

FS-8705--13 – TOA Electronics – VS-900 Security Intercom Systems - Serial Protocol

DATASHEET – Rev 1

DESCRIPTION

The TOA VS-900 Serial Driver (VS900 Driver) allows the FieldServer to poll remote stations for log data. This data can be used to determine the current status of a station. The driver supports a state lookup table so that the VS900 states can be mapped onto a different set of states. The driver also allows the establishment of a communications channel by performing a remote dial.

The FieldServer can emulate a Client. The driver is a serial driver using a RS232 serial port to connect between the FieldServer and the VS-900 Device. An RS485 port together with a converter can also be used for the connection.



Server functionality is provided only to support our ongoing quality assurance program by facilitating automated testing of the driver. It is not documented or supported. If required please contact the FST sales group to discuss your requirements.

CONNECTION FACTS

FIELDSEVER MODE	NODES	COMMENTS
Client	1	Only 1 VS-900 Devices per connection
Server	0	Not supported or documented.

FORMAL DRIVER TYPE

Serial
Client

COMPATIBILITY

FIELD SERVER MODEL	COMPATIBLE
FS-x2010	Yes
FS-x2011	Yes
FS-x40	Yes
FS-X30	Yes

CONNECTION INFORMATION

Connection Type:	EIA232
Baud Rates:	Driver Supports: 110; 300; 600; 1200; 2400; 4800; 9600 ; 19200; 28800; 38400; 57600; 115200 Baud <i>VS-900</i> supports: 19200
Data Bits:	Driver Supports: 7,8 <i>VS-900</i> supports: 8
Stop Bits:	Driver Supports: 1,2 <i>VS-900</i> supports: 1
Parity:	Driver Supports: Odd, Even, None <i>VS-900</i> supports: even
Hardware Interface:	N/A
Multidrop Capability:	No

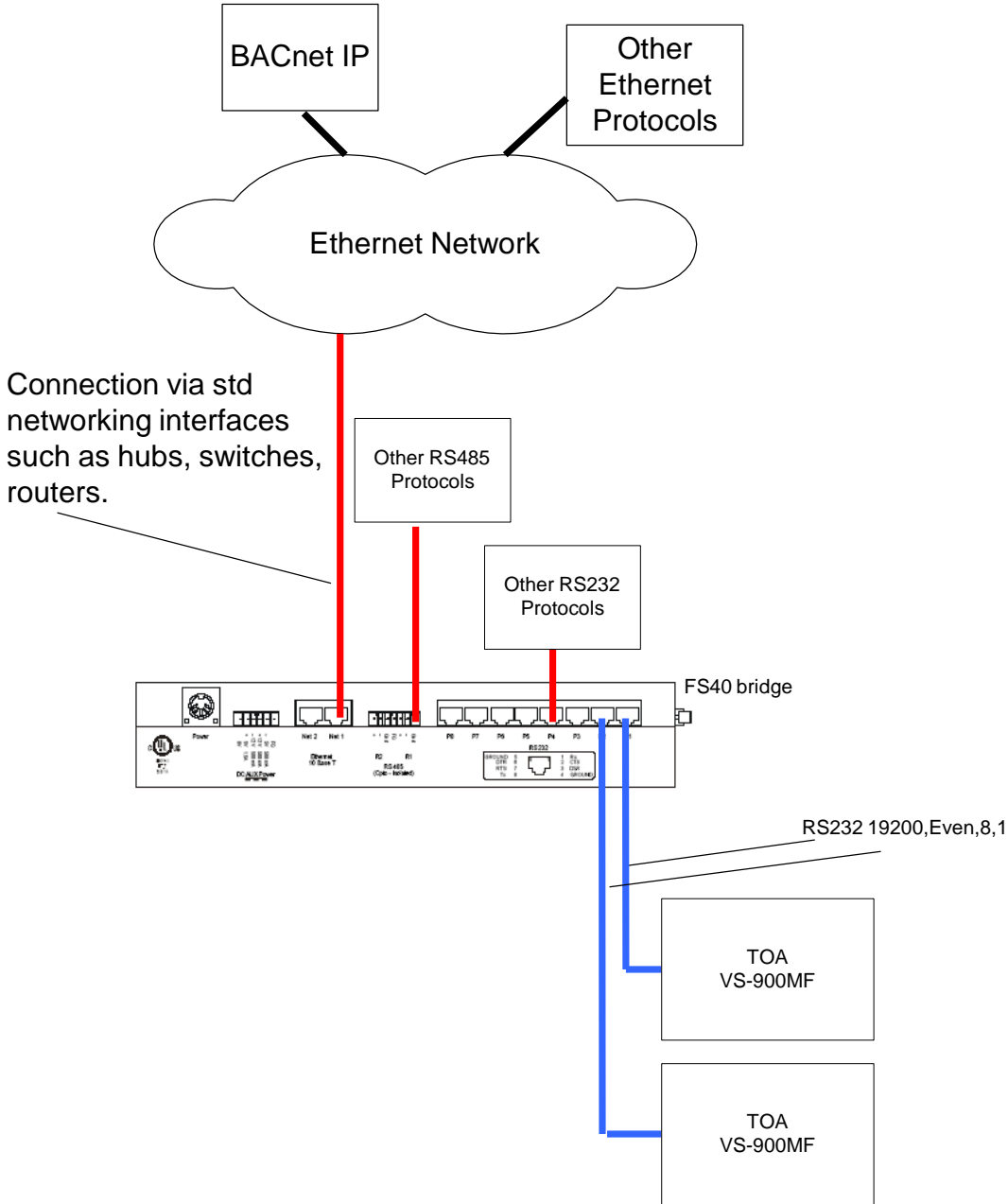
DEVICES TESTED

DEVICE	TESTED (FACTORY, SITE)
VS-900	Customer Site

CONNECTION CONFIGURATIONS

Multiple VS-900 Systems can be connected. One per port.

Multiple upstream protocols and connection supported. See list of FieldServer Drivers.



COMMUNICATION FUNCTIONS

SUPPORTED FUNCTIONS	IMPLEMENTATION VARIATIONS / NOTES
<p>Remote Dial</p> <p>All variations of the command will be provided in two flavors. One where the command is sent and another where the command is prefixed by an instruction to terminate existing connections.</p> <p>It is expected that these commands will be configured to execute when a trigger occurs.</p>	<p>Remote Dial with optional Terminate Connection</p> <p>Exchange, master station and remote station are specified with option to send a "CC" as prefix to dial (causes existing connections to be terminated.)</p> <p>Configurable command.</p> <p>Sends command specified inside Data Arrays.</p> <p>This variation of the command is a blank slate. The contents of the dial message will be extracted from the FieldServer's Data Arrays. This means that any command can be sent. How does the command payload get into the Data Arrays ? Either the upstream protocol sends the data to the Arrays or the Arrays are pre-loaded using the configuration file.</p> <p>Thus to send a command that the driver doesn't explicitly support such as Emergency Paging the driver needs to send the command '****'. This can be preloaded into the Data Array or the other driver can be used to load the Data Array.</p> <p>Thus the following (and more) commands can be sent.</p> <ul style="list-style-type: none"> • All Zone Page • Single Zone Page • Emergency Page

<p>Request Log Data</p> <p>It is expected that these requests will be configured to be sent continuously based on a time interval.</p>	<p>The driver will request log data from a specified exchange. It will read all the log records from that exchange until there are none remaining.</p> <p>Each time a log record is received in response to the request the driver will update the FieldServer Data Arrays so that some other protocol can read this data and determine 1) the current state of a station/sub-station</p> <p>The state is provided as an enumerated integer where each value represents a different condition. Time stamp information is provided too. Additional information will be provided where applicable.</p> <p>A table of state codes is provided below.</p> <p>By monitoring these state codes a remote application can determine the state of each station.</p>

State Code	Description
01	Call from Normal sub-station.
02	Call from Emergency sub-station.
03	Call from Master Station (Telephone Master)
04	Call from C/O line
	"Axy " ("xx" is exchange #, and "y" is C/O line # 1 - 2
05	Master Station (Telephone Master) reception of a
	call from Normal sub-station
06	Master Station (Telephone Master) reception of a
	call from Emergency sub-station
07	Master Station (Telephone Master) reception of a
	call from other Master Station (Telephone Master)

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08	Master Station (Telephone Master) reception of a C/O line call
09	Call operation completion at Master Station (Telephone Master)
10	Start of Normal conversation
11	Start of Emergency conversation
12	Start of C/O line conversation
13	Automatic response to an incoming C/O line call (direct-in dial) "Axy " ("x" is exchange #, and "y" is C/O line # 1 - 2
14	Start of Individual-zone or All-zone Paging "pagx " ("x" is paging zone #01 - 19)
15	Start of Emergency All-zone Paging "pagx " ("x" is paging zone #01 - 19)
16	Start of External Broadcast activation "chx " ("x" is the external line # 1 - 4)
17	Connection of Scan Monitor
18	Not used
19	Start of Conference call
20	Connection of Conference call
21	Start of Emergency Conference call
22	Connection of Emergency Conference call
23	Automatic Call Forward log
24 - 29	Not Used
30	Call termination by disappearance of waiting stations. Displayed when reception mode is switched to standby mode.
31	Call termination before dialing completion
32	Normal call termination
33	Receiving C/O line call interruption "Axy " ("x" is exchange #, and "y" is C/O line # 1 - 2
34	Paging termination
35	Emergency Paging termination
36	Termination of external input broadcast. "chx " ("x" is the external line # 1 - 4)
37	Termination of Scan Monitor

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38	Termination of Conference
39	Termination of Emergency Conference
40	Line disconnection. Displayed when only a single line for call transfer or call-back is disconnected.
41	Call termination due to the ringing repetition limit (No-Answer)
42	Call termination due to the time limit (conversation, C/O and Paging)
43	Call termination (at the called station). Displayed when a received call disappears.
44	Forced call termination (Priority)

CUSTOMER SUPPORT

TOA Electronics Driver for FieldServer was developed by Chipkin, and we are proud to provide support for our products. For technical support, sales and customer service, please call us at 1 (866) 383-1657.

Thanks for choosing Chipkin's products and integration services to meet your building and industrial automation requirements!

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REVISION HISTORY

This table summarizes the update history for this protocol data sheet. Please contact Chipkin by phone or email for an updated version of this document.

DATE	RESP.	DRIVER VERSION	DOCUMENT REVISION	COMMENTS
25 Sept 2008	PMC	0.00	0	Created
8 Jun 2021	YC	0.00	1	Updated to latest template