1.3.1 Layout For RKØ5 Disks

An RKØ5J disk drive utilizes a sixteen sector per track disk pack. Each pack contains 4Ø6 tracks (2Ø3 cylinders) for a total of 6496 (base 1Ø or 14540 base 8) sectors (blocks). Since each sector contains 256 12-bit words (512 characters), there is a total of 1,662,976 12 bit words (3,325,952 6 bit characters) on one disk pack. The transfer rate for this disk is 1.44 million bits per second. The rotational speed is 15ØØ RPM and the average latency is 2Ø MS. The ETOS software supports up to four RKØ5J disk drives, each containing a removable cartridge. The industry designation for this type of front-loading cartridge is a "2315" pack.

The pack which is used as an ETOS system disk has a dual identity in the sense that it can be used both in OS/8 single-user mode and ETOS mode. The ETOS monitor is loaded and executed via the R command of OS/8; that is, ETOS.SV is an executable program from OS/8. The ETOS pack is therefore booted with the standard OS/8 RK8E bootstrap (see 2.2). This bootstrap is identical to the standard COS RK8E bootstrap.

The ETOS cartridge is logically different from standard RKØ5 cartridges in the following ways.

1. The OS/8 single user monitor has device handlers built into it which are unique to the ETOS system. This monitor should not be copied to other standard OS/8 packs.

   Copies of the resources (RES/E) for both the real OS/8 and the virtual OS/8 are provided in Table 1-1. In real OS/8, the SYS and DSK handlers are modified RKØ5 system handlers and the remaining handlers are the standard OS/8 device handlers. In virtual OS/8, all device handlers have been modified for maximum efficiency under ETOS.

   If the device handlers for your peripherals are not enabled, you must run BUILD under OS/8 and ETOS to

enable them (see 6.4.1). The peripherals currently enabled under OS/8 are RKØ5J disk drives Ø and 1, TD8E DECtape drive Ø, console terminal, low-speed paper tape reader/punch, high speed paper tape reader/punch, line printer and card reader. The peripherals currently enabled under ETOS OS/8 are the write-protected system area, channels 2-5, TD8E DECtape drive Ø, RXØ1 floppy disk drives Ø and 1, user terminals, low speed paper tape reader/punch, line printer, spooler and card reader.

2. In virtual OS/8, the OS/8 CUSPs (Commonly Used System Programs) have been modified for use under ETOS. For this reason, the standard OS/8 CUSPs should never replace these programs. The operational differences between the standard OS/8 cusps and their ETOS versions are presented in 4.3, System User's Guide.

3. Standard OS/8 logically divides an RK8E/RKØ5 disk into two devices. Drive zero, then has available devices RKAØ and RKBØ; drive one has RKA1 and RKB1, etc. Each RKØ5 has 14,54Ø (base 8) or 6496 (base 1Ø) sectors (blocks). Blocks Ø through 6257 (base 8) are used for RKAØ (SYS) and blocks 626Ø (base 8) through 14,537 (base 8) are for RKBØ. The disk allocation for standard OS/8 is shown in Table 1-2.

The ETOS RKØ5 system disk allocation (see Table 1-3) differs in that there is no single user accessibility beyond block 1177 (base 8). In single user mode, the ETOS disk appears to the user to have 12ØØ (base 8) blocks, all allocated to the logical device SYS.

Under OS/8, the only difference between the allocation of system and non-system disks is that blocks 7 through 7Ø are used for file storage.

Under ETOS, non-system disks may be standard OS/8 or COS packs (private packs). If multi-user access on the pack is desired, an ETOS format (public) pack is used. The disk allocation for an ETOS public pack is shown in Table 1-4.

Table 1-1
RK05 Resources

Real OS/8

```
.RESOURCES ETOSOS.SY/E
#  NAME TYPE MODE SIZ  BLK KIND U V  ENT   USER
01 SYS  40   RWF      SYS      0 B   07
02 DSK  40   RWF      SYS      0 B   07
03 RKB0 RK8E RWF 3248 16  RK05 0 A   21
04 RKA1 RK8E RWF 3248 16  RK05 1 A   22
05 RKB1 RK8E RWF 3248 16  RK05 1 A   23
06 RXA0 RX8E RWF  494 17          E   30
07 RXA1 RX8E RWF  494 17          E   34
10 DTA0 TD8E RWF  737 20+ TD8A 0 D   10
11 CDR  CR8E R        21+ 029     C   00
12 HSP  PTP  W        22  PT8E    A   00
13 HSR  PTR  R        22  PT8E    A  112
14 TTY  TTY  RW       23+ KL8E    E  176
15 PTP  PTP  W        24  KS33    A   00
16 PTP  PTP  R        24  KS33    A  110
17 LPT  LPT  W        25  LPSV    C   05

FREE DEVICE SLOTS:  NONE,  FREE BLOCK SLOTS:  NONE
OS/8 V3Q
.
```

Virtual OS/8

```
.RESOURCES ETOSET.SY/E
#  NAME TYPE MODE SIZ  BLK KIND U V  ENT   USER
01 SYS  40   RWF      SYS      0 D   07
02 DSK  42   RWF      SYS      1     11
03 CHN2 42   RWF      SYS      1     11
04 CHN3 43   RWF      SYS      1     12
05 CHN4 44   RWF      SYS      1     13
06 CHN5 45   RWF      SYS      1     14
07 RXA0 RX8E RWF 494  16          C   30
10 RXA1 RX8E RWF 494  16          C   34
11 DTA0 TD8E RWF 737  17+ TD8A 0 B   10
12 LPT  LPTR W        20  LPSV    B   03
13 PTP  PTP  W        21  KS33    A   00
14 PTR  PTR  R        21  KS33    A  106
15 QLP  LPTR W        22+ LQP     B   00
16 TTY  TTY  RW       23+ KL8E    E  176
17 CDR  CR8E R        24+ 029     C   00

FREE DEVICE SLOTS: NONE, FREE BLOCK SLOTS: 01
OS/8 V3Q
.
```

Table 1-2
OS/8 RKØ5 System Disk Allocation

Blocks (base 8)	Use
Ø	Bootstrap
1-6	Directory of RKAØ (SYS)
7-7Ø	OS/8 Monitor
71-6257	RKAØ File Storage [3192 (base 1Ø) blocks]
6260	Unused
6261-6266	Directory of RKBØ
6267-14537	RKBØ File Storage [3241 (base 1Ø) blocks]