Comm.dat File Format

SUMMARY: This document describes the format of the Comm.dat file that stores the configuration for communication between SV32 and field equipment via Cimway

CHANGE LOG

Version	Author	Action	Review	Date	Distribution
2.2	DL			07/09/2000	Internal
2.3	BL	Overhaul		13/05/2002	Internal
2.4	ED	Fields added		03/12/2011	Internal

INDEX

Introduction

The communication configuration is stored in the file COMM.DAT in the C folder C of the application project.

KEY to the table columns:

- Line number for each field.
- Field description.
- Data type (C for character string, N for numeric).
- Size of data field (in bytes)
- Value if specified.

Version

N°	Description	T	L	Value
1	Entry type	C	4	VERSION
2	Version number	N	2	1
3	Release number	N	2	0

Card

N°	Description	T	L	Value	
1	Entry type	C	5	CARD or BOARD	
2	Card tagname, starting at 0. Must be unique	N	2		
3	Card name. Always 1	C	1	1	
4	Network card: 1 = MULTI PROTOCOL (or SERIAL) 2 = RIC 2 Ports (SV2 only) 3 = RIC 4 Ports (SV2 only) 4 = RIC 8 Ports (SV2 only) 5 = FACTOR 6 = ETHERNET (SIEMENS) 7 = LAC 8 = MODICON 9 = APPLICOM 10 = FIP (SVDOS only) 11 = Reserved 1784-KT 12 = CEGELEC 13 = SCHNEIDER 14 = MITSUBISHI 15 = ALLEN_BRADLEY 16 = KLOCKNER MOELLER 17 = SIEMENS 18 = Reserved GE_FANUC 19 = OMRON 20 = IDEC 21 = SAIA 22 = SOFREL 23 = MATSUSHITA 24 = PERAX 25 = JUMO 26 = KROHNE 27 = Reserved CROUZET 28 = YOKOGAWA	N			
5	Clock type 1 ms (SV2 only) 2 If unused (SV32) 2 If managed via the BIOS 2 If managed without the BIOS	N	2	0 to 2	
6	IRQ number (SV2 only)	N	2		
7	DPRAM address for FACTOR – TRANSMMS NODQS (SV2 only)	N	2		
8	Port I/O (SV2 only)	N	2		
9	Producers list	C	16		
10	Consumers list. Reserved	C	16		

N°	Description	T	L	Value	
11	Object origin: 0 if local, > 0 if in business layer	N			
12	Object version number	N			
13	Comment on object	C	40		

Note:

See the Knowledge Base for further information about the Object's origin.

Network

N°	Description	T	L	Value
1	Entry type	C	6	RESEAU or NETWORK
2	Card tagname, starting at 0. Must be unique	N		
3	Network tagname, starting at 0. Must be unique	N		
4	Network name	C	8	

N°	Description	T	L	Value
5	Protocol type: 2 -> JBUS (SV2 only) 3 -> Modbus (SV2 only) 5 -> LAC offset (SV2 only) 6 -> JBUS timestamped (SV2 only) 7 -> Sinec l1 emulated (SV2 only) 9 -> Sipart (SV2 only) 10 -> blank 11 -> H1 (SV2 only) 12 -> FIP (SV2 only) 13 -> BlankNG 15 -> Elinet (SV2 only) 16 -> N10 (SV2 only) 17 -> N-bus (SV2 only) 18 -> MODBUS (SV2 only) 19 -> Mitsubishi MELSEC-A 20 -> PPC COM (PHILIPS) (SV2 only) 21 -> Sysway 22 -> Transmate (SV2 only) 23 -> TLC11M (SV2 only) 24 -> Transmate-NODQS (SV2 only) 25 -> SINEC l1 (card) (SV2 only) 26 -> Modbus + 27 -> Modbus Timestamped (SV2 only) 28 -> n-bus Timestamped (SV2 only) 31 -> Hartmann-Braun (Protronic serial) (SV2 only) 32 -> Allen-Bradley (PLC2 to PLC4, Data highway) 33 -> Siemens 3964 R (SV2 only) 34 -> ABB Mastergate Excom (SV2 only) 35 -> Microcor (SV2 only) 37 -> Varsapak (SV2 only) 38 -> Digitric (SV2 only) 39 -> Rosemount (SV2 only) 100 -> Unitelway 201 -> HNZ-DC (SV2 only) 203 -> Faure-Hermann (SV2 only) 205 -> Synchro (SV2 only) 206 -> LN3	N	2	

N°	Description	T	L	Value
5	208 -> Trsmms-NODQS (SV2 only) 209 -> ESP-GEM80 (SV2 only) 210 -> CP580 (SVDOS only) 211 -> APPLICOM 212 -> Reserved (Applicom LOCAL) 213 -> SUCOM-A (Klockner Moeller) 214 -> Data Highway Plus (serial) 215 -> N80 (Reserved) 216 -> S8000 217 -> F900 218 -> Data Highway Plus (KT) 219 -> AprilNet (SV2 only) 220 -> Transmms-NODQS 221 -> K1 (SV2 only) 222 -> Ethway 223 -> FIPway 224 -> Genius (Reserved) 225 -> Mitsubishi FX 226 -> S-bus 227 -> Jbus RTU 228 -> Jbus ASCII 229 -> SIP 230 -> Gestel 231 -> Interchange (SV2 only) 231 -> RSLINX (SV32 only) 232 -> Modbus RTU 233 -> Modbus ASCII 234 -> N-bus RTU 235 -> N-bus ASCII 236 -> Sofbus 237 -> IDEC FA 1:N 238 -> IDEC MICRO3 239 -> Optomux 240 -> K (Klockner Moeller) 241 -> Interbus_S 242 -> Bitbus 243 -> FX-485 244 -> 3964-3964R (SV32 only) 245 -> Mewtocol-COM 246 -> HNZ-SAS 247 -> Modbus / F8000 (Modbus on F8000: FIP) 248 -> Perax 249 -> Jumo ASCII 250 -> Jumo Jbus 251 -> Omron FINS 252 -> IDEC FA 1:1 253 -> Cerloop (Cerberus)	N	2	

N°	Description	T	L	Value
	254 -> KROHNE Point-to-Point 255 -> KROHNE Bus 256 -> Reserved C-BUS 257 -> Profibus DP (serial port) 258 -> Mitsubishi TCP/IP 259 -> Modbus-Lac 260 -> Reserved 261 -> DUPLINE 262 -> Yokogawa TCP/IP 263 -> XBUS-IP-Master 264 -> XBUS-IP-Slave 265 -> GEMLAN-T 266 -> PUP 270 -> Reserved 271 -> Reserved 272 -> Yokogawa Serial 273 -> Reserved Diversey 274 -> Reserved Bisync 275 -> Reserved Allen-Bradley DF1			
6	Port number	C	21	
7	Speed (in baud)	N	2	
8	Data (number of bits)	N	2	
9	Parity: even, odd or none	C		“Paire”, “Impaire”, “Sans”, “ODD”, “EVEN”, “NO”
10	Stop bit	C		1, 1.5, 2
11	Modem signals	C	1	« 1 », « O », « o », « Y », « y », « N », « n », « 0 »
12	Network timeout minutes	N	2	
13	Network timeout seconds	N	2	
14	Network timeout milliseconds	N	2	
15	Activate the network at start-up	C	1	« 1 », « O », « o », « Y », « y », « N », « n », « 0 »
16	Custom field. 0 if not significant	N	2	
	218 (DHP_KT) Window storage index			
	3 (Modbus) 227 and 228 (Jbus/Modbus RTU and ASCII). Inter-frame delay is a multiple of 10ms.			
17	Custom field. 0 if not significant	N	2	
	16 (N10) - PC’s speaking time			
	218 (DHP_KT) - interruption			
	214 (DHP) CRC-BCC (CRC=0 BCC=1)			
18	Custom field. 0 if not significant	N		

N°	Description	T	L	Value
	25 (Sinec L1 card) - PC's address	N		
	16 (N10) - PC's address on network known group 1 known group 2 known group 3 known group 4 known group 5 known group 6 last subscribed address Syntax: *adr PC#gp0#gp1#gp2#gp3#gp4#gp5#last subscribed* e.g.: 12#1#0#1#1#0#0#31	C		
	218 (DHP_KT) - PC's address on network	N		
	208 (TRANS_MMS_NODQS) shifting rate	N		
	22 (TRANSMATE) shifting rate	N		
	24 (TRANSMATE_NODQS) shifting rate Syntax: ,*min#sec#ms* e.g.: ,1#2#500	C		
19	Custom field. 0 if not significant (Reserved)	C		
20	Syntax: *n#n#n#n#n* *n* is an unsigned whole number 0#0#0#0#0 if not significant	C		
	240 (KLOCKNER_K) for Windows NT only File directory: DCF#Project DCF	C	200+30	
	211 (APPLICOM) BoolAPPLICOMConflict != 0 -> remove the Applicom access test LastInDataBase = variables address for cyclics BoolAPPLICOMConflict#LastInDataBase#0#0#0	N	1	0 = FALSE 1 = TRUE 0 to 65535
21	Producers list	C	16	
22	Consumers list (Reserved)	C	16	
23	Object's origin: 0 if local, >0 if business layer	N		
24	Object version number	N		
25	Object comment	C	40	

N°	Description	T	L	Value	
26	Physical business layer type (Reserved) 0 -> None 1 -> Serial port 2 -> TCP/IP 3 -> TAPI	N	1	0	
27	Mode of operation 0 -> Master 1 -> Slave 2 -> Master/Slave	N	1		
28	Inter-character number	N	2		
29	Driver - mono flow handling 0 -> Via the driver 1-> Force it for the driver	N	1	Default value 0	

Note:

See the Knowledge Base for further information about the Object's origin.

Equipment

N°	Description	T	L	Value	
1	Entry type	C	3	EQT	
2	Card tagname, starting at 0. Must be unique	N	2		
3	Network tagname, starting at 0. Must be unique	N	2		
4	Equipment tagname, starting at 0. Must be unique	N	2		
5	Equipment name	C	12		
6	Equipment type Depends on the protocol. From the Confway.dat file.	N	2		
7	Brand of equipment Depends on the protocol. From the Confway.dat file.	C	21		
8	Default: equipment address on the network	N	2		
	7 (Compex/Lac) equipment address on the regulator				
	219 (APRILNET) JBUS address if there is a gateway				
	26 (Modbus Plus) first field of the routing address				
	208 (TRANS_MMS_NODQS) DAU path name				
	258 -> Mitsubishi TCP/IP – first part of the TCP/IP address	N	3	0 to 255	
	262 -> YOKOGAWA TCP/IP – first part of the TCP/IP address	N	3	0 to 255	
	263 -> XBUS-IP-MASTER Master number – equipment Modbus address	N	5		
	264 -> XBUS-IP-SLAVE Slave number – equipment Modbus address	N	5		
9	Reply delay in minutes	N	2		
10	Reply delay in seconds	N	2		
11	Reply delay in milliseconds	N	2		
12	Configured timeout in minutes	N	2		
13	Configured timeout in seconds	N	2		
14	Configured timeout in milliseconds	N	2		
15	Activate the equipment on startup	C	1	"1","O","o","Y","y","N","n","0"	

N°	Description	T	L	Value	
16	Custom field. 0 if not significant 218 (DHP_KT) gateway 214 (DHP) gateway 219 (APRILNET) gateway	N		1=YES, 0=NO	
17	Custom field. 0 if not significant	N			
	218 (DHP_KT) recovery delay 214 (DHP) recovery delay Syntax: *min#sec#ms* Example : 1#3#500	C			
18	Custom field. 0 if not significant 218 (DHP_KT) gateway address 214 (DHP) gateway address	N	2		
19	Custom field. 0 if not significant	N			
	26 (Modbus Plus) routing address 1 (*R*) routing address 2 routing address 3 routing address 4 routing address 5 standby address 1 (*S*) standby address 2 standby address 3 standby address 4 standby address 5 Syntax: *R1#R2#R3#R4#R5#S1#S2#S3#S4#S5* Example: 1#0#0#0#0#3#1#0#0#0	C			
	7 (COMPEX/LAC) Regulator address on the network (SV2 only, c.f. field 20 for SV32)	N			
	208 (TRANS_MMS_NODQS) Equipment name	N			
20	Default: Syntax: *n#n#n#n#n* Where *n* is an unsigned whole number 0#0#0#0#0 if not significant	C	12 7		
	11 (H1) TSAP's label				
	26 (Modbus Plus) Permanent connection (0=YES, 1=NO) Main card number Standby card number Syntax: *perm#std_card#standby_card* Example: 0#0#1				

N°	Description	T	L	Value	
	211 (APPLICOM) Card number Channel number Syntax: *card_number#channel_number* Example: 0#2				
	25 (Sinec L1 card) Belonging to an alarm list (1=YES 0=NO)				
	16 (N10) broadcast group 1 (if BROADCAST) broadcast group 2 broadcast group 3 broadcast group 4 broadcast group broadcast group 6 Syntax: *gp0#gp1#gp2#gp3#gp4#gp5* Example: 1#0#1#1#0#0				
	7 (COMPEX/LAC) Regulator address on the network (SV32 only).	N	3	1 to 255 (except 64, 128, 192)	
	258 -> Mitsubishi TCP/IP • TCP/IP address(0 to 3) • Port number (4)	N	 3 5	 0 to 255	
	262 -> YOKOGAWA TCP/IP • TCP/IP address(0 to 3) • CPU number (4)	N	 3 5	 0 to 255	

N°	Description	T	L	Value	
	263 -> XBUS-IP-MASTER • TCP/IP address (0 to 3) • Port number (4) • Timestamp error address (0 = Equipment not timestamped) • Flags (bit 0 = 1 if disconnected, else 0) • Reconnection period (in seconds) • Number of redundant connections (0 by default) • Then for each redundant connection: red_nb#red_ip1#red_ip2#red_ip3#red_ip4# red_port#red_slave_add#red_flags • Disconnected group number where red_flags = 0 if cold connection and 1 if hot connection (1 by default). Example: 192#168#10#1#502#0#0#15#1#1#192#168#10#2#502#18#1 for 2 redundant connections to IP addresses 192.168.10.1 and 192.168.10.2, both on port 502 and without timestamping at source, with loss of connection, the redundant slave on address Modbus 18 with hot connection.	N	 4* 1 2 2 2 2 2 2	 0 to 255 0 to 65535 0 to 65535 0 to 65535 0 to 65535 0 to 65535 0 to 9999	
	264 -> XBUS-IP-SLAVE • Reserved for slave data block size (0 to 3) • Port number (4) • Memory state on startup. • Watchdog	N	 4* 2 2 2 2	 65535 (by default) 1,2,3 0 to 3600	
21	1 if virtual equipment, else 0	N	1	1/0	
22	Producers list	C	16		
23	Consumers list (Reserved)	C	16		
24	Object's origin: 0 if local, >0 if business layer	N			
25	Object version number	N			
26	Comment on object	N	40		

N°	Description	T	L	Value	
27	TS interval (in seconds) for timestamping at source. 0 -> TS internal is not handled. *x* -> TS internal is handled with a value of *x* seconds.	N	2	Default value 0	

Note:

See the Knowledge Base for further information about the Object's origin.

Frame

N°	Description	T	L	Value	
1	Entry type	C	5	FRAME	
2	Card tagname, starting at 0. Must be unique	N	2		
3	Network's tagname, starting at 0. Must be unique	N	2		
4	Equipment tagname, starting at 0. Must be unique	N	2		
5	Frame tagname, starting at 0. Must be unique	N	2		
6	Frame name	C	20		
7	Data type of the frame seen by SV 0 -> BIT 1 -> BYTE 2 -> WORD 3 -> REAL 4 -> DOUBLE WARD	N	2		
8	Frame size in bytes (Reserved)	N	2		
9	Amount of data (in the type)	N	2		
10	Access mode: read/write	C	2	L , E, LE R, W, RW	
11	Physical start address in the equipment 16 (N10) – PLC ref. 219 (APRILNET) - rank	N	2		
12	Address label Protocol dependent, from CONFWAY.DAT	C			
13	Data type in the equipment Protocol dependent, from CONFWAY.DAT	N	2		
14	Priority mode	N	1	0/1	
15	Repeat interval – minutes	N	2		
16	Repeat interval - seconds	N	2		
17	Repeat interval - milliseconds	N	2		
18	Custom field. 0 if not significant 16 (N10) (1=Yes, 0=NO) Using a descriptor PLC synchro / cycle Periodic sending by the equipment Syntax: ,*descript*#rankem#sync#emis *period* e.g.: ,1#0#1#1	C	127		
19	Default: Syntax: *n#n#n#n#n* *n* is an unsigned whole number 0#0#0#0#0 if not significant	C			

N°	Description	T	L	Value	
	208 (TRANS_MMS_NODQS) Offset (1=YES, 0=NO)				
	22 (TRANSMATE) Offset (1=YES, 0=NO)				
	23 (TRANSMATE_NODQS) Offset (1=YES, 0=NO)				
	5 (MODBUS_SURVEY) Offset (1=YES, 0=NO)				
	211 (APPLICOM) Locale code if the equipment type is not local Frame option as DWORD/REAL with DISTANT, FREE (bit 0 to 1 = address of type WORD: 0,2 BYTE:1 DWORD:2; bit 3 = inversion lsb/msb if 1 i.e. Motorola) *localaddress#m_usAddressOption*				
	16 (N10) EQT LOCAL Writing enabled by subscription (1=YES, 0=NO) Timestamp subscription address (1=YES, 0=NO) (only if it is NOT byte type and there are 32 BYTES of information !!!) Syntax: *ecr autorised#address subscribed#timestamp* Example: 1#21#0				
	219 (APRILNET) Monitoring events (1=YES, 0=NO) Threshold for events Channel Rack Card Syntax: *surv#thresh evt#chan#rack#card* Example: 1#200#1#3#1				

N°	Description	T	L	Value	
	26 (Modbus Plus) 0. Reserved (Number of attempts) 1. Do not optimize the writing of one kind of information (with the appropriate function code) 2 Contains a bit (event) address ("Loss of data in the Timestamped block"). Use this only for frames that can be timestamped. (Address is numeric if the equipment is "decimal", alphanumeric (hexadecimal) if the equipment is “hexadecimal”). 3. Reserved (Use this as a flag to indicate whether the frame can be linked in Direct mode or not, when the Timestamping frame is active.) 4. Reserved (stores the error from the previous exchange)	/ N N / C / /	/ 1 5 or 4 / /	0 0 / 1 0 to 65535 or 0 to FFFF 0 0	
	263 (XBUS-IP-MASTER) 0#0#*val*#0#0: *val* takes the value of the timestamping error address when the frame is timestamped (!= 0)		2	0 to 65535	
20	Custom field. 0 if not significant	N			
	11 (H1) DB number 25 (Sinec L1 card) DB number 218 (DHP_KT) DB number 214 (DHP) DB number	N			
	211 (APPLICOM) H1 DB number L2 DB number FREE high-end address	N			
	16 (N10) Period (if periodic sending=1) Syntax: *mn#sec#ms* Example: 1#2#300	C			
	5 (MODBUS_SURVEY) Shifting rate Syntax: *sec#ms* Example: 1#200	C			
21	**Unique** identifier for frame. Starts at 1. 16 (N10) Corresponds to the station ref.	N			
22	Code field of data in the frame Binary 1 ASCII 2 Compressed BCD 4	N	2		
23	Producers list	C	16		

N°	Description	T	L	Value	
24	Consumers list (Reserved)	C	16		
25	Object origin 0 if local, >0 if business layer	N			
26	Object version number	N			
27	Comment on object	C	40		

Note:

See the Knowledge Base for further information about the Object's origin.