

SCF Software Configuration Tool

Specification

Overview

SCF is a software tool that allows the user to create configurations for RSX/VRX Video Recorders, VPR100 VIDEO Programmer Recorders, and CTX/UDC5300 Controllers using a personal computer with a Microsoft Windows® operating environment. This permits a user to develop a configuration or group of configurations on a PC and transfer them to a number of instruments with confidence that each will receive the same configuration. Configuration files created with SCF software may be stored using a user-specified file name. Creating a library of configuration files allows users to quickly select an existing file for editing to re-configure any of the target instruments.

SCF software creates a file which stores all of the defined parameters of an instrument configuration. It can also be used to modify an existing configuration created by the program or one taken directly from an instrument using a floppy disk, PCMCIA card or serial communications.

Features

- Configuration software for RSX/VRX Video Recorders, VPR100 Video Programmer Recorders and CTX/UDC5300 Controllers
- Microsoft Windows® 3.1, Windows® 95 and NT compatible
- Develop configurations independent of the instrument with the convenience of your PC
- Store and transport configurations by floppy disk or PCMCIA memory card
- Easy to use dropdown menus
- Provides context sensitive help for entering labels

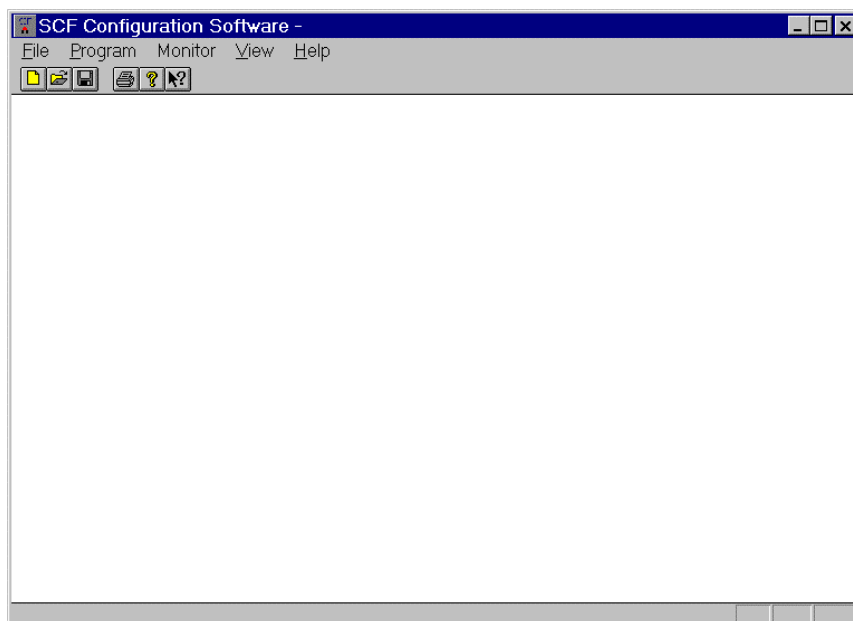


Figure 1 SCF Startup Screen

- Upload and download configurations via serial communications
- Monitor dynamic instrument parameters with serial communication for on-line debugging
- Print configurations for a hard copy record
- View configurations as ASCII text files
- Save setpoint programs as independent files for loading via floppy disk, memory card or serial communications

Configuration Concept

Configurations are created by defining the source of input data and the operating attributes of function blocks used in the products. Starting with instrument inputs and sequentially defining inputs to subsequent function blocks establishes a signal flow through the instrument that executes the desired opera-

tion. In addition to function block configuration, SCF software allows users to define operator interface characteristics including point descriptions, tags and engineering units, displays, access to specific product features, and instrument security.

The following function block types are supported.

<u>Function Block</u>	<u>Identifier</u>
Analog Inputs	AI
Control Algorithms	LP
Analog Outputs	AO
Discrete Inputs	DI
Discrete outputs	DO
Calculated Values	CV
Alarms	AL
Totalizers	TL
Setpoint Programs	SP
Constants	CN

A dedicated screen is provided for configuring each function block type. See Figure 2.

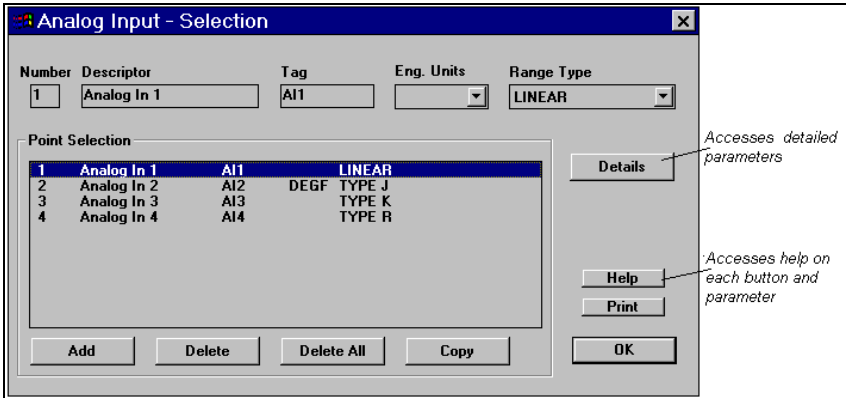


Figure 2 Analog Input Configuration Screen

Within each dedicated screen is a Details button for accessing detailed parameters of the function block. See Figure 3.

Calculated Values

On-line data manipulation saves time and enhances analysis capabilities. Several built-in algorithms are available to customize specific applications. Calculations accept analog or discrete inputs from external sources or can be linked to internal values, constants, and status.

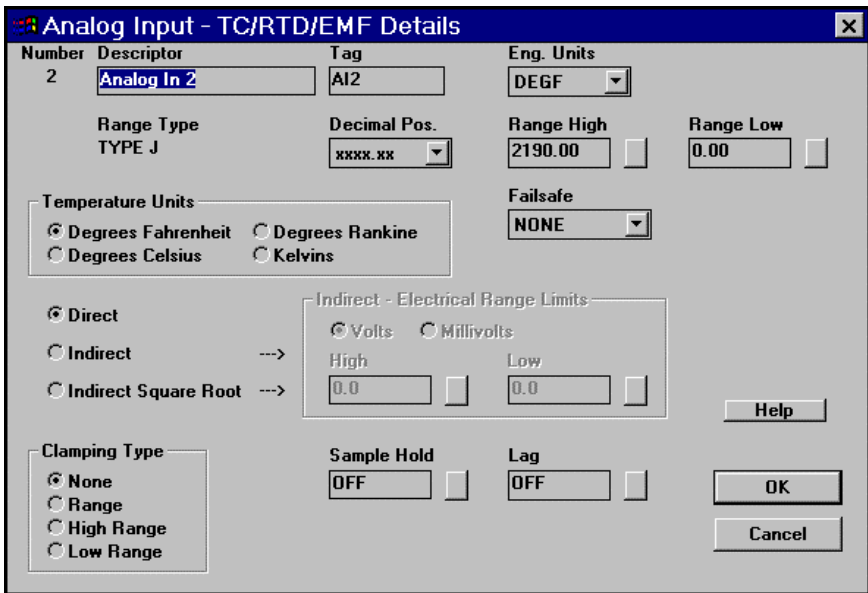


Figure 3 Analog Input Details

Freeform Math

One type of calculated value is freeform math equations. You can enter equations up to 64 characters long. See Figure 4. RSX Video Recorders, VRX Recorders, and VPR100 Video Programmer Recorders allow equation entry through the front panel of the instrument. The CTX/UDC5300 controllers are capable of executing the same math functions as recorders and programmers, but equation entry is only available with the use of SCF software.

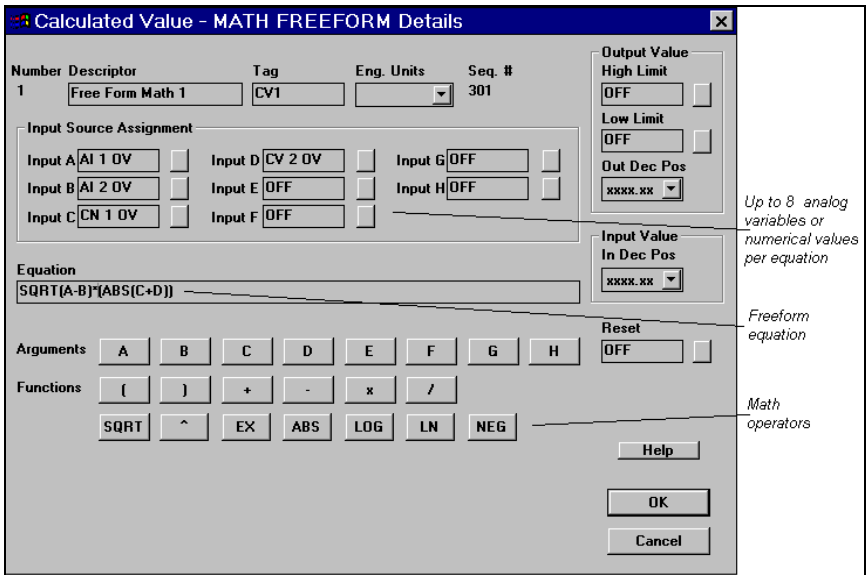


Figure 4 Freeform Math Configuration

Display Setup

The operator interface characteristics of a target instrument may also be configured using SCF software. Figure 5 provides a sample of a typical trend setup display for an RSX/VRX/VPR video recorder.

Log Changes

SCF software allows users to setup a log file that automatically records database changes such as: database changes, detail database changes, and database errors. Data base errors will also be logged when downloading configurations to target instruments to aid in isolating specific errors.

Setpoint Programs

Setpoint program function blocks require 3 levels of configuration, all of which are supported by SCF software. Level 1 defines the block inputs, entry resolution and output limits. Level 2 defines the time base for the program, the ramp entry method, the ramp and soak profile data and event actions. Level 3 is performed on PID loop screens and specifies the setpoint program as an input source for a remote setpoint. See Figure 6.

The information contained on the setpoint program configuration screen will be included with the total instrument configuration when saved to disk. Setpoint profile data may optionally be stored as separate files for downloading to an instrument without changing other portions of the target instrument's configuration.

Printing

SCF lets you print an entire configuration, or portions of a configuration by selecting the desired function types (such as analog inputs, calculated values, etc.). In addition, setpoint profiles may be printed separately to allow hard copy records of profile information. A print selection for the log file of database changes and database errors is also provided.

Serial Communications

SCF software lets you download or upload configurations to and from instruments over an RS-485 multi-drop serial communications link. The communication link setup allows port designation, baud rate and protocol (binary or Modbus) assignments.

Completed configuration files are downloaded sequentially by line number and an on-line monitor verifies proper execution and reports diagnostic errors.

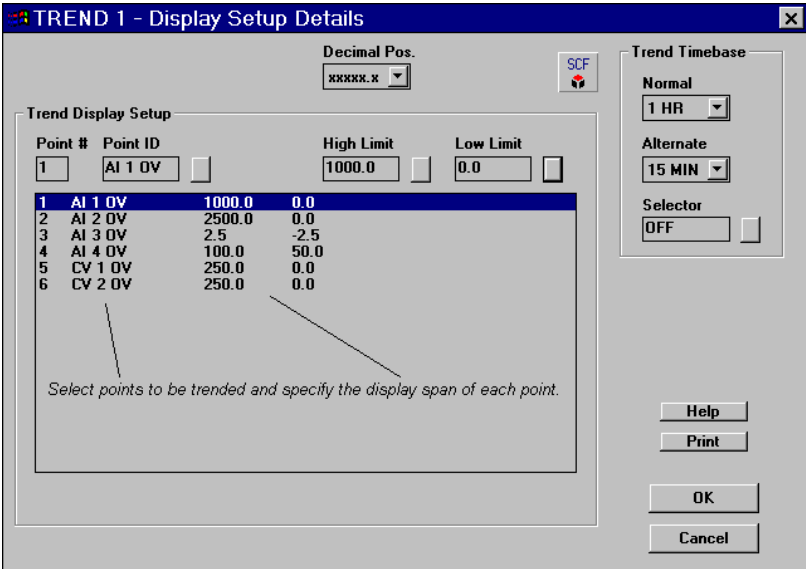


Figure 5 Display Configuration

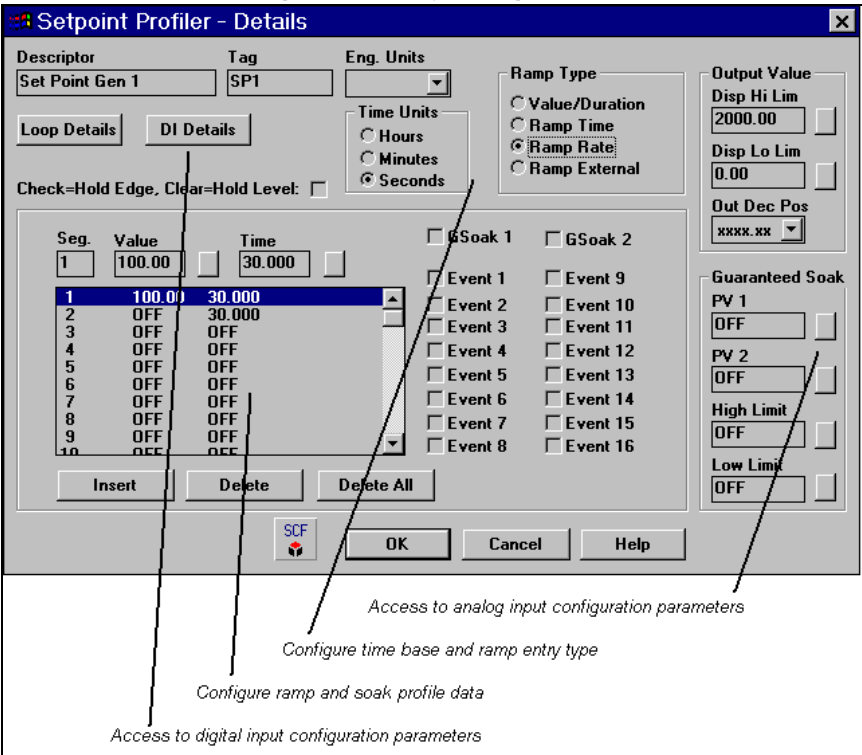


Figure 6 Setpoint Program Configuration & Profile Definition

Live Data Monitoring

An on-line monitoring screen is provided to verify proper operation of the downloaded configuration. See Figure 7.

Selecting items such as constants or digital inputs and outputs allows their status or values to be changed from the display.

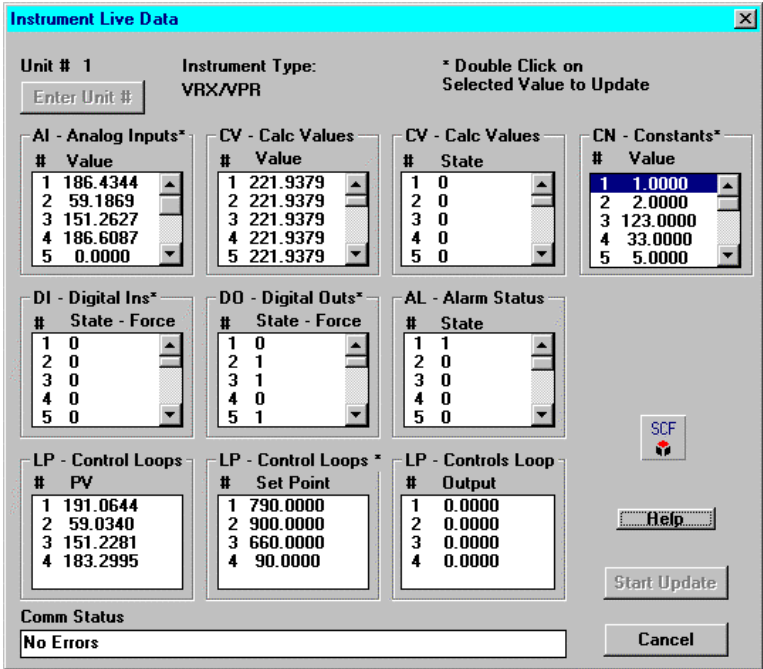


Figure 7 Live On-Line Data Monitoring

Minimum System Requirements

The SCF software package requires an computer system equipped with:

- IBM compatible 386, 486, or Pentium CPU.
- At least 4 Megabytes (preferably 8 megabytes) RAM
- Microsoft Windows® 3.1, Windows® 95 or Windows® NT.
- 3 ½" floppy disk drive.
- Hard drive with at least 2 megabytes available.
- Mouse or trackball.
- A parallel port for printing configurations.
- RS-232 port and RS-232 to RS-485 port converter. Required when serial communications is used to upload and download configurations and monitor live instrument data.

Distributor

Industrial Automation and Control

Honeywell Inc.

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