

**CEM User
Release Notes
Release 19990201
1 February 1999**

Overview

1.1 Enhancements

1.1.1 RTS-to-CEM Message with Signed Integers.

1.1.2 CEM Help Additions

Detailed Description

2.1 Enhancements

2.1.1 RTS-to-CEM Message with Signed Integers.

Prior to this Release, the CEM Module supported only an unsigned integer in the Fetch Qualifier Field of the RTS-to-CEM FETCH Message.

With this Release, the CEM Module supports either a signed or an unsigned integer in the Fetch Qualifier Field of the RTS-to-CEM FETCH Message.

2.1.2 CEM Help Changes / Additions

New CEM Macro FthQual().
New CEM Macro GetCurChnNam().
New CEM Macro GetCurChnNum().
New CEM Macro GetCurDevChnNam().
New CEM Macro GetCurDevNam().
New CEM Macro GetCurMChar().
New CEM Macro GetCurNoun().

The following pages contain the Help Information for the new CEM Macros.

Name: FthQual

Type: Fetch

Usage: `int nFetchQualifier;
nFetchQualifier = FthQual();`

NOTE *This Macro must be used within the FETCH ATLAS Action Function. Usage within any other ATLAS Action Function will produce an undefined result.*

Description: Upon detection of certain ATLAS Statements, the ATLAS Compiler requests the Run-Time System to generate a RTS-to-CEM Message Sequence that requests a CEM Device Driver to perform a Fetch. As part of this request, some ATLAS Compilers will include a Fetch Qualifier to provide additional information to the CEM Device Driver. This additional information may be acquired using this CEM Macro.

<u>Subset / Station</u>	<u>ATLAS Statement</u>	<u>Fetch Qualifier</u>
CASS / RT	DEFINE, EXCHANGE	The Exchange Number automatically assigned to the ATLAS Statement. Prior to receipt of the Fetch Request, the CEM Kernel would have already received a Set Exchange Number Modifier whose Modifier Value is the Exchange Number. This allows the CEM Device Driver to associate the Fetch Request with a particular Exchange (which it must do when a DO, EXCHANGE Statement references multiple DEFINE, EXCHANGE Statements that request multiple inputs for DATA and/or STATUS).

NOTE *The Exchange Number is automatically generated by the ATLAS Compiler and could be different from one compile to the next. Therefore, CEM Device Drivers must not rely on an absolute value.*

See Also:

Name: GetCurChnNam

Type: Current State

Usage: `char *pcChannelName;`
`pcChannelName = GetCurChnNam();`

Description: This Macro causes the Character Pointer **pcChannelName** to be set to a pointer to a String which is the Current Device Channel Number.

If an error is detected, **pcChannelName** will point to an Error Message String, the first six Characters of which will be "ERROR ".

See Also: CEM Macros GetCurChnNum() and GetCurDevChnNam().

Name: GetCurChnNum

Type: Current State

Usage: `int nChannel;`
`nChannel = GetCurChnNum();`

Description: This Macro causes the Integer Variable **nChannel** to be set to the Current Device Channel Number.

If an error is detected, **nChannel** will be set to minus one.

See Also: CEM Macros GetCurChnNam() and GetCurDevChnNam().

Name: GetCurDevChnNam

Type: Current State

Usage: `char *pcDeviceAndChannelName;
pcDeviceAndChannelName = GetCurDevChnNam();`

Description: This Macro causes the Character Pointer **pcDeviceAndChannelName** to be set to a pointer to a String which is the Current Device / Channel Name.

The Current Device / Channel Name has the form:

DeviceName : **CH***ChannelNumber*

where: *DeviceName* is the Current Device Name;

: **CH** is a literal; and

ChannelNumber is the Current Channel Name/Number.

If an error is detected, **pcDeviceAndChannelName** will point to an Error Message String, the first six Characters of which will be "ERROR ".

See Also: CEM Macros GetCurChnNam(), GetCurChnNum() and GetCurDevNam()).

Name: GetCurDevNam

Type: Current State

Usage: `char *pcDeviceName;
pcDeviceName = GetCurDevNam();`

Description: This Macro causes the Character Pointer **pcDeviceName** to be set to a pointer to a String which is the Current Device Name.

If an error is detected, **pcDeviceName** will point to an Error Message String, the first six Characters of which will be "ERROR".

See Also: CEM Macro GetCurDevChnNam().

Name: GetCurMChar

Type: Current State

Usage: `short nMeasChar;
nMeasChar = GetCurMChar();`

Description: This Macro causes the Short Variable **nMeasChar** to be set to the Modifier Mnemonic that represents the Current ATLAS Statement Measured Characteristic.

Modifier Mnemonics are of the form **M_XXXX** (e.g., **M_VOLT** for "Voltage") and may be found in the PAWS-generated CEM Header File **key.h**.

If an error is detected, **nMeasChar** will be set to zero.

See Also: CEM Macro GetCurNoun().

Name: GetCurNoun

Type: Current State

Usage: `short nNoun;`
`nNoun = GetCurNoun();`

Description: This Macro causes the Short Variable **nNoun** to be set to the Noun Mnemonic that represents the Current ATLAS Statement Noun.

Noun Mnemonics are of the form **N_XXX** (e.g., **N_ACS** for “AC Signal”) and may be found in the PAWS-generated CEM Header File **key.h**.

If an error is detected, **nNoun** will be set to zero.

See Also: CEM Macro GetCurMChar().