NOAA GOES Data Collection System Administrative and Data Distribution System (DADDS)

Troubleshooting

National Environmental Satellite, Data, and Information Service

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Agenda

- Identify and characterize the problem
- Troubleshooting process

NOTE: Demos will be opportunistic, look at real data. Any Platforms, Groups, Message, etc. used in Demos are not intended for critique

Identify and Characterize the Problem - Resources

- Self-Help:
  - DADDS IT System
  - NOAA Troubleshooting and Training References
    - https://www.noaasis.noaa.gov/pdf/docs/TWG2022/Message%20Troubleshooting%20Flowchart.pdf
    - https://www.noaasis.noaa.gov/GOES/training.html
  - Organizational Resources
- Phone a Friend: 24/7 Technical Support at Wallops Command and Data Acquisition Station (WCDAS): (757) 824-7450
- Data Collection Platform (DCP) Manufacturer
- Contact the DCS Program

Troubleshooting Process

- Assumption: missing message or data from a platform that has sent messages
- Check DADDS Message Tab
  - Filter on Platform

ADDRESS	GROUP	CHAN	BAUD	SIGNAL	NOISE	QUALITY	FREQ	CAR TIME	END TIME	TIME	ARM	SCID

- Are Address, Group, Channel, Baud, and SCID (satellite) correct?

Troubleshooting Process

- Are there ARM Codes?

	ADDRESS	GROUP	CHAN	BAUD	SIGNAL	NOISE	QUALITY	FREQ	CAR TIME	END TIME	TIME	ARM	SCID	TYPE	LEN
▶	D10E6374	USGS01	178	300	37.6	1.9	100.0	-0.9	26/68 17:43:30.297	26/68 17:43:33.333	3.038	G	18	CS2	83

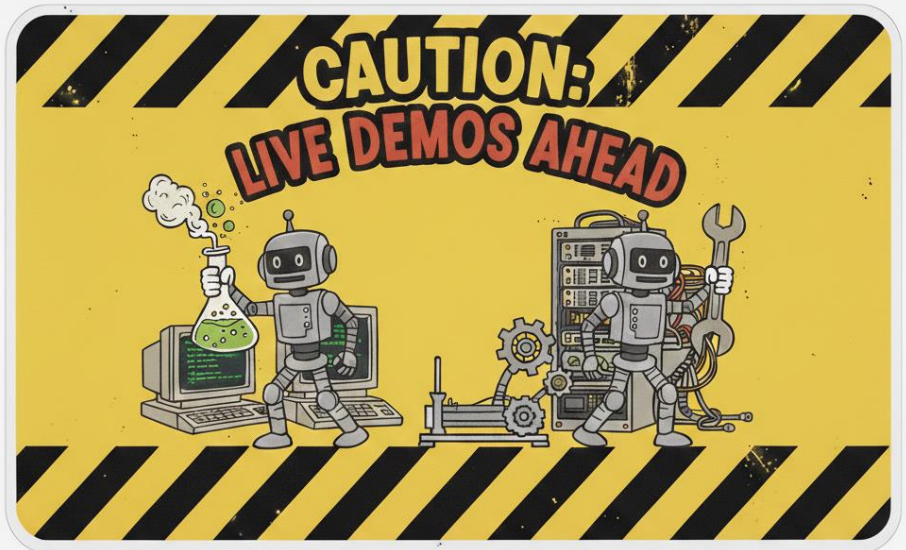
- G = Good
- M = Missing. Expected message was not received.
- ? = Parity Error. Message payload failed at least one parity check.
- W = Wrong Channel
- T = Timing or U= Unexpected: a timing related error.
- I = Incorrect, B = Bad (not in database), A: Corrected ID. General issues with the DCP ID
- E = No End of Transmission (EOT)
- F = Near Interferer (<10ms from assigned window)

Message and Statistics

ADDRESS	GROUP	CHAN	BAUD	SIGNAL	NOISE	QUALITY	FREQ	CAR TIME	END TIME	TIME	ARM	SCID

- Signal - 25-56 (dBm EIRP)
  - Too low: the demodulation system may not lock. Lower signal-to-noise can result in poorer performance as signal gets closer to background noise
  - Too high: overload the system, impact on satellite gain adjustment may lower the signal-to-noise for other transmitters. Out of specification, violating spectrum regulations.
- Noise - Phase Noise
  - 300 bps: Good < 6.0° < Fair < 8.0° < Poor
  - 1200 bps: Good < 5.5° < Fair < 7.5° < Poor
- Quality - derived from Phase Performance
  - Good: 100%-85% Fair: 85%-70% Poor: Below 70%
- Freq - center channel offset in Hertz (Hz)
  - Demodulation system allows 150Hz deviation. Outside this the message may be lost (and may interfere with adjacent channels).

DCS DADDS Troubleshooting



Channels

NOAA Satellite and Information Service
National Environmental Satellite, Data, and Information Service (NESDIS)

PDT FILE • CDT FILE • REPORT A BUG • **VERSION 2.01**

CHANNEL STATS | PROCESS STATS | MESSAGES | PLATFORMS | CHANNELS | RADIOS | GROUPS | DRO

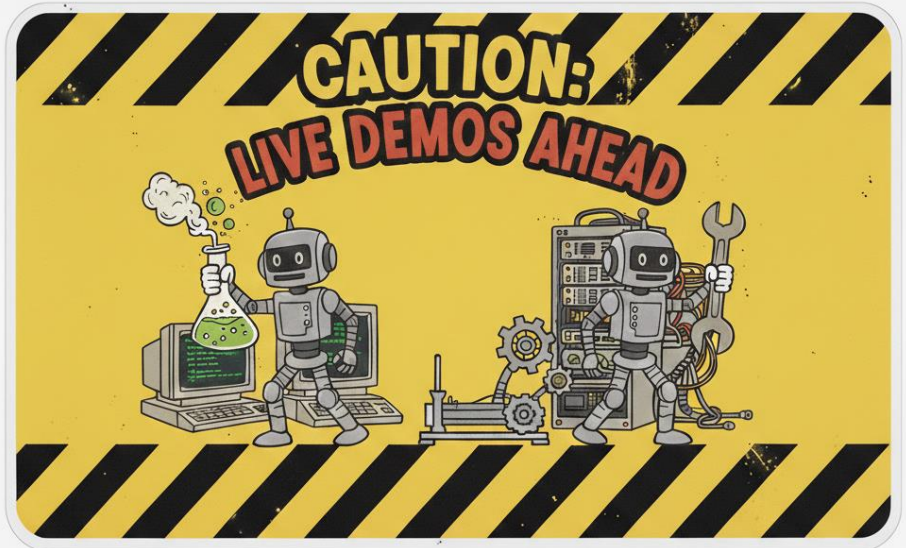
WELCOME, WILLIAM DRONEN

SUAS | USERS | AUDITS

TYPE: BY DAY | DAY: 2026/067 | CHANNEL: ALL

CHANNEL ▲	TYPE	DOY	RECEIVED	EXPECTED	?	T	U	W	M	B	I	CS1	CS2	TIME USED	TIME ASSIGN	PCT
3	S	2026/067	3459	4944	78	2	--	--	74	2	27	--	3459	06:07:55	17:48:24	34.4 %
6	S	2026/067	1639	2160	11	240	--	--	43	1	1	--	1639	01:49:30	04:31:59	40.3 %
9	S	2026/067	1920	4800	1	--	--	--	--	--	--	--	1920	01:28:48	10:39:59	13.9 %
10	S	2026/067	56	144	--	--	--	--	16	--	--	--	56	00:06:22	00:30:00	21.3 %
11	S	2026/067	48	72	--	--	--	--	--	--	--	24	24	00:01:52	00:11:59	15.7 %
12	S	2026/067	1272	1704	--	--	--	--	--	--	--	--	1272	00:50:55	03:17:35	25.8 %
13	S	2026/067	1036	2232	9	--	--	--	33	--	1	96	940	01:36:34	07:06:00	22.7 %
14	S	2026/067	143	792	--	--	--	--	1	--	--	23	120	00:07:43	02:24:00	05.4 %

DCS DADDS Troubleshooting



Questions