The CMU/Data Link experts have responded the CMU only looks at Label 270, bits 11 and 18 (mainly to bit 11).

The CMU doesn’t look at bit 17 or 20. Should A771 and A781 be revised as they specify setting bit 17. See below

Thanks to Lynn (Universal Avionics), Jim (Rockwell Collis) and Tom (Honeywell) !

**Draft 4 of Supplement 1 to ARINC Characteristic 771**

**Section 3.4.1.3.6 –** *Crosstalk Protocol*

…Each SDU (whether Active or Standby) should set bit 17 when it is not logged onto the network.

COMMENTARY

The setting of Label 270, bit 17 is different to the definition in ARINC Characteristic 741.

The SDU should clear Bit 18 of Label 270 if it is Active and set it if it is Standby.

In this dual satcom configuration, Bit 28 is always cleared (not used).

Each SDU shall send ARINC 429 Label 270 to the other SDU over the crosstalk bus…

**Supplement t to ARINC Characteristic 781**

**Section 3.4.1.3.6 –** *Crosstalk Protocol*

…Each SDU (Active and Standby) should set bit 17 when it is not logged onto

the network. For SBB, this should be based on the basic BGAN logon, not the

safety services gateway.

COMMENTARY

The setting of Label 270, bit 17 is different to the definition in ARINC Characteristic 741.

The SDU should clear Bit 18 of Label 270 if it is Active and set it if it is Standby.

In this dual satcom configuration, E Bit 28 is always cleared (not used). Each SDU

shall send ARINC 429 Label 273 to the other SDU over the crosstalk bus.

Ref 1)

The Rockwell Collins implementation is essentially the same.  Bit 11 is king (as mentioned in ARINC 618 Sect 7.5).  We would expect bit 11 to be set to one if the SDU has a relevant fault, is not logged on, or any other reason the CMU shouldn't attempt to use it for ACARS.

Regards,

Jim Scroggs

Data Link Systems Engineer

Commercial Systems Data Link Products

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Ref 2)

Universal Avionics’ CMU operates consistent with Honeywell’s mk2 CMU.  We require bit 11 to indicate the SDU is available and do not process bits 17 or 20 (with the expectation that if the SDU is not logged in or has a fault that would prevent operations via the air/ground link, the SDU would set bit 11 to denote the unavailability). The SSM bits should also indicate normal operation.

Lynn

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Ref 3)

both SDUs can be “Standby” and both will report this to the CMU hence both SDUs bit 11 and bit 18 should be set to 1.

If bit 18 is set to 1 “Standby” then the value of bit 11 really does not matter .

therefore no SATCOM service for CMU until at least one SDU changes **both bit 18 to 0 and bit 11 to 0.**

however if both SDUs set bit 18 to 0, standby and bit 11 is 0 from one of the SDUs then CMU still interprets that to mean no SATCOM service

**Tom McGuffin**

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Ref 4)

**From:** Koroscil, France (SATCOM)
**Sent:** Wednesday, November 08, 2017 10:42 AM
**Subject:** RE: CMU Label 270

Just to ensure everybody is clear on this, we are saying that both SDUs can be “Standby” and both will report this to the CMU hence both SDUs bit 11 could be set at the same time. When one of the 2 SDUs becomes “Active”, that SDU will clear bit 11. And set bit 18 to 0

France

Ref 5)

**From:** McGuffin, Tom (CNS COE)
**Sent:** Wednesday, November 08, 2017 1:19 PM
**Subject:** RE: CMU Label 270

The original guidance to ACARS working group 25 years ago was to only look at bit 11 and bit 18.

If bit 11 from master/single SDU is 0 then ACARS MU can use SATCOM otherwise SATCOM is considered not available.

The Honeywell mk2 CMU does not use bit 17 nor bit 20 in label 270 from SDU.

**Tom McGuffin**

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Ref 6)

**From:** Michael W. Hooper [mailto:Michael.Hooper@iridium.com]
**Sent:** Wednesday, November 08, 2017 10:03 AM
**Subject:** RE: CMU Label 270

Tom – this is for ARINC 771 and also will flow to ARINC 781 most likely.  It is part of the SDU definition of what Bits to send to the CMU.  So this is the frame of reference for the question.  Boeing gave some comments on this that seem to indicate that Bit 17 is not used at all.  We just want to clarify the operational use of these bits in the CMU so we can properly reference the application of them in the SDU.

**Mike Hooper**

**Associate Director – Aviation Line of Business**

Iridium

Ref 7)

**From:** Jose Godoy [mailto:jose.godoy@sae-itc.org]
**Sent:** Wednesday, November 08, 2017 8:48 AM
**Subject:** CMU Label 270

We have a question from the AGCS L Band Satcom group:

What is the difference between Label 270 bits 11, 17, 18 and 20. What does the CMU expect from the SDU?

Describe bit 11 17, 18, and 20. Are they all used.

There were questions when Label 270 was reviewed and we can’t remember all the details.

***José Godoy***

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