



ShortStack® 2.1 Developer's Kit

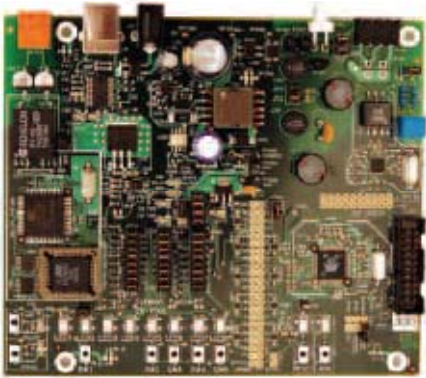
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Introduction to ShortStack

The Fastest, Simplest, Cheapest Way To Network Existing Everyday Devices



Using ShortStack in a Device



**ARM 7 Host with
FT ShortStack
Micro Server and
a Pyxos[®] Chip**

- Use any host processor
 - Example port available for Atmel ARM7
- Add the tiny ShortStack API to your host
- Add a ShortStack Micro Server...

ShortStack Micro Server



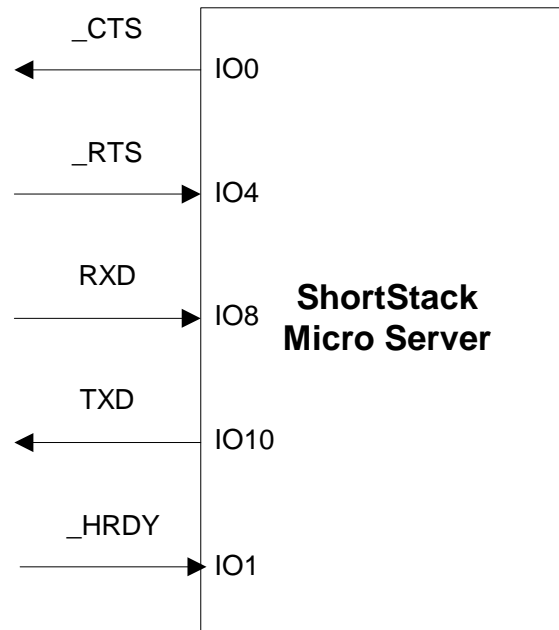
FT 3120
Smart Transceiver



PL 3120
Smart Transceiver

- Implements the LonTalk® protocol—simplifying your host
 - Supports authentication, acknowledgements, duplicate message detection, retries, multi-cast, and peer-to-peer communication
- Optionally implements the Interoperable Self-Installation protocol
 - Eliminates the need for installation tools for simple networks
 - Requires an FT or PL 3150 Smart Transceiver
- Supports FT and PL Smart Transceivers
- Simple SPI or SCI serial interface to your host
 - 4 to 5-wire serial interface
 - Up to 307,200bps

ShortStack SCI Interface

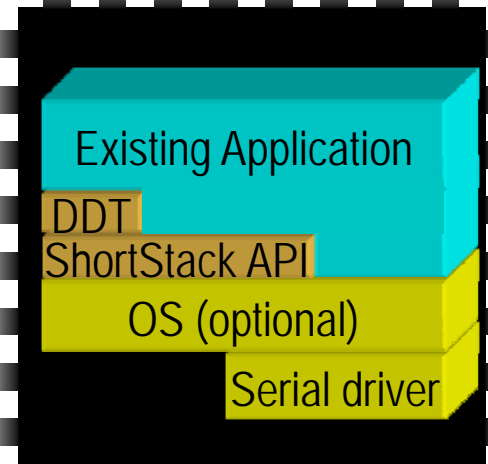


- Standard asynchronous serial interface
 - 2 lines for serial input and output data
 - 2 required and 1 optional handshake lines
- Up to 307,200 bps
- Simplest and fastest interface option

ShortStack API

```
lonSendNvUpdate(NVIDX_nvoTemperature, *CurrentTemp, sizeof(CurrentTemp));
```

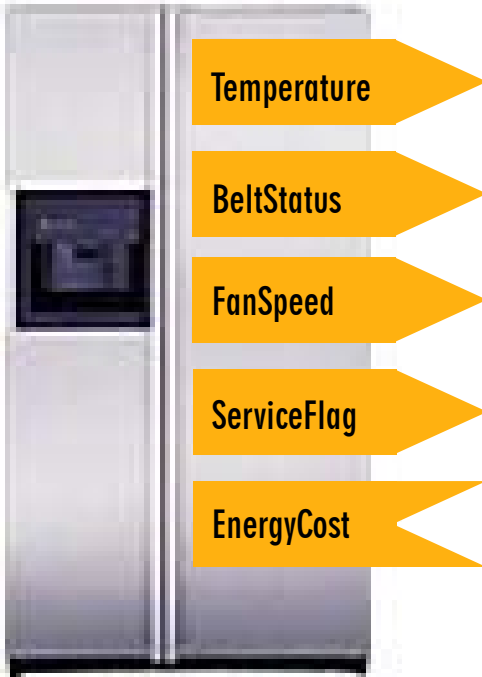
- Everything you need to send and receive network variables and application messages
 - One function call for each is all it takes
 - Up to 254 network variables per device
 - Configuration properties can be implemented on the host
- Use with any 8, 16, or 32-bit micro
 - Written in portable ANSI C
- Typically less than 4 – 6 KBytes of code
 - Less than 1KByte of RAM
- Interoperable Self-Installation support available



ShortStack Developer's Kit

- **ShortStack Developer's Kit and ARM7 Example Port**
 - ANSI C source code for the ShortStack API and driver
 - Example application
 - ShortStack firmware
 - LonTalk Interface Developer
 - Documentation
- **Free download from www.echelon.com/ShortStack**
 - Royalty fee included when used with the FT and PL Smart Transceivers

ShortStack Benefits



- Enables products to be easily networked
 - Locally and remotely
- Supports twisted pair or power line communication
- Supports low-cost hosts
- Preserves your investment in software code
- Creates cost-effective products
- Builds on a proven technology
- Reduces investment in development tools
- Enables new revenue opportunities
- Reduces time-to-market