3.

4.1.2. Datapoint 2200

Program Numbers

RC 36-00042
RC 36-00161
RC 36-00204

These programs enable an RC 3600 to communicate with a Datapoint 2200.

	RC 36-00042	RC 36-00204
Input		
Input device type	BSC from Datapoint 2200	BSC from Datapoint 2200
Mode	Modified IBM 2780	Modified IBM 2780
Format	Special	Special
Code	EBCDIC (converted from ASCII by DP 2200)	EBCDIC (converted from ASCII by DP 2200)
Speed, bps	4800	4800
Features	Up to 50 cassettes can be transmitted in one run Data format validation Record count check	Up to 50 cassettes can be transmitted in one run Data format validation Record count check
Output		
Output device type	MT0	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	IBM Standard	IBM Standard
Record format	Variable	Variable
Maximum record length, bytes	592	592
Maximum block size, bytes	2000	2000
Console device type	TTY	TTY
Log		
Log device type	LP0	CPT
Print drum	Modified RC Standard	Special charaband
Core requirements, bytes		
Total program size	12500	12500
Input buffers	2 x 600	2 x 600
Log buffers	1 x 80	1 x 80
Output buffers	1 x 2000	1 x 2000
Special requirements	Code procedures	Code procedures
Note	This is a receive-only program	This is a receive-only program

Program Numbers

RC 36-00161

This program enables the RC 3600 to communicate with a Datapoint 2200 running EM 2780A 4.2. The program supports magnetic tape as well as card reader and line printer. It transmits data records of 80 characters and can receive data records of varying length, which when written onto magnetic tape are padded out with trailing spaces, so as to form records of lengths that are multiples of 80 characters.

	RC 36-00161
Communications	
Mode	BSC
Format	Modified IBM 2780 BSC
Code	EBCDIC
Speed, bps	1200-9600
Features	Transparency
Input	
Input device type 1	MT0
Tracks	9
Parity	Odd
Code	EBCDIC
Labels	No label
Record format	Fixed blocked
Record length	80
Block size, bytes	1200
Input device type 2	CDR
Code	IBM EBCDIC Card Code
Output	
Output device type 1	MT0
Tracks	9
Parity	Odd
Code	EBCDIC
Labels	No label
Record format	Fixed blocked
Record length	n x 80
Maximum block size, bytes	1200/1120
Output device type 2	LP0
Print drum	64 ch RC Standard
Control characters	CCW, ANSI, IBM 2780
Console Device Type	TTY
Core Requirements, bytes	
Total program size	8030
Device buffers	1 x 1200
Communications buffers	2 x 600
Special Requirements	None

4.1.3. RC 3600 TO MAINFRAME

4.1.3.1. IBM 2780 Emulators

Program Numbers

RC 36-00040 RC 36-00209
RC 36-00070

These programs allow an RC 3600 to emulate an IBM 2780.

	RC 36-00040	RC 36-00070
Central Site		
Machine & model	Any IBM 360/370 with ICA, 270X, 3704 or 3705	Any IBM 360/370 with ICA, 270X, 3704 or 3705
System		
Operating system	DOS, OS	DOS, OS
Spooling system	POWER, HASP, RES	POWER, HASP, RES
Access method	BTAM, RTAM	BTAM, RTAM
Specification of Terminal		
Configuration	Lineprinter, cardreader	Lineprinter, cardreader
Transmission code	EBCDIC	EBCDIC
Features	Transparency, multiple records	Transparency, multiple records
Parameters at central site		
HASPGEN	RMTnn=mmooppii113133 & BSC 2780 = YES & BSVOPT = YES & BSHTAB = NO & TPBFSIZ = 400 bytes	RMTnn=mmooppii113133 & BSC 2780 = YES & BSVOPT = YES & BSHTAB = NO & TPBFSIZ = 400 bytes
RESGEN	TDESCR = (3,1,3,3) BSC 2780 = YES BSVOPT = YES	TDESCR = (3,1,3,3) BSC 2780 = YES BSVOPT = YES
Communication		
Device type	BSC	BSC
Format	IBM 2780 BSC point-to-point	IBM 2780 BSC point-to-point
Speed	600 bps - 9600 bps	600 bps - 9600 bps
Block size	Up to 400 characters per block	Up to 400 characters per block
Input		
1. Device type	CDR	CDR
Code	IBM 029, EBCDIC, and IBM 026, BCD, card codes	IBM 029, EBCDIC, card code
2. Device type	TTY	TTY
Format	Single card image	Single card image
Output		
Device type	CPT	LPT
Character set	Option	Option
Core Requirements, bytes	5600	4726
Special Requirements	One printer character set	One printer character set

	RC 36-00209
Central Site	
Machine & model	Any IBM 360/370 with ICA, 270X, 3704 or 3705
System	
Operating system	DOS, OS
Spooling system	POWER, HASP, RES
Access method	BTAM, RTAM
Specification of Terminal	
Configuration	Lineprinter, cardreader
Transmission code	EBCDIC
Features	Transparency, multiple records
Parameters at central site	
HASPGEN	RMTnn = mmooppii113133 & BSC 2780 = YES & BSVOPT = YES & BSHTAB = NO &TPBFSIZ = 400 bytes
RESGEN	TDESCR = (3,1,3,3) BSC 2780 = YES BSVOPT = YES
Communication	
Device type	BSC
Format	IBM 2780 BSC point-to-point
Speed	600 bps - 9600 bps
Block size	Up to 400 characters per block
Input	
1. Device type	CDR
Code	IBM 029, EBCDIC, and IBM 026, BCD, card codes
2. Device type	TTY
Format	Single card image
Output	
Device type	LPT
Character set	Option
Core Requirements, bytes	5600
Special Requirements	One printer character set

4.1.3.2. IBM 2780/IBM 2770 Emulator

Program Number

RC 36-00160

This program allows an RC 3600 to emulate an IBM 2780 and to some extent an IBM 2770, and to communicate with a SINGER 4310 Series 2770 terminal. The program does not use data compression during communication.

	RC 36-00160
Central site	
Machine & model	Any IBM 360/370 with ICA, 270X, 3704 or 3705
System	
Operating system	DOS, OS
Spooling system	POWER, HASP, RES
Access method	BTAM, RTAM
Compatible with	IBM 2780 terminals, SINGER 4310 Series 2770 terminals
Specification of terminal	
Configuration	Magtape station, keyboard and screen/writer
Transmission code	EBCDIC
Features	Transparency
Communication	
Device type	BSC/BSC1
Format	IBM 2780 BSC point-to-point IBM 2770 BSC single record point-to-point
Limitations	No compression
Speed, bps	600-9600
Buffer size	Up to 480 characters per block
Input	
1. Device type	MT0/MT1 (RC 3610 S, RC 3615 S, RC 3620 S)
Code	EBCDIC
Format	No label tape
Block size	Maximum 1200 bytes per block
2. Device type	TTY - screen or writer (F12, F13, F14)
Format	Records divided and output in 80-byte subrecords
Core requirements, bytes	6400
Special requirements	RC 36-00281

4.1.3.3. IBM 3780 Emulators

Program Numbers

RC 36-00025
RC 36-00171

These programs allow an RC 3600 to emulate an IBM 3780.

	RC 36-00025	RC 36-00171
Central site		
Machine & model	Any IBM S/ 360 or S/ 370 with ICA, 270X, 3704, or 3705	IBM 360 and 370 series
System		
Operating system	DOS, DOS/VS, OS, OS/VS1, OS/VS2	DOS, OS
Spooling system	POWER, POWER/VS, HASP, RES	POWER, HASP, RES
Access method	BTAM, RTAM	BTAM, RTAM
Specification of terminal		
Configuration	Line printer, card reader	Magtape station, keyboard and screen/writer
Transmission code	EBCDIC	EBCDIC
Features	Space compression/exp., EBCDIC transparency	Transparency, space compression/decompression
Central site generation parameters		
HASPGEN:	RMTnn mmooppiiII3739 & BSC 3780 = YES & BSUPRES = YES & BSHTAB = NO & TPBFSIZ ≧ 516	
RESGEN:	TDESCR = (3,7,3,6) PCHS = 0 COMPRESS = YES TPBFSIZ ≧ 512 BSC 2770 = YES	
Communication		
Device type	SCD	SCD
Format	IBM 3780 BSC Point-to-Point	IBM 3780 BSC Point-to-Point communication
Speed, bps	1200-9600	600-9600
Code	EBCDIC	EBCDIC
Buffer size		Up to 512 chars. per block
Input		
1. Device type	CDR	MT0/MT1
Code	EBCDIC/BCD card code	EBCDIC
Format		No labels, 80-byte records
Block size		Max. 1200 bytes per block
2. Device type	TTY	TTY
Format	Single card image	80 bytes per line

(contd.)

	RC 36-00025	RC 36-00171
Output		
1. Device type	LP0	MT0/MT1
Code		EBCDIC
Format		No labels, 80-byte records
Block size		Max. 1200 bytes per block
Character set	Danish/Norwegian	
Print drum	RC Standard	
2. Device type		TTY
Format		80 bytes per line
Core requirements, bytes	13500	6300
Special requirements	None	RC 36-00275

Program Numbers

RC 36-00177
RC 36-00210

These programs allow an RC 3600 to emulate an IBM 3780 running together with IBM POWER RJE.

	RC 36-00177	RC 36-00210
Central site		
Machine & model	Any IBM S/360 or S/370 with ICA, 270X, 3704, or 3705	Any IBM S/360 or S/370 with ICA, 270X, 3704, or 3705
System		
Operating system	DOS, DOS/VS	DOS/VS
Spooling system	POWER	POWER/VS
Access method	BTAM	RTAM
Specification of terminal		
Configuration	Line printer, card reader, card reader punch, magnetic tape, flexible disc	Line Printer, card reader, card reader punch, magnetic tape, flexible disc
Transmission code	EBCDIC	EBCDIC
Features	Space compression/expansion, EBCDIC transparency, component selection	Space compression/expansion, EBCDIC transparency, component selection
Central site parameters	POWER RJE	POWER/VS RJE
RJBTMOD macro	BCSCS = YES BSCTEST = NO	PLINE macro TRNSP = YES CODE = EBCDIC
RJEBLK macro	DTFBT: DEVICE = BSC1 or BSC2 CTLCHAR = EBCDIC	PRMT macro TYPE = 3780 TRNSP = YES SCE = YES CS = YES
Communication		
Device type	SCD	SCD
Format	IBM 3780 BSC Point-to-Point	IBM 3780 BSC Point-to-Point
Speed, bps	1200-9600	1200-9600
Code	EBCDIC	EBCDIC
Input		
1. Device type	CDR	CDR
Code	EBCDIC Card Code	EBCDIC Card Code
2. Device type	RDP	RDP
Code	EBCDIC Card Code	EBCDIC Card Code
3. Device type	MT0	MT0
Code	EBCDIC	EBCDIC
Format	No labels, record size 80, 64, or 52 bytes	No labels, record size 80, 64, or 52 bytes
Block size	Maximum 1080 bytes	Maximum 1080 bytes

(contd.)

		RC 36-00177	RC 36-00210
4	Device type	IBM 3740 compatible flexible disc	IBM 3740 compatible flexible disc
	Code	EBCDIC	EBCDIC
	Format	Standard 3740 data sets with max. record size 128 bytes	Standard 3740 data sets with max. record size 128 bytes
5.	Device type	TTY	TTY
	Format	Single POWER RJE command	Single POWER/VS RJE command
Output			
1.	Device type	LP0	LP0
	Character set	Option	Option
2.	Device type	MT0	MT0
	Code	EBCDIC	EBCDIC
	Format	No labels, record sizes: 133 (with CCW) 80 (with CCW) 80 (without CCW)	No labels, record sizes: 133 (with CCW) 80 (with CCW) 80 (without CCW)
	Block size	8 x recsize for printoutput 10 x recsize for punchoutput	8 x recsize for printoutput 10 x recsize for punchoutput
3.	Device type	RDP	RDP
	Code	EBCDIC Card Code	EBCDIC Card Code
4.	Device type	TTY	TTY
	Format	Record size 72 bytes without CCW, all output or only POWER RJE terminal operator messages	Record size 72 bytes without CCW, all output or only POWER/VS RJE terminal operator messages
Core requirements, bytes		11090	12200
Special requirements		One printer character set RC 36-00184 RC 36-00175 Utility Program TIME	One printer character set RC 36-00184 RC 36-00175 Utility Program TIME

4.1.3.4. IBM Multileaving Work Stations

ASP

Program Number

RC 36-00258

This program allows an RC 3600 to be used as an ASP Multileaving Work Station.

	RC 36-00258
Central site	Any IBM 360 or 370
Communication control unit	IBM 2701, 2703, 3704, 3705 or equivalent
Operation system) Spooling system)	OS/ASP
Access method	RTAM
Terminal specifications	
Configuration	
simultaneously active (readers	2
simultaneously active (printers	2
simultaneously active (punches	1
Transmission code	EBCDIC
Features	Console support Full transparency Compression of more than 3 duplicate characters
GEN parameters	RJPTERM, N = ddname, T = S 360, RD = 2, PU = 1, PR = 2, B = 800
Communications	
Device type	SCD
Format	IBM BSC Multileaving
Speed, bps	600-9600
Console	
Device type	TTY
Core requirements, bytes	
Total	23100
Special requirements	
Device handling programs	(see description)

HASP

Program Numbers

RC 36-00101 RC 36-00212 RC 36-00252
RC 36-00189 RC 36-00250 RC 36-00255

These programs allow an RC 3600 to be used as a HASP Multileaving Workstation.

	RC 36-00101	RC 36-00189
Central site	Any IBM 360 or 370	Any IBM 360 or 370
Communication control unit	IBM 2701, 2703, 3704, 3705 or equivalent	IBM 2701, 2703, 3704 3705 or equivalent
Operating system	OS/VS2	OS/VS2
Spooling system	HASP	HASP
Access method	RTAM	RTAM
Terminal specifications		
Configuration		
simultaneously active (readers	2) only one sec. reader	1
simultaneously active (printers	2) or printer active at	1
simultaneously active (punches	1 a time	0
Transmission code	EBCDIC	EBCDIC
Features	Console support full transparency compression of more than 3 duplicate characters	Console support full transparency compression of more than 3 duplicate characters
GEN parameters	RMTnn = mmooppiiII3443 & MLBFSIZ = 490 & BSCCPU = YES	RMT = mmooppiiII3443 & MLBFSIZ = 400 & BSCCPU = YES
Terminal address	Runtime selected, used in automatic SIGNON	Runtime selected, used in automatic SIGNON
Communications		
Device type	SCD	SCD
Format	IBM BSC Multileaving	IBM BSC Multileaving
Speed, bps	600-9600	600-9600
Console		
Device type	TTY	TTY
Core requirements, bytes		
Total	15740	13900
Special requirements		
Device handling programs	(see description)	(see description)

	RC 36-00212	RC 36-00250
Central site	Any IBM 360 or 370	Any IBM 360 or 370
Communication control unit	IBM 2701, 2703, 3704, 3705 or equivalent	IBM 2701, 2703, 3704, 3705 or equivalent
Operating system	OS/VS2	OS/VS2
Spooling system	HASP	HASP
Access method	RTAM	RTAM
Terminal specifications		
Configuration		
simultaneously active (readers	1	2) only one secondary
simultaneously active (printers	1	2) device active at
simultaneously active (punches	1	2) a time
Transmission code	EBCDIC	EBCDIC
Features	Console support, full transparency, compression of more than 3 duplicate characters	Console support, full transparency, compression of more than 3 duplicate characters
GEN parameters	RMTnn = mmooppiiII3443 & MLBFSIZ = 400 & BSCCPU = YES	RMTnn = mmooppiiII3443 & MLBFSIZ = 400 & BSCCPU = YES
Terminal address	Runtime selected, used in automatic SIGNON	Runtime selected, used in automatic SIGNON
Communications		
Device type	SCD	SCD
Format	IBM BSC Multileaving	IBM BSC Multileaving
Speed, bps	600-9600	600-9600
Console		
Device type	TTY	TTY
Core requirements, bytes		
Total	16230	15800
Special requirements		
Device handling programs	(see description)	(see description)

	RC 36-00252	RC 36-00255
Central site	Any IBM 360 or 370	Any IBM 360 or 370
Communication control unit	IBM 2701, 2703, 3704, 3705 or equivalent	IBM 2701, 2703, 3704, 3705 or equivalent
Operating system	OS/VS2	OS/VS2
Spooling system	HASP	HASP
Access method	RTAM	RTAM
Terminal specifications		
Configuration		
simultaneously active (readers	1	1
simultaneously active (printers	1	1
simultaneously active (punches	0	0
Transmission code	EBCDIC	EBCDIC
Features	Console support full transparency compression of more than 3 duplicate characters	Console support full transparency compression of more than 3 duplicate characters
GEN parameters	RMTnn = mmooppiill3443 & MLBFSIZ = 490 & BSCCPU = YES	RMTnn = mmooppiill3443 & MLBFSIZ = 952 & BSCCPU = YES
Terminal address	Runtime selected, used in automatic SIGNON	Runtime selected, used in automatic SIGNON
Communications		
Device type	SCD	SCD
Format	IBM BSC Multileaving	IBM BSC Multileaving
Speed	600 bps - 9600 bps	600 bps - 9600 bps
Console		
Device type	TTY	TTY
Core requirements (bytes)		
Total	14000	17400
Special requirements		
Device handling programs	(see description)	(see description)

RES

Program Numbers

RC 36-00239	RC 36-00251	RC 36-00254	RC 36-00257
RC 36-00249	RC 36-00253	RC 36-00256	RC 36-00259

These programs allow an RC 3600 to be used as an RES Multileaving Workstation.

	RC 36-00239	RC 36-00249
Central site	Any IBM 370	Any IBM 370
Communication control unit	IBM 2701, 2703, 3704, 3705 or equivalent	IBM 2701, 2703, 3704, 3705 or equivalent
Operating system) Spooling system)	OS/VS1 RES (release 4)	OS/VS1 RES (release 2)
Access method	RTAM	RTAM
Terminal specifications		
Configuration		
simultaneously active (readers	1	2) only one secondary
simultaneously active (printers	1	2) device active at
simultaneously active (punches	0	2) a time
Transmission code	EBCDIC	EBCDIC
Features	Console support full transparency compression of more than 3 duplicate characters	Console support full transparency compression of more than 3 duplicate characters
GEN parameters		
TERMINAL macro	TDESCR = (3,4,4,3)	TDESCR = (3,4,4,3)
RTAM macro	MLBFSIZ = 512	MLBFSIZ = 848
RTAM macro	BSCCPU = YES	BSCCPU = YES
Communications		
Device type	SCD	SCD
Format	IBM BSC Multileaving	IBM BSC Multileaving
Speed, bps	600-9600	600-9600
Console		
Device type	TTY	TTY
Core requirements, bytes		
Total	16100	20500
Special requirements		
Device handling programs	(see description)	(see description)

	RC 36-00251	RC 36-00253
Central site Communication control unit	Any IBM 370 IBM 2701, 2703, 3704, 3705 or equivalent	Any IBM 370 IBM 2701, 2703, 3704, 3705 or equivalent
Operating system) Spooling system) Access method	OS/VS1 RES (release 2) RTAM	OS/VS1 RES (release 2) RTAM
Terminal specifications		
Configuration		
simultaneously active (readers	2) either secondary	1
(printers	2) reader or printer	1
(punches	1 active at a time	0
Transmission code	EBCDIC	EBCDIC
Features	Console support full transparency compression of more than 3 duplicate characters	Console support full transparency compression of more than 3 duplicate characters
GEN parameters		
TERMINAL macro	TDESCR = (3,4,4,3)	TDESCR = (3,4,4,3)
RTAM macro	(MLBFSIZ = 336 (BSCCPU = YES	MLBFSIZ = 848 BSCCPU = YES
Communications		
Device type	SCD	SCD
Format	IBM BSC Multileaving	IBM BSC Multileaving
Speed, bps	600-9600	600-9600
Console		
Device type	TTY	TTY
Core requirements, bytes		
Total	17700	17400
Special requirements		
Device handling programs	(see description)	(see description)

	RC 36-00254	RC 36-00256
Central site	Any IBM 370	Any IBM 370
Communication control unit	IBM 2701, 2703, 3704, 3705 or equivalent	IBM 2701, 2703, 3704, 3705 or equivalent
Operating system) Spooling system)	OS/VS1 RES (release 4)	OS/VS1 RES (release 2)
Access method	RTAM	RTAM
Terminal specifications		
Configuration		
simultaneously active (readers	1	1
simultaneously active (printers	1	1
simultaneously active (punches	0	0
Transmission code	EBCDIC	EBCDIC
Features	Console support full transparency compression of more than 3 duplicate characters	Console support full transparency compression of more than 3 duplicate characters
GEN parameters		
TERMINAL macro	TDESCR = (3,4,4,3)	TDESCR = (3,4,4,3)
RTAM macro	MLBFSIZ = 856	MLBFSIZ = 336
RTAM macro	BSCCPU = YES	BSCCPU = YES
Communications		
Device type	SCD	SCD
Format	IBM BSC Multileaving	IBM BSC Multileaving
Speed, bps	600-9600	600-9600
Console		
Device type	TTY	TTY
Core requirements, bytes		
Total	17400	15200
Special requirements		
Device handling programs	(see description)	(see description)

	RC 36-00257	RC 36-00259
Central site Communication control unit	Any IBM 370 IBM 2701, 2703, 3704, 3705 or equivalent	Any IBM 370 IBM 2701, 2703, 3704, 3705 or equivalent
Operating system) Spooling system) Access method	OS/VS1 RES (release 2) RTAM	OS/VS1 RES (release 4) RTAM
Terminal specifications		
Configuration		
simultaneously active (readers	1	2
(printers	1	2
(punches	0	2
Transmission code	EBCDIC	EBCDIC
Features	Console support full transparency compression of more than 3 duplicate characters	Console support full transparency compression of more than 3 duplicate characters
GEN parameters		
TERMINAL macro	TDESCR = (3,4,4,3)	TDESCR = (3,4,4,3)
RTAM macro (	MLBFSIZ = 506	MLBFSIZ = 856
RTAM macro (	BSCCPU = YES	BSCCPU = YES
Communications		
Device type	SCD	SCD
Format	IBM BSC Multileaving	IBM BSC Multileaving
Speed, bps	600-9600	600-9600
Console		
Device type	TTY	TTY
Core requirements, bytes		
Total	17400	21900
Special requirements		
Device handling programs	(see description)	(see description)

IBM Multileaving Workstation Device Handlers: Readers

Program Numbers

RC 36-00103 RC 36-00217 RC 36-00262
RC 36-00191 RC 36-00261

These programs are used by the Multileaving Workstation main programs (ASP, HASP, RES) to handle input. Some of them are able to handle more than one input peripheral, though not simultaneously.

	RC 36-00103	RC 36-00191
Device ident	RD1	RD1
Input		
Device type	MT0	CDR
Tracks	9	
Parity	Odd	
Code	EBCDIC	IBM EBCDIC card code
Labels	No	
Record Format	Fixed blocked	80 columns
Record length	< block size user selected default 80 (card images)	
Maximum block size	1080	
Restrictions		No 12 row binary, end of file card not transmitted
Output		
Operator output device	TTY	TTY
Core requirements, bytes		
Total	3010	3000
Special requirements		
Main control program	(ASP, HASP, RES)	(ASP, HASP, RES)

	RC 36-00217	RC 36-00261
Device ident	RD1	RD1
Input		
Main device		
Type	CDR	RDP
Code	IBM EBCDIC card code	IBM EBCDIC card code
Format	80 columns	80 columns
Restrictions	No 12 row binary, special control cards not transmitted	No 12 row binary, special control cards not transmitted
Alternative selectable devices		
1. Type	MT0, MT1, ... MT7	MT0
Tracks	9	9
Parity	Odd	Odd
Code	EBCDIC	EBCDIC
Labels	No	No
Format	Fixed blocked	Fixed blocked
Record length	$\leq$ block size, user selectable default 80	$\leq$ 80 user selectable default 80
Maximum block size	1080	1080
2. Type	PTR	
Number of channels	8	
Parity	No	
Code	EBCDIC	
Format	Fixed blocked	
Record length	80 bytes	
Output		
Operator output device	TTY	TTY
Core requirements, bytes		
Total	5500	5500
Special requirements		
Main control program	(ASP, HASP, RES)	(ASP, HASP, RES)

	RC 36-00262
Device ident	RD 1
Input	
Main device	
Type	CDR
Code	IBM EBCDIC card code
Format	80 columns
Restrictions	No 12 row binary, special control cards not transmitted
Alternative selectable device	
Type	PTR
Number of channels	8
Parity	No
Code	EBCDIC
Format	Fixed blocked
Record length	80
Output	
Operator output device	TTY
Core requirements, bytes	
Total	2900
Special requirements	
Main control program	(ASP, HASP, RES)

IBM Multileaving Work Station Device Handlers: Punches

Program Numbers

RC 36-00102
RC 36-00215
RC 36-00263

These programs are used by the Multileaving Work Station main programs (ASP, HASP, RES) to handle punch output.

	RC 36-00102	RC 36-00215	RC 36-00263
Device ident	PU1	PU1	PU1
Output			
Device type	MT0	PTP	RDP
Tracks	9	8	
Parity	Odd	No	
Code	EBCDIC	EBCDIC	IBM EBCDIC card code
Labels	No		
Record format	Fixed blocked	Fixed	80 col. card
Record length, bytes	80	80	80
Maximum block size, bytes	320		
Operator output device	TTY	TTY	TTY
Core requirements, bytes			
Total	2960	2470	2900
Special requirements			
Main control program	Code procedures (ASP, HASP, RES)	Code procedures (ASP, HASP, RES)	Code procedures (ASP, HASP, RES)

IBM Multileaving Work Station Device Handlers: Printers

Program Numbers

RC 36-00104
RC 36-00190
RC 36-00245

These programs are used by the Multileaving Work Station main programs (ASP, HASP, RES) to handle print output. Some of them are able to handle more than one peripheral, though not simultaneously.

	RC 36-00104	RC 36-00190	RC 36-00245
Device ident	PR1	PR1	PR1
Output			
Default device type	MT0	LP0	LP0
Alternative types		LP1 SP0 CP0 CP1	LP1 SP0 CP0 CP1 MT0,...,MT7
Printers			
Character sets		Option	Option
Magtape			
Code	EBCDIC		EBCDIC
Labels	No		No
Format	Fixed blocked		Fixed blocked
Record length, bytes	1 paper control 132 data		1 paper control 132 data
Paper movement control	CCW		CCW
Maximum block size, bytes	665		665
Operator output device	TTY	TTY	TTY
Core requirements, bytes			
Total	3900	4340	6890
Special requirements	Code procedures Printer Char. set	Code procedures Printer Char. set	Code procedures Printer Char. set
Main control program	ASP, HASP, RES	ASP, HASP, RES	ASP, HASP, RES

4.1.3.5. CDC 200 UT Emulators

External BCD

Program Numbers

RC 36-00093
RC 36-00205
RC 36-00231

These programs allow an RC 3600 to act as a CDC 200 UT using External BCD code.

	RC 36-00093	RC 36-00231
Central site		
Machine & models	CDC 3000/6000 and CDC Cyber series	CDC 3000/6000 and CDC Cyber series
Operating system	Scope, Kronos	Scope, Kronos
Control system	Export/Import 200, Intercom.	Export/Import 200, Intercom.
Terminal specification		
Configuration	Screen, lineprinter, cardreader	Screen, lineprinter, cardreader
Transmission code	CDC external BCD transmission code	CDC external BCD transmission code
Features	Interleaved print-data receive and card-data send	Interleaved print-data receive and card-data send
Terminal ident	Site No., given by operator at run-time	Site No., given by operator at run-time
Communication		
Device type	SCD	SCD
Format	CDC 200 UT multipoint or point-to-point communication, compression of spaces and zeros in print-data	CDC 200 UT multipoint or point-to-point communication, compression of spaces and zeros in print-data
Speed, bps	1200-9600	1200-9600
Code	CDC external BCD code	CDC external BCD code
Block size	Up to 1040 chars/block	Up to 1040 chars/block
Input		
1. Device type	CDR	CDR
Code	CDC BCD card code/ IBM 029 EBCDIC card code	CDC BCD card code IMB 029 EBCDIC card code
2. Device type	TTY	TTY
Output		
1. Device type	LPT	LPT
Character set	Option	Option
2. Device type	TTY	TTY
Speed	Minimum 240 chars/second	Minimum 10 chars/second
Core requirements, bytes	17200	17400
Special requirements	One printer character set the TTY must be a display	One printer character set

	RC 36-00205
Central site	
Machine & models	Control Data 6000 series
Communication control unit	
Operating system	Scope//Import/Export 200/Intercom/Kronos
Communications	
Transmission device	SCD
Transmission code	External BCD
Transmission speed, bps	600-9600
Terminal address/ident	Runtime selectable
Input	
1. Device type	TTY (keyboard)
2. Device type	CDR
Code	IBM EBCDIC/BCD card code
3. Device type	PTR
Code	ASCII/Flexowriter code
Output	
1. Device type	TTY
2. Device type	LPT
Print drum	64 ch ASCII
Character set	US/UK
3. Device type	PTP
Code	ASCII/Flexowriter code
4. Device type	PLT
Special requirements	The TTY must be a display

USASCII

Program Numbers

RC 36-00096 RC 36-00196
RC 36-00097

These programs allow an RC 3600 to act as a CDC 200 UT using USASCII code.

	RC 36-00096	RC 36-00097
Central site		
Machine & models	CDC 3000/6000 and CDC Cyber series	CDC 3000/6000 and CDC Cyber series
Operating system	Scope, Kronos	Scope, Kronos
Control system	Export/Import 200, Intercom.	Export/Import 200, Intercom.
Terminal specification		
Configuration	Screen, lineprinter, cardreader	Screen, lineprinter, cardreader
Transmission code	CDC USASCII transmission code	CDC USASCII transmission code
Features	Interleaved print-data receive and card-data send	Interleaved print-data receive and card-data send
Terminal ident	Site No. given by operator at runtime	Site No. given by operator at runtime
Communication		
Device type	SCD	SCD
Format	CDC 200 UT multipoint or point-to-point communication, compression of spaces and zeros in print-data	CDC 200 UT multipoint or point-to-point communication, compression of spaces and zeros in print-data
Speed, bps	1200-9600	1200-9600
Code	USASCII	USASCII
Block size	Up to 1040 chars/block	Up to 1040 chars/block
Input		
1. Device type	CDR	CDR
Code	Special non-standard BCD card code/ IBM 029 EBCDIC card code	CDC BCD card code/ IBM 029 EBCDIC card code
2. Device type	TTY keyboard (F13)	TTY keyboard
Output		
1. Device type	LPT	LPT
Character set	Option	Option
2. Device type	TTY (F13)	TTY
Speed	Minimum 240 chars/second	Minimum 240 chars/second
Core requirements, bytes	17050	17050
Special requirements	One printer character set, the TTY must be a display	One printer character set, the TTY must be a display

	RC 36-00196
Central site	
Machine & model	Control Data 6000 series
Communication control unit	
Operating system	Scope//Import/Export 200/Intercom/Kronos
Communications	
Transmission device	SCD
Transmission code	USASCII
Transmission speed, bps	600-9600
Terminal address/ident	Runtime selectable
Input	
1. Device type	TTY (keyboard)
2. Device type	CDR
Code	IBM EBCDIC/BCD Card Code
3. Device type	PTR
Code	ASCII/Flexowriter code
Output	
1. Device type	TTY (keyboard)
2. Device type	LPT
Print drum	64 ch ASCII
Character set	US/UK
3. Device type	PTP
Code	ASCII/Flexowriter code
4. Device type	PLT
Code	
Core requirements	48 KB (approx.)
Special requirements	The TTY must be a display

4.1.3.6. ICL 7020 Emulators

Program Numbers

RC 36-00185	RC 36-00187	RC 36-00228
RC 36-00186	RC 36-00188	RC 36-00229

These programs allow an RC 3600 to emulate an ICL 7020.

	RC 36-00185	RC 36-00187
Central site system	ICL System 4 Multijob	ICL 1900 series GEORGE
Terminal specification	Buffered teletype cardreader printer	Buffered teletype cardreader printer
Transmission device	SCD	SCD
Transmission code	ASCII	ASCII
Transmission speed, bps	600-9600	600-9600
Features	F 1132 auto peripheral control	F 1132 auto peripheral control
Restrictions	No blank col. suppression No data end code No short blocks	No blank col. suppression No data end code No short blocks
Terminal address	Runtime selected	Runtime selected
Input		
1. Teletype interface		
Device type	TTY	TTY
2. Cardreader interface		
Device type	CDR	MT0
Code	ICL System 4 EBCDIC	ASCII
Format		As generated by key-entry special dump program
3. Paper reader interface		
Device type	None	None
Output		
1. Teletype interface		
Device type	TTY	TTY
2. Printer interface		
Device type	LP0	SP0
Character set	ICL System 4 ASCII	ICL 1900 ASCII
Print drum	64 ch ASCII	64 ch ASCII
3. Papertape interface		
Device type	None	None
Core requirements, bytes		
Total	9300	10900

	RC 36-00186	RC 36-00228
Central site system	ICL 1900 series GEORGE	ICL 1900 series GEORGE
Terminal specification	Buffered teletype cardreader printer papertape reader papertape punch	Buffered teletype cardreader printer papertape reader papertape punch
Transmission device	SCD	SCD
Transmission code	ASCII	ASCII
Transmission speed, bps	600-9600	600-9600
Features	F 1132 auto peripheral control	F 1132 auto peripheral control
Restrictions	No blank col. suppression No data end code No short blocks	No blank col. suppression No data end code No short blocks
Terminal address	Runtime selected	Runtime selected
Input		
1. Teletype interface		
Device type	TTY	TTY
2. Cardreader interface		
Device type	RDP	CDR
Code	ICL 1900 BCD	ICL 1900 BCD
3. Paper reader interface		
Device type	PTR	PTR
Code & format	ICL 1900 computer	ICL 1900 computer
Parity	Even	Even
Number of channels	8	8
Output		
1. Teletype interface		
Device type	TTY	TTY
2. Printer interface		
Device type	SPO	LPO
Character set	ICL 1900 ASCII	ICL 1900 ASCII
Print drum	64 ch ASCII	64 ch ASCII
3. Papertape interface		
Device type	PTP	PTP
Code & format	ICL 1900 ASCII	ICL 1900 ASCII
Parity	Even	Even
Number of channels	8	8
Core requirements, bytes		
Total	12300	12300

	RC 36-00188	RC 36-00229
Central site system	ICL 1900 series GEORGE	ICL 1900 series GEORGE
Terminal specification	Buffered teletype printer papertape reader papertape punch	Buffered teletype printer papertape reader papertape punch
Transmission device	SCD	SCD
Transmission code	ASCII	ASCII
Transmission speed, bps	600-9600	600-9600
Features	F 1132 auto peripheral control	F 1132 auto peripheral control
Terminal address	Runtime selected	Runtime selected
Input		
1. Teletype interface		
Device type	TTY	TTY
2. Cardreader interface		
Device type	None	None
3. Paper reader interface		
Device type	PTR	PTR
Code & format	ICL 1900 computer	ICL 1900 computer
Parity	Even	Even
Number of channels	8	8
Output		
1. Teletype interface		
Device type	TTY	TTY
2. Printer interface		
Device type	SP0	LP0
Character set	ICL 1900 ASCII	ICL 1900 ASCII
Print drum	64 ch ASCII	64 ch ASCII
3. Papertape interface		
Device type	PTP	PTP
Code & format	ICL 1900 ASCII	ICL 1900 ASCII
Parity	Even	Even
Number of channels	8	8
Core requirements, bytes		
Total	11900	11900

4.1.3.7. ICL 7181 VDU QLSA Emulator

Program Number

RC 36-80002

This program simulates an ICL 7181 QLSA terminal concentrator which makes it possible for remote visual display units to be connected to a central site with systems for data collection and enquiry.

	RC 36-80002
Central site	ICL 1900 series / George 3 ICL System 4 / Multijob
Terminal specifications	QLSA with max. 24 Visual Display Units
Communications	
Transmission device	SCD
Transmission speed, bps	600-9600
Code	ASCII
Format	ICL 7181
Input/Output	
Device type	AMX
Terminals	RC 826 Visual Display Unit
Transmission	2400 bps, Half Duplex
Code	ASCII
Format	Point-to-Point with polling
Restrictions	24 80-character lines. No local input. No local output. Only transmission of one whole line or the entire screen may take place. Field delimiters are not implemented yet, but will come later.
Console device type	TTY
Core requirements, bytes	
Program	26600
Buffers	13200
Total	39800
Special requirements	
Modules	1. ICA RC 36-80001 2. STAT RC 36-80003

4.2. TERMINAL PACKAGES

These hardware/software packages are specially-priced to give the user a tried and tested terminal emulator at the lowest possible price. Therefore, they are not able to run other RC 3600 applications software without additional hardware. Such additional hardware is, however, available for all terminal packages.

Except for the CDC 200 UT terminals, which require a VDU as terminal console, the user may choose the console he wishes to have. The user may also choose the printer character set for all terminal packages. The available choices are

US/UK	character set
Danish/Norwegian	"
Swedish/Finnish	"
German/Austrian	"

Terminal packages are ordered by name and model number.

4.2.1. IBM 2780 Terminal

Program Numbers

RC 36-00126

This program allows a modified RC 3600 to act as an IBM 2780 terminal. It is available in several versions, which differ only in card reader, line printer, and communications speeds. The program may be obtained only in combination with specific hardware.

	RC 36-00126
Central site	
Mainframe	Any IBM 360 or 370
Communications controller	ICA, IBM 270X, 3704, 3705 or equivalent
Operating system	DOS or OS
Spooling system	POWER, HASP, or RES
Access method	BTAM or RTAM
Parameters	
HASPGEN : RMTnn =	mmooppiill3133
& BSC 2780 =	YES
& BSVBOPT =	YES
& BSHTAB =	NO
& TPBFSIZ =	400
RESGEN : TDESCR =	(3,1,3,3)
BSC 2780 =	YES
BSVOPT =	YES
Communications	
Mode	BSC full- or half-duplex
Format	IBM 2780 BSC Point-to-Point
Code	EBCDIC
Features	Transparency, multiple records
Input	
Input device type	CDR
Code	EBCDIC Card Code
Output	
Output device type	LP0
Character sets	Option
Console device type	TTY
Memory size, bytes	16 K
Special requirements	Printer character set

Model Speeds

	CDR cpm	LP0 lpm	Comm. bps
Model 5 D	300	300	2400
Model 6 D	600	900	4800
Model 21 D	600	600	4800

4.2.2. IBM 3780 Terminal

Program Number

RC 36-00127

This program allows a modified RC 3600 to act as an IBM 3780 terminal. It is available in several versions, which differ only in card reader, line printer, and communications speeds. The program may be obtained only in combination with specific hardware.

	RC 36-00127
Central site	
Mainframe	Any IBM 360 or 370
Communications controller	ICA, IBM 270X, 3704, 3705, or equivalent
Operating system	DOS or OS
Spooling system	POWER, HASP, or RES
Access method	BTAM or RTAM
Parameters	
HASPGEN : RMTnn =	mmooppiill3739
& BSC 3780 =	YES
& BSUPRES =	YES
& BSHTAB =	NO
& TPBFSIZ ≥	512
RESGEN : TDESCR =	(3,7,3,6)
COMPRESS =	YES
Communications	
Mode	BSC half- or full-duplex
Format	IBM 3780 BSC Point-to-Point
Code	EBCDIC
Features	Transparency, space compression/expansion
Input	
Input device type	CDR
Code	EBCDIC Card Code
Output	
Output device type	LP0
Character sets	Option
Console device	TTY
Memory size, bytes	32 K
Special requirements	Printer character set

Model Speeds

	CDR cpm	LP0 lpm	Comm. bps
Model 7 D	300	300	2400
Model 8 D	600	900	4800
Model 22 D	600	600	4800

4.2.3. IBM HASP Multileaving Work Station

Program Number

RC 36-00128

This program allows a modified RC 3600 to act as a HASP Multileaving Work Station. It is available in several versions, which differ only in card reader, line printer, and communications speeds. The program may be obtained only in combination with specific hardware.

			RC 36-00128
Central site			
Mainframe			Any IBM 360 or 370
Communications controller			ICA, IBM 270X, 3704, 3705, or equivalent
Operating system			OS or OS/VS
Spooling system			HASP
Access method			RTAM
Parameters	RMTnn	=	mmooppiiii3443
	& BSCCPU	=	YES
	& MLBFSIZ	=	400
Communications			
Mode			BSC half- or full-duplex
Format			IBM BSC Multileaving
Code			EBCDIC
Features			Transparency, console support, full compression/decompression, automatic SIGNON
Input			
Input device type			CDR
Code			EBCDIC Card Code
Output			
Output device type			LP0
Character sets			Option
Console device			TTY
Memory size, bytes			32 K
Special requirements			Printer character set

	Model Speeds		
	CDR cpm	LP0 lpm	Comm. bps
Model 1 D	300	300	2400
Model 2 D	600	900	4800
Model 13 D	300	900	4800
Model 14 D	600	300	4800
Model 17 D	600	600	4800
Model 18 D	300	600	4800

4.2.4. IBM RES Multileaving Work Station

Program Number

RC 36-00129

This program allows a modified RC 3600 to act as an RES Multileaving Work Station. It is available in several versions, which differ only in card reader, line printer, and communications speeds. The program may be obtained only in combination with specific hardware.

			RC 36-00129
Central site			
Mainframe			Any IBM 360 or 370
Communications controller			ICA, IBM 270X, 3704, 3705, or equivalent
Operating system)			OS/VS1 RES (release 2)
Spooling system)			
Access method			RTAM
Parameters	TDESCR	=	(3,4,4,3)
	BSCCPU	=	YES
	MLBFSIZ	=	336
Communications			
Mode			BSC half- or full-duplex
Format			IBM BSC Multileaving
Code			EBCDIC
Features			Transparency, console support, full compression/decompression
Input			
Input device type			CDR
Code			EBCDIC Card Code
Output			
Output device type			LP0
Character sets			Option
Console device type			TTY
Memory size, bytes			32 K
Special requirements			Printer character set

	Model Speeds		
	CDR cpm	LP0 lpm	Comm. bps
Model 3 D	300	300	2400
Model 4 D	600	900	4800
Model 15 D	300	900	4800
Model 19 D	600	600	4800
Model 20 D	300	600	4800

4.2.5. CDC 200 UT Terminal: External BCD

Program Number

RC 36-00130

This program allows a modified RC 3600 to act as a CDC 200 UT terminal. The program is available in several versions, which differ only in card reader, line printer, and communications speeds. It should be noted that all models require a VDU as operator console. This program is available only in combination with specific hardware.

	RC 36-00130
Central site	
Mainframe	Any CDC 3000 or 6000 or CYBER
Operating system	SCOPE or KRONOS
Control system	EXPORT/IMPORT 200 or INTERCOM
Terminal ident	Site No., given by operator at run time
Communications	
Device type	SCD
Format	CDC 200 UT Multipoint or Point-to-Point
Code	CDC External BCD
Features	Interleaved print data receive and card data send, compression of zeroes and spaces in print data
Input	
Input device type	CDR
Code	CDC BCD or IBM EBCDIC Card Code
Output	
Output device type	LP0
Character sets	Option
Console device type	TTY (VDU only)
Memory size, bytes	32 K
Special requirements	Printer character set

Model Speeds

	CDR cpm	LP0 lpm	Comm. bps
Model 9 D	300	300	2400
Model 10 D	600	900	4800
Model 23 D	600	600	4800

4.2.6. CDC 200 UT Terminal: USASCII

Program Number

RC 36-00131

This program allows a modified RC 3600 to act as a CDC 200 UT terminal. The program is available in several versions, which differ only in card reader, line printer, and communications speeds. It should be noted that all models require a VDU as operator console. This program is available only in combination with specific hardware.

	RC 36-00131
Central site	
Mainframe	Any CDC 3000 or 6000 or CYBER
Operating system	SCOPE or KRONOS
Control system	EXPORT/IMPORT 200 or INTERCOM
Terminal ident	Site No., given by operator at run time
Communications	
Device type	SCD
Format	CDC 200 UT Multipoint or Point-to-Point
Code	USASCII
Features	Interleaved print data receive and card data send, compression of zeroes and spaces in print data
Input	
Input device type	CDR
Code	CDC BCD or IBM EBCDIC Card Code
Output	
Output device type	LP0
Character sets	Option
Console device type	TTY (VDU only)
Memory size, bytes	32 K
Special requirements	Printer character set

Model Speeds

	CDR cpm	LP0 lpm	Comm. bps
Model 11 D	300	300	2400
Model 12 D	600	900	4800
Model 24 D	600	600	4800

PART FIVE:
PROGRAM NUMBER INDEX

4.1.3.6. ICL 7020 Emulators

Program Numbers

RC 36-00185	RC 36-00187	RC 36-00228
RC 36-00186	RC 36-00188	RC 36-00229

These programs allow an RC 3600 to emulate an ICL 7020.

	RC 36-00185	RC 36-00187
Central site system	ICL System 4 Multijob	ICL 1900 series GEORGE
Terminal specification	Buffered teletype cardreader printer	Buffered teletype cardreader printer
Transmission device	SCD	SCD
Transmission code	ASCII	ASCII
Transmission speed, bps	600-9600	600-9600
Features	F 1132 auto peripheral control	F 1132 auto peripheral control
Restrictions	No blank col. suppression No data end code No short blocks	No blank col. suppression No data end code No short blocks
Terminal address	Runtime selected	Runtime selected
Input		
1. Teletype interface		
Device type	TTY	TTY
2. Cardreader interface		
Device type	CDR	MT0
Code	ICL System 4 EBCDIC	ASCII
Format		As generated by key-entry special dump program
3. Paper reader interface		
Device type	None	None
Output		
1. Teletype interface		
Device type	TTY	TTY
2. Printer interface		
Device type	LP0	SP0
Character set	ICL System 4 ASCII	ICL 1900 ASCII
Print drum	64 ch ASCII	64 ch ASCII
3. Papertape interface		
Device type	None	None
Core requirements, bytes		
Total	9300	10900

	RC 36-00186	RC 36-00228
Central site system	ICL 1900 series GEORGE	ICL 1900 series GEORGE
Terminal specification	Buffered teletype cardreader printer papertape reader papertape punch	Buffered teletype cardreader printer papertape reader papertape punch
Transmission device	SCD	SCD
Transmission code	ASCII	ASCII
Transmission speed, bps	600-9600	600-9600
Features	F 1132 auto peripheral control	F 1132 auto peripheral control
Restrictions	No blank col. suppression No data end code No short blocks	No blank col. suppression No data end code No short blocks
Terminal address	Runtime selected	Runtime selected
Input		
1. Teletype interface		
Device type	TTY	TTY
2. Cardreader interface		
Device type	RDP	CDR
Code	ICL 1900 BCD	ICL 1900 BCD
3. Paper reader interface		
Device type	PTR	PTR
Code & format	ICL 1900 computer	ICL 1900 computer
Parity	Even	Even
Number of channels	8	8
Output		
1. Teletype interface		
Device type	TTY	TTY
2. Printer interface		
Device type	SPO	LPO
Character set	ICL 1900 ASCII	ICL 1900 ASCII
Print drum	64 ch ASCII	64 ch ASCII
3. Papertape interface		
Device type	PTP	PTP
Code & format	ICL 1900 ASCII	ICL 1900 ASCII
Parity	Even	Even
Number of channels	8	8
Core requirements, bytes		
Total	12300	12300

	RC 36-00188	RC 36-00229
Central site system	ICL 1900 series GEORGE	ICL 1900 series GEORGE
Terminal specification	Buffered teletype printer papertape reader papertape punch	Buffered teletype printer papertape reader papertape punch
Transmission device	SCD	SCD
Transmission code	ASCII	ASCII
Transmission speed, bps	600-9600	600-9600
Features	F 1132 auto peripheral control	F 1132 auto peripheral control
Terminal address	Runtime selected	Runtime selected
Input		
1. Teletype interface		
Device type	TTY	TTY
2. Cardreader interface		
Device type	None	None
3. Paper reader interface		
Device type	PTR	PTR
Code & format	ICL 1900 computer	ICL 1900 computer
Parity	Even	Even
Number of channels	8	8
Output		
1. Teletype interface		
Device type	TTY	TTY
2. Printer interface		
Device type	SP0	LP0
Character set	ICL 1900 ASCII	ICL 1900 ASCII
Print drum	64 ch ASCII	64 ch ASCII
3. Papertape interface		
Device type	PTP	PTP
Code & format	ICL 1900 ASCII	ICL 1900 ASCII
Parity	Even	Even
Number of channels	8	8
Core requirements, bytes		
Total	11900	11900

4.1.3.7. ICL 7181 VDU QLSA Emulator

Program Number

RC 36-80002

This program simulates an ICL 7181 QLSA terminal concentrator which makes it possible for remote visual display units to be connected to a central site with systems for data collection and enquiry.

	RC 36-80002
Central site	ICL 1900 series / George 3 ICL System 4 / Multijob
Terminal specifications	QLSA with max. 24 Visual Display Units
Communications	
Transmission device	SCD
Transmission speed, bps	600-9600
Code	ASCII
Format	ICL 7181
Input/Output	
Device type	AMX
Terminals	RC 826 Visual Display Unit
Transmission	2400 bps, Half Duplex
Code	ASCII
Format	Point-to-Point with polling
Restrictions	24 80-character lines. No local input. No local output. Only transmission of one whole line or the entire screen may take place. Field delimiters are not implemented yet, but will come later.
Console device type	TTY
Core requirements, bytes	
Program	26600
Buffers	13200
Total	39800
Special requirements	
Modules	1. ICA RC 36-80001 2. STAT RC 36-80003

4.2. TERMINAL PACKAGES

These hardware/software packages are specially-priced to give the user a tried and tested terminal emulator at the lowest possible price. Therefore, they are not able to run other RC 3600 applications software without additional hardware. Such additional hardware is, however, available for all terminal packages.

Except for the CDC 200 UT terminals, which require a VDU as terminal console, the user may choose the console he wishes to have. The user may also choose the printer character set for all terminal packages. The available choices are

US/UK	character set
Danish/Norwegian	"
Swedish/Finnish	"
German/Austrian	"

Terminal packages are ordered by name and model number.

4.2.1. IBM 2780 Terminal

Program Numbers

RC 36-00126

This program allows a modified RC 3600 to act as an IBM 2780 terminal. It is available in several versions, which differ only in card reader, line printer, and communications speeds. The program may be obtained only in combination with specific hardware.

	RC 36-00126
Central site	
Mainframe	Any IBM 360 or 370
Communications controller	ICA, IBM 270X, 3704, 3705 or equivalent
Operating system	DOS or OS
Spooling system	POWER, HASP, or RES
Access method	BTAM or RTAM
Parameters	
HASPGEN : RMTnn =	mmooppiill3133
& BSC 2780 =	YES
& BSVBOPT =	YES
& BSHTAB =	NO
& TPBFSIZ =	400
RESGEN : TDESCR =	(3,1,3,3)
BSC 2780 =	YES
BSVOPT =	YES
Communications	
Mode	BSC full- or half-duplex
Format	IBM 2780 BSC Point-to-Point
Code	EBCDIC
Features	Transparency, multiple records
Input	
Input device type	CDR
Code	EBCDIC Card Code
Output	
Output device type	LP0
Character sets	Option
Console device type	TTY
Memory size, bytes	16 K
Special requirements	Printer character set

Model Speeds

	CDR cpm	LP0 lpm	Comm. bps
Model 5 D	300	300	2400
Model 6 D	600	900	4800
Model 21 D	600	600	4800

4.2.2. IBM 3780 Terminal

Program Number

RC 36-00127

This program allows a modified RC 3600 to act as an IBM 3780 terminal. It is available in several versions, which differ only in card reader, line printer, and communications speeds. The program may be obtained only in combination with specific hardware.

	RC 36-00127
Central site	
Mainframe	Any IBM 360 or 370
Communications controller	ICA, IBM 270X, 3704, 3705, or equivalent
Operating system	DOS or OS
Spooling system	POWER, HASP, or RES
Access method	BTAM or RTAM
Parameters	
HASPGEN : RMTnn =	mmooppiill3739
& BSC 3780 =	YES
& BSUPRES =	YES
& BSHTAB =	NO
& TPBFSIZ ≥	512
RESGEN : TDESCR =	(3,7,3,6)
COMPRESS =	YES
Communications	
Mode	BSC half- or full-duplex
Format	IBM 3780 BSC Point-to-Point
Code	EBCDIC
Features	Transparency, space compression/expansion
Input	
Input device type	CDR
Code	EBCDIC Card Code
Output	
Output device type	LP0
Character sets	Option
Console device	TTY
Memory size, bytes	32 K
Special requirements	Printer character set

	Model Speeds		
	CDR cpm	LP0 lpm	Comm. bps
Model 7 D	300	300	2400
Model 8 D	600	900	4800
Model 22 D	600	600	4800

4.2.3. IBM HASP Multileaving Work Station

Program Number

RC 36-00128

This program allows a modified RC 3600 to act as a HASP Multileaving Work Station. It is available in several versions, which differ only in card reader, line printer, and communications speeds. The program may be obtained only in combination with specific hardware.

			RC 36-00128
Central site			
Mainframe			Any IBM 360 or 370
Communications controller			ICA, IBM 270X, 3704, 3705, or equivalent
Operating system			OS or OS/VS
Spooling system			HASP
Access method			RTAM
Parameters	RMTnn	=	mmooppiiii3443
	& BSCCPU	=	YES
	& MLBFSIZ	=	400
Communications			
Mode			BSC half- or full-duplex
Format			IBM BSC Multileaving
Code			EBCDIC
Features			Transparency, console support, full compression/decompression, automatic SIGNON
Input			
Input device type			CDR
Code			EBCDIC Card Code
Output			
Output device type			LP0
Character sets			Option
Console device			TTY
Memory size, bytes			32 K
Special requirements			Printer character set

	Model Speeds		
	CDR cpm	LP0 lpm	Comm. bps
Model 1 D	300	300	2400
Model 2 D	600	900	4800
Model 13 D	300	900	4800
Model 14 D	600	300	4800
Model 17 D	600	600	4800
Model 18 D	300	600	4800

4.2.4. IBM RES Multileaving Work Station

Program Number

RC 36-00129

This program allows a modified RC 3600 to act as an RES Multileaving Work Station. It is available in several versions, which differ only in card reader, line printer, and communications speeds. The program may be obtained only in combination with specific hardware.

			RC 36-00129
Central site			
Mainframe			Any IBM 360 or 370
Communications controller			ICA, IBM 270X, 3704, 3705, or equivalent
Operating system)			OS/VS1 RES (release 2)
Spooling system)			
Access method			RTAM
Parameters	TDESCR	=	(3,4,4,3)
	BSCCPU	=	YES
	MLBFSIZ	=	336
Communications			
Mode			BSC half- or full-duplex
Format			IBM BSC Multileaving
Code			EBCDIC
Features			Transparency, console support, full compression/decompression
Input			
Input device type			CDR
Code			EBCDIC Card Code
Output			
Output device type			LP0
Character sets			Option
Console device type			TTY
Memory size, bytes			32 K
Special requirements			Printer character set

	Model Speeds		
	CDR cpm	LP0 lpm	Comm. bps
Model 3 D	300	300	2400
Model 4 D	600	900	4800
Model 15 D	300	900	4800
Model 19 D	600	600	4800
Model 20 D	300	600	4800

4.2.5. CDC 200 UT Terminal: External BCD

Program Number

RC 36-00130

This program allows a modified RC 3600 to act as a CDC 200 UT terminal. The program is available in several versions, which differ only in card reader, line printer, and communications speeds. It should be noted that all models require a VDU as operator console. This program is available only in combination with specific hardware.

	RC 36-00130
Central site	
Mainframe	Any CDC 3000 or 6000 or CYBER
Operating system	SCOPE or KRONOS
Control system	EXPORT/IMPORT 200 or INTERCOM
Terminal ident	Site No., given by operator at run time
Communications	
Device type	SCD
Format	CDC 200 UT Multipoint or Point-to-Point
Code	CDC External BCD
Features	Interleaved print data receive and card data send, compression of zeroes and spaces in print data
Input	
Input device type	CDR
Code	CDC BCD or IBM EBCDIC Card Code
Output	
Output device type	LP0
Character sets	Option
Console device type	TTY (VDU only)
Memory size, bytes	32 K
Special requirements	Printer character set

Model Speeds

	CDR cpm	LP0 lpm	Comm. bps
Model 9 D	300	300	2400
Model 10 D	600	900	4800
Model 23 D	600	600	4800

4.2.6. CDC 200 UT Terminal: USASCII

Program Number

RC 36-00131

This program allows a modified RC 3600 to act as a CDC 200 UT terminal. The program is available in several versions, which differ only in card reader, line printer, and communications speeds. It should be noted that all models require a VDU as operator console. This program is available only in combination with specific hardware.

	RC 36-00131
Central site	
Mainframe	Any CDC 3000 or 6000 or CYBER
Operating system	SCOPE or KRONOS
Control system	EXPORT/IMPORT 200 or INTERCOM
Terminal ident	Site No., given by operator at run time
Communications	
Device type	SCD
Format	CDC 200 UT Multipoint or Point-to-Point
Code	USASCII
Features	Interleaved print data receive and card data send, compression of zeroes and spaces in print data
Input	
Input device type	CDR
Code	CDC BCD or IBM EBCDIC Card Code
Output	
Output device type	LP0
Character sets	Option
Console device type	TTY (VDU only)
Memory size, bytes	32 K
Special requirements	Printer character set

Model Speeds

	CDR cpm	LP0 lpm	Comm. bps
Model 11 D	300	300	2400
Model 12 D	600	900	4800
Model 24 D	600	600	4800

PART FIVE:
PROGRAM NUMBER INDEX

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