

RSC-11-3  
DSN INTERFACES  
OCCULTATION DATA ASSEMBLY HSD PLAYBACK INTERFACE

(Insert this modular document in 820-13; Rev. A)

EFFECTIVE DATE: 31 July 1981      Effective Service: Pioneer Venus and Voyager  
Initial Release Date: 1 April 1978

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A. PURPOSE.

This document defines and controls the formats of the Radio Science high-speed data (HSD) blocks generated and transmitted by the DSS Radio Science Subsystem (DRS) Occultation Data Assembly (ODA).

B. REVISION AND CONTROL.

Revisions or changes to the information herein may be initiated according to the procedure in Section I of this document.

C. GENERAL INFORMATION AND DEFINITIONS.

The ODA generates a stream of data blocks which includes HSD block headers and endings. These blocks, disregarding their HSD headers and endings, comprise complete ODA records whose length depends on the Converter sample rate being used. The records are of two types. One uses eight bits of Analog-to-Digital (A-D) Converter data and the other uses twelve bits of A-D data. The data are gathered from four converters designated A-D1 through A-D4. Table RSC-11-3-1 is a tabulation of the possible eight and twelve-bit

Table RSC-11-3-1. Block Format Tabulation

| Conversion Type | Converter Samples Per Second | Number of Sample Cycles** Per ODR Record*** | Number of Words (Blocks) Per ODR Record** | Reference Section of This Doc. | Reference Section of This Doc. |
|-----------------|------------------------------|---------------------------------------------|-------------------------------------------|--------------------------------|--------------------------------|
| 8-Bit Sample    | 20 k                         | 1000                                        | 2045 (32)                                 | D.1                            | RSC-11-3-2<br>A, B, & C        |
|                 | 10 k                         |                                             |                                           |                                |                                |
|                 | 5 k                          |                                             |                                           |                                |                                |
|                 | 2 k                          |                                             |                                           |                                |                                |
| 1 k*            | 500                          | 1045 (17)                                   |                                           |                                |                                |
| 200*            | 100                          | 245 (4)                                     |                                           |                                |                                |
| 12 Bit Sample   | 10 k                         | 500                                         | 1545 (25)                                 | D.2                            | RSC-11-3-3<br>A, B, & C        |
|                 | 5 k                          |                                             |                                           |                                |                                |
|                 | 2 k                          |                                             |                                           |                                |                                |
|                 | 1 k*                         | 250                                         | 795 (13)                                  |                                |                                |
|                 | 200*                         | 50                                          | 195 (3)                                   |                                |                                |

\*Effective

\*\*Four samples per cycle (A-D1 through A-D4) plus 17-Word PPM data

\*\*\*Refer to Document 820-14 Module 5-013 and Figure RSC-11-3-1

formats and ODA record lengths. Records that have been converted to High-Speed Data (HSD) blocks are used to form Intermediate Data Record (IDR) tapes using eight HSD blocks per IDR record (reference module IDR-12-1 of this document and Figure RSC-11-3-1).

D. DATA BLOCK FORMAT AND FIELDS.

1. 8-Bit Conversion Blocks.

The format for the 8-bit conversion blocks is shown in Figure RSC-11-3-2A, B, and C. The content of the blocks is as follows:

a. First Block.

WORD 1 THRU 7

BIT

1 thru 16            Standard 1200-bit HSD block header as defined in module OPS-6-6 of this document, with the following UDT and DDT assignments:

UDT: Always  $61_8$  = Radio Science Subsystem

$64_8$  = Radio Science 8-Bit Data Sample

$70_8$  = Radio Science 12-Bit Data Sample

$76_8$  = Radio Science Medium Band Data

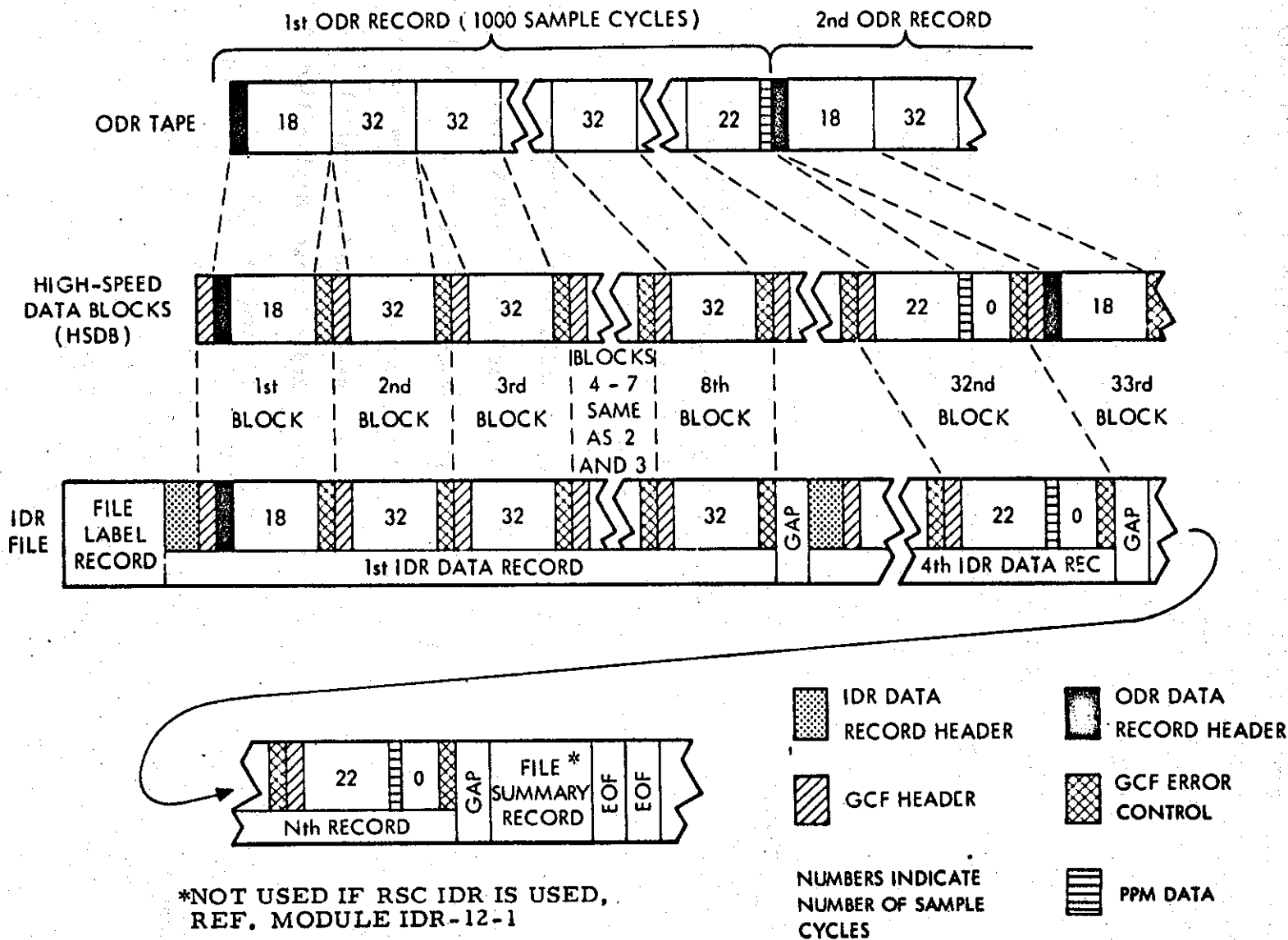
Samples (Unimplemented)

$102_8$  = Radio Science Medium Band POCA Data  
(Unimplemented)

WORD 8

BIT

1 thru 8            Same as Words 1 through 7



4

Figure RSC-11-3-1A. Example of ODR Tape to IDR File Processing (8-Bit Sample)

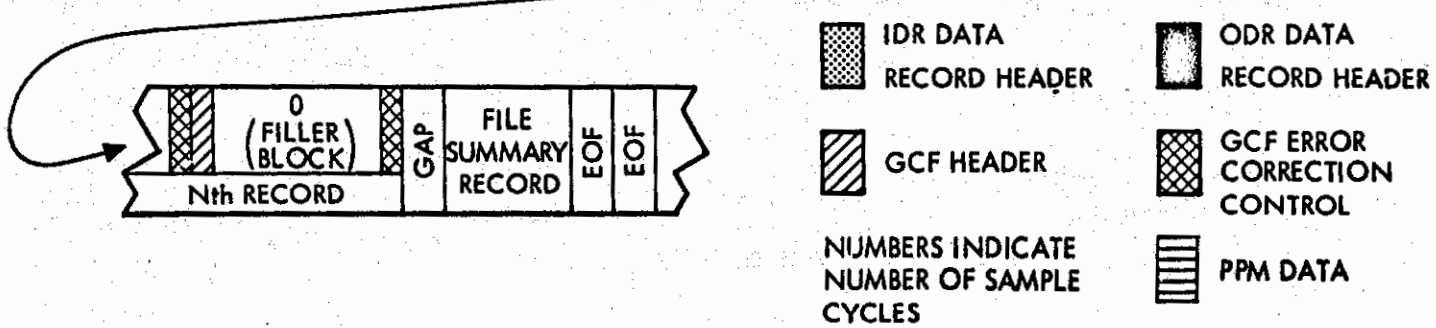
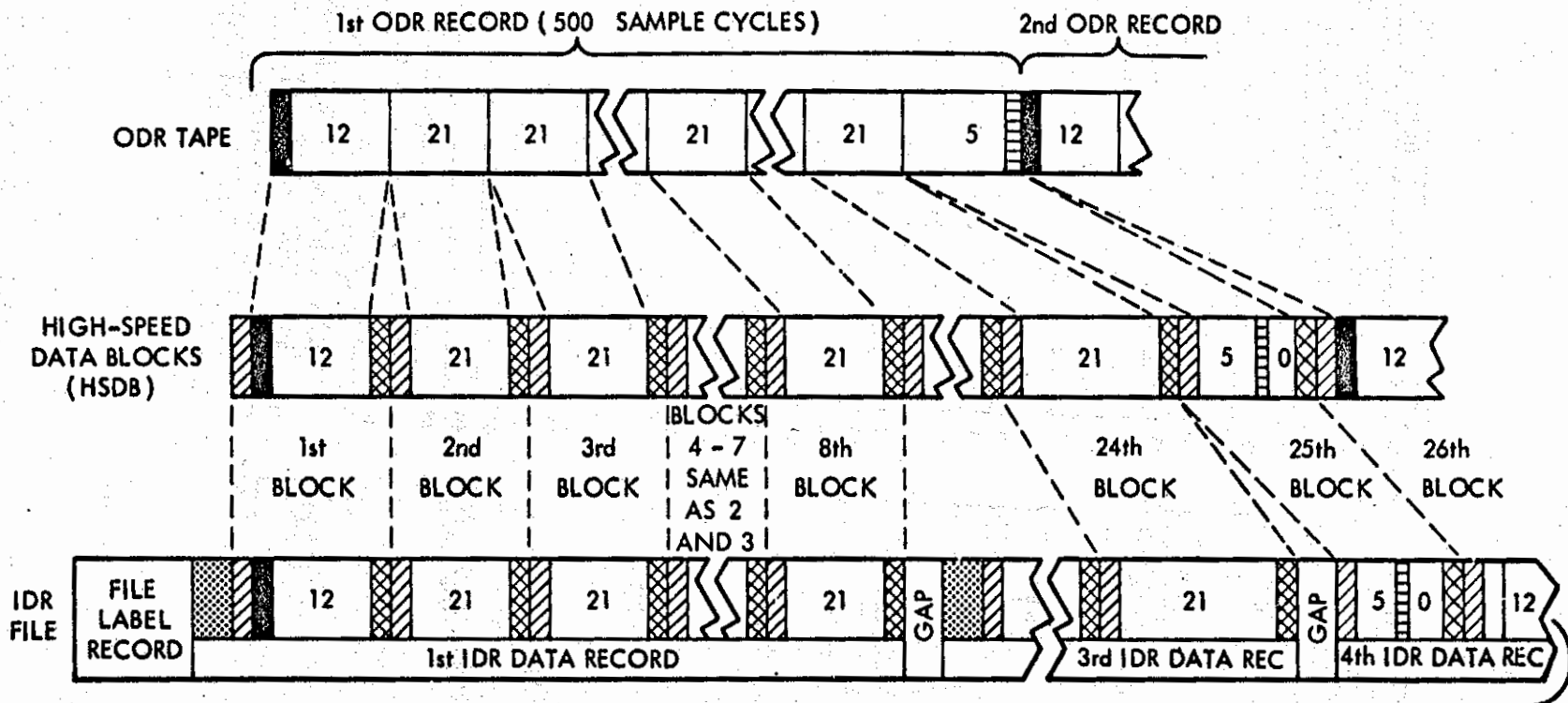


Figure RSC-11-3-1B. Example of ODR Tape to IDR File Processing (12-Bit Sample)

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| WORD | 1                                      | 2 | 3              | 4 | 5                  | 6 | 7 | 8 | 9                  | 10 | 11                     | 12 | 13             | 14 | 15 | 16 |
|------|----------------------------------------|---|----------------|---|--------------------|---|---|---|--------------------|----|------------------------|----|----------------|----|----|----|
|      | SYNC CODE                              |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 1    | SYNC CODE                              |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 2    | SYNC CODE                              |   |                |   |                    |   |   |   | SOURCE CODE        |    |                        |    |                |    |    |    |
| 3    | DESTINATION CODE                       |   |                |   |                    |   |   |   | BLOCK FORMAT CODE  |    |                        |    |                |    |    |    |
| 4    | GDD                                    |   |                |   | UDT CODE           |   |   |   | DOT CODE           |    |                        |    |                |    |    |    |
| 5    | S/C No.                                |   |                |   |                    |   |   |   | TIME               |    |                        |    |                |    |    |    |
| 6    | TIME                                   |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 7    | DAY OF YEAR                            |   |                |   |                    |   |   |   | BLOCK              |    |                        |    |                |    |    |    |
| 8    | SERIAL NUMBER                          |   |                |   |                    |   |   |   | ● S                |    | BLK No. OF THIS RECORD |    |                |    |    |    |
| 9    | V                                      |   | S              |   | E                  |   | C |   | COMPRESS FACTOR    |    |                        |    | TAPE NUMBER    |    |    |    |
| 10   | RECORD NUMBER                          |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 11   | RECORD LENGTH                          |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 12   | S/C NUMBER                             |   |                |   |                    |   |   |   | SOURCE             |    |                        |    |                |    |    |    |
| 13   | DAY OF YEAR                            |   |                |   |                    |   |   |   | 0 0 0 0 0 0 0 0    |    |                        |    |                |    |    |    |
| 14   | TIME OF DAY                            |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 15   | PREDICT SET ID                         |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 16   | PREDICT SET ID                         |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 17   | POCA STATUS                            |   |                |   |                    |   |   |   | POCA FREQUENCY     |    |                        |    |                |    |    |    |
| 18   | POCA FREQUENCY                         |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 19   | POCA FREQUENCY                         |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 20   | POCA FREQUENCY                         |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 21   | 0 0 0 0 0 0 0 0                        |   |                |   |                    |   |   |   | POCA FREQ RATE     |    |                        |    |                |    |    |    |
| 22   | POCA FREQ RATE                         |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 23   | CONVERTER SAMPLE RATE                  |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 24   | SIGNAL SELECT                          |   |                |   |                    |   |   |   | 'N' COUNTER        |    |                        |    |                |    |    |    |
| 25   | FREQ COUNTER No. 1 CUMULATIVE $\phi$   |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 26   | ↓                                      |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 27   | ▲                                      |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 28   | FREQ COUNTER No. 2 CUMULATIVE $\phi$   |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 29   | ↓                                      |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 30   | ▲                                      |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 31   | TEST SIGNAL                            |   | SAMPLE CONTROL |   | COUNTER No. 1 MODE |   |   |   | COUNTER No. 2 MODE |    |                        |    | SPARE          |    |    |    |
| 32   | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0        |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 33   | '20' COUNTER                           |   |                |   |                    |   |   |   | '20' COUNTER       |    |                        |    |                |    |    |    |
| 34   | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0        |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |
| 35   | 0 1 1 1                                |   |                |   | CONVERTER MODE     |   |   |   | 0 1 1 1            |    |                        |    | CONVERTER MODE |    |    |    |
| 36   | A-D1 (MSB)                             |   |                |   |                    |   |   |   | A-D2 (MSB)         |    |                        |    |                |    |    |    |
| 37   | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 |   |                |   |                    |   |   |   |                    |    |                        |    |                |    |    |    |

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13

| WORD | 1                                       | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9                | 10 | 11    | 12 | 13 | 14 | 15 | 16 |
|------|-----------------------------------------|---|---|---|---|---|---|---|------------------|----|-------|----|----|----|----|----|
|      | A-D3 (MSB)                              |   |   |   |   |   |   |   | A-D4 (MSB)       |    |       |    |    |    |    |    |
| 38   | CONTINUATION OF A-D1 THROUGH A-D4 (MSB) |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 39   | DATA SAMPLES THROUGH WORD 72            |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 40   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 41   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 42   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 43   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 44   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 45   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 46   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 47   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 48   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 49   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 50   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 51   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 52   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 53   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 54   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 55   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 56   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 57   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 58   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 59   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 60   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 61   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 62   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 63   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 64   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 65   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 66   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 67   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 68   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 69   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 70   |                                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
| 71   | A-D1 (MSB)                              |   |   |   |   |   |   |   | A-D2 (MSB)       |    |       |    |    |    |    |    |
| 72   | A-D3 (MSB)                              |   |   |   |   |   |   |   | A-D4 (MSB)       |    |       |    |    |    |    |    |
| 73   | SAMPLE RATE + 100                       |   |   |   |   |   |   |   | ERROR CORRECTION |    |       |    |    |    |    |    |
| 74   | ERROR CORRECTION                        |   |   |   |   |   |   |   | ESC              |    | ERROR |    |    |    |    |    |
| 75   | POLYNOMIAL CODE                         |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |

- ▲ = FIXED POINT
- = BLOCK SUBTYPE (BITS 9 and 10)
- S = START OF SECOND

Figure RSC-11-3-2A. First Block of 8-Bit Record

| BIT  |    | 1                                      | 2 | 3 | 4 | 5        | 6 | 7 | 8 | 9                 | 10 | 11    | 12 | 13                     | 14 | 15 | 16 |  |  |
|------|----|----------------------------------------|---|---|---|----------|---|---|---|-------------------|----|-------|----|------------------------|----|----|----|--|--|
| WORD | 1  | SYNC CODE                              |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 2  | SYNC CODE                              |   |   |   |          |   |   |   | SOURCE CODE       |    |       |    |                        |    |    |    |  |  |
|      | 3  | DESTINATION CODE                       |   |   |   |          |   |   |   | BLOCK FORMAT CODE |    |       |    |                        |    |    |    |  |  |
|      | 4  | GDD                                    |   |   |   | UDT CODE |   |   |   | DDT CODE          |    |       |    |                        |    |    |    |  |  |
|      | 5  | S/C No.                                |   |   |   |          |   |   |   | TIME              |    |       |    |                        |    |    |    |  |  |
|      | 6  | TIME                                   |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 7  | DAY OF YEAR                            |   |   |   |          |   |   |   |                   |    | BLOCK |    |                        |    |    |    |  |  |
|      | 8  | SERIAL NUMBER                          |   |   |   |          |   |   |   | •                 |    | S     |    | BLK No. OF THIS RECORD |    |    |    |  |  |
|      | 9  | A-D1 (MSB)                             |   |   |   |          |   |   |   | A-D2 (MSB)        |    |       |    |                        |    |    |    |  |  |
|      | 10 | A-D3 (MSB)                             |   |   |   |          |   |   |   | A-D4 (MSB)        |    |       |    |                        |    |    |    |  |  |
|      | 11 | CONTINUATION OF A-D1 THROUGH A-D4 DATA |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 12 | (MSB) DATA SAMPLES THROUGH WORD 72     |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 13 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 14 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 15 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 16 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 17 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 18 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 19 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 20 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 21 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 22 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 23 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 24 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 25 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 26 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 27 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 28 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 29 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 30 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 31 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 32 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 33 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 34 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 35 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 36 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      | 37 |                                        |   |   |   |          |   |   |   |                   |    |       |    |                        |    |    |    |  |  |
|      |    | 1                                      | 2 | 3 | 4 | 5        | 6 | 7 | 8 | 9                 | 10 | 11    | 12 | 13                     | 14 | 15 | 16 |  |  |

| BIT  |    | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9                | 10 | 11    | 12 | 13 | 14 | 15 | 16 |
|------|----|-------------------|---|---|---|---|---|---|---|------------------|----|-------|----|----|----|----|----|
| WORD | 38 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 39 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 40 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 41 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 42 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 43 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 44 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 45 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 46 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 47 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 48 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 49 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 50 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 51 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 52 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 53 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 54 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 55 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 56 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 57 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 58 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 59 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 60 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 61 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 62 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 63 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 64 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 65 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 66 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 67 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 68 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 69 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 70 |                   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      | 71 | A-D1 (MSB)        |   |   |   |   |   |   |   | A-D2 (MSB)       |    |       |    |    |    |    |    |
|      | 72 | A-D3 (MSB)        |   |   |   |   |   |   |   | A-D4 (MSB)       |    |       |    |    |    |    |    |
|      | 73 | SAMPLE RATE ÷ 100 |   |   |   |   |   |   |   | ERROR CORRECTION |    |       |    |    |    |    |    |
|      | 74 | ERROR CORRECTION  |   |   |   |   |   |   |   | ESC              |    | ERROR |    |    |    |    |    |
|      | 75 | POLYNOMIAL CODE   |   |   |   |   |   |   |   |                  |    |       |    |    |    |    |    |
|      |    | 1                 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9                | 10 | 11    | 12 | 13 | 14 | 15 | 16 |

• = BLOCK SUBTYPE (BITS 9 and 10)  
S = START OF SECOND

Figure RSC-11-3-2B. Middle Blocks of 8-Bit Record

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| BIT    |                                         | 1 | 2 | 3 | 4        | 5          | 6 | 7 | 8                 | 9  | 10 | 11                       | 12 | 13 | 14 | 15 | 16 |
|--------|-----------------------------------------|---|---|---|----------|------------|---|---|-------------------|----|----|--------------------------|----|----|----|----|----|
| WORD 1 | SYNC CODE                               |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 2      | SYNC CODE                               |   |   |   |          |            |   |   | SOURCE CODE       |    |    |                          |    |    |    |    |    |
| 3      | DESTINATION CODE                        |   |   |   |          |            |   |   | BLOCK FORMAT CODE |    |    |                          |    |    |    |    |    |
| 4      | GDD                                     |   |   |   | UDT CODE |            |   |   | DDT CODE          |    |    |                          |    |    |    |    |    |
| 5      | S/C No.                                 |   |   |   |          |            |   |   | TIME              |    |    |                          |    |    |    |    |    |
| 6      | TIME                                    |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 7      | DAY OF YEAR                             |   |   |   |          |            |   |   | BLOCK             |    |    |                          |    |    |    |    |    |
| 8      | SERIAL NUMBER                           |   |   |   |          |            |   |   |                   |    | S  | BLOCK NO. OF THIS RECORD |    |    |    |    |    |
| 9      | A-D1 (MSB)                              |   |   |   |          | A-D2 (MSB) |   |   |                   |    |    |                          |    |    |    |    |    |
| 10     | A-D3 (MSB)                              |   |   |   |          | A-D4 (MSB) |   |   |                   |    |    |                          |    |    |    |    |    |
| 11     | A-D1 (MSB)                              |   |   |   |          | A-D2 (MSB) |   |   |                   |    |    |                          |    |    |    |    |    |
| 12     | A-D3 (MSB)                              |   |   |   |          | A-D4 (MSB) |   |   |                   |    |    |                          |    |    |    |    |    |
| 13     | CONTINUATION OF A-D1 THROUGH A-D4 (MSB) |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 14     | DATA SAMPLES                            |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 15     | FOR 200 AND 2K RATES                    |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 16     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 17     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 18     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 19     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 20     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 21     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 22     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 23     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 24     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 25     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 26     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 27     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 28     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 29     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 30     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 31     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 32     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 33     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 34     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 35     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 36     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
| 37     |                                         |   |   |   |          |            |   |   |                   |    |    |                          |    |    |    |    |    |
|        | 1                                       | 2 | 3 | 4 | 5        | 6          | 7 | 8 | 9                 | 10 | 11 | 12                       | 13 | 14 | 15 | 16 |    |

| BIT     |                                  | 1 | 2 | 3 | 4        | 5 | 6 | 7 | 8                | 9  | 10 | 11 | 12    | 13 | 14 | 15 | 16 |
|---------|----------------------------------|---|---|---|----------|---|---|---|------------------|----|----|----|-------|----|----|----|----|
| WORD 38 |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 39      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 40      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 41      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 42      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 43      | A-D1 (MSB)                       |   |   |   |          |   |   |   | A-D2 (MSB)       |    |    |    |       |    |    |    |    |
| **44    | A-D3 (MSB)                       |   |   |   |          |   |   |   | A-D4 (MSB)       |    |    |    |       |    |    |    |    |
| 45      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 46      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 47      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 48      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 49      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 50      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 51      | A-D1 (MSB)                       |   |   |   |          |   |   |   | A-D2 (MSB)       |    |    |    |       |    |    |    |    |
| ***52   | A-D3 (MSB)                       |   |   |   |          |   |   |   | A-D4 (MSB)       |    |    |    |       |    |    |    |    |
| 53      | FILLER                           |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 54      | FILLER                           |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 55      | ODA PPM STATUS                   |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 56      | DEST CODE                        |   |   |   | BLKSO    |   |   |   | PPM MESSAGE LGTH |    |    |    |       |    |    |    |    |
| 57      | PPM SRCE                         |   |   |   | VAL USED |   |   |   | PPM MSG ID       |    |    |    |       |    |    |    |    |
| 58      | PPM EXPANSION                    |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 59      | PPM BAND                         |   |   |   | PPM POL  |   |   |   | MASER            |    |    |    | RECVR |    |    |    |    |
| 60      | PPM DPLX                         |   |   |   | UNUSED   |   |   |   |                  |    |    |    |       |    |    |    |    |
| 61      | OPS MODE                         |   |   |   | UNUSED   |   |   |   |                  |    |    |    |       |    |    |    |    |
| 62      | PPM INTEGRATION TIME             |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 63      | PPM TIME OF SGNL LVL MEASUREMENT |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 64      | PPM TIME OF SGNL LVL MSRMT CONTD |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 65      | PPM SYSTEM NOISE TEMPERATURE     |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 66      | PPM STANDARD DEVIATION           |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 67      | PPM SIGNAL POWER LEVEL           |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 68      | PPM STANDARD DEVIATION           |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 69      | PPM SSB CHECKSUM                 |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 70      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 71      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 72      |                                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
| 73      | SAMPLE RATE ÷ 100                |   |   |   |          |   |   |   | ERROR CORRECTION |    |    |    |       |    |    |    |    |
| 74      | ERROR CORRECTION                 |   |   |   |          |   |   |   | ESC              |    |    |    | ERROR |    |    |    |    |
| 75      | POLYNOMIAL CODE                  |   |   |   |          |   |   |   |                  |    |    |    |       |    |    |    |    |
|         | 1                                | 2 | 3 | 4 | 5        | 6 | 7 | 8 | 9                | 10 | 11 | 12 | 13    | 14 | 15 | 16 |    |

- \* LAST DATA SAMPLE OF 1-K SAMPLES PER SECOND 8-BIT BLOCK, FOLLOWED BY THE 17-WORD PPM DATA WORDS WITH THE REMAINDER OF BLOCK THROUGH WORD 72 FILLED WITH ZEROS.
- \*\* LAST DATA SAMPLE OF 200 SAMPLES PER SECOND 8-BIT BLOCK, FOLLOWED BY THE 17-WORD PPM DATA WORDS WITH REMAINDER OF BLOCK THROUGH WORD 72 FILLED WITH ZEROS.
- \*\*\* LAST DATA SAMPLE OF 2-K SAMPLES PER SECOND 8-BIT BLOCK, FOLLOWED BY THE 17-WORD PPM DATA WORDS WITH THE REMAINDER OF BLOCK THROUGH WORD 72 FILLED WITH ZEROS.
- = BLOCK SUBTYPE (BITS 9 AND 10)
- S = START OF SECOND

Figure RSC-11-3-2C. Last Block of 8-Bit Record



9 and 10

Block subtype:

|                                                                 | <u>Bit 9</u> | <u>Bit 10</u> |
|-----------------------------------------------------------------|--------------|---------------|
| First Block of Pass                                             | 0            | 1             |
| Continuation Block (Full)                                       | 0            | 0             |
| Continuation Block (Partial) or<br>(Last block per tape record) | 1            | 0             |
| Last Block of Pass (No data)                                    | 1            | 1             |

11

Start of second

12 thru 16

Block number of this record (NBLK); number of HSD blocks within an ODR tape record; NBLK is reset to 0 for each HSD block containing a tape header; bits 11 through 16 set to 63 (111111) for last Block of the Pass

WORD 9 THRU WORD 72

BIT

1 thru 16

Contain the first 64 words of the ODR (see module RSC-11-9 of this document)

WORD 73

BIT

1 thru 8

Sample rate divided by 100 (binary representation)

9 thru 16

Standard 1200-bit HSD block ending, utilizing error correction, GCF Error Status Code and 22-bit Error Polynomial Code as defined in module OPS-6-6 of this document

WORD 74 AND WORD 75

BIT

1 thru 16

Same as Word 73, bit 9 thru 16

b. Middle Blocks.

WORD 1 THRU WORD 8

BIT

1 thru 16 Same as first block

WORD 9 THRU WORD 72

BIT

1 thru 16 Continuation of data samples (AD-1 through A-D4 MSBs); successive 64-word parts of ODR (see module RSC-11-9 of this document)

WORD 73 THRU WORD 75

BIT

1 thru 16 Same as first block

c. Last Block.

WORD 1 THRU WORD 8

BIT

1 thru 16 Same as first block

WORD 9 THRU WORD 72

BIT

1 thru 16 Continuation of data samples (A-D1 through A-D4), through Word 12, 44, or 52, depending on the rate utilized, followed by the 17-word PPM data word block; the remainder of the block through Word 72 is filled with zeros

WORD 73 THRU WORD 75

BIT

1 thru 16 Same as first block

2. 12-Bit Conversion Blocks.

The format for the 12-bit conversion blocks is shown in Figures RSC-11-3-3A, B, and C. The contents of the blocks are as follows:

a. First Block.

WORD 1 THRU WORD 8

BIT

1 thru 16 Same as Words 1 through 8 of first 8-bit conversion block (refer to Table RSC-11-3-1 for Record Length)

WORD 9 THRU 72

BIT

1 thru 16 Contain the first 64 words of the ODR (see module RSC-11-9 of this document)

WORD 73 THRU 75

BIT

1 thru 16 Same as Words 73 through 75 of first 8-bit conversion block

b. Middle Blocks.

WORD 1 THRU WORD 8

BIT

1 thru 16 Same as first block

WORD 9 THRU WORD 71

BIT

1 thru 16 Continuation of data samples (A-D1 through A-D4 LSBs and MSBs); successive 63-word part of the ODR (see module RSC-11-9 of this document)

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| WORD | BIT                             |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
|------|---------------------------------|---|---|---|-----------------|---|---|---|------------------------|----|----|----|--------------------|----|----|----|
|      | 1                               | 2 | 3 | 4 | 5               | 6 | 7 | 8 | 9                      | 10 | 11 | 12 | 13                 | 14 | 15 | 16 |
| 1    | SYNC CODE                       |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 2    | SYNC CODE                       |   |   |   |                 |   |   |   | SOURCE CODE            |    |    |    |                    |    |    |    |
| 3    | DESTINATION CODE                |   |   |   |                 |   |   |   | BLOCK FORMAT CODE      |    |    |    |                    |    |    |    |
| 4    | GDD                             |   |   |   | UDT CODE        |   |   |   | DDT CODE               |    |    |    |                    |    |    |    |
| 5    | S/C No.                         |   |   |   |                 |   |   |   | TIME                   |    |    |    |                    |    |    |    |
| 6    | TIME                            |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 7    | DAY OF YEAR                     |   |   |   |                 |   |   |   | BLOCK                  |    |    |    |                    |    |    |    |
| 8    | SERIAL NUMBER                   |   |   |   |                 |   |   |   | BLK No. OF THIS RECORD |    |    |    |                    |    |    |    |
| 9    | V S E C                         |   |   |   | COMPRESS FACTOR |   |   |   | TAPE NUMBER            |    |    |    |                    |    |    |    |
| 10   | RECORD NUMBER                   |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 11   | RECORD LENGTH                   |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 12   | S/C NUMBER                      |   |   |   |                 |   |   |   | SOURCE                 |    |    |    |                    |    |    |    |
| 13   | DAY OF YEAR                     |   |   |   |                 |   |   |   | 0 0 0 0 0 0 0 0        |    |    |    |                    |    |    |    |
| 14   | TIME OF DAY                     |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 15   | PREDICT SET ID                  |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 16   | PREDICT SET ID                  |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 17   | POCA STATUS                     |   |   |   |                 |   |   |   | POCA FREQUENCY         |    |    |    |                    |    |    |    |
| 18   | POCA FREQUENCY                  |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 19   | POCA FREQUENCY                  |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 20   | POCA FREQUENCY                  |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 21   | 0 0 0 0 0 0 0 0                 |   |   |   |                 |   |   |   | POCA FREQ RATE         |    |    |    |                    |    |    |    |
| 22   | POCA FREQ RATE                  |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 23   | CONVERTER SAMPLE RATE           |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 24   | SIGNAL SELECT                   |   |   |   |                 |   |   |   | N <sup>o</sup> COUNTER |    |    |    |                    |    |    |    |
| 25   | FREQ COUNTER No. 1 CUMULATIVE ◊ |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 26   | ↓                               |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 27   | ▲                               |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 28   | FREQ COUNTER No. 2 CUMULATIVE ◊ |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 29   | ↓                               |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 30   | ▲                               |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 31   | TEST SIGNAL                     |   |   |   | SAMPLE CONTROL  |   |   |   | COUNTER No. 1 MODE     |    |    |    | COUNTER No. 2 MODE |    |    |    |
| 32   | SPARE                           |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 33   | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 34   | '20' COUNTER                    |   |   |   |                 |   |   |   | '20' COUNTER           |    |    |    |                    |    |    |    |
| 35   | 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 |   |   |   |                 |   |   |   |                        |    |    |    |                    |    |    |    |
| 36   | 0 1 1 1                         |   |   |   | CONVERTER MODE  |   |   |   | 0 1 1 1                |    |    |    | CONVERTER MODE     |    |    |    |
| 37   | A-D1 (LSB)                      |   |   |   | A-D2 (LSB)      |   |   |   | A-D3 (LSB)             |    |    |    | A-D4 (LSB)         |    |    |    |

- ▲ = FIXED POINT
- = BLOCK SUBTYPE (BITS 9 AND 10)
- S = START OF SECOND

| WORD | BIT                                     |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
|------|-----------------------------------------|---|---|---|------------|---|---|---|------------------|----|----|----|------------|----|----|----|
|      | 1                                       | 2 | 3 | 4 | 5          | 6 | 7 | 8 | 9                | 10 | 11 | 12 | 13         | 14 | 15 | 16 |
| 38   | A-D1 (MSB)                              |   |   |   |            |   |   |   | A-D2 (MSB)       |    |    |    |            |    |    |    |
| 39   | A-D3 (MSB)                              |   |   |   |            |   |   |   | A-D4 (MSB)       |    |    |    |            |    |    |    |
| 40   | A-D1 (LSB)                              |   |   |   | A-D2 (LSB) |   |   |   | A-D3 (LSB)       |    |    |    | A-D4 (LSB) |    |    |    |
| 41   | A-D1 (MSB)                              |   |   |   |            |   |   |   | A-D2 (MSB)       |    |    |    |            |    |    |    |
| 42   | A-D3 (MSB)                              |   |   |   |            |   |   |   | A-D4 (MSB)       |    |    |    |            |    |    |    |
| 43   | CONTINUATION OF A-D1 THROUGH A-D4 (MSB) |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 44   | AND (LSB) DATA SAMPLES THROUGH WORD 72  |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 45   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 46   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 47   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 48   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 49   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 50   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 51   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 52   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 53   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 54   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 55   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 56   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 57   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 58   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 59   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 60   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 61   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 62   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 63   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 64   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 65   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 66   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 67   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 68   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 69   |                                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
| 70   | A-D1 (LSB)                              |   |   |   | A-D2 (LSB) |   |   |   | A-D3 (LSB)       |    |    |    | A-D4 (LSB) |    |    |    |
| 71   | A-D1 (MSB)                              |   |   |   |            |   |   |   | A-D2 (MSB)       |    |    |    |            |    |    |    |
| 72   | A-D3 (MSB)                              |   |   |   |            |   |   |   | A-D4 (MSB)       |    |    |    |            |    |    |    |
| 73   | SAMPLE RATE + 100                       |   |   |   |            |   |   |   | ERROR CORRECTION |    |    |    |            |    |    |    |
| 74   | ERROR CORRECTION                        |   |   |   |            |   |   |   | ESC              |    |    |    | ERROR      |    |    |    |
| 75   | POLYNOMIAL CODE                         |   |   |   |            |   |   |   |                  |    |    |    |            |    |    |    |
|      | 1                                       | 2 | 3 | 4 | 5          | 6 | 7 | 8 | 9                | 10 | 11 | 12 | 13         | 14 | 15 | 16 |

Figure RSC-11-3-3A. First Block of 12-Bit Record

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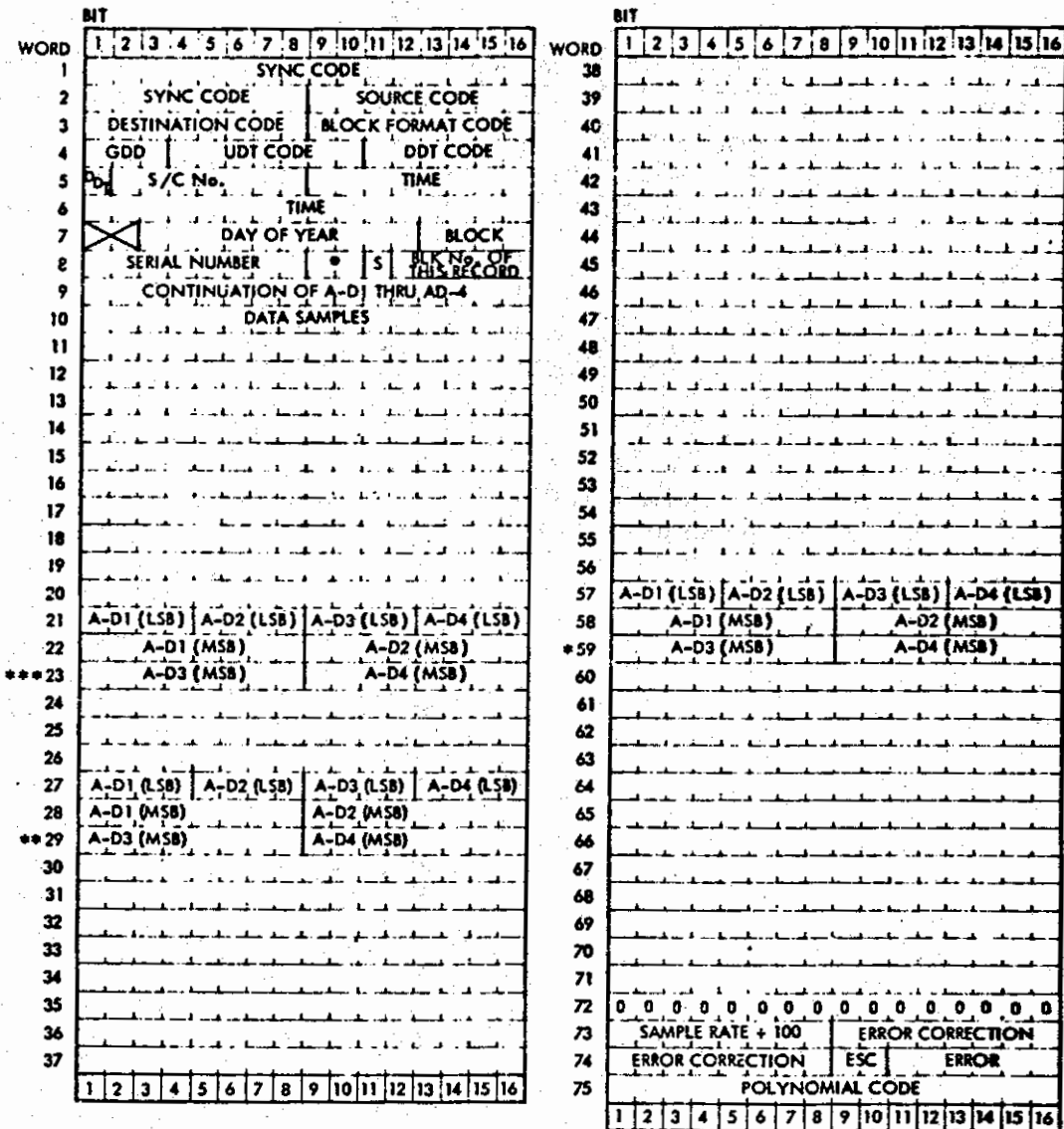
| WORD | BIT                                     |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
|------|-----------------------------------------|---|-------------|---|------------|---|------|---|-------------------|----|----|----|------------------------|----|----|----|
| 1    | SYNC CODE                               |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 2    | SYNC CODE                               |   |             |   |            |   |      |   | SOURCE CODE       |    |    |    |                        |    |    |    |
| 3    | DESTINATION CODE                        |   |             |   |            |   |      |   | BLOCK FORMAT CODE |    |    |    |                        |    |    |    |
| 4    | GDD                                     |   |             |   | UDT CODE   |   |      |   | DDT CODE          |    |    |    |                        |    |    |    |
| 5    | $P_{D1}$                                |   | S/C No.     |   |            |   | TIME |   |                   |    |    |    |                        |    |    |    |
| 6    | TIME                                    |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 7    | $\times$                                |   | DAY OF YEAR |   |            |   |      |   | BLOCK             |    |    |    |                        |    |    |    |
| 8    | SERIAL NUMBER                           |   |             |   |            |   |      |   | ●                 |    | S  |    | BLK NO. OF THIS RECORD |    |    |    |
| 9    | A-D1 (LSB)                              |   |             |   | A-D2 (LSB) |   |      |   | A-D3 (LSB)        |    |    |    | A-D4 (LSB)             |    |    |    |
| 10   | A-D1 (MSB)                              |   |             |   |            |   |      |   | A-D2 (MSB)        |    |    |    |                        |    |    |    |
| 11   | A-D3 (MSB)                              |   |             |   |            |   |      |   | A-D4 (MSB)        |    |    |    |                        |    |    |    |
| 12   | CONTINUATION OF A-D1 THROUGH A-D4 (LSB) |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 13   | AND (MSB) DATA SAMPLES THROUGH WORD 72  |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 14   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 15   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 16   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 17   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 18   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 19   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 20   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 21   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 22   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 23   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 24   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 25   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 26   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 27   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 28   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 29   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 30   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 31   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 32   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 33   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 34   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 35   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 36   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
| 37   |                                         |   |             |   |            |   |      |   |                   |    |    |    |                        |    |    |    |
|      | 1                                       | 2 | 3           | 4 | 5          | 6 | 7    | 8 | 9                 | 10 | 11 | 12 | 13                     | 14 | 15 | 16 |

| WORD | BIT                                                                  |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
|------|----------------------------------------------------------------------|---|---|---|------------|---|---|---|------------------|----|-------|----|------------|----|----|----|
| 38   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 39   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 40   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 41   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 42   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 43   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 44   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 45   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 46   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 47   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 48   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 49   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 50   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 51   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 52   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 53   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 54   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 55   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 56   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 57   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 58   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 59   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 60   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 61   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 62   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 63   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 64   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 65   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 66   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 67   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 68   |                                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 69   | A-D1 (LSB)                                                           |   |   |   | A-D2 (LSB) |   |   |   | A-D3 (LSB)       |    |       |    | A-D4 (LSB) |    |    |    |
| 70   | A-D1 (MSB)                                                           |   |   |   |            |   |   |   | A-D2 (MSB)       |    |       |    |            |    |    |    |
| 71   | A-D3 (MSB)                                                           |   |   |   |            |   |   |   | A-D4 (MSB)       |    |       |    |            |    |    |    |
| 72   | 00000000000000000000000000000000000000000000000000000000000000000000 |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
| 73   | SAMPLE RATE $\div$ 100                                               |   |   |   |            |   |   |   | ERROR CORRECTION |    |       |    |            |    |    |    |
| 74   | ERROR CORRECTION                                                     |   |   |   |            |   |   |   | ESC              |    | ERROR |    |            |    |    |    |
| 75   | POLYNOMIAL CODE                                                      |   |   |   |            |   |   |   |                  |    |       |    |            |    |    |    |
|      | 1                                                                    | 2 | 3 | 4 | 5          | 6 | 7 | 8 | 9                | 10 | 11    | 12 | 13         | 14 | 15 | 16 |

● = BLOCK SUBTYPE (BITS 9 AND 10)  
S = START OF SECOND

Figure RSC-11-3-3B. Typical Middle Block(s) of 12-Bit Record

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- \* (NEXT TO LAST BLOCK) LAST DATA SAMPLE OF 500 SAMPLES PER SECOND 12-BIT BLOCK FOLLOWED BY 17 WORDS OF THE PPM DATA WORDS (SEE RSC-11-3-2C) WITH THE LAST 5 WORDS FOLLOWING IN THE LAST BLOCK WITH REMAINDER OF LAST BLOCK THROUGH WORD 72 FILLED WITH ZEROS.
- \*\* LAST DATA SAMPLE OF 100 SAMPLES PER SECOND 12-BIT BLOCK FOLLOWED BY THE 17-WORD PPM DATA WORDS (SEE RSC-11-3-2C) WITH THE REMAINDER OF BLOCK THROUGH WORD 72 FILLED WITH ZEROS.
- \*\*\* LAST DATA SAMPLE OF 1K SAMPLES PER SECOND 12-BIT BLOCK FOLLOWED BY THE 17-WORD PPM DATA WORDS (SEE RSC-11-3-2C) WITH THE REMAINDER OF BLOCK THROUGH WORD 72 FILLED WITH ZEROS.
- = BLOCK SUBTYPE (BITS 9 AND 10)
- S = START OF SECOND

Figure RSC-11-3-3C. Last Block of 12-bit Record

WORD 72

BIT

1 thru 16                      Zeros

WORD 73 THRU 75

BIT

1 thru 16                      Same as first block

c.      Last Block.

WORD 1 THRU WORD 8

BIT

1 thru 6                      Same as first block

WORD 9 THRU WORD 72

BIT

1 thru 16                      Continuation of data samples (A-D1 through A-D4 LSBs and MSBs) through Word 23, 29, or next-to-last block 59, depending on the rate utilized, followed by the 17-word PPM data part; the remainder of the block through Word 72 is filled with zeros

(Note that when the data ends in the next to last block at Word 59 that the last block contains only the last five words of the PPM data part.)

WORD 73 THRU 75

BIT

1 thru 16                      Same as first block

APPENDIX DELETED