

FLEXIBLE TESTING TOOL v2.3

Version 2.3 available [NOW](#)



EKMS 308
EKMS 608
NSA 90-02A
EKMS 217
compliant

Two full-speed
DS-101 ports

One variable-
speed DS-101
over RS-232
port

One full-speed
DS-102 port

Simplistic, high-
level scripting
language
controlled

Windows
Interface

Command Line
Interface

Customizable
I/O

IEEE 802.1
compliant

ISO 7816
compliant



The Flexible Testing tool provides a simplistic, flexible means to:

- Simulate key loading devices (SKL, DTD, KYK-13, DTS...)
- Simulate cryptographic equipment (ECUs) for testing Key Loading Devices
- Fully validate DS-101 Primary and Secondary implementations including injection of all types and levels of errors.
- DS-101 over RS-232 and RS-485
- Fully validate DS-102 implementations including injection of all types and levels of errors.
- Monitor DS-101/102 traffic with insight into each frame and where it originated. Allows high-level and low-level debugging of DS-101 interfaces
- Customizable target board signals (custom protocol control, reset, signal monitoring, signal insertion, etc.)
- Simple scripting language (numerous, fully-functional examples included)
- Runs multiple scripts iteratively and tracks time of execution and pass/fail.
- Fully validate ISO 7816 smart card implementations
- Command line (DOS) interface for automation of test in manufacturing environments. Also allows operator interactive programs to be created
- DLL for user application development.

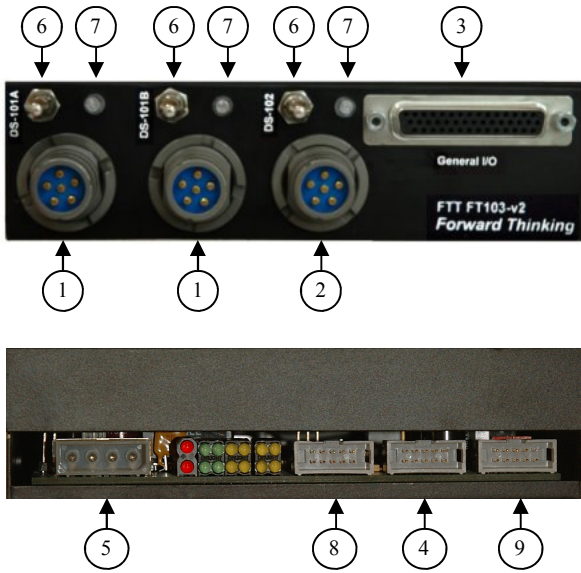
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*Another innovative product
from the
Embedded Security Experts*

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FORWARD THINKING

FLEXIBLE TESTING TOOL v2.3



Technical Specifications

- Dimension: 5 1/2" wide x 1 3/4" high x 7" deep (standard 5 1/4" drive slot)
 Weight: 2 lbs
 Power: 9V to 18V in (standard PC power connector) @ 150 mA
 Front Connectors: ① Two (2) DS-101 U-283/U male connectors
 ② One (1) DS-102 U-283/U male connectors
 ③ DBHD-44 connector for customizable I/O including DS-101 over RS-232 pin-out.
 Back Connectors: ④ RS-232 10 pin connectors for PC control
 ⑤ Standard PC power connector (only 12V is used)
 ⑥ One each (DS-10x) lockable toggle switch (mimics physical connection/disconnection of device)
 Indicators: ⑦ One each (DS-10x) Tri-color LED (connect, traffic, error)
 ⑧ DS-101 over RS-232 (same as #3 above).
 ⑨ Proprietary test port.

SCREEN SHOTS

Category	Description	Status	Time (uSec)
SetAddress-Primary.Rt	Verifies processing of the Set Address.request FDU (EXMS 308, section 3.3.5)	Passed	644
SetIdentifier-Primary.Rt	Verifies processing of the Set Identifier.request FDU (EXMS 308, section 3.3.6)	Passed	621
GetTime-Primary.Rt	Verifies processing of the Get Time.request FDU (EXMS 608, section 2.2)	Passed	551
GetSetTime-Primary.Rt	Verifies processing of the Set Time.request FDU (EXMS 608, section 2.4)	Passed	622

```

Script Output
89 print " Secondary DS-101 Address => " &
SecondaryDS101Address ;
90 Secondary DS-101 Address => 0xCD
91 SetIdentifierReqFDU =
fdu.SetIdentifierRequest.create (
fractionid =
0x003132333435363738393a3b3c3d ) ;
92 Result = ds101.fdu.transmit ( fdu =
554e494e 49544941 4c495a45 44
SetIdentifierReqFDU ) ;
93 print " Result => " & Result ;
94 Result => Transmission Confirmed
95 If ( Result != TransmissionConfirmed )
then
96 endif
97 include IncludePath & "
CommonLinkLayer.Disconnect.inc " ;
98 Including
U:\Projects\FTTH\Install\Scripts\Commo\Li
nkLayer.Disconnect.inc
99 Result = ds101.disconnect ( ) ;

```

DS-101 Primary Station Validation

Category	Description	Status	Time (uSec)
AXID-Primary.fot	DS-101 Primary function of receiving an AXID.request FDU	Passed	646

```

Script Output
103 Result = ds101.fdu.transmit ( fdu =
AXIDReqFDU ) ;
104 print " Result => " & Result ;
105 Result => Transmission Confirmed
106 if ( Result != TransmissionConfirmed )
then
107 endif
108 AXIDResponseFDU = ds101.fdu.receive (
timeout = Timeout ) ;
109 include IncludePath & "
CommonLinkLayer.Disconnect.inc " ;
110 Including
U:\Projects\FTTH\Install\Scripts\Commo\Li
nkLayer.Disconnect.inc
111 Result = ds101.disconnect ( ) ;
112 if ( Result != DisconnectConfirm ) then
113 endif
114 Result = ftt.prompt_user ( message = "
Press button above DS-101 connection (be
sure LED is off) " ) ;
115 print " Test passed " ;

```

DS-101 Primary Station AXID request

Description	Primary Station	Secondary Station
88 [000001376]RR Frame		Raw Data = 35 11 55 cd Address = 35 Control = 11 FCS = 55cd
89 [000001394]Information Frame (AXID.request)	Raw Data = ff 10 50 00 00 11 01 00 ff 46 54 54 20 53 74 61 74 69 6f 6e 20 49 44 20 45 Address = ff Control = 10 Information = 50 00 00 11 01 00 ff 46 54 54 20 53 74 61 74 69 6f 6e 20 49 44 FCS = fb45	
90 [000001407]Information Frame (AXID.response)		Raw Data = 35 30 60 00 00 11 01 b0 0b 49 46 46 20 46 50 20 20 20 20 20 20 20 44 0c Address = 35 Control = 30 Information = 60 00 00 11 01 b0 0b 49 46 46 20 46 50 20 20 20 20 20 20 20 FCS = 440c
91 [000001434]RR Frame	Raw Data = ff 31 8d d0 Address = ff Control = 01	

DS-101 Monitoring

Category	Description	Status	Time (uSec)
AXID-Secondary.fot	DS-101 Secondary function of receiving an AXID.request FDU	Passed	3692

```

Script Output
59 endif
60 AXIDResponseFDU = fdu.axidresponse.create (
fractioncount = 0x01, fixedid = 0x3944,
fractionid =
0xreedccbbaa99877665544332211 ) ;
61 Result = ds101.fdu.transmit ( fdu =
00600011 013944ee d0ccbbaa 9987766e
AXIDResponseFDU ) ;
62 print " Result => " & Result ;
63 Result => Transmission Confirmed
64 if ( Result != TransmissionConfirmed )
then
65 endif
66 Result = ds101.disconnect.accept (
Timeout = Timeout ) ;
67 if ( Result != TRUE ) then
68 endif
69 print " Test passed " ;
70 Test passed
71 End:
U:\Projects\FTTH\Install\Scripts\Secondary
\AXID\AXID-Secondary.fot

```

DS-101 Secondary Station AXID response

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