

ROUTE USAGE REQUIREMENTS. Before filling in this form please read notes.

	DT	0	1	2	3	4	5	6	7
CHANNEL 0	3								
CHANNEL 1	3								
CHANNEL 2	3								
CHANNEL 3	3								
CHANNEL 4	3								
CHANNEL 5	3								
CHANNEL 6	3								
CHANNEL 7	3			10	10	10	10	10	10
CHANNEL 16	3								
CHANNEL 17	3								
CHANNEL 18	3								

GENERATOR END SHEET.

END

//////08000B1301

Notes on optional facilities.

The figures quoted below are only intended to give a rough guide and will vary depending on the interaction caused by the peripheral equipment used and the facilities selected.

- 1) The Master Routine has an indicator showing the "preferred route type" for control data to the main software programs (see 40). The preferred route type, paper tape or cards, is allocated to these programs if available. If you wish to be able to use either media for control data, you will need the "Prefer PT" and "Prefer Card" commands. These commands occupy 12 locations. If facility 30 is not required a further 5 locations are saved.
- 2) This facility occupies 27 locations, plus a further 4 if facility 7 is specified plus a further 6 if more than 4 program switches are required.
- 3) This facility can only be used on machines which have a millisecond timer. It occupies about 95 locations.
- 4) This facility occupies 46 locations. If facilities 4, 5, 6 and 15 are not required 14 locations are saved.
- 5) This facility is used to re-enter programs at their original entry point. It can only be used when the program has reached END, i.e. obeys a 151 action. Programs to be re-entered in this way must not assume that working areas are initially clear, and must not overwrite set-up routines with data. The facility occupies 59 locations. See note 4.
- 6) A program can be "closed" by closing one of its routes, which will generate a "RC" comment every 3 minutes - this introduces a small overhead in programs of lower priority. The facility occupies 45 locations. See note 4.
- 7) The tag of each program is typed against the program number in the priority queue, in place of its priority. Instead of the control data route the appropriate tag is stacked on indicators 5-8. Commands which can be used with this facility are Change Run No., Abandon program, Open program, Close program, and Interchange priorities, or whatever subset of these is in your master. The facility occupies 21 locations. The original commands remain available.
- 8) The Independent Post Mortem Programs 09005 and 09006 will need to be used if the Dump Store command is not selected. These are read from paper tape or cards whenever a dump is required, but part of the store, (possibly the vital part) is corrupted when this is done. The Master Routine must then be re-fed. The "Dump Store" facility occupies 200 locations.
- 9) This is not available for magnetic tape, paper tape input or routes in use by the Master Routine. The facility occupies 110 locations. If facilities 9 and 10 are not required, 33 locations are saved. If facilities 9, 12 and 15 are not required, 35 locations are saved. If facility 38 is not required a further 13 locations are saved.

- 10) It is possible for available routes to be allocated when there is no equipment which can be switched to them - when equipment is out of action, for instance. In such a situation it is desirable to be able to withdraw the appropriate routes until the equipment is repaired, so that alternative routes will be allocated. The facility occupies 51 locations. See note 9.
- 11) This facility occupies 15 locations plus a further 4 for F.C.C.
- 12) No software programs use this action. If a program attempts to use the facility when it is not supplied in the Master Routine ZZZO1 will occur. It occupies 41 locations, plus a further 14 if alternate routes used.
- 13) The alternative is to defer the option and then abandon by command. The facility occupies 95 locations.
- 14) If the facility to defer options is not required, all "RC" comments are made only once, not repeated after three minutes. The facility occupies 43 locations. It is recommended that either facility 13 or 14 is made available.
- 15) If one type only is required, 73 locations are occupied. An additional 10 locations are occupied if both are required. See notes 4 and 9.
- 16) This is Intercode action 44, available for Magnetic tape and paper tape input. (It is used by some software programs). If a program attempts to use the facility when it is not supplied in the Master Routine ZZZO1 will occur. The facility occupies 17 locations.
- 17) This is Intercode action 49 for magnetic tape input. No software programs use it. Programmers can instead write a routine to read and ignore the appropriate number of blocks. If a program attempts to use the facility when it is not supplied in the Master Routine ZZZO1 will occur. The facility occupies 60 locations.
- 18) This refers to options 8 and 9 to alarm 1. The programmer can use a doubtful block link to the read action to initiate his own realignment routine instead. The facility occupies 90 locations.
- 19) This refers to option 13. The facility occupies 150 locations.
- 20) This facility occupies 150 locations.
- 21) This facility saves 26 locations.
- 22) This facility occupies 6 locations.
- 23) This facility saves 37 locations, but introduces non-interruptible time overheads while operating on program tapes. These are not significant for 28 K MT systems.

- 24) This facility occupies 36 locations.
- 25) A program switch is required for each program to be timeshared. Put "yes" for the maximum number you require only. If you want 6 or more switches then you must not allocate programs last translated by Issue 6 or earlier translators. Each program switch occupies 48 locations, plus a further 16 for each program.
- 26) This facility occupies 22 locations.
- 27) This facility occupies 15 locations.
- 28) This facility occupies 46 locations.
- 29) This facility occupies 24 locations.
- 30) If the log typewriter is connected to a General Purpose Assembler 109 locations are used; if a Special Paper Tape Output Assembler, 86 locations.
- 31) No details are typed regarding the reason for the failure. The operator should write down the contents of all registers when the machine halts. This facility saves 110 locations.
- 32) No information is given on the reason for rejection. This facility saves 66 locations.
- 33) The serial number typed will be that of the Librarian Card, if any. The facility occupies 4 locations.
- 34) The required number is specified when the Master is loaded. No extra space is occupied.
- 35) This facility occupies 15 locations.
- 36) From 450-750 more locations are made available for programs, depending on how many commands are in the Master. The command will not be accepted unless the priority queue is empty and either, no program has been allocated, or a REJECT comment has been given. The only operator command available is "Abandon" and the Master Routine must be reloaded before the next job.
- 37) This facility occupies 64 locations plus a further 12 locations for each program switch specified in facility 25
- 38) Allocation, other than for PTS trials, on route 7 of any channel is not permitted. The facility occupies 150 locations.
- 39) This facility occupies 21 locations.
- 40) The answer to this question specifies the initial "preferred route type". The commands made available by facility 1 may be used to alter it. No extra space is involved.

- 41) The facility occupies 100 locations.
- 42) No space is taken up in the Master Routine, but the trial takes more time. Dumps can alternatively be printed off using 08002.
- 43) Comparison dumps will be lost if they are not printed on-line. No space is involved, but the trial takes more time.
- 44) This facility occupies 11 locations.
- 45) This facility occupies 2 locations.
- 46) This facility occupies 47 locations.
- 47) This is the 1/C/9 command. C=0 causes columns 1-10 to be checked, C=1 causes columns 6-15 to be checked etc. The facility occupies 28 locations.
- 48) This is the 1/0/8 command. It occupies 53 locations.
- 49) This is the 1/C/7 command. C specifies the channel number, (or channel number - 8 if the channel number is greater than 15). It occupies 69 locations.
- 50) This is the 1/x/6 command, x=1 causes the tape on Channel 0 route 0 (or channel 16 route 0) to be rewound, x=0 causes it to be unloaded. It occupies 37 locations.
- 51) This facility occupies 2 locations.
- 52) This facility occupies 10 locations.
- 53) This facility makes timesharing more effective through increased utilisation of the Central Processor. This facility can only be used on machines with a millisecond timer, and must not be used with facility 3. It occupies 27 locations.
- 54) This facility occupies 2 locations.
- 55) This facility occupies 6 locations.

Notes on Route Usage Details.

Unless all the routes provided by the basic master are acceptable, see Appendix A4, the complete Route Usage Details form must be submitted. One block of information for each channel, in ascending order. For machines without Fast Channel Control Channels 16, 17 and 18 may be omitted.

The intended use of each route must be specified by entering in the appropriate space a number calculated as below:

1. Available routes: Enter the route type - these are listed below:
e.g. Autolector 12
2. Potentially available routes: Enter the route type plus 10.
e.g. Autolector 112.
3. Master Routine routes: The following routes must always be entered with 10 for use by the Master Routine.

Channel 0/16	Routes 0 and 7
Channel 7	Routes 2 to 7

The typewriter route, and the odd route of a card input pair should also be submitted for Master Routine use.

If facility 38 (Multi-route loading) has been selected into the master, then the additional routes which are to be used for allocation should be set potentially available (see 2 above).

If Channel 0/16 route 7 is required for program use (see facility 46) the number 10 must still be submitted.

The Control Data route to be specified to the Master Routine Input sequences (see Volume IV Part 3 Section 1 Appendix A) must be available or potentially available on the appropriate medium.

4. Pseudo routes: All routes not used for any other purpose will be used as pseudo-routes and zero should be submitted. An entire block of zeros must still be submitted.

5. Route types:

Paper tape output	1
Data Transmission	2
Card output	3
Standard (G.P.) Printer	4
Paper tape input	5
Card input - even route	6
odd route	10
Magnetic tape - 1st channel	7
2nd channel	<u>8</u>
3rd channel	11
Special (Anelex) Printer	<u>9</u>
Cheque-Sorter-Reader	<u>10</u>
Autolector	<u>12</u>
Uptime card reader	13

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