

Merged BNF from the Verilog-AMS LRM version 2.3.1 into the IEEE P1800 Draft 9 (7 Jan 2010). No attempt was to change the Verilog-AMS BNF to be more consistent with the P1800 BNF.

Based in the “Merged Syntax.xls” file, The following P1800 syntax items have been change to include AMS syntax items. These are the major points where AMS BNF interfaces with the P1800 BNF.

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Description ::= (see row 8)
  module_declaration
  | udp_declaration
  | interface_declaration
  | program_declaration
  | package_declaration
  | { attribute_instance } package_item
  | { attribute_instance } bind_directive
  | config_declaration
  | paramset_declaration
  | nature_declaration
  | discipline_declaration
  | connectrules_declaration

module_or_generate_item ::= (see row 41)
  { attribute_instance } parameter_override
  | { attribute_instance } gate_instantiation
  | { attribute_instance } udp_instantiation
  | { attribute_instance } module_instantiation
  | { attribute_instance } module_common_item
  | { attribute_instance } analog_construct

module_or_generate_item_declaration ::= (see row 42)
  package_or_generate_item_declaration
  | genvar_declaration
  | clocking_declaration
  | default_clocking clocking_identifier ;
  | default_disable iff expression_or_dist ;
  | branch_declaration
  | analog_function_declaration

non_port_module_item ::= (see row 43)
  generate_region
  | module_or_generate_item
  | specify_block
  | { attribute_instance } specparam_declaration
  | program_declaration
  | module_declaration
  | interface_declaration
  | timeunits_declaration
  | aliasparam_declaration

net_declaration ::= (see row 141)
  net_type [ discipline_identifier ] [ drive_strength | charge_strength ] [ vectored | scaled ]
data_type_or_implicit [ delay3 ] list_of_net_decl_assignments ;
  | discipline_identifier [ range ] list_of_net_identifiers ;
  | discipline_identifier [ range ] list_of_net_decl_assignments ;
  | wreal [ discipline_identifier ] [ range ] list_of_net_identifiers ;
  | wreal [ discipline_identifier ] [ range ] list_of_net_decl_assignments ;
  | ground [ discipline_identifier ] [ range ] list_of_net_identifiers ;

data_type ::= (see row 144)
  integer_vector_type [ discipline_identifier ] [ signing ] { packed_dimension }
  | integer_atom_type [ signing ]
  | non_integer_type
  | struct_union [ packed [ signing ] ] { struct_union_member { struct_union_member } } { packed_dimension }
}
  | enum [ enum_base_type ] { enum_name_declaration { , enum_name_declaration } } { packed_dimension }
  | string
  | chandle
  | virtual [ interface ] interface_identifier
  | [ class_scope | package_scope ] type_identifier { packed_dimension }
  | class_type
  | event

param_assignment ::= (see row 196)
  parameter_identifier { unpacked_dimension } [ = constant_param_expression ] { value_range }
  | parameter_identifier range = constant_arrayinit { value_range }

module_instantiation ::= (see row 369)
  module_or_paramset_identifier [ parameter_value_assignment ] hierarchical_instance { ,
hierarchical_instance } ;

named_parameter_assignment ::= (see row 373)
  . parameter_identifier ( [ param_expression ] )
  | . system_parameter_identifier ( [ constant_expression ] )

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event_expression ::= (see row 471)
| edge_identifier ] expression [ iff expression ]
| sequence_instance [ iff expression ]
| event_expression or event_expression
| event_expression , event_expression
| ( event_expression )
| analog_event_functions
| driver_update expression
| analog_variable_lvalue

constant_primary ::= (see row 724)
| primary_literal
| ps_parameter_identifier constant_select
| specparam_identifier [ [ constant_range_expression ] ]
| genvar_identifier
| [ package_scope | class_scope ] enum_identifier
| constant_concatenation [ [ constant_range_expression ] ]
| constant_multiple_concatenation [ [ constant_range_expression ] ]
| constant_function_call
| constant_let_expression
| ( constant_mintypmax_expression )
| constant_cast
| constant_assignment_pattern_expression
| type_reference
| constant_analog_built_in_function_call
| system_parameter_identifier
| nature_attribute_reference
| constant_analog_function_call

primary ::= (see row 726)
| primary_literal
| [ class_qualifier | package_scope ] hierarchical_identifier select
| empty_queue
| concatenation [ [ range_expression ] ]
| multiple_concatenation [ [ range_expression ] ]
| function_subroutine_call
| let_expression
| ( mintypmax_expression )
| cast
| assignment_pattern_expression
| streaming_concatenation
| sequence_method_call
| this
| $
| null
| branch_probe_function_call
| port_probe_function_call
| nature_attribute_reference
| analog_function_call
| analog_built_in_function_call

real_number ::= (see row 760)
| fixed_point_number
| unsigned_number [ . unsigned_number ] exp [ sign ] unsigned_number
| unsigned_number [ . unsigned_number ] scale_factor

```