DACInternational

GDC75W
GDC75A

ARINC 429
IN   OUT
A   A
B   B

Transmit Quick Start Guide

This Transmit Quick Start Guide is designed to explain the transmit functions of the GDC75W and GDC75A ARINC 429 Data Bus Analyzers.

While this guide is intended to address all transmit functions, it does not describe them in full detail. If you have any questions that aren't addressed in this guide please see the GDC75 User's Manual.

You can find the GDC75 User's Manual and more information about the full line of GDC75 products at:

www.dacint.com/GDC75

What you'll need

• GDC75W or GDC75A ARINC 429 Bus Analyzer

• iOS Device, with DAC Bus Analyzer App installed (not included, note that only iOS devices with Lightning connectors are supported)

To Begin

• Set up your GDC75W/A according to the instructions in the Quick Start Guide for your model, or the GDC75 User's Manual.

Ensure that the GDC75W/A is powered ON and start the DAC Bus Analyzer App on the iOS Device. Select the Transmit tab.

The Transmit Tab

The Transmit tab displays the current state of the ARINC receiver and transmitter. From this tab users can change the transmitter between high speed, low speed, and off (disabled). Users can also configure up to 24 ARINC words for transmission, configure a variety of parameters for each of those ARINC words, and display a list of all the current ARINC word configurations being transmitted.

1. Equipment ID Selection
2. Label Selection
3. Value
4. Hex Representation
5. Binary Representation
6. Text Representation
7. Interval
8. SDI
9. SSM
10. Parity
11. Transmit ON/OFF
12. Collapse/Expand
13. Remove Word
14. Remove All
15. Add Word
16. Commit Changes
17. Receive Rate
18. Transmit Rate
19. Rate Selector

(17) Receive Rate Indicator   (18) Transmit Rate Indicator   (19) Transmit Rate Selector

(1) Equipment ID Selection
(3) Value
(4) Hexadecimal Word Representation
(5) Binary Word Representation
(7) Interval
(10) Parity ODD/EVEN
(12) Collapse/Expand
(13) Remove Word, (14) Remove All

Label Selection (2)
Text Representation (6)
SDI (8)
SSM (9)
Transmit ON/OFF (11)
Add Word (15)
Commit Changes (16)

Label	Eq ID	Description	Value	Interval
012	002	Ground Speed	7000	200
015	002	Wind Speed	57	200

1. Select Equipment ID

In order to configure a word for transmitting, first an Equipment ID must be selected. Press Add Word and scroll through the Equipment ID listing. Once the desired Equipment ID has been found in the list, press 'Done' to select it.

Equipment:	002 Flight Management Computer (702)

2. Select Label

Once an Equipment ID has been selected, a Label may be chosen. Press the Label field and scroll through the Label listing. Once the desired Label has been found in the list, press 'Done' to select it.

Label:	012 Ground Speed

3. Choose Value

The word will be configured with a default value, usually zero (0). To configure something other than the default, select the Value field and enter the desired value.

Value:	7000	1C0000	7000 Knots
	0 00 111 0000 0000 0000 0000 00 01010000		

The fields surrounding the Value field will show various representations of the same information. To the right of the Value field is the hexadecimal representation. To the far right is the human readable text representation. Below the Value field is the binary representation.

NOTE: The various other representations of the Value field may also include other components of the ARINC word (e.g. SDI, SSM, and parity) - for detail about these fields, refer to the GDC75 User's Manual.

4. Configure Additional Settings

The configuration for the word's interval, SDI, SSM, Parity, and Transmit settings should be reviewed prior to beginning transmission. The values for these settings can be configured as described in the following sections.

A. Interval

The default interval value is 200ms; however, the interval can be set from 10ms to 2550ms (inclusive) in 10ms increments.

Interval (ms):	200

NOTE: Additional details about transmission rates and limitations can be found in the GDC75 User's Manual.

B. SDI

The default Source/Destination Identifier (SDI) value is 0. This setting adjusts bits 9 and 10 of the ARNC word and can be configured as 0, 1, 2, or 3. Users will need to refer to the Installation Manual (or similar) of the receiving device in order to configure this setting properly.

SDI:	0

C. SSM

The default value for the Sign/Status Matrix (SSM) is either 0 or 3 (varies by label). This setting adjusts bits 30 and 31 of the ARINC word and can be configured as 0, 1, 2, or 3. Usage of the SSM depends on the data type; refer to the GDC75 User's Manual and the ARINC 429 specification for more detail.

SSM:	0

D. Parity

The default Parity setting is odd. To choose a parity setting, simply press the desired value.

Parity:	ODD	EVEN

Note: The GDC75W is designed to only receive words with odd parity. Selecting even parity will result in the GDC75W disregarding the word.

E. Transmit

The default Transmit setting is ON. To choose a transmit setting, simply press the desired value. This setting can be used to initiate/halt transmission of a word.

Transmit:	ON	OFF

5. Begin Transmission

To begin transmission of the word press the Commit Changes button. The new word will be added to the word listing. Repeat this process in order to add additional words for transmission. Up to 24 words can be configured.

6. Adjust Settings

To adjust a word's configuration after transmission has begun, simply select the word from the word listing and change the desired settings. To finalize the changes, press the Commit Changes button.

7. Removing Words

To remove a word from the word listing, select it and press the Remove Word button. When prompted, confirm deletion.

Alternatively, to remove all words at once, press the Remove All button and, when prompted, confirm deletion.

Remove All

8. Changing Transmit Rate

The current transmit rate is shown in the field labeled 'Tx State'. It is displayed as either High, Low, or Disabled. The transmit rate can be chosen by simply pressing the button for the desired rate.

Tx State:	High Speed
	Low Speed
	Disabled

Off	Low	High

9. Receive Rate Status

The current receive rate is shown in the 'Rx State' field, to the left of the 'Tx State' field.

Rx State:	High Speed

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