



Applied Systems Engineering, Inc.

Technical Note #28 Telegyr Functions

About Telegyr 8979 DAC Objects

A Telegyr 8979 object corresponds to a specific set of variables at the controlled station. For each Telegyr 8979 object, the GYRPT requires a Telegyr 8979 object definition. These definitions form the Telegyr 8979 object array. The user must configure this array to support the user application. This section provides the specifications for defining and configuring the Telegyr 8979 object array.

The following sample code shows the structure of a Telegyr 8979 object:

```
typedef struct      {
    DACOBJID      DacId;
} GYROBJECT;
```

The structure supports the following field:

- **DacId.** The offset to the corresponding DAC object definition in the DAC device profile. The DAC object definition describes the variables associated with the Telegyr 8979 object and provides the GYRPT with pointers to DAC APIs for reading and writing their values. See the *ASE Protocol Translator Interface Specification* for more information about the DAC device profile.

The Telegyr 8979 object array is fixed length, and the order of the objects is also fixed. The following table shows the order in which the user must configure the objects:

Entry (offset)	Telegyr 8979 object
0	No corresponding object; must be initialized to 0.
1	Analog Input
2	Analog Reference
3	Digital Input Block
4	Indication
5	SOE
6	Accumulator
7	Frozen Accumulator
8	Select Before Operate
9	Pulse Output
10	Analog Output
11	Digital Output Block

Supporting Telegyr 8979 Analog Reference Points

The user application can support analog reference values by performing the following setup.

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- Offset 2 in the Telegyr object table described above must contain the DAC id of the analog reference object. This reference object is different from the analog input object.
- The DAC Analog Reference object must support the DAC Get Object Property API respond to the property IPROP_DACOBJ_STATIC_COUNT with the number of reference points supported by the user application.
- The DAC Analog Reference object must support the DAC Read API and respond to read requests with ANALOGINPUT structures that contain current values for the analog reference points.

Supporting Telegyr 8979 Log Changes

The user application can support SOE Log changes by performing the following setup.

- Offset 5 in the Telegyr object table described above must contain the DAC id of the Telegyr SOE object.
- The DAC SOE object must support the DAC Get Object Property API. The GPT query for IPROP_DACOBJ_STATIC_COUNT should return some non-zero count of SOE variables.
- The DAC SOE object must support the DAC Read Events and Ack Events APIs. The user application should respond to a read events request with a BINARYINPUTEVENT structure containing the SOE data.

Supporting Telegyr 8979 Time Bias and Time Synchronization

The user application can support Time Bias and Time Synchronization as follows:

- The user application must support the DAC clock object. The user application must support the DAC Get Object Property and Write APIs for the clock object.
- The user application must respond to the DAC Get Object Property API property IPROP_DACOBJ_STATIC_COUNT with a count of 1 indicating that the clock is supported.
- The user application must process the DAC Write API on the clock object to support the time synchronization command.