

ITRON Newsletter No.10

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ITRON-related Publications

Listed in another page are the publications prepared and issued by the ITRON Technical Committee as of August 1, 1994. The ITRON- μ ITRON Standard Handbook is a one-volume compilation of μ ITRON (Ver 2.0) and ITRON2 specifications. Each of the publications can be obtained directly from the sources indicated.

The latest version of μ ITRON3.0 is now Ver 3.01.00. Changes made since the μ ITRON3.0 Standard Handbook was released (Ver 3.00.00) are noted in Newsletter No.5.

The ITRON Standard Guidebook '92-'93 still applies to users of μ ITRON (Ver 2.0) and ITRON2 specifications, even though the dates in its title are now past. When a new edition of the ITRON Standard Guidebook is issued, it will be targeted primarily at the μ ITRON3.0 specification.

Report on ITRON Open Seminar

The ITRON Open Seminar was held July 22 in Tokyo, as outlined below. Before this year these seminars were held under the name "ITRON Product Seminar"; the latest seminar, newly named, is the fourth since the series got under way. The ITRON Technical Committee plans to continue holding these events annually, as a way of keeping users informed of recent developments relating to ITRON specifications and their implementations.

The theme of this year's seminar was " μ ITRON 3.0-specification products starting to appear," as it sought to introduce new operating systems implementing the latest ITRON specifications. At the same time the seminar introduced development tools for ITRON-specification OS environments, and featured a panel discussion on standardizing the debugging interface for ITRON. Around 100 persons attended this lively and successful event. A detailed account of the presen-

tations and discussions is given in TRONWARE Vol. 29 (available in Japan from Personal Media Corp.; in Japanese).

At least half of the participants stayed for the reception afterwards, providing an opportunity for fellowship mixed with trade talk.

Date: Friday, July 22, 1994; 10:00am-5:30pm

Place: TEPIA Hall (Aoyama, Tokyo)

Program:

1. Update on the ITRON Subproject
K. Tamaru (Toshiba Corporation)
2. Outline of μ ITRON3.0
S. Yamada (Hitachi, Ltd.)
3. Development tools for ITRON
"A multitask debugger for SPARClite
(XRAY MTD/Spectra)"
I. Kobayashi (Nihon Microtec Research K.K.)
"A multitask debugger for MULTI"
H. Fukutomi (Advanced Data Controls)
4. Panel discussion
"Toward a standard debugging environment
for ITRON"
Moderator: K. Tamaru (Toshiba Corporation)
I. Kobayashi (Nihon Microtec Research K.K.)
H. Fukutomi (Advanced Data Controls)
T. Kodama (Yokogawa-Hewlett-Packard Co., Ltd.)
T. Takahashi (Mitsubishi Semiconductor Software Corp.)
K. Kudoh (Fujitsu Device Limited)
H. Takada (Univ. of Tokyo)
5. New ITRON-related products
"REALOS/SP: a μ ITRON-specification OS
for SPARClite"
Y. Kobayashi (Fujitsu Limited)
"HI-SH7: a μ ITRON-specification OS
for SH microcomputers"
T. Hamada (Hitachi, Ltd.)
"The MR1600 and MR3800 OS products"
H. Muraki (Mitsubishi Semiconductor Software Corp.)
"TR-9000 μ ITRON-specification OS for TLCS-9000/16"
N. Yamauchi (Toshiba Corporation)
6. Special Speech: "A Decade of ITRON"
K. Sakamura (Univ. of Tokyo)

† This newsletter is reprinted from TRONWARE vol.29 and TRON PROJECT BIMONTHLY No.34.

ITRON-related Publications

Name	Type	Price	Publisher	ISBN No.
ITRON- μ ITRON Standard Handbook	Specification (Japanese)	4,800Yen	Personal Media Co.	4-89362-079-7
μ ITRON3.0 Standard Handbook	Specification (Japanese)	4,000Yen	Personal Media Co.	4-89362-106-8
ITRON/FILE Standard Handbook	Specification (Japanese)	3,000Yen	Personal Media Co.	4-89362-092-4
ITRON Standard Guidebook '92-'93	Textbook (Japanese)	3,500Yen	Personal Media Co.	4-89362-197-6
μ ITRON Specification Ver 2.01.00.00	Specification (English)	12,000Yen	TRON Association	-
ITRON2 Specification Ver 2.02.00.10	Specification (English)	15,000Yen	TRON Association	-
μ ITRON3.0 Specification Ver 3.00.00	Specification (English)	-	TRON Association	-

NOTES:

- Prices do not include consumption tax.
- The documents issued by the TRON Association are available to Association members at a special discount rate.
- English-language specifications are distributed free of charge on the Internet as explained in Newsletter No.8.

Introducing Applications

In our last newsletter, in reporting on the awards given to commemorate the 10th anniversary of the TRON Project, we noted that Roland Corporation was given an application product development award for its electronic musical instruments using an ITRON-specification OS kernel. Here we present a brief description of three Roland products adopting this kernel, which were decisive factors in the firm's receiving this award.

In future issues of the newsletter we would like to introduce other applications of ITRON specifications wherever possible. Anyone interested in having their application spotlighted should contact the ITRON Technical Committee.

KR-5500 electronic piano with automatic accompaniment function

MT-120 music recorder with built-in synthesizer

JW-50 music workstation

Roland Corporation

The KR-5500 brings a new dimension of enjoyment to keyboard instruments, combining the natural touch and sound of a piano with such functions as automatic accompaniment, a piano style arranger, and a wide range of other musical expression. It is further equipped with a convenient recording and playback facility and song composer function, enabling users to listen to their own performances, and to create pieces with a variety of sound colors. Numerous other applications.

The MT-120 is intended mainly for music training, through music-minus-one and ensemble playing functions. It makes use of a wealth of musical data to allow training on many kinds of instruments, from digital piano, guitar and synthesizer to violin, flute and other



JW-50 music workstation

string and wind instruments.

The recording and playback function is operated just like a tape recorder, and the unit incorporates a wide variety of sound colors. The recorded performance data can be played back at different tempos without altering the pitch; or the key can be changed while keeping the original tempo. This flexibility enables it to be used effectively for lessons at all levels of proficiency.

The JW-50 combines in one product a 16-multi-timbre synthesizer, 16-part sequencer, and 16-part compu-mixer, each with its own highly advanced functions. The result is a total music workstation for carrying out all aspects of musical creation.

This product makes it possible to create music in a short time, without bothering about system configuration or MIDI settings. What's more, this new kind of creative tool can be used across a whole range of music genres.

All three of these products incorporate a 3.5-inch floppy disk drive, allowing the created data to be saved on a disk.

These products all make use of a μ ITRON-specification real-time OS, and are therefore able to provide real-time response in ordinary performance

and button operations, as well as the operation of MIDI functions. Moreover, the real-time response is in no way hindered by disk access or display operations, or by editing operations and the like.

Recent Works on ITRON

The ITRON subproject is featured in TRONWARE Vol. 29. The issue introduces an ITRON-specification kernel available as free software. An application example is introduced where a μ ITRON-specification kernel is used for micromouse¹ control. The issue comes complete with a floppy disk containing the source code for ItIs, the μ ITRON-specification real-time kernel developed in the Sakamura Laboratory at University of Tokyo.

¹A micromouse is an electronic robot that gets around on its own, using sensors to detect walls and other objects. The name "mouse" comes from its ability to find its way out of maze, like a laboratory rat. The μ ITRON-based micromouse has been featured in a contest where such robots match their skills against each other.