

WEEKLY

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VIDEODISC: BOOM OR BUST?

The Story of the Videodisc in 1981
From the Pages of Television Digest

Week by Week Developments During the Most Critical Year of a Major New Product

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VIDEODISC: BOOM OR BUST?

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VIDEODISC -- BOOM OR BUST?

On February 26, 1981, some 14,000 RCA dealer personnel gathered in 75 cities to watch a \$500,000 satellite-relayed extravaganza launching what was hailed (by RCA) as the most important new consumer electronic product since color TV -- the videodisc. RCA forecast sales of 200,000 players and millions of discs by the end of the year.

It wasn't the first American videodisc launch. That came at the end of 1980, as Magnavox started first regional sales of the Laservision optical videodisc system.

The major television manufacturers chose up sides, casting their lot with either the Laservision, the RCA-developed CED, or the promised Japanese compromise VHD system.

But something went wrong. Neither the Laservision nor the CED system was greeted by an enthusiastic public ready to gobble up this newest triumph of consumer electronics. And the compromise Japanese system suffered from repeated postponements.

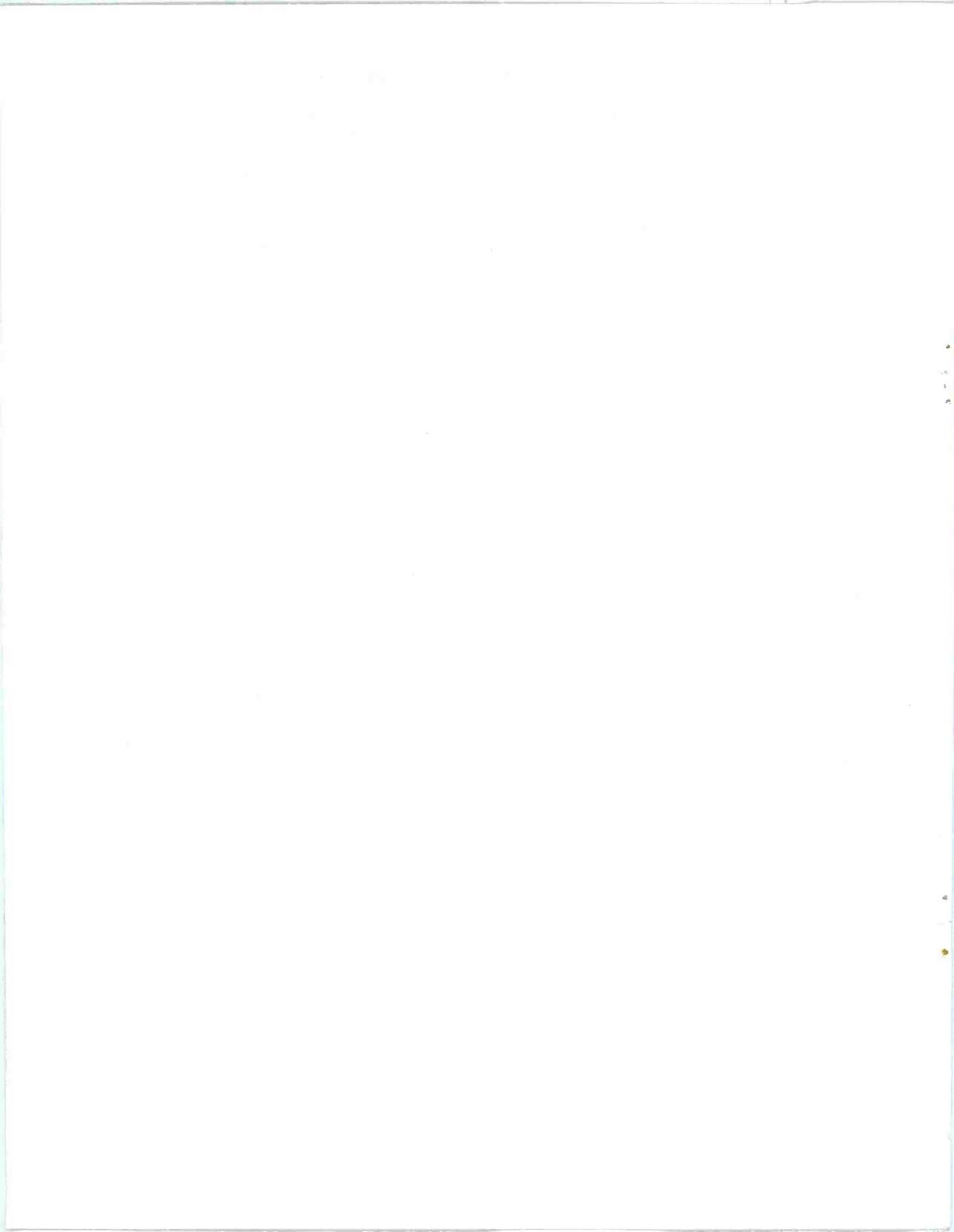
As 1981 progressed, the forecasts of doom accelerated. As prices of videocassette recorders fell, and the VCR boom accelerated, some began to wonder whether there was room for both products at such comparable prices. Meanwhile, prices of CED players began to descend from the almost universal suggested lists near \$500 to as low as \$299 and even lower.

At the same time, the Laservision forces were having their own troubles -- and low sales were only part of the story. There was a shortage of discs, and when discs did become available they were often defective, or they'd play on some players and not on others.

But the picture wasn't all dark. Those who did buy players had an unexpectedly voracious appetite for discs -- RCA had to up its forecasts of 8 disc sales per player per year to around 26. The Laservision system was warmly embraced as an unexcelled industrial, institutional and educational tool and, as 1981 closed, VHD proponents were signing up software and making concrete plans for introduction at mid-1982.

The developments of 1981 were followed early in 1982 by the withdrawal of Discovision Associates (IBM & MCA) from videodisc production and the sale of its interest in Japanese player & disc manufacturer Universal-Pioneer to Pioneer Electronics, and a change in RCA's strategy to a razor-and-blade policy, with sharp cuts in its disc player prices, apparently indicating its willingness to subsidize player circulation so it could realize its profits from the discs.

The results in the videodisc battle are far from conclusive. And for a perspective on what happens from here on, it's vitally important to be aware of the crucial foundations laid in 1981. In this volume, from the pages of Television Digest, is the complete story of videodiscs in 1981, told just as it happened.



January 5, 1981

MODEST 1981 LAUNCH PLANNED FOR VHD: More than token, less than onslaught, is best description of planned U.S. market availability of VHD-format home videodisc players this year. Outlook now is for some 20,000-30,000 players to be handled by VHD hardware group -- GE, JVC, Panasonic & Quasar -- between late fall market launch & year's end.

In Japan, Matsushita Pres. Toshihiko Yamashita said his company expects to start player production by April, turn out about 20,000 for sale in both U.S. & Japan. It's understood JVC, developer of VHD system and a Matsushita subsidiary, is expected to produce about equal number, bulk earmarked for delivery under private label to GE.

GE has been assigned point in VHD market drive, will be first to announce player availability, sales program, with others one step behind. Matsushita followed similar approach to market with VHS VCR format, letting RCA blaze trail, still has similar policy with new VCR models.

Software is still problem for VHD camp. Announced plan calling for VHD Disc Mfg. venture to custom-press discs at subsidized rates for program owners now marketing videocassettes hasn't been working out. Eyeing consumer confusion that could be caused in market with 3 videodisc formats, software owners, mainly movie companies, have been loath to commit any cash up front. Most prefer instead deal such as they're getting from RCA, which pays them cash & royalties in exchange for exclusive rights to press & market their programs on CED discs for periods up to 7 years.

There's also credibility issue. Having watched first-hand optical group's 2-year struggle to get even minimal quantities of discs to market, and being told by RCA that disc production is frighteningly expensive and highly technical proposition (noting that RCA is supporting launch with 100 rather than originally scheduled 150 titles), program suppliers aren't quite ready to accept at face value VHD camp's assurances that disc pressing will be in full swing by time players arrive on scene. VHD group will be showing number of top-drawer feature films from several different sources during disc demonstrations at Winter Consumer Electronics Show in Las Vegas this week, but will explain, if asked, that rights to most of them haven't yet been acquired.

VCR BOOSTERS BATTLING DISC AT WCES: Though videodisc players & software will capture spotlight at Winter Consumer Electronics Show opening at Las Vegas Convention Center this week, perhaps even more important will be start of fight to protect current market position by VCR and blank & recorded videocassette producers. Sony, outspoken leader in VCR-vs.-disc, is adding to its arsenal U.S.-based pilot high-speed tape duplication plant.

Main weapon in battle will be price, with some videotape hardware & software cuts actually coming at show, others promised for not too distant future. Aim, of course, is to trim significantly price advantages now enjoyed by videodisc formats, with particular emphasis on cutting into 100% premium now charged for recorded videocassette, over videodiscs with same material.

On blank tape front, Sony is kicking off major discount promotion for Beta, and 10% drop at wholesale is planned by Fuji. Those reductions probably won't be too noticeable at retail because of heavy discounting that now exists, "but they will be a big help to duplicators," we were told by Fuji's John Dale.

Need to help make recorded tape more competitive with disc is recognized at TDK too. "Duplicator portion of our business is very viable" and TDK intends to keep it that way, we were told by Ed Pessara, video products mgr. While not making any

firm price cut commitment, he said TDK expects to keep prices in line with other tape makers. End to blank videocassette shortage will be another factor in lowering tape prices this year, Pessara said, pointing out that new plants, and expansions at older ones, are due to be completed in 1981. TDK recently started output at plant in Ga., slated to operate at million-per-month capacity by end of this year, has new plant opening in Japan in June.

Duplicators & recorded tape marketers too are willing to do their part to keep videodiscs from eating into their sales, which hit estimated 2.6-3 million videocassettes last year, are expected to top 5 million in 1981. One anticipated move will be easing off on fight against cassette rentals, development instead, of authorized rental programs retailers can live with.

"There's no reason for 100% differential" between tape & disc cost, according to Magnetic Video Pres. Andre Blay, who said his company is "spending a considerable amount of effort" on R&D and value analysis, as part of long-term price reduction strategy. He said tape duplicators are "only now learning about economy of scale," as for first time they turn out recorded videocassettes by millions. He added he expected no recorded tape price changes right away, but predicted they would come by 3rd quarter if RCA starts making inroads with CED videodisc system. Blay, incidentally, is among those adopting show-me attitude toward promised economies of videodisc. "We're beginning to have some doubts" in that area, Blay said.

Increased efficiency also will play important role. Sony, we've learned, has installed small high-speed duplication operation in Dothan, Ala. tape plant, is offering low combination cassette & duplication pricing to software marketers who don't make own copies. Offer is, of course, restricted to Beta format, but that could change. Sony uses master-slave system, presumably running at something above real time. Sample copies it supplied to potential customers are of acceptable quality, but, we've been told, are not as good as those produced by standard method. Sony Chmn. Akio Morita foreshadowed price reduction moves in VCRs and blank & prerecorded cassettes last Oct.. So far as we can tell, Matsushita has yet to find customer for its high-speed VHS contact duplication system.

Relatively small savings mount up as product passes along distribution chain, said Al Markim, Video Corp. of America pres. He pointed out that royalty payments, as high as 25%, are based on selling prices "and all other margins are added to that." He said he expected to see start of discounting by recorded videocassette retailers "like you have in the record business." Of all factors determining retail price of recorded cassette, "biggest is the retailer's markup, and the 2nd is the cassette itself," Markim said. He said he sees tape costs dropping \$3-\$4 over next year or so, said that, plus other economies & lower margins, could lower average recorded videocassette price to \$40 at actual retail.

On VCR hardware front, pricing situation is less clear. As with blank videocassettes, hefty manufacturer promotional allowances and deep discounting at retail make true conditions hard to follow. Some leader models, with mechanical, non-programmable tuners, are now being sold for as little as \$500. While little more action at very bottom is anticipated, manufacturers are expected to add limited-function models to their 1982 lines that could lower by \$200-\$300 price points at which such individual features as electronic tuning and visual fast & reverse can be found.

* * * *

Attendance at Winter CES should top last year's 58,600 record. Sponsor EIA Consumer Electronics Group reports advance registration of 41,200, up 20% from 1980. Show has record 857 exhibits, occupies 17,000 net sq. ft.

January 12, 1981

VIDEO EXCITEMENT DOMINATES CES: Living up to forecasts, 1980 Winter Consumer Electronics Show launched video as true mass-market industry. Las Vegas event was dominated completely by video hardware & software, underscoring truism trumpeted from press conferences & seminars that "the video revolution is under way."

Attendance first 2 days appeared to be about on par with last winter's show, but that one began on Sat., not Thurs. as this one did. Officially, EIA said by 1 p.m. on 2nd day advance registrations plus attendance totaled 53,814, some 2,000 above opening day in 1980 -- not a very meaningful statistic. But in view of astronomical air fares and current economic conditions, crowds appeared heavy and enthusiasm high. Among attendees, there clearly has been transformation in last couple of years -- most noticeable was extremely heavy presence of software dealers, many of whom seemed completely unconcerned by traditional preoccupation of show -- in fact, its middle name, electronics.

Single outstanding event and single outstanding display at show had to be RCA's launch of CED videodisc sales (actually scheduled March 22) and RCA's exhibit, devoted completely to disc. That display, obviously intended to emphasize company's commitment & ability, had total of 96 disc players and TV sets, 86 of them arranged in 8 pylons of 12 players & sets, each continually showing different discs from RCA catalog. RCA official estimated that 60 different titles were being shown simultaneously. Visitors could operate players themselves.

Videodisc players were demonstrated under 14 brand names in all 3 formats, but it was CED's show, with Hitachi, Sanyo & Toshiba premiering their own RCA-compatible players and announcing same \$499.95 price, deliveries in U.S. around midyear. Sharp demonstrated VHD players in its suite, but word from Tokyo indicates it will field CED type for U.S. market. VHD proponents were out in usual force, and multi-screen displays dominated JVC, Panasonic & Quasar exhibits -- JVC using 60-screen wall of TV sets to show pictures. As forecast here, JVC proponents used new demo disc with first-rate loaned material, including excerpts from Close Encounters (Columbia), Centennial (MCA), Sound of Music and All That Jazz (both 20th Century-Fox), musical selections from EMI.

Korean manufacturers Gold Star & Samsung displayed optical players, both resembling Philips unit, announced no marketing date (Samsung also showed VHS format VCR). Sansui display trumpeted that it was "into videodisc with both systems -- CED & VHD" but it demonstrated VHD only and said it would decide which system to market and when "after fall 1981." As we've reported, Fisher foreshadowed its 1982 entry into video with first complete component TV ensemble seen in U.S. -- 26" color TV monitor, separate cabinet with TV tuner, Beta VCR & optical disc player, matching floor-standing speaker, room for audio components. Fisher also displayed prototype 46" rear-projection TV and self-contained 26" color set -- everything made by parent Sanyo.

LV optical system was featured prominently at Magnavox exhibit, and company announced it would be in all U.S. markets in first quarter, talked of "significant increase" in videodisc production, "dramatic increase" in Magnavision player production. Pioneer, the other major LV proponent, didn't exhibit this CES.

First CED players from Hitachi, Sanyo & Toshiba all represented efforts to beat RCA at own game -- more compact, added features. All had audio & video output jacks, missing in RCA player. Hitachi had stereo output jack for future adapter -- when RCA announces specs for stereo sound. Hitachi & Sanyo had 2-speed forward & reverse visual scan, former 10 & 60 times, latter 10 & 25 times, both had jacks for optional wireless remote control. Toshiba player had finger-touch switches, and company said later model would feature motorized disc insert & reject.

This preview of Japanese competition didn't faze RCA one bit -- in fact, company officials appeared delighted. RCA loaned them discs for demonstrations, and Consumer Electronics Vp-Gen. Mgr. Jack Sauter said non-RCA dealers would have access to RCA discs. RCA dismissed reports of disc production problems; one official said company was doing better on disc than player output.

Disc ballyhoo eclipsed introductions of VCRs & accessories at show, one highlight of which was preview of major camera improvements. Akai, Hitachi & Toshiba all showed autofocus cameras, while Hitachi announced its all-solid-state MOS camera was in production, will be introduced this spring in Japan at about \$1,700, in U.S. later this year around \$2,000. In limited demonstration, picture was among finest we've seen from home camera, with no trace of lag or smear. Camera weighs about 3.7 lb. with power zoom lens.

Beta-vs.-VHS dispute had something of revival when Advent Pres. Bernie Mitchell announced his company would adopt Beta because of its advantage of portability and potential for "significantly better audio & video performance" than VHS. Advent VCRs, Mitchell enthused, will be "absolutely unique and entirely revolutionary," custom-made by Sony featuring stereo sound, Dolby C noise reduction, selling for about \$1,500. As for videodisc, he pledged to get into field "as quickly as we can, given the reality of software supply and Advent's fragile finances" (he forecast profit for Advent in 1981). The former Pioneer pres. called LV disc system "the most important product of the decade," dismissed CED as "a genuine toy, not a mainstream breakthrough."

We'll have more reports on CES next week. Based on first 2 days, attitude of dealers attending is enthusiasm for VCR (but disappointment with profits), excitement over video software sales, show-me attitude on disc.

HITACHI, SANYO, SHARP CED: Hitachi & Sanyo announced CED videodisc player production plans in Japan last week, indicated they would each be turning out 10,000 monthly. As for Sharp, while it officially continues to deny reaching format decision for U.S. market, company insiders tell us Sharp has adopted CED, but is holding up announcement, probably until spring introduction of 1982 product line.

Hitachi said it already has started player production, and initially all output would be for export to U.S. Sanyo said it would begin manufacturing in April, planned to offer CED players in Japan this fall if software situation makes that practical.

Separately, Sanyo announced it would almost triple its Beta VCR production capacity, jumping this summer to 150,000 monthly from 60,000, and that by year end it will be producing at 2 million annual rate. Sanyo says it now has VCR export order backlog of million units. Hitachi, meanwhile, introduced in Japan new 2-6-hour portable VHS VCR featuring assemble, insert & sound-on-sound editing, plus picture search, to retail for about \$1,000.

January 19, 1981

RCA SEEKS TO ALLAY DISC 'MONOPOLY' FEARS: RCA's videodisc exhibit at CES may have been too successful. Software & hardware producers are becoming increasingly concerned that RCA will keep for itself what could become booming business of supplying discs, or, if shortage develops, favor own dealers over those handling competitive player brands. Programming Exec. Vp Herbert Schlosser told us RCA is talking with everybody who wants to talk, will do best to accommodate everyone.

Problem is that RCA can't offer custom-pressing for sale & distribution under other labels during build-up period, says Schlosser. Only exception is CBS/MGM,

for which RCA will press discs beginning around midyear as part of deal under which CBS will set up own CED disc plant, scheduled to start output early next year.

At time RCA started to make deals for software 4 years ago, no movie majors had own home video distribution and there were no complaints about its willingness to take the risks, pay for & distribute their movies. Then videocassette market came along and most movie companies now are doing own distribution and want discs with own labels. Best example is 20th Century-Fox, but presumably Paramount, Warner & Disney are in same boat. Fox Telecommunications Pres. Stephen Roberts told us he'll let 100-title deal with RCA expire at year's end unless subsidiary Magnetic Video is guaranteed own CES label. Roberts doubts RCA will issue more than 12 Fox titles in 1981 catalog.

Capitalizing on RCA's inability to custom-press, VHD Disc Mfg. Pres Gary Dartnall is stressing that movie makers who sign with RCA "lose control of their product." VHD strategy, he adds, is to "subsidize custom-pressing and build the market through competitive distribution." Specific negotiations with software distributors will begin this week. Columbia Pictures presumably already is committed to custom-pressing contract with VHD. VHD Programs, also headed by Dartnall, will set up all-labels one-stop distribution operation for hardware dealers & others who don't want to deal through multiplicity of distributors for their discs.

Although one RCA source has estimated company wouldn't be able to handle custom-pressing before 1984, there are indications that availability will come long before this if player & disc sales boom -- RCA's Indianapolis disc plant has plenty of room for expansion and RCA is bending over backwards to prove it doesn't have monopolistic intent. Scheduled output for this year is 2 million discs.

CBS hasn't yet established policy on custom-pressing. Company is now finalizing plans for Carrollton, Ga. disc plant and first capacity will be to fill own needs. High official said company is just beginning to look at capacity & pricing requirements to accommodate orders from others, doesn't yet know when it will be able to take them.

Other manufacturers of CED players will be dependent at first on RCA for disc supply. Under agreement which brought Zenith into fold, that company will distribute RCA-branded discs with Zenith name on outer shrink-wrapping. Sears, J.C. Penney and presumably Radio Shack also will distribute RCA discs to their own stores. Spokesmen for other brands exhibiting at CES expressed concern about prospect of sending their dealers to RCA distributors to buy discs. Schlosser was reassuring, indicating discs could be made available for distribution by all companies fielding players. "We will use discs primarily to help sell players and get them where the players are. They're not only for us, but for other people selling players. Our primary job now is to get the launch under way and the players out to people who want them. We're willing to listen to reason..."

Although RCA won't custom-press now, there are indications it will offer "Zenith formula" to software companies -- make RCA-branded discs of Warner movies, for example, available for distribution by Warner Home Video. Warner hasn't signed with RCA, and distribution is stumbling-block. Fox's Roberts called this compromise unacceptable.

VHD mastering & pilot pressing plant in Irvine, Cal. will be equipped this month & next. CES demonstrations saw one new HHD player configuration. Panasonic demonstrated player with wireless remote control of all functions, but company said initial player design hasn't been frozen.

VIDEO'S FUTURE: Video's prospects & problems were aired at SRO seminar at CES, drawing over 1,000 attendees to what turned out to be lackluster session -- dealers in audience appearing to be more interested in software than in hardware.

In keynote talk, JVC's Richard O'Brion quipped that one reason for 1980's near-record 10.1 million color TV sales could have been that "100,000 of those sets were sent out here for the demonstration of videodiscs." Session highlights:

Software -- Magnetic Video's Andre Blay pointed out that "the [recorded] cassette business has been able to maintain its profit margin, hasn't fallen victim to discounting." But he added that "to be a mass consumer market something will have to happen to price. The disc will cause the tape people to reexamine prices." He saw disc also helping recorded tape sales. "Excited by the disc, buyers will decide to make a major commitment to pre-recorded video. Sales will go up, and there will be a shortage of programs." He forecast sales of 5 million recorded cassettes this year.

Disc problems -- They're "no more than with any new product," said Magnavox's William Campbell, adding that quality has improved "drastically," with "continuous improvement in quantities." Will RCA's CED debut be marred by similar supply problems? "We don't know if we can supply enough discs because we don't know the ratio of discs to player" among purchasers, replied RCA's Jack Sauter.

VCR profitability -- Sharp's Robert Whitehouse called 12% gross margin, as reported in NARDA survey, "unconscionable." He attributed low retail profits to "too many brands selling the same thing -- the only basis for comparison became price." He forecast that would change with new proliferation of products & features.

TV problems -- New "cable-ready" 105-channel sets don't work with all cable systems because there's no channel standardization, said Sauter. "Cable is one area that needs more govt. regulation," he said. "We put additional cost into every set to meet cable's requirements... We put a lot of money into a product which is not doing the consumer any good." Whitehouse said survey by Sharp indicated vast majority of CATV systems reduce their charges to customers with cable-ready sets which don't require converters.

VCR servicing -- In answer to question from floor, Sauter conceded that cost of head replacement "has been quite a shock... It's a reasonably new problem, and we don't have the answer, if there is one. We think it's important... It requires study to prevent [anti-VCR] backlash in 1981 & 1982."

Sauter apparently has upped RCA's 1981 forecast for VCR sales from million to 1.1-1.2 million. "The disc will have a very limited effect on VCR [sales]... It could be a very good year with or without the disc."

January 26, 1981

87% OF TV INDUSTRY COMMITTED TO DISC: With Montgomery Ward confirming our report of last Nov. that it will adopt CED system, brands representing 87.2% of color TV sales -- along with 5 companies not traditionally in TV set business -- have now chosen disc systems, making total of 23 videodisc brandnames. Score now stands at CED 10 brands (59% of color market), LV 8 (13.2%), VHD 5 (15%).

Ward's player will be made by Toshiba, and National TV Products Mgr. George Zebold said marketing will start later this year of unit "competitive in price & features."

With North American Philips takeover of GTE's consumer electronics business, Sylvania & Philco will add LV optical players this year -- possibly as early as this summer. It's expected they'll be taken from Magnavox inventory and rebranded -- differences will be cosmetic only. Decision on timing will be made in next 3-4 weeks.

Magnavox will continue with same model "well into 1982," according to Pres. Kenneth Meinken. Plan originally had been to add "Mark 2" model last year. Meinken said disc situation has improved markedly -- "software is being pumped out in record quantities," and disc quality has "dramatically improved... The playability as compared with a year ago is as different as day & night." So far, however, this hasn't resulted in any big sales splurge. "It's a little better than a year ago, but still not what we'd like to see." He pointed out, however, that Magnavox's major magazine ad campaign has just hit the streets and there's been no opportunity to see results.

GE's videodisc entry via VHD system will be "more modest than RCA's," Chmn.-elect John Welch reiterated at annual GE press briefing in answer to question. "Our system will have technical features which make it superior to the first system RCA offers," he added, and "subsidized custom-pressing will give us a major advantage in software."

Calling RCA's launch "a very big bet," Welch indicated that GE image was strongly involved in avoiding "me too" situation. After meeting, he conceded informally that GE "will not be the big winner in the U.S [videodisc] market. The RCA system could carry the day," but GE will be in disc business with system which befits its quality reputation, he said. Both he & Chmn. Reginald Jones stressed that GE simply doesn't have RCA's commitment to TV technology, and public exposure to quality GE product is more important than actual business derived from it. Welch indicated strong doubts at GE as to size of disc market. "Our research says people want VCR overwhelmingly for time-shift, [but] perhaps the disc software price will change that."

Only 3 TV brands with 1% or more of color market remain uncommitted. Sony is biggest, is making LV discs & players for industrial market, still is anti-disc for consumer sales. Curtis Mathes says it's adopting "wait-&-see" attitude on format. MGA, 3rd holdout, is licensed under all 3 systems, currently is leaning toward VHD for U.S. consumer market, LV for industrial, but says is in no hurry, will watch for developments.

On software front, existing new 96,000-sq.-ft. building at Menomonie, Minn. has been chosen by 3M for manufacture of LV optical discs. Initially, about 20,000 sq. ft. will be used, with 40-60 employes involved. Company says it's on schedule for planned 3rd quarter start, declined to estimate capacity. 3M will custom-press only, doesn't plan to market own programs. Company is already making industrial discs for Thomson-CSF transmissive optical system in St. Paul plant, will move that operation to Menomonie if demand warrants.

It's becoming increasingly apparent that movie companies will be going into all disc formats. Discovision Assoc. (DVA) is expected to complete deal soon with 20th Century-Fox -- already on RCA CED discs -- to custom-press significant number of titles in LV format. They'll be distributed by Fox subsidiary Magnetic Video, which says it will handle all disc formats. Fox is also expected to sign custom-pressing deal with VHD, as is Columbia. MCA, co-owner (with IBM) of DVA and co-developer (with Philips) of LV system, loaned feature film Centennial to VHD for CES demonstrations.

Meanwhile, RCA Selectavision Mktg. Vp David Heneberry has begun 4-week tour of all distributors to brief them on disc ordering & handling procedures; in addition, RCA is expected to institute direct-response consumer disc ordering procedure through 800 phone number (consumer pays postage & handling, so can buy discs cheaper through dealers). CBS Video Enterprises Pres. Cy Leslie dashed a little cold water on programmers' hopes for CED custom-pressing when he told TV Digest's Video Week that it's unlikely CBS will be able to handle it in less than 2

years "for other than affiliated product." First 24 CBS-labeled discs are due from RCA June 1, he said, including some features not available on videocassette.

Time interval between theatrical & disc release will shrink to 6 months in near future, RCA Exec. Vp Herbert Schlosser told us, but "the window will shorten" further since turnaround from film to disc can be as short as 6 weeks. Paramount's Airplane, already on cassette, is due on RCA disc in May, Ordinary People in Aug.

February 2, 1981

VIDEODISC BOXSCORE: Here's latest lineup of videodisc system preferences by brand for U.S. consumer market. Color TV marketers are listed in order of U.S. market share, based on our June 1980 survey. Only 3 color TV manufacturers with 1% share or greater haven't indicated choice of system (indicated by "u"). CED denotes RCA-developed Capacitance Electronic Disc system, LV Philips-MCA Laservision, VHD JVC-Matsushita Video High Density Disc.

Rank	Brand	Share	Disc System	VCR
1.	RCA.....	21.0%	CED	VHS
2.	Zenith.....	20.5%	CED	Beta
3.	GE.....	7.5%	VHD	VHS
4.	Sears.....	7.5%	CED	Beta
5.	Magnavox...	7.0%	LV	VHS
6.	Sony.....	6.5%	u	Beta
7.	Quasar.....	5.0%	VHD	VHS
8.	Sylvania....	4.0%	LV	VHS
9.	Mont. Ward.	2.25%	CED	VHS
10.	Panasonic...	2.0%	VHD	VHS
11.	Sanyo.....	2.0%	CED	Beta
12.	Hitachi.....	1.7%	CED	VHS
13.	Penney.....	1.5%	CED*	VHS
14.	Sharp.....	1.5%	VHD	VHS
15.	Philco.....	1.2%	LV	VHS
16.	MGA.....	1.0%	u	VHS
17.	C. Mathes..	1.0%	u	VHS
18.	Toshiba.....	1.0%	CED	Beta
19.	JVC.....	n.a.	VHD	VHS
	Gold Star...	n.a.	LV	VHS
	Advent.....	n.a.	LV	Beta
	Pioneer.....	0	LV	--
	Radio Shack..	0	CED	--
	Fisher.....	0	LV	Beta
	Sansui.....	0	VHD**	--
	Samsung.....	n.a.	LV	VHS

System	No. Brands	Color Mkt. %
CED	9	57.5
LV	8	13.2
VHD	6	16.5
unknown	--	12.8

*To sell RCA brand at start. **May adopt CED.

February 9, 1981

LOW-PRICED VCRS IN PLACE FOR DISC LAUNCH: That flood of lower priced VCRs we've been telling you about has now arrived -- just 6 weeks before RCA's nationwide videodisc launch.

It's not coincidence, but carefully planned strategy by Japanese VCR manufacturers, based on 2 foci: (1) With VCRs priced to sell about \$100 or so more than CED disc players (VCRs are discounted, while players are expected to be sold at list price this year), they'll be in direct competition, and it's hoped that consumers will opt for VCR's multiple talents over disc's single use. (2) RCA & subsequent CED campaigns & publicity will spread video awareness as nothing has before, enlarging market to include customers of more moderate means. There also are signs that recorded cassette marketers are preparing to meet disc competition with lower prices, when & if that becomes necessary.

Surveys have consistently shown VCR is still rich man's toy, and demographics haven't changed significantly since introduction of Betamax in 1975-76 -- upper income, predominantly male, highly educated, likely to be videophile and/or audiophile, pay-cable subscriber. LV optical players have catered to same uppercrust customers. It's plain fact that VCR will run out of buyers unless it starts attracting consumers of more average means -- exactly the audiences to which RCA videodisc advertising will be beamed.

So far, customers have flocked toward high-end VCRs -- programmables & portables, which have been the best-sellers. So why go into lower-priced units now, at time of inflationary pressures and booming sales?

That videodisc lurks in background is laid out in forthright comment by Sony Consumer Products Pres. Joseph Lagore, whose company is only major openly shunning consumer videodisc players now: "I think this [VCR] market will change when the disc player comes out. There will be a whole new group of customers for VCR. There will be lower-priced VCRs, but I think it's wrong to strip them down completely. Everything Sony makes will have Betascan. Our new low-end VCR [still unpriced] will be introduced in May, designed especially to compete with the disc. I think there's going to be a big market for VCRs in the \$700-\$900 area to compete with the disc."

Last week we summarized new low-priced VCRs being offered under virtually all brand names now and advertised at discount prices generally between \$600 & \$700, but occasionally as low as \$499. No matter what public stance the Japanese manufacturers take on videodisc, they have far greater stake in VCR -- investment in facilities with annual capacity which could exceed 7 million by year's end -- and they'd far rather see disc wiped out than dent VCR sales, if the 2 do turn out to be directly competitive.

No matter what their stance on disc, American manufacturers which buy VCRs from Japanese are snapping up new cheapies eagerly -- not only as hedge against disc, but because they will broaden VCR market as public becomes more video-conscious. RCA isn't playing it cute, either -- adopting Matsushita's new stripped-down VCR along with others (although it's not listed in RCA's standard line), and it's being advertised at around \$649 by big-city discounters. Incongruous? Not a bit. If lower-priced VCR becomes a business, RCA must be in it as leading VCR supplier, and company has repeatedly said it won't sacrifice VCR business on altar of videodisc.

So low-priced VCR, fielded as competitor to disc player, either will effectively pre-empt disc market or act in concert with disc to broaden potential of video, transforming it from elitist gadget to product for everyman. Take your choice.

February 16, 1981

RCA DISC LAUNCH: Although RCA's D-Day for consumer marketing is March 22, formal launch to distributors comes next week with big 70-location nationwide closed-circuit satellite telecast featuring live appearances by Chmn. Edgar Griffiths, Exec. Vp Roy Pollack & Group Vp Jack Sauter.

Telecast will be viewed by dealers on RCA's new projection TV sets at special distributor cocktail or dinner (depending on time zone) gatherings. Company has subleased transponder on RCA-owned Satcom 1 satellite from HBO. RCA isn't taking chance on technical difficulties marring this important event -- all locations will have backup videotapes in case of reception problems.

In addition to distributor parties, RCA's gala will be beamed to get-togethers of top brass, workers involved in disc, press -- at such locations as Indianapolis, Princeton & N.Y. Two days before telecast, company will announce complete 100-title starting catalog.

Telecast will show distributors & dealers RCA's \$20-\$30 million videodisc ad campaign for first time -- strongly program-oriented and stressing "magic" of bringing top performers into living room. Some of RCA's ad philosophy was outlined by Videodisc National Ad Mgr. William Barris: "The competition [LV optical disc] is selling hardware and not the real value of video home entertainment, and that's a mistake. We learned we must sell more than hardware, more than the availability of software. A videodisc purchase is not just a rational one, so we must convey excitement. Videodisc magic must be bigger than the sum of its parts. We must create a need to own it -- interest based on emotion."

Questionnaire will be packed with each player, asking buyer's views on: (1) Ease of operation. (2) Whether he understands product. (3) Problems with player. Video Products Dir. Bruce Allen said replies will be used to guide RCA on revisions in instruction manual, possible product changes. RCA is already preparing for new models. Industrial Design Vp David Tompkins said 6-10 new designs are in works -- presumably including variant models for OEM customers such as Sears & Zenith, next year's stereo version, etc. (Also being developed is "1990 model" for display at RCA's Space Mountain exhibition in Disney World.)

Player will carry standard 90-day parts, year labor warranty, Allen said. Asked about stylus life, he stuck with usual "hundreds of hours" reply, but added it should last "many years," on basis of tests. Replacement stylus will cost \$68. Although stylus is consumer replaceable, RCA will recommend that owners bring entire player to service dealer in case of suspected stylus problems during year warranty period. After that, it instructs consumer to remove stylus, bring it to dealer, who will test it by inserting it in another player.

February 23, 1981

DISC DEALERS UNHAPPY BUT NOT GIVING UP: Sales have been below expectations, defective players & discs have been problem and disc supplies are inadequate -- but dealers aren't disenchanted with idea of videodisc, and retailers now handling optical (LV) format plan to add more brands & formats as they become available.

These are conclusions derived from survey of sample of dealers on our Early Warning Report panel in early Feb. Sample contained 13 dealers (mostly multi-store retailers) handling videodisc players, of which 10 sell Magnavox, 3 Pioneer (none sells both). Survey was conducted by mail questionnaire.

By margin of 12-1, they reported sales "below expectations," the one dissenter checking "above expectations." Dealers reported median of 20% of players had been returned as defective -- answers to this question varied from none to 100%.

Replies also varied widely as to number of titles received -- so widely, in fact, as to be nearly unbelievable, ranging from 14 to 141, with median of 35. But there was no variation in opinions on disc supply, except in degree: 5 said "inadequate," 8 said "very inadequate." Median percentage of discs returned as defective was 30%, figures ranging from none to 80%. Is this situation changing? One said it was improving, 9 saw no change, 2 said it was deteriorating.

Dealers sell anywhere from 2 to 25 discs per player sold -- variations possibly explained at least partially by differing lengths of time product has been offered in respondent stores. Median works out to 5-6 discs per player.

There seems to be very little disillusionment with concept of videodisc itself. None of the 13 expressed plans to abandon videodisc, although 3 indicated they were undecided whether to continue offering optical system. Notably, almost all dealers plan to add other systems, despite incompatibility with optical LV system they already have. Three dealers said they'd add both CES & VHD systems, 6 plan to add CED only, 2 VHD only. One said he'd add no additional systems, one didn't answer question.

As for brands to be added, 7 specifically cited RCA, 5 mentioned Hitachi, 2 GE, of other brands receiving more than one mention. Four indicated they would add one more brand of player, 5 would add 2, two would add 3 each. Four dealers which don't now sell videodisc players also answered survey. All of them plan to offer players & discs, one planning LV only, one CED only, 2 all 3 systems.

Among specific comments: One dealer said he'd add RCA, Hitachi & GE players "because of lower price points and more software." Another, not now handling players, listed Sanyo, Panasonic & Magnavox as brands planned, adding: "Will stock moderately until dust settles and economy in general improves; brand with best software will get primary emphasis."

March 2, 1981

EXTRAVAGANZA LAUNCHES RCA DISC MARKETING: Biggest trade sendoff for any single consumer product probably best describes \$500,000 satellite telecast introducing CED videodisc system to estimated 14,000 RCA dealers & guests at distributor-sponsored parties in 75 cities Feb. 25 from historic NBC Studio 8H in N.Y. From all indications, RCA is right on schedule, with 20,000 players in pipeline, nearly 500,000 discs pressed and all distributors signing up for their full allocations.

Closed-circuit telecast was combination pep rally and dealer meeting, with little new information divulged. It was MC'd by NBC's Tom Brokaw, featured top RCA officials, singing & dancing ballyhoo taped last Dec. at Dallas distributor meeting. Most of dealers we interviewed were impressed -- "RCA is the only company that could pull this off," said one -- but there also was air of skepticism and comments of "poor timing," launch coming just as VCR sales are taking off.

If they were anxious about outcome, RCA topkicks didn't show it, with euphoria the prevalent mood. Videodisc project mastermind Exec. Vp Roy Pollack ebulliently forecast Matsushita would ditch VHD system and join CED camp 3-6 months after March 22 retail launch "in the interest of standardization" (in Japan, Matsushita ridiculed that suggestion). After final rehearsal for telecast, RCA Chmn. Edgar Griffiths threw away prepared text and ad-libbed completely different set of

remarks, stressing that Selectavision videodisc was "entirely a product of U.S. technology & skill" and RCA was "ready & willing to increase its sizeable commitment." Undelivered speech put dollar volume on RCA disc development for first time -- "over \$150 million" -- and referred to Griffiths' retirement as CEO next June 30, stating that introduction would "stand out like a searchlight" in his memories of 33 years with RCA.

Only reference to other systems in presentation was Pollack's remark that CED's conversion from research to product is completed -- "and I do not believe it has been completed for the other videodisc systems." He said 2,000 RCA employes are "100% dedicated to the videodisc project."

Starting 100-title catalog, released earlier in week, contained few surprises -- all titles had been announced in advance. Exec. Vp Herbert Schlosser conceded introductory volume was "fairly thin," but list of 135 upcoming titles contained more recent selections, and he indicated some hotter releases would be speeded up -- possibly moved from Sept. to May. He pointed out that 3 of the 5 Oscar nominees were on imminent-release list -- Raging Bull, Ordinary People, Elephant Man. Scheduled are 25 more titles in May, 25 in Aug., regular releases thereafter.

It's understood that some 80 of the 100 initial releases have been pressed already, and virtually all of remainder should be ready by March 22, expected bestsellers in 10,000-20,000 quantities. RCA is packaging releases in starter kits of 15, 25 & 60 titles (but some distributors already have indicated they'll break them up and sell discs individually). Only 60 titles will be in retail stores, remaining 40 available through RCA's Quick Delivery Service on special order.

RCA's starting ad budget for videodisc will be about \$20 million, Group Vp Jack Sauter indicated, co-op conceivably adding similar amount. Dealer margin on players is understood to be about 22%, and among dealers assembled for Rockefeller Center telecast by distributor Bruno N.Y., some retailers were already talking about pricing player down to \$439-\$449. Disc margins will be about same as phono records. From our talks with dealers, we expect there will be considerable rental business from start. Schlosser pointed out to us that some contracts with movie companies prohibit rental, but he conceded that this isn't legally binding beyond distributor level. Disc quantities are strictly allocated, frozen until May, when next batch will be issued.

RCA DISC CATALOG: First 100 RCA videodisc titles include 72 movies, plus rock concerts, children's shows, sports, drama/arts, inspiration/education, best of TV -- majority of non-movie presentations drawn from TV. Total of 55 selections are priced at \$19.98, 17 at \$14.98, 13 at \$22.98, 11 at \$24.98, 3 at \$27.98, one (4-disc, 8-hour Jesus of Nazareth) \$99.98. Prices are determined by quality & timing of subject -- some of \$22.98 titles are 2-disc sets, while some \$24.98 discs are singles.

Paramount has biggest representation with 23 titles, MGM 12, Fox 10, Disney 8, UA 4, Rank 3, RKO 3; others include NBC 3, ABC, Lerning Corp. of America, Scholastic. Exec. Vp Herbert Schlosser said RCA had contracts with 70 program companies and top 10 movies in catalog grossed total of over \$600 million at boxoffice.

Only 4 features in opening catalog are also represented in MCA Discovision releases, 3 of them -- Love Story, Saturday Night Fever, Heaven Can Wait -- selling for \$24.98 in RCA catalog, \$24.95 on MCA label. Disney's Kidnapped is \$19.95 on RCA, \$24.95 on MCA. MCA offers 2 Disney cartoons at \$9.95 each; both are on one RCA disc at \$19.98. Same situation occurs with 2 Cousteau titles. Julia Child will show you how to roast a chicken for \$5.95 on MCA, and on RCA \$19.98 disc also throws in lasagna, souffle & mousse, working out to \$4.99 per dish.

RCA envisions starting sales ratio of 8-9 discs per player, but disc Mktg. Vp David Heneberry concedes that first-year demand can only be guessed. Company inevitably expects shortages in some discs -- pressing quantities have been determined mainly on basis of sales patterns of recorded videocassettes. Disc sales are made for time being on no-return basis -- this could change as market develops. Pressing plant is essentially running at capacity. If RCA runs out of titles, it would take about 30 days to get it back on press, 60 days if it's special interest limited-quantity title. Album printing has longer leadtime, could present problem in case of massive reorder. Exec. Vp Herbert Schlosser sees discs coming out within 6 months of theatrical release.

Direct-mail order form on back of disc brochure irked some retailers since it appears to bypass dealers. Heneberry said this was expected, but added RCA believes "consumers must have access to discs no matter how far from a store they live," thinks well under 10% of ordering will be direct.

RCA closed-circuit presentation showed views of player production at Bloomington, Ind. plant and disc production at Rockville Rd., Indianapolis, facility. Vp James Alic said all player subassemblies are U.S.-made and automatic insertion, alignment & testing equipment are most advanced in U.S. He saw production confined to Bloomington for at least next 3 years.

Exec. Vp Roy Pollack confirmed our earlier estimates that RCA would make about 250,000 players this year for sale under own and other labels (Zenith, Sears) -- previously company had spoken only of 200,000 RCA-brand players.

"RCA's Biggest Gamble Ever" headlines report of opening in current Business Week, while dealer attitudes seemed to reflect same mood, varying from enthusiasm to hostility. One RCA dealer, who was one of first retailers to handle optical disc system in Dec. 1978, told us: "We like the concept, but only because 80% of the people who come in to look at videodiscs end up with VCRs. I'm not optimistic about the disc. VCR is unsaturated and wins on the retail floor every time. The videodisc may be consumer electronics' Edsel."

RCA's satellite telecast got bonus audience. Some dealers & others reported they tuned it in on their own private earth stations. HBO, which handled satellite distribution, received at least 20 calls from subscribers to Louisville CATV system which apparently carried at least part of show. Most common question: "When does the feature film start?"

First trade ad for CED videodisc system appeared in Feb. 23 HFD Retailing Home Furnishings -- 2-page spread headlined "Hitachi Does Videodisc Like it Does Everything Else -- Better."

CBS VIDEOGRAPHIC PLANS: CBS will produce CED (RCA-type) videodiscs at "volume level of 1.5 million discs" next year, perhaps doubling to 3 million in 1983, expanding "exponentially" thereafter, Pres. Thomas Wyman told security analyst meeting last week. He said CBS-label discs, pressed by RCA, would be on market about midyear.

Wyman foresees no "significant" profit on discs in 1982, but in next few years, he said, margins should be equivalent to audio discs. Wyman visited RCA disc plant in Oct. with CBS Chmn. William Paley. He said there had been "concern & suspense whether they could do it on time, but we have a good feeling about that now." Asked about LV optical system, he called it "marvelously interesting... [but] I personally don't feel it's a mass-market disc. Our surveys show it's extremely difficult to produce, the yields are very low and it has terrible quality problems" -- but he did see it emerging as educational & industrial product. However, he said CBS could produce either LV or VHD discs if they should gain consumer acceptance.

Videodisc products for industrial market, interfacing with computers, have been introduced by Discovision Assoc. New optical videodisc player for 2-way communications with most computers, providing faster access time and new programming functions, has been added at \$2,475 in quantities under 25. It can be connected directly to processor, has 8-bit parallel communications protocol, with controls for send, receive, acknowledge commands and status information between player & computer. Previous-model industrial players may be upgraded with new model's features for \$325 each. New communications adapter, at \$225, contains all hardware & software for communications with host computer, modems or terminals.

FTC PROBES VIDEODISCS: Acting with record speed, FTC has found a new industry to probe -- the infant videodisc business. In answer to our query, Commission source told us it wants to assure that there's "vigorous" competition in field and that companies involved aren't engaged in anticompetitive behavior.

So far, only action appears to have been letters last fall to a few companies, including MCA & RCA, asking about contracts with program owners, custom pressing, etc., and a somewhat different letter to licensees, including Zenith. We couldn't locate any program companies which received FTC letters.

Commission official said it's looking at custom-pressing policies, exclusive licenses, use of licenses as leverage to gain monopolistic position in another market. He said Commission had had "positive response" from industry and that companies are "volunteering" information. FTC isn't focusing on any one company but is "conducting discussions" with industry representatives. "If there is any wrongdoing," he said, "the industry seems to want it corrected as much as we do."

March 9, 1981

LV DISCS SEEN PLENTIFUL WITH NEW PLANTS: Shortage of optical discs will dissipate soon as result of new mastering & pressing facilities, improving yield at DVA facility and changeover to hour-per-side CLV discs for movies, according to North American Philips Vp John Messerschmitt.

DVA says about 300,000 consumer albums (close to million discs) were produced last year to supply some 25,000 players in use. With activation of big Universal Pioneer plant next month, start of production by 3M in 3rd quarter and possibility of access to Sony (Japan) & Philips (England) plants, Messerschmitt told us he expects to see 1.5 million LV (optical) albums available this year, rising to at least 5-7 million in 1982 and 15-30 million in 1983.

He forecast only 300,000-500,000 LV players will be in American homes in 1983, disagreeing completely with RCA philosophy that videodisc player is mass-market item. Another point of disagreement with RCA ("I don't know what they're smoking") is number of discs sold per player -- which RCA forecasts at 8-9 in first year. Magnavox's experience, Messerschmitt says, indicates demand for about 25 albums per player sale, at least for "upscale buyers" who have LV players. If RCA is counting on its stated figure, he adds, "they're in trouble."

Universal Pioneer's \$11.3-million LV disc plant at Kofu, Japan, will be pressing 100,000 discs monthly starting in April, doubling to 200,000 by year's end, company announced. DVA has contracted for 30,000 monthly to supplement output of its Cal. plant, remainder to be available for custom pressing and discs under Pioneer Artists label. Announcement of at least one custom-pressing contract is imminent. Also expected soon is announcement from 3M of custom-pressing deal for its Menomonie, Wis. plant, scheduled to start up in 3rd quarter with capacity of million sides per year. Meanwhile, 3M hinted it might be planning to press capacitance discs as well by changing name of Optical Recording Project to Videodisc Project in restructuring of organization.

Sony formally announced contract to sell Ford more than 4,000 LV videodisc systems consisting of players & color TVs at over \$10 million, plus mastering & pressing of interactive discs for use at dealerships; it's believed to be 2nd biggest player sale, after DVA sale of 10,000-plus to GM. Sony said it will be in volume production of industrial/institutional discs this spring, "is not seriously considering taking consumer [disc] business at this time."

DVA has produced more than 2 million consumer discs, Programming Vp William Mount told Information Utilities '81 conference in N.Y. last week. Plant is nearly booked to capacity for 1981 now, he said, and will look into opening 2nd & 3rd lines when at capacity. He added that DVA is close to signing several consumer custom-pressing contracts. As for defective discs, he said DVA had return rate of only 10%, "and of those we get back, 50% will play on a 2nd machine, so that cuts the defect rate down to 5%" (by far the lowest figure we've heard). "All of our problems are processing problems," he said, and these are being worked out.

Mount gave these current DVA pressing charges: Encoding fee (putting on frame numbers, etc.), \$500; tape-to-disc mastering, \$1,500 (waived for disc orders of 5,000 or more); pressing, \$5-\$9 per disc; total time required, 45 days. Mount said current projections envision \$3.25-per-side pressing cost in 1982. He expects little change in player costs until solid-state lasers are in mass production, didn't forecast when. Sizing up coming competition: CED -- "a home movie projector." VHD -- "not sure when it will be on the market."

March 16, 1981

VHD DISC DEBUT SLIPS INTO 1982: As RCA dealers were taking delivery of CED players & discs, U.S. introduction of 3rd videodisc system was postponed formally to Jan. 1982. At Tokyo press conference, it was announced that Matsushita-JVC-GE-Thorn-EMI system would be introduced in Japan next Oct., in U.S. in Jan. and in Europe in June 1982. Same announcement was made here by Gary Dartnall, pres. of VHD Programs & VHD Disc Mfg.

VHD officials tended to minimize slippage, saying that "late 1981" had always been indicated as planned introduction date, and plans were now firm. In past discussions, VHD supporters had indicated that player would have to be out no later than mid-Nov. for successful pre-Christmas launch, and that postponement until Jan. '82 would be better than introduction any later in 1981 -- so actually, debut appears to have been moved a full quarter. VHD representative told us there was no technological reason for delay, and hardware & software programs are on schedule.

VHD's announcement gave list of manufacturers committed to producing players for Japan market -- including previously undisclosed Akai, General, Trio (Kenwood) & Mitsubishi. Others on list are Sansui, Sanyo, Sharp, NEC, Toshiba & Yamaha. Some of these also will be producing players for other systems. Sanyo has announced it would make all 3 -- VHD for Japan market, CED for U.S., LV for Europe. Sansui says it will sell either VHD or CED in U.S. Toshiba will make CED for U.S. Trio showed LV player at Japan Audio Fair. Sharp is slated to announce U.S. plans at ITA seminar this week; earlier this year, company sources indicated choice would be CED.

Japan launch will be accompanied by 100-title catalog, announcement said, but no U.S. software deals have yet been disclosed. Toshiba announced it will establish VHD disc plant in Japan through its Toshiba-EMI 50-50 venture with Thorn-EMI. In U.S., JVC announced Martin Homlish is joining it from Dual with responsibility for disc market planning.

It has been generally assumed VHD would be Japanese standard -- but it won't be only disc system on market there. Pioneer said last week it would offer LV players & discs on home market in 2nd half of this year. New plant in Kofu will give Universal Pioneer capacity of 50,000 players a month, and -- with 2 pressing plants -- 500,000 discs monthly, according to company. In U.S., 3M official told us its LV custom-pressing plant will be in full production in Sept. with million-a-year disc capacity, "and we hope to expand that almost immediately." Philips technicians from Eindhoven will install mastering equipment; pressing plant will be made by 3M.

* * * *

Sears has signed contract with Hitachi for CED players to supplement those it's buying from RCA, Sears confirmed to us last week. It will start selling both players in 2nd half of this year.

RCA dealers, meanwhile, began receiving CED players, discs & displays last week in some areas, and many were dissatisfied with first allocations. Most video specialist dealers and small TV retailers seem to have been limited to 3 players per outlet and told by distributors not to sell display model. One major regional chain operator told us he had been promised "satisfactory amount of players & discs" for 35 stores "but we have our fingers crossed."

Video stores groused about disc supply. Many asked for kits of 60 titles, found themselves cut back to 25-title package, now face prospect of settling for 15 titles, and probably will get fewer copies of each than they want. Some dealers -- such as Movie Store, Framingham, Mass., and Video Station, L.A. -- plan to rent discs from start, latter putting price at \$4-\$5 per turn. VS placed orders for 1,000-1,500 players and large number of discs for 250 affiliates, doesn't really expect to get nearly that many. Retail margin on discs is 25%.

RCA now has 2 player production lines in operation, is about to start up 3rd, according to one recent visitor to Indianapolis. Another trained observer returned from plant saying RCA apparently is ahead of production schedule, with no major problems turning up.

Development costs of disc system were "more than \$200 million," according to RCA annual report -- \$50 million more than previous estimates by company. Report gives breakout on R&D costs by years.

In dealer-training brochure, RCA anticipates customer questions, provides suggested answers. Samples: Choice of VCR or disc player "depends on what you'd like the system to do, [but] for highest quality entertainment at the lowest cost" disc system is "best buy." Disc wear is kept "to a minimum" by protective caddy, light stylus, lubricated disc. Stylus "is designed to last for years under normal use." If you already have a VCR, keep it "for those occasions when you need it. But to do your home entertainment system and your wallet a favor when it comes to prerecorded entertainment, put an RCA videodisc player next to your VCR" -- closest RCA comes to indicating you can tape discs with a VCR.

Answering dealer question -- whether disc players will cut into VCR sales -- RCA responds in negative, saying they might even help. "The videodisc's introduction will bring a different kind of customer into your store... Once they are in your store... they may become interested in a VCR, or more likely, a new console TV, in addition to the videodisc player." The inevitable has happened already -- one dealer told us he received form letter from transshipper offering RCA players & discs.

March 23, 1981

DISC SYSTEMS VIE AGAIN AT ITA: Each videodisc system had its innings and scored a point at last week's ITA seminar. VHD gained new hardware adherent, LV showed

first consumer disc to fully realize system's potential and RCA revealed it will ship 30,000 CED players by month's end.

Sharp became first addition to original band of VHD supporters in U.S. with announcement by TV/VTR Gen. Mgr. Robert Whitehouse that it would introduce player here in first quarter 1982. "Paramount in our decision" was availability of quality software, said Whitehouse, who added he's now convinced that VHD will have library comparable to the 2 other systems, thanks to its subsidization of custom-pressing. Other factors in choice were 2-channel sound, compact size made possible by 10" disc, stylus life, versatility & flexibility, greater potential for cost improvement & feature development. "Persistent problems encountered by the optical disc software... were a factor in our decision," he said.

Programming tour de force at seminar was MCA Discovision Pres. James Fiedler's demonstration of First National Kidisc, now due on market next month under OPA (Optical Programming Assoc.) label. It's 2nd interactive disc (proponents now prefer "participative") -- first was How to Watch Pro Football. Single-sided disc runs 27 min. when played straight through, but supplies hours of entertainment & instruction for children 5-10 years old, using still-frame, frame advance, slow-motion, reverse, dual soundtracks, etc., contains 25 different sequences, including making paper airplanes, on-screen target games, knot tieing, jokes & riddles, visit to zoo, dancing, water-glass xylophone with play-by-number tunes. It will sell for \$19.95. Future participative discs include cooking with Craig Claibourne, exercise, tennis. Fiedler said OPA may have 12-15 titles by year's end.

Some 250 LV discs, including custom-pressed titles, should be ready by Dec., and twice that many in another year, according to LV source. MCA Discovision catalog is now "basically cleaned out" of non-MCA titles, according to Fiedler, who expects other movie makers to be distributing own discs by year's end under custom-pressing deals. MCA features will be available on disc 90-120 days after theatrical release, Fiedler said, with recent releases Funhouse and All in a Night's Work already in disc production.

"Our studies show videodisc is not a mass market," said North American Philips Vp John Messerschmitt, because it requires investment of \$500-\$700 for player and \$400-\$500 per year for discs. Mass-market program needs, he said, can be met by less expensive TV, cable, pay TV & DBS -- "they can all be time-shifted with a VCR." He revised his recent forecasts for LV system upwards to 2 million albums by end of this year, 10 million at end of 1982 and 35 million by end of 1983, with players in use at 100,000 this year, 300,000-500,000 next and 500,000-1 million in '83. He warned that "complexity of manufacturing a videodisc in any form has been underestimated."

On eve of formal consumer launch of RCA videodisc, Exec. Vp Herbert Schlosser told ITA RCA already has pressed about 500,000 albums and delivered 15,000 players, with 15,000 more to arrive by month's end, "and continuing shipments thereafter."

* * * *

With retail sales of RCA players & discs scheduled to begin March 22, some dealers started selling last week on basis of newspaper countdown-to-launch teaser ads. Dealer reaction to allocations of players & discs was uneven, video specialists complaining more loudly than traditional TV dealers. One video dealer said he ordered 18 players, received 4, sold them first half-hour before even taking them out of carton, turned away 6 customers who wanted to buy. He said he ordered 900 discs, received 30, called it "very bad first impression."

TV dealer said he received 4-5 players per store, but "not enough discs to support them." Others considered supplies adequate. As for performance, reports were mixed, 2 dealers reporting "sparkles" which resemble electrical interference, others saying picture quality was good to excellent. The dealer who received 30

discs said 2 were returned as defective for skipping grooves. Most dealers contacted said they were waiting for March 22 before selling. These are just first returns, fragmentary, too small to lead to any conclusions.

March 30, 1981

RCA DISC--MASS MARKETERS HOT, SPECIALISTS COOL: Week One of CED Selectavision videodisc sales saw RCA's product hitting exactly where it was aimed -- on mass market level, at volume dealers, including multi-branch TV-appliance stores, dept. stores, discounters -- many of whom reacted with enthusiasm, drew good crowds to premieres. Many video specialty dealers were notably unenthusiastic about product & results. But that's no surprise to RCA, according to Group Vp Jack Sauter, who says his field reports show that "our target consumer segment, the average viewer, is the one going in to buy, not the videophile."

Initial reports admittedly are sketchy & inconclusive. In course of opening week, we contacted more than 40 dealers nationwide and got expected results -- from complete euphoria to downright condemnation. Said head of TV dept. of big midwestern dept. store: "We're very satisfied. The reaction is very positive. I've been on the floor of several of our stores, and a lot of people are coming to see it. Mainly, they're people who aren't interested in taping. They seem to know what it is -- nobody's asking, 'Will it record?' We have quite a lot of discs. So far, it's been very successful."

On other hand, major midwestern video specialty dealer reacted this way: "I can't tell you good or bad because nothing's happened. No one's coming in asking." He added that Cartrivision had more auspicious debut.

This was general trend, with some exceptions. Bigger dealers, and particularly traditional TV dealers, received far larger allocations of players & discs than did smaller specialty stores, and latter tended to grouse about low quantities supplied.

"The thing that pleases me most of all is the fact that the sales and the consumer reaction have been as close to what we predicted as anyone could imagine," Sauter told us at week's end. He said consumer response was good nationwide, and the business is being done "by the medium-sized TV dealer," which is exactly "opposite of what it was with the VCR." RCA, he said, "never predicted great crowds standing in front of store doors."

Sauter stopped just short of calling CED player market success. "I don't want to give the impression that one week decides a year or the future of this product, but we could have given a party and had nobody show up, or have had our sales made by dealers who sell to a market segment we hadn't targeted."

But "there's nothing to indicate that our objective" of 200,000 player sales this year "is not a good one," Sauter said, pointing out that figure would set first-year sale record for new \$500 product. First indications are consumers are buying average of 3-5 discs with player; reported record is 35, but that could change quickly. "By September, we'll have more of a feel of the market, and by the end of the year a sense of the seasonality," Sauter said.

As for launch itself, "distributors did a fantastic job" in getting players, discs & displays out and set up. There have been problems in field "and we're being very sensitive and quick to react," Sauter said. Most problems with player, however, have been incidental, such as display TV set not being adjusted properly or player hooked to UHF instead of VHF terminals. One common complaint of malfunction has been traced to dealers who play same demo disc endlessly, using reverse button to restart after it finishes. Problem is that stylus tip is cleaned only when disc is removed from player.

RCA has backed up CED disc launch with \$9 million ad & promotion budget, according to documents in connection with copyright infringement suit filed in N.Y. by ABKCO Music, which claims exclusive rights to music included in RCA disc & Columbia Home Entertainment cassette of Rolling Stones' Gimme Shelter. RCA said ads are appearing in 115 newspapers, notes it has pressed 5,500 copies of demonstration disc, printed 3 million brochures.

MAGNETIC VIDEO SETS LV DISC LAUNCH: First independent distributor to move into videodisc market will be Magnetic Video, which expects to have optical discs for Laservision players in dealer hands by end of May, according to MV Pres. Andre Blay. First package will have 20-to-50 movies & features from Fox, Avco & ITC. At present, MCA Discovision is only source for LV discs.

MV ordered at least 5,000 copies of each title from Discovision Assoc. (DVA), already has received some test pressings. All will be in CLV (hour-per-side) format, so can't be used with random frame access, stop-action or other step-up features found on LV players. Blay said MV intends to stay within \$15-\$30 price range set by MCA, which indicates MV's buy is being subsidized by somebody. Aside from \$1,500 mastering fee (waived on orders of more than 5,000 copies), DVA charges \$5-\$9 per side for pressing. At that rate, assuming royalties & other costs are same, each optical disc costs national marketer at least as much as duplicated videocassette retailing at \$50-\$80.

MCA & MV probably won't be alone in LV disc market for long. Paramount is expected to be next, followed by Columbia Home Entertainment. Disc plan announcements, related to CED & VHD formats as well as to LV, are expected to fly thick & fast at Summer Consumer Electronics Show in Chicago May 31-June 3.

RCA DISC LAUNCH: It was hard to tell how smoothly launch of RCA CED videodisc system actually went. It seemed to vary greatly by region of country and by distributor. In Chicago area, dealers complained that they didn't receive software catalogs. Some specialists said they didn't have enough discs to make it worthwhile. One L.A. video retailer said he sold one unit with 10 discs -- "I think he [customer] was drunk," and biggest-selling titles were those not available on cassette, particularly Singin' in the Rain, Fiddler on the Roof ("I wonder if they're going to transfer them to tape").

Reports on disc quality varied widely, but we didn't hear one complaint about player. Several video dealers reported that some discs were extremely snowy or had what looked like electrical interference sparkles. Chicago-area video dealer said he sold 16 discs, received 13 back, 60% of them with complaints about groove-jumping, rest snow. RCA has set up hotline to Indianapolis to handle quality complaints, said it will replace faulty discs immediately.

We made blind phone check of 19 Manhattan dealers listed in distributor's dealer-listing kickoff ad. Of these, 6 said they didn't have RCA player ("call back in a few weeks," said one). Two others repeatedly hung up on us. One tried to switch us to Magnavision, another to a VCR. Some had players but no discs; many said they'd be receiving more discs in a few days. Most of those who had players were willing to quote price on phone -- and majority of them quoted \$499 or \$500 -- but one said \$469, another \$449 and a 3rd promised to beat our best quote; we couldn't verify report of \$399 offer. In suburban N.Y., where we followed up on opening day ads, we found Caldor's in full swing, drawing in-store crowds with rather complete demonstrations. Macy's outlet had players but no discs; some discount appliance chains had neither, none of video software outlets had discs in stock. We couldn't determine whether problem rested with distributor or centralized warehouse of chains involved.

One video dealer, disturbed by small amount of software his distributor supplied, called RCA's Quick Delivery System (QDS) in Indianapolis, ordered 90 discs. QDS's computer apparently tripped him up, because he was informed he would be shipped 5 discs from his order every 2 days -- "that will take 6 weeks," said crestfallen dealer.

April 6, 1981

VIDEO PROFITS: RCA's home video operating profits, exclusive of color TV, could reach \$220 million in 1986, according to study by Argus Research's Theodore Anderson. Based on industry sales of 3.5 million disc players in 1986 (2.1 million CED, 1.05 million LV, 350,000 VHD), Anderson sees RCA retaining 25-30% market share, with \$50 manufacturing profit per player for total of \$50 million ("and distribution profits could be almost as large"). Study forecasts RCA will have 15% share of 92.7-million-unit videodisc market, yielding operating profit of \$30 million (14 million discs), with its VCR profits (\$75 per unit) on 30% share of 3.5 million unit industry sales totaling about \$90 million in 1986.

Anderson theorizes Zenith will have 10% share of VCR market and 20% of disc player market in 1986, contributing 75¢ & \$2 to per-share profits, respectively. Given Zenith's strength in pay-TV decoders, cathode-ray terminals, computers, Anderson thinks company's earnings should grow by at least 17% in each of next 5 years.

Same report examines rack jobber Handleman Co., sees it potentially distributing as many as 10 million discs annually by 1986 if video follows pattern of audio disc distribution, sees possibility of 17% annual earnings growth.

Fotomat has about 3% share of blank videocassette market (\$7.5 million annual sales in 1980), Anderson estimates, at profit margin above 20%, grossed about \$2 million from recorded tape rental in 1980 (losing equal amount due to startup costs), about \$6 million from recorded cassette sales, less than \$1 million from film-to-tape transfer -- totaling about \$16 million in revenue from video, at loss of about \$4 million. Anderson sees company's sales & earnings from blank tape sales and cassette rentals increasing 30% annually for next 5 years, recorded tape sales by 20%, film transfer business remaining static for next few years. He foresees Fotomat's video business moving into black this year, contributing 25¢ a share.

Anderson elaborated on forecasts he made at ITA conference, putting video recording retail market (VCR, players, cassettes, discs) at \$1 billion in 1980, predicting 50% growth this year, \$1.77 billion in 1982, rising to \$6.8 billion in 1986. Estimating average retail prices, he sees VCR dropping from this year's \$800 to \$600 in 5 years, recorded cassettes remaining at \$50, blank tape rising from \$14 to \$15, videodisc players falling from \$550 to \$450, videodiscs from \$22 to \$18. Further details: Home Video Study, Argus Research, 140 Broadway, N.Y. 10005.

Add videodisc brands: Japan's Elmo, which announced it would enter video camera & VCR market last month, will offer Toshiba-built CED player to camera dealers this year at \$499.95. Company plans to distribute 10,000 players this year, starts taking orders at PMA show this week in Miami.

April 13, 1981

ZENITH 'DEFERS' VDP OUTPUT 2-3 YEARS: Zenith has "deferred" own production of CED videodisc player (VDP) for 2-3 years, is now seeking "alternate source" -- presumably in addition to RCA -- for CED players during "interim period," company official said in answer to our query. While Zenith production is on hold, in Japan

both Hitachi & Toshiba have launched output, expect to have first CED players on U.S. market in early June. Also, CED has new licensee in Gold Star, first Korean manufacturer to sign with RCA.

Zenith still plans to market player, being built by RCA, around midyear, but has postponed previous plan to assemble or manufacture players in late 1981 or early 1982 until 1983-85. Zenith emphasized that program has been "deferred, not canceled" and decision was made "in the course of our normal review of where to allocate manpower & capital" -- Zenith has \$60 million capital spending plan for this year, mainly for color TV & picture tube production modernization, floated \$50-million bond issue last year to help finance it. RCA is expected to supply Zenith with about 50,000 VDPs under contract which is believed to run only to end of this year. Zenith is understood to be shopping in Japan for supplier, and acquisition of CED license by Gold Star, which manufactures audio systems for Zenith, creates another possible source.

Toshiba will come in higher than RCA's \$500 price for basic VDP. When introduced, Toshiba player is expected to carry \$525 list, boast such step-up features as electric, rather than lever-operated, load-play control, quartz-controlled motor speed, (within 2 rpm) audio output jack, be equipped to accept stereo audio adaptor. Hitachi's version, unveiled at last Winter Consumer Electronics Show, is slated to carry \$500 list, with wired remote control as \$40 option. Toshiba will use RCA-made stylus assembly, Hitachi will make own.

CBS opened can of worms when it asked FCC if it could legally enter videodisc, cassette & cable TV programming business. Commission voted 3-2 to ask CBS for more information on why networks should be allowed to enter those markets. Basis of inquiry is 1972 rule preventing networks from engaging in syndication. RCA, heavily in programming through videodisc business, indicated it thought that even if ruling should go against CBS, it wouldn't be affected because NBC isn't involved in disc. Details, p.8.

DVA Pres. Jack Reilly is author of 2 recent letters to editor answering charges against LV discs: (1) In April 13 Business Week, he wrote that optical discs are being sold in 3,000 stores in more than 50 major markets, objecting to quote from RCA executive that "not many outlets carry them any more." (2) In May Video magazine, he answered engineer Henry Cohen's allegations of defective discs, susceptibility to damage, poor sound and bad quality control. Reilly said same checks are made on consumer as industrial discs, reiterated that only 10% of discs are returned as defective (Cohen estimated 60%), claimed "significant strides" in quality. "Discs produced & released 18 months ago could not leave our plant today."

April 20, 1981

EARLY DISC SALES DISAPPOINT RCA DEALERS: Whether or not they were promised a rose garden, RCA videodisc player (VDP) dealers overwhelmingly believe sales in first couple of weeks were below expectations. However, sales were up to RCA's expectations, according to Group Vp Jack Sauter, who said company "never indicated there would be a landslide reaction."

Those sentiments were echoed by RCA Chmn. Edgar Griffiths in statement accompanying first quarter financial results. "Since the national introduction of the RCA Videodisc System on March 22, we have experienced a highly encouraging response at the consumer level," he said. "The reaction has been exactly in line with our expectations for steady sales growth and continued consumer interest in this remarkable new home entertainment product."

Mail survey of our Early Warning Report dealer panel indicated that nearly 82% are offering RCA players & discs. Of those, only 11% said that sales in first week or 2 were up to their expectations; nearly 78% said they were below expectations (another 11% didn't know or didn't reply to question).

Two-thirds of respondents said they received player quantities they ordered, but 78% indicated their first disc orders were cut back. One-third said they had experienced technical problems or returns on one or more players, while 22% had problems with discs. Just 50% reported no player problems (17% not answering that question), while 55.5% indicated discs were problem-free (no answer from 22%).

Technical problems cited most frequently (either in connection with disc or player) were sticking & skipping. Also mentioned were disc warpage, minor adjustment problems, "washer left off stylus assembly," unsatisfactory picture quality, interference from store's electrical system.

Among general comments: "Sales disappointing, very conspicuous by their absence." "None sold -- 5 inquiries (4 were already on our Laserdisc prospect list). Will need extensive one-on-one consumer education. Could be a viable product by fall, but profit margins will erode, especially when floor plans approach due date." "Poor time of year to introduce. Newspaper advertising lacking imagination." "Though we are big in video, we have not yet sold a single disc player." "The disc will not be as strong in metro areas... as it will be in rural or more sparsely populated areas [where there is no pay TV]."

Sauter was quoted in April 12 N.Y. Times as saying company had shipped 43,000 players to distributors, who had delivered 35,000 to dealers as of April 10, with estimated 22,000 sold to consumers. RCA's introductory network ad campaign ended last week, to be resumed in Sept. Magazine ad drive now is under way. Sauter indicated that next month's distributor convention would see special promotions, such as free discs & posters with player purchase, "videodisc parties" and extended credit. Details haven't yet been worked out.

April 27, 1981

VIDEODISCS COULD BE HABIT-FORMING: Videodiscs have definite appeal -- particularly for those without desire or patience to utilize all features of VCR -- but their success could well hinge on vastly increased variety of available programming and consistency of picture quality, both sorely lacking today. Those are our principal observations after spending 10 consecutive evenings with the 3 videodisc players currently available -- Magnavox & Pioneer LV units and RCA CED.

We discovered very early in our subjective tests that LV & CED systems have somewhat different attractions. Not surprisingly, CED's big draw is its admirable simplicity. It's just no bother at all; playing is easy, as is location of specific scene. LV system, particularly with interactive discs such as How to Watch Pro Football and First National Kidisc (latter not tested at home but viewed at ITA), is extremely fascinating and its versatility hypnotizes house guests -- who almost unanimously & spontaneously suggest its educational possibilities.

We found both systems somewhat easier to use than VCR with prerecorded tape, particularly for quick program-segment location features. In both LV & CED, however, we were disappointed with lack of consistency of picture quality. Both systems showed basic capability of delivering picture better than tape on some sequences of some discs, but didn't live up to it often enough. At worst, both were plagued by snow & dropouts, particularly noticeable in poorly lighted scenes. We'd say both types are capable of picture better than home VCR, but don't always display it.

Some defects showed up in both systems. When visual search mode was employed for extended time in CED system, we occasionally lost picture entirely. Sometimes it was restored when we released search button, but several times we had to remove disc & reinsert it to get picture back. Otherwise CED controls were convenient and did exactly what they were intended to do. One of our 6 CED discs skipped a few grooves. On Magnavision player grooves locked, but only on one side of one of 8 discs -- same disc didn't lock on Pioneer.

It's difficult to make direct comparison between systems because of wide variation of picture characteristics among discs in both systems. However, we did have same movie (Heaven Can Wait) on hour-per-side discs in both formats and fed them simultaneously from Pioneer & RCA players through A-B switch to same TV set. In that case, all observers preferred LV version at normal brightness, most pointing out it had sharper detail and better color. However, with brightness turned down, CED disc gained in apparent detail (and LV suffered from low light), leading some observers to prefer CED.

Comparing CED with standard 30-min.-per-side LV disc, nod for flexibility goes to LV with its various special effects & access features. But against hour-per-side (CLV) LV discs, CED wins easily. Although CLV discs feature frame-labeling in elapsed time (minutes on Pioneer, minutes & seconds on Magnavox), picture loses sync in search mode, often to point where on-screen elapsed-time indication can't be read at all. In CED, of course, elapsed time is indicated in LED readout on player.

Pioneer's remote control was judged extremely convenient, particularly in combination with special features of 30-min.-per-side discs. Remote would be handy -- but isn't particularly necessary -- in CED. Stereo from LV discs sounded good to us, enhanced musical passages. It was difficult for us to judge sound of CED because, lacking audio jack, it couldn't be piped directly into home hi fi, but it sounded quite good when routed through VCR which had audio output and then into hi fi. We think audio output jack and stereo will be very desirable features in future CED models.

As to Magnavox vs. Pioneer: Magnavox's picture was much noisier at beginning of CLV disc than Pioneer's, cleared up toward end. When search button was pressed on CLV, Magnavox made strange mechanical noises. Interestingly, although Magnavox picture had noise at beginning of all discs -- CLV or 30-min. -- it often seemed to produce cleaner picture than Pioneer toward end of disc. Incidentally, the one CLV disc we had generally had far more dropouts than 30-min. ones -- even an old reject we picked up at Discovision plant in 1979.

To sum up: We still withhold any personal conclusions on future of videodisc as consumer product -- but concept of record which plays pictures seems to hold more fascination for people viewing it for first time than does VCR, perhaps because very few had even heard of videodisc, while all knew about recorders. First question always was "how much does a movie cost" and general reaction was that it was too high -- until price of recorded videocassette was mentioned. But we do conclude that given inevitable improvements in quality and huge increase in software, discs could be habit-forming.

May 4, 1981

RCA CALLS LAUNCH 'SUCCESS,' SHOWS PLANTS: Hailing "most successful introduction of any major electronic product in history," RCA last week said consumers bought some 26,000 players & 200,000 discs in first 5 weeks, as it opened CED player & disc plants to outsiders (press & dealers) for first time. In other videodisc developments last week:

(1) Hitachi introduced CED player to dealers at \$500, with remote control as \$40 option, deliveries starting this month. Company pledged it would be strong No. 2 in player manufacture -- "maybe even No. 1." Senior Vp Robert O'Neil forecast CED would be sole surviving U.S. consumer disc system. Hitachi ad in Wall St. Journal took issue with Sony campaign against videodiscs.

(2) First 20 titles in CBS/MGM's CED disc line, to be pressed at first by RCA, will be announced at CES. CBS expects to release 6 new titles every 60 days, for about 40 by year's end. CBS will market discs through own distribution channels, stressing video specialists & record stores rather than TV dealers. CBS is accelerating equipment purchase for late-first-quarter startup of Carrollton, Ga. disc plant.

(3) Pioneer is postponing introduction of 2 new Laservision players, originally planned for this week -- including low-end model designed to compete with CED system. Instead, it's expected to accelerate activity in disc program development.

(4) Sears Roebuck announced at-home videodisc shopping experiment -- putting summer catalog on LV videodisc and supplying it to 1,000 Pioneer player owners, as well as installing videodisc shopping systems in 9 Washington & Cincinnati stores.

Reacting swiftly to downbeat stories about CED introduction, RCA invited press and a few key dealers to first open tour of Indianapolis disc & Bloomington player plants, both impressively large & modern and being expanded. Player plant's capacity is approaching 30,000 monthly on single shift; disc plant is on 3 shifts.

In first 5 weeks of sales, distributors bought 52,000 players & 516,000 discs, Exec. Vp Roy Pollack told news conference. He said RCA is achieving "exactly the kind of sales we wanted -- mass-market consumer sales, not videophile, through traditional RCA retailers." He conceded "some specialist retailers were disappointed," but said RCA is having problems meeting disc demand and is increasing disc production to 3 million from 2 million this year, will make about 300,000 players, of which 200,000 will be offered this year under RCA brand (others will be for Zenith & Sears plus inventory buildup).

Customers are buying 4-5 disc albums with player and "coming back for more," said Staff Vp Gordon Bricker. Figures cited indicate sales ratio of nearly 8 discs (not albums) per player so far. Most popular discs have been Rocky, Godfather, Heaven Can Wait, all handled by dealers. Biggest seller in phone-order Quick Delivery System is Star Trek, which will be transferred from QDS to retail store sale, Bricker said, noting that most expensive album -- 4-disc Jesus of Nazareth (\$100) -- is biggest seller in dollars, ranking 20th on 40-title QDS list.

Reviewing first returns on questionnaire included with players, Group Vp Jack Sauter said of 1,132 purchasers responding, 96.4% said their expectations were met or exceeded. Returns of defective discs or players have been "well below 1%" so far," officials said, conceding it's still early to draw any conclusions.

Stereo players & discs are due in mid-1982, Videodisc Vp Jay Brandinger reiterated, but he said parameters of stereo signal haven't been developed. He noted that since player's microprocessor identifies every field (half-frame) for tracking correction, random-access version is definitely possible, adding that models for 1983 & later are in works.

Asked about reports by programmers that RCA has been quoting 1984 date for first custom-pressing, Pollack snapped that would be "unconscionable delay," adding: "Because we want to do everything possible to establish the system... we're going to stand on our heads to serve those houses that want custom-pressing... It's a matter of forced draft for capacity."

SEARS VIDEODISC CATALOG: Sears started at-home videodisc shopping experiment last week, in test that runs through July 25. In Pilot "Tele-Shop" effort, Sears is putting 236-page Summer '81 catalog on optical discs, supplying them to 1,000 owners of Pioneer players, about 300 of which are also catalog customers. Player & disc also will be installed in 9 Sears D.C. & Cincinnati stores.

Discs have still & moving pictures, index, sound, ordering information. Home shoppers will order by phone, those in stores will fill out forms or use in-house phone. Robert Wood, ad & sales vp, said at Washington news conference: "We're getting our feet wet. We know something will happen in this area, and we want to be ready when it does." He indicated, however, expectation that main video selling effort would come in CATV. He said TV selling is being viewed as supplement to, rather than replacement for, catalog sales. Wood said Sears could save big money with TV, pointing out 3.5-4-min. video segment costs same as half page of catalog artwork alone. Sears, which spent more than \$100 million on 35 different catalogs last year, invested \$500,000 in disc project.

Universal Pioneer supplied store players; Discovision Assoc. made discs from programming Sears produced in Chicago. Tele-Shop catalog holds 17,872 items, 8 min. of 5,500 single frames and 20 min. of 17 moving sequences. Disc is packaged like LP record with use instructions, ordering guide notes on jacket.

HITACHI ON VIDEODISCS: Although Hitachi will be making all 3 videodisc systems -- including LV with solid-state laser -- it's casting lot exclusively with CED for U.S. consumer market, setting sights on No. 2 position in worldwide player manufacture -- "perhaps No. 1," said Senior Vp Robert O'Neil. He forecast CED would be sole survivor on U.S. consumer market.

LV, while attractive for educational & industrial markets, has too few manufacturers to warrant extensive software, O'Neil argued, while VHD also suffers from shortage of major U.S. brand names as well as what appears to be lukewarm commitment by its most important sponsor, GE. On other hand, most of big U.S. TV & retail-chain names are behind CED.

Producing for Radio Shack & Sears as well as own brand, Hitachi hopes quickly to build up reputation as a top CED player producer. It introduced first player last week, hopes to have 3-model line on market in year, according to O'Neil. Hitachi is making own stylus, rather than buying from RCA, and claims 600-hour life, which it says is double that of RCA's.

O'Neil said his talks with retailers indicate RCA's launch largely was successful, but conceded that it probably raised some dealers' expectations too high. His bullishness is tempered by timing of debut -- "April is the worst time to push a new product" -- and he said that his high hopes are conditioned on CED's surviving potshots between now and fall selling season. Hitachi Vp Allan Wallace forecast CED player's base price eventually would come down to about \$300, VCR to \$600.

O'Neil & Hitachi were incensed by Sony's recent anti-videodisc ads, and Hitachi responded with own full-page Wall St. Journal ad last week, headlined "Hitachi Thinks You Should Look at Video from Both Sides," with pictures of company's VCR & disc player, giving advantages of each.

Hitachi's goal is to be major force in U.S. TV market, and company is planning first network TV ad campaign in its history this fall, accompanied by magazines & other media.

To allay consumer fears about VCR head replacement, Hitachi has started 2-year warranty on parts in its current line. Company claims its head life of 2,000 hours is double that of other brands.

RCA OPENS CED PLANTS: "We are at production rate," announced Videodisc Operations Vp Jay Brandinger in opening doors of CED player & disc plants to outsiders for first time last week.

Disc plant occupies 640,000-sq.-ft. facility at Rockville Rd., Indianapolis, employs more than 1,000, while player facility now has about 1,000 in area carved out of Bloomington color TV plant. Both are undergoing rapid expansion.

Player plant is by far most modern & automated consumer electronics operation we've seen in U.S. -- spacious & bright, with gleaming hardwood floors. Player Mfg. Vp Harry Anderson called it "best consumer electronics manufacturing plant in the world." Two lines are in operation, with 3rd being prepared, and single-shift operation will soon be producing 30,000 players monthly, with plenty of room for expansion. Exec. Vp Roy Pollack repeated forecast that plant will produce at 500,000 annual rate by year end.

Although much of final assembly is manual, vast majority of components are inserted, and adjustment & testing conducted, automatically. RCA-built auto-test alignment machine makes 32,000 measurements, 23 adjustments, computerizes results. Central computer keeps track of every chassis by serial number, making possible cradle-to-grave record of each player -- entire production history of any chassis can be called up at any time, even in case of post-sale warranty complaints.

When we visited plant, players were coming off final lines at rate up to 4 a minute. Turntables are cast of Lexan plastic at rate of 150 per hour. Chassis frame also is Lexan.

Disc plant is in complete contrast to player facility, handling disc from 1" master tape to actual record pressing, almost all in clean-room atmosphere. Mastering process is done at half speed -- 225 rpm -- using copper-plated aluminum masters which are played & inspected for flaws by laser beam. Several nickel masters are made from each copper master by electroplating, and stampers are made from nickel masters. Process is similar to audio disc pressing but far more critical, presses being modified audio disc units. There are 10 presses, each of which can turn out disc in 40 sec., but RCA is installing power plant with capacity for 40. Many of materials used -- including conductive plastic compound of which disc is made -- were developed by RCA.

Operations in both plants are painstaking, obviously costly. Exec. Vp Roy Pollack said RCA is "continuing to increase our investment" in videodisc. He told us production is on "learning curve" which must be completed before any attempts at cost reduction -- although both he & Brandinger indicated that cost reduction is possible and quality is constantly being improved. Pollack said player plant is geared to constant quality checks at every step of way -- continual checking of parts & subassemblies being more significant than that of final product, because "you can't make a good fruit salad out of rotten fruit."

One operation not shown was stylus assembly, which is most secret & proprietary of processes. Although its patents are available, Pollack said diamond stylus knowhow and production methods aren't shared with licensees -- although they can (& do) buy finished styli from RCA. Secret is said to be in processing of diamond itself. This is done at Rockville Rd. disc plant.

There's one Japanese touch in player plant. All employes wear smocks bearing CED trademark -- brown for production workers, yellow for quality control, blue for group leaders.

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CBS/MGM videodisc 20-title first catalog, to be announced at CES, will include 2001 Space Odyssey, My Fair Lady, American in Paris, Wizard of Oz, Network, That's Entertainment, Benji, Tom & Jerry cartoons, Nutcracker Suite ballet, Electric Light Orchestra, we were told by CBS Video Enterprises Pres. Cy Leslie. One-disc albums will retail for \$24.95, four 2-disc sets will be higher. Custom-pressing orders with RCA are for 10,000, 15,000 or 20,000 discs, depending on anticipated popularity of offerings. CBS won't have version of RCA's Quick Delivery Service, retailers being expected to stock full line.

May 11, 1981

PIONEER COMMITS TO VIDEO: Japan's Pioneer made \$19.5-million capitalization commitment to U.S. video market last week with formation of marketing subsidiary Pioneer Video Inc. Headed by Pres. Ken Kai, former exec. vp of U.S. Pioneer, PVI will handle sales of all home video products, including optical videodisc player & discs, new projection TV, other items to be introduced later, from own hq in Montvale, N.J.

As we reported last week, Pioneer was expected to introduce at least one new player model but didn't. Magnavox wasn't expected to but did. At company sales meeting in Knoxville last week, Magnavox added remote Laservision (LV) player at \$769, dropped continuing model to \$699. Remote version has same features as manual unit, lacks random frame access keyboard feature of Pioneer player. Pioneer postponed introduction of new high-end LV player, though it could still be out before year's end -- current model stays at \$750 with optional remote at \$50 -- and put planned lower-priced model on longer-term hold.

Now part of PVI is Pioneer Artists, created last year for disc program acquisition. Just how critical programming is to player business was demonstrated by rousing ovation Pioneer dealers gave last week to formal announcement that PVI would distribute Paramount discs. Dealers were at sales convention in Scottsdale, Ariz., where video software far overshadowed new video & audio hardware.

Pioneer avoided soft-soaping dealers. In 10 months of player sales, said Kai, "there has been excitement at your place and my place, also some disappointment, mostly at my place." PVI's first order of business, he said, will be to increase software, get Pioneer hardware dealers into discs. "We have recognized for a long time that it was up to us to support our own activities" with programming, said Barry Shereck, Pioneer Artists pres., who promised quick availability of music-oriented discs. Pioneer's view of its position was expressed by Seiya Matsumoto, exec. vp of parent, who called audio "foundation" for Pioneer's expansion into video.

PVI will, in effect, subsidize Paramount's entry into optical disc. Paramount Home Video Vp Richard Childs said PVI will be PHV's main disc distributor, has contracted to buy major portion of its discs. He told dealers PVI stayed away from optical disc until it was "proven to us that this was a viable system." Custom-pressing contract with Discovision Assoc. requires DVA to ship mix of titles in sufficient quantities on specific schedule, with "quality up to Paramount standards." So far, he assured group, DVA is "meeting all... dates to us, and the quality is excellent." Separately, Childs told us PHV will hold off signing with VHD until players are on market, then will insist on same guarantees it got from DVA.

PVI will be selling discs to dealers in 5-disc assortment packs under "software guarantee program" which promises end to shortages of optical product. If deal sounds similar to one RCA is offering its player dealers, that's because it is. Pioneer marketing official told us company looked at RCA disc distribution system and decided that was way to go. Kai said more film discs were on way, but he couldn't divulge details until contracts were signed. But video demonstration (from tape) of coming disc attractions included features from Magnetic Video, Columbia.

Magnavox should be next hardware marketer to branch out into software, is already knocking on same doors as Pioneer seeking same kind of deals. Senior Vp Myrddin Jones of NAP Consumer Electronics said sister brands Sylvania & Philco probably will wait until more programming is available before jumping into player market -- which won't come until fall at earliest.

Meanwhile, tape-vs.-disc campaign was major subject of questions at news conference during Sony's distributor convention. Sony officials insisted ads were just part of Betamax ad campaign, that company isn't anti-disc, that it welcomes disc as part of video revolution, but compared current 150 or so software titles to 30,000 for tape. "We just don't think the time is right to make a commitment," said Exec. Vp Kenji Tamiya. Sony distributed sales manual entitled "Sony Betamax or RCA Videodisc," point-by-point guide to steering disc customers to VCR.

May 18, 1981

JAPAN-EUROPE VIDEO VENTURE: Four-country consortium to manufacture VCRs, cameras & videodisc players in Western Europe is subject of "well advanced" discussions now under way, according to announcement by JVC (Japan), Thorn EMI (U.K.), Thomson-Brandt (France) & Telefunken (Germany).

Announcement said 4 "parties believe that a joint venture is the only economically viable means of establishing a European manufacturing base... for video products... Factories in West Germany, France & UK would be available to the joint venture to concentrate on VCRs, video cameras & videodisc players. Technology would be provided by the parties, with JVC as the principal source." Each company would be free to market products under own brand.

Although mentioning disc players, statement stopped short of saying parties endorsed JVC's VHD system. Thorn EMI is member of VHD videodisc consortium. Telefunken previously confirmed plans for VHS VCR plant in Germany. First stage of venture is said to call for monthly production of 20,000 VCRs at Telefunken Berlin plant from kits supplied by JVC. Tentative name for venture is VHS Video Europe.

NEW RCA DISCS: RCA announced titles of 26 new discs it will release in June, July & Aug. at Las Vegas distributor convention last week. At same time, Mkt. Planning Dir. Howard Ballon indicated company was ending "package" sales of specific disc assortments to distributors, letting them pick individual titles against quotas allocated to them. Best-selling discs have sold over 15,000 copies each, Ballon said. Meanwhile, VHD proponents finally had some programming to announce, as they obtained rights to United Artists library.

Although RCA had indicated earlier that 25 new titles would be added in May, new discs were merely announced, with availability dates in summer. Seven titles will be available through retailers, remainder through Quick Delivery Service (QDS) in Indianapolis. Among top movies included: Goldfinger, American Gigolo, Airplane, Ordinary People (last in Aug.). New disc brochure lists some 90 "coming attractions."

In London, meanwhile, Economist Video Conference last week was told that VHD pressing plant in Cal. is "3 months ahead of schedule." First U.S. studio to sign with VHD Programs is UA, which licensed library including pre-1949 Warner Bros. titles and still-unreleased 1981 features, e.g., French Lieutenant's Woman, True Confessions, Eye of the Needle, Black Stallion Returns. VHD Mfg. begins replication in fall for marketing by VHD Programs in support of Jan. 1982 launch. Other announcements are due at June CES, could involve interactive educational programs. UA titles are part of RCA disc catalog, will appear on Magnetic Video cassettes this summer.

VHD representatives said 2 VHD pressing plants would be built in Europe. Thorn EMI, member of VHD consortium, told us it has established over 5,000 cassette software sales outlets in U.K. in last 3-4 months, including 3,000 rental outlets, and by mid-1982 introduction of VHD disc system there would be nearly 10,000 software outlets in U.K. in addition to 7,500-10,000 hardware sales & rental dealers.

Although all 3 systems were represented, videodisc sell at London conference was soft and only real video excitement currently in Europe is centered on VCR. Growth is following U.S. pattern -- phenomenal. Estimates indicate VHD has 65% of European market, Beta 26%, Philips system 8%. Dutch magazine AV gives these sales forecasts for VCR in Europe:

	1981	1982
Germany.....	550,000	650,000
U.K.....	500,000	650,000
Holland.....	120,000	160,000
France.....	190,000	350,000
Total Europe*...	1,600,000	2,100,000

*Includes Scandinavia, Benelux, Austria, Italy, Spain.

May 25, 1981

QUASAR SHOWS VHD, INDICATES DELAY: First production version of VHD videodisc player was unveiled by Quasar at press briefing preceding spring distributor sales meeting in Chicago last week. At same time, company officials indicated VHD Group may push back system's U.S. market launch by up to 60 days.

Quasar's disc player is similar in basic styling, though not in features, to less-complex CED (RCA-type) players recently shown by other Japanese manufacturers. Openly accessible front panel control buttons are power, play, eject & forward-reverse 180-times normal speed search, audio switch for stereo, channel A or channel B. Others are behind front panel drop-down door. Player features LED minute-second play-time display, and will put same information on screen, along with number of chapter being viewed. It also offers quarter-speed slow & 3-times fast motion, plus frame-by-frame advance.

Individual segments can be accessed directly on time (not frame) basis, or player can be set to play from start of any chapter, using keypad. Prime feature is 5-event programmability, which lets user select portions of disc, on time or chapter basis, to be played in any order. Player will come with full-function wireless remote.

At meeting, product launch date was announced at first as "some time next year," later clarified to "in the first quarter." Company officials declined to be more specific. That would indicate postponement of up to 2 months from Jan. 1982

announced by VHD Group last March, which in itself represented 90-day postponement. While not formally acknowledging that statement meant delay, some company officials indicated that any such holdback would be to build pre-launch player stockpile, and wasn't indicative of any production problems.

Plan for GE to spearhead VHD introduction may have gone by boards. Quasar Pres. Alex Stone said that as he understood it, GE, JVC, Quasar & Panasonic would go to market together. Sharp, a VHD adherent but not formal VHD Group member, has said it intends to match timing of its launch with that of others. At press time, GE spokesman said Jan. was still official schedule, had no comment on joint product introduction. Reason for difference in view could stem from fact GE's players will come from JVC, while Quasar & Panasonic will be supplied by parent Matsushita. Officials at Panasonic, attending Fla. distributor open house for dealers, couldn't be reached for comment.

Quasar displayed almost totally revamped 43-set color TV line, including 20 remotes in 13", 15", 19" & 25", all with CATV-ready 105-channel keypad random-access control, plus pair of new 10". High-end double-sided consoles have 4-watt stereo audio amplifiers, audio input-output, matrix circuit for mono, tone-balance controls. None of new 19" sets has video-ready features, but at least one with video & audio inputs & outputs plus stereo, will be dropped in later this year, Stone told us. Suggested retails weren't announced, but Stone said prices were up 1.5-2% from comparable 1980 models, with actual increases running up to 5% to reflect added features. Also introduced were new VCRs & cameras, expanded audio line.

Quasar sales have risen 250% since its 1974 acquisition from Motorola, Stone said, adding: "I don't know of any other company that has done that from a sales volume standpoint." Expected growth this year is reflected in just-completed expansion of Tijuana chassis plant of manufacturing affiliate Matsushita Industrial Co. from 65,000 units monthly to about 100,000. Addition is primarily for 19" chassis, replacing those now being imported from Matsushita plants in Singapore & Philippines. Second expansion is already on drawing boards.

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There should be plenty of programming announcements -- disc & tape -- at CES. RCA is expected to reveal agreement for Oct. marketing of CED version of major motion picture scheduled for theatrical opening next month. Laservision Assoc. plans to announce major program plans, and Paramount will introduce own-label LV discs, highlighted by Academy Award winner Ordinary People (also on cassette), which is also on RCA disc list for Aug. release.

First cassette programs with stereo sound will be on display at CES by Akai Video, currently only brand offering stereo VCR. Producers are Pacific Arts (with original program called Elephant Parts) and Family Home Entertainment (Tom Jones concert). Both 60-min. tapes will be offered by Akai dealers and to 3,000-5,000 members of Viewfinders Club (Akai VCR purchasers) at \$60, vs. \$50 for monophonic versions. Some major replicators are understood to be equipping selves with stereo & Dolby equipment in anticipation of more stereo VCRs on market late this year & early 1982. Hitachi could be next with stereo VCR.

SEARS VIDEO CATALOG: Electro-leaving through Sears' "1981 Summer Tele-Shop Catalog" on LV videodisc is surprisingly simple -- and, perhaps because of novelty, interesting -- experience. While Sears insists it's "supplement" -- not substitute -- for printed catalog, we think it could take over, at least at catalog order stores and in disc-equipped homes. However, it's no more a substitute for in-store shopping than is printed catalog.

Unfortunately, we weren't able to view any of our Tele-Shop Catalog beyond frame 36,181. Player groaned & moaned and screen went blank when we tried to address frames or scan toward outside of disc. Inspection of one-sided disc showed very obvious flaw, looking much like crazing on glazed pottery, extending about 1-3/4" from outer rim of disc under plastic surface. Held up to light, disc revealed 4 pinholes. For such problems, Sears enclosed slip with disc giving phone number to call collect "if you find that the enclosed Sears videodisc catalog is or becomes defective in any way... and Sears will send you another."

Calling the number, we learned Sears has now sent out some 750 discs (of planned 1,000) to owners of Pioneer players (mostly in Cincinnati-Washington test area), had expected 10-20% would be defective. One source told us Sears received only 50 complaints so far (about 6.7%), is now inspecting & testing discs before sending them out.

Disc would run 28 min. if played in linear fashion, contains entire 236-page summer catalog on some 5,000 individually addressable frames (8 min. of linear viewing) arranged in 13 "merchandise shops," plus 13 "fashion shows & demonstrations" in motion & sound. Former are addressable by frame number, latter by chapter number. Although Sears says disc contains nearly 18,000 items, there's plenty of room for more -- many blank frames between segments. First demo segment features Chmn. Ed Brennan of Sears Mdse. Group giving history of company and its catalog sales, and explaining electronic catalog.

Instructions on disc and album cover are clear enough, but since we're still in age of written word, we'd like to see more detailed index in writing accompanying album. In use, viewer consults 26-line index on album cover to find, for example, women's fashions, listed as frame 1,001. Accessing frame 1,001 provides women's fashion index, showing, among other things, "accessories" on frame 1,017. That frame breaks down accessories into categories -- belts 2,949, hats 2,946, scarves 2,941, etc. Dialing one of these gives frame-by-frame information, up to 11-12 frames per item, showing still color pictures of item, written description, prices, sizes & ordering information, warranty, etc. Cross references between sections & "pages" are frequent ("see also frame 2,391").

"Fashion Shows & Demonstrations" vary from imaginatively produced and abstract segments featuring bathing suits & women's wear to down-to-earth picture & sound descriptions of footware & furniture. Except for presence of multicolored dropouts (particularly noticeable on still frames), picture quality is generally excellent. Still segments obviously are paste-ups of catalog pictures, but with printed material quite legible in large white-on-black characters. Although catalog could be used with Magnavision by scanning through chapters & frames, it's obviously tailored for scanning by Pioneer Laserdisc with its random-access remote control -- which actually becomes easier than thumbing through printed catalog.

June 8, 1981

CES--TECHNOLOGY ERASED LIMITS TO GROWTH: Suddenly everything came together at 1981 Consumer Electronics Show, where future of industry was revealed under huge roof of Chicago's McCormick Place in biggest, most spectacular and most successful event in Show's 15 years, with registration officially estimated at 60,892, exceeding by 68 bodies the record established in 1979.

But this year's Show was unique. Tilted heavily toward video, it didn't rely on gee-whiz products of some obscure future to draw crowds. Actually, very little was shown or announced which hadn't already been revealed, while "products of the future" were year or 2 away. Huge 12,000-sq.-ft. "Matsushita Technology Today"

display actually set keynote of entire show, attracted more than 20,000 visitors. Reputed to cost up to \$8 million, it was largest, most elaborate, most talked-about exhibit in CES history, devoted to 190 products either available now, possible now, or due in next couple years.

Dramatic message of show was that future is now, and no "products of the '90s" were needed to jazz it up. In fact, showgoers evidenced technology shock, principal symptom being blasé acceptance of most advanced items almost as old hat - they were merely yesterday's products of the future. Show wouldn't have worked against background of economic uncertainty -- but it came at upstroke of unprecedented consumer electronics boom, which is even providing makers of profitless TV sets with 2nd chance via new video products.

We were able to find no disgruntled exhibitors, and before Show ended Board of Governors of sponsor EIA Consumer Electronics Group almost routinely, and without opposition, approved normally controversial concept of 2 shows a year.

Videodisc was most pervasive product, and proponents of all 3 systems appeared finally to be getting their acts together. By week's end, it seemed axiomatic to many that there would indeed be 3 systems coexisting for some time. Laservision Assn., the optical disc trade group, put on dazzling multi-screen theater display, was refueled by promises of infusion of much more programming -- and somehow this time they seemed more believable, with discs beginning to show up under Paramount label, and Columbia & Magnetic Video (20th Century-Fox) trademarks due to debut soon on LV discs.

VHD plans came across for first time as credible, and activities on hardware & software fronts seemed to leave little doubt that system was real, would be introduced, and probably on schedule next Jan. VHD or AHD (digital audio) prototypes were shown under 11 brand names, with actual production designs of both JVC & Matsushita versions displayed. VHD revealed it did have programming after all -- in movies, of course there was UA, joined now by one of co-developers of LV system, MCA (whose disc wing changed its name from MCA Discovision to MCA Videodiscs to stress commitment to concept of videodisc rather than single format), and proponents pledged to bring out largest library of non-movie material.

CES adherents, led by RCA, were more subdued this time, seemingly content to let sales record define it as leading system, RCA announcing that dealers had received 63,000-64,000 players in 10 weeks since March 22 launch, and 27,000-28,000 were in consumer hands. RCA welcomed transfusion of 20 new programs on CBS/MGM label and displayed them widely, as did other CES followers.

Except for runaway sales, now at almost double last year's rate, VCR assumed role of just another consumer electronics product, but with somewhat annoying twice-a-year model change. It became obvious that Zenith (which exhibited in Hotel Drake, away from show) is taking role as spearhead of Beta revival when Sony failed to show compact home unit which Zenith previewed at distributor convention. It's understood Zenith is now taking same role vis-a-vis Sony as RCA occupies with Panasonic -- it will get all the goodies first. But there was at least one defection - Fisher, which showed Beta VCR at Jan. CES, this time displayed first VHS made by its parent Sanyo. Latter, however, stuck with Beta under own label. Kenwood & Sansui premiered JVC-built VHS recorders.

Just as video boom is attracting audio firms, it's also contributing to introduction here of new formats. Grundig premiered NTSC version of Philips-Grundig Video 2000, indicating its first effort here would be relatively small, aimed at satisfying demand for "superior product." It said VCR would be available early next year at \$1,200-\$1,300 list, but its \$1,100 dealer cost seemed

to dictate retail price closer to \$1,800. (Toward this year's end, Grundig also hopes to introduce 15", 19" & 26" color TVs, the first to come from Taiwan, rest from Germany.)

Canon became 2nd photogrphy company to enter U.S. video market, and, as reported here in March, it chose same format as the first (Technicolor) -- Funai's portable unit with 1/4" CVC cassette. It will start selling around first of year, following opening sales of companion Matsushita-made camera.

On video cassette front, industry got new addition in PD Magnetics, joint European venture formed last year by DuPont & Philips. Tapes will be marketed here this fall by DuPont's present organization acting as PDM agent. Though venture has plant in Holland, first offerings, in Beta format, will be made in U.S. Both Maxell & TDK introduced high-energy Beta cassettes; RKO Tape expanded into VHS; TDK formally unveiled T-150 VHS cassettes, said it would be available to duplicators only this fall.

Projection TV was everywhere, most eye-catching exhibit being Sylvania's, devoted entirely to concept, with preview look at next year's models -- compact 40" & 50" consoles using U.S. Precision Lens's next-generation small folding optics. Projection TV leader Mitsubishi took step down into what passes for mass-market price in projection with new model at \$3,400. Although not exhibited at show itself, biggest have-you-seen topic in projection was Zenith's console with screen which rises up like elevator; at Drake Hotel, Zenith official said set was "way, way oversold."

Programmable videogames wore new mantle of respectability stemming from awareness of massive profits starting to be made from cartridge sales. Odyssey got feature treatment in Magnavox exhibit for first time, and drew crowds to stare at vertical display of \$1 million in dollar bills used to underscore kind of money retailers can make in game cartridge business. Industry leader Atari had little new to show, but was promising this would be its biggest ad year ever.Flushed with 200,000-game sellout of industry's most expensive game, Intellivision, Mattel was telling dealers of plan for first national TV & print campaign this fall, to be backed by \$2 cartridge discount offer. That the secret is cartridges, not game consoles, was evidenced by constant full house at exhibit of Activision, which produces only cartridges for Atari game, but says it may soon move in on Odyssey & Intellivision.

In audio, floor action was steady if not spectacular. Radio-cassette portables, from pocketables to hernia models, were big attraction along with endless variety of Walkman-type cassette & radio players & combinations. One-brand packaged component systems, particularly audio towers, drew most attention on hi-fi front, and have already spawned one-piece systems with stacked-component look, designed for consumer who doesn't want to bother with patch cords. Digital audio equipment, still 2 years away from market, attracted mildly respectful interest. In car stereo, where 8-track is dead issue, hi-tech models with electronic digital readouts got big push, but buying interest still centered on more basic units listing at under-\$200.

YAMASHITA VIEWS VHD, MATSUSHITA FUTURE: Matsushita won't adopt RCA's blank-check approach to videodisc market development when VHD goes on sale here early next year, will instead proceed more slowly, we learned from Toshihiko Yamashita, pres. of world's largest or 2nd largest consumer electronics manufacturer, during interview in Chicago last week. He also outlined company's U.S. program for rest of decade.

Lack of splash won't stem from lack of financial support. "For the last 8 years, we have been investing a large amount of money in the VHD system" and will continue that backing, Yamashita said. Question is "not so much money as it is what kind of [specialized] software programs can we make available." When company started disc effort, "the VTR was not as popular as it is today, and so we felt that the disc would be something like a phonograph record." But with VTRs catching on, "a phone record that can also produce a good picture is not exploring the capabilities this new media has. We should give it something we can't accomplish with a VTR."

Videodisc shouldn't, and possibly can't, compete directly against VTR, Yamashita indicated. If disc software "is movies or musical programs, that is the kind of thing that is already available [on tape] and can be readily recorded off the air." Today "we are trying to see where we can position the videodisc with respect to the VTR, and that is a very difficult question." This means, he told us, VHD "will go through an initial difficulty -- and [appropriate] software will come slowly."

Yamashita acknowledged VHD Group won't have easy time competing against RCA & Zenith, which are backing CED, or against optical Laservision system supporters. Matsushita opted for VHD because it's less costly than optical system, more versatile in terms of performance features than CED, he said, adding "but nevertheless, the final voting right is in the hands of the customers." (Yamashita told Wall St. Journal that VCR, which passed color TV as Matsushita's biggest revenue producer in fiscal 1980, will be company's most important consumer product for at least next 5 years.)

Shifting to Matsushita's U.S. growth plan, Yamashita said groundwork already is being laid by increasing responsibility of Matsushita Electric Corp. of America (MECA) as overseer of all U.S. operations. "So far, this function was not very effectively carried out," but that's being changed through restructuring. MECA's role will get more important as Matsushita expands manufacturing operations in U.S. -- new electric fan & electronic components plants were opened in Tenn. last year. There's also work to be done on more established plants, particularly former Motorola-Quasar TV factory in Franklin Park, Ill. acquired in 1974. It's being run as unit of Matsushita Industrial Co. (MIC).

MIC's profitability "is not up to the Matsushita corporate average -- it is below average" but improving, Yamashita said. "It takes time for us to change or steer the direction of a large number of people, but the steering is taking effect and we have already started seeing improvements in their business this year." Yamashita said he recently met with MIC Pres. Richard Kraft and other executives, "and I'm impressed that they are very confident of their success and with their forward-looking atmosphere."

But days of single-handed expansion in U.S. may be ending. By end of 1980s, "what I envision is a closer relationship between Matsushita and the U.S., with Matsushita better established as an integral part of the American economy," Yamashita said. By then, "our business should be much larger than it is today," but because of vast diversified opportunities in electronics "I feel that Matsushita cannot do it alone. Some time in the future we will be in certain cooperative relationships with various kinds of American enterprises. In what way, or what kind of arrangements, I don't know yet, but we will be more and more working with American companies."

Yamashita acknowledged Japan is facing growing resentment from local manufacturers in its world export markets, but said he thought Matsushita has found solution. "The largest reason for this friction is unemployment. So when we start

manufacturing in the U.S., we create job opportunities for the American people and operate as an American enterprise." But this caused backlash in Japan, where labor unions perceived shift of color TV assembly to U.S. as threat to their jobs.

"They asked me, are you going to take our jobs and hand them to Americans? I told them no, because electronics has a lot of possibilities for growth, and you should be able to work with something new in the future," Yamashita said. "That was my corporate policy and we told them so, and it is that way now." So work is continuing to be shifted from Japan to U.S., while in Japan workers are doing jobs that hadn't existed before. "If we are able to continue this cycle we can avoid friction. That's good for both countries, and this is possible," he said. "We are fortunate that we are in the electronics business where we can do this." Throughout the 1980s, "we are determined to do this in a successful way. From 1990, I don't know; I won't be here."

ALL DISC SYSTEMS GO: While RCA's CED system has hogged disc limelight in 6 months since Winter CES, its 2 competitors were most active at summer show, with impressive demonstrations & exhibits and major program announcements.

Production versions of JVC & GE VHD players, as well as Matsushita-made Panasonic & Quasar VHDs were displayed, showing different features, particularly with regard to random access & programmability. Matsushita unit has 5-event built-in programmability and optional wireless remote, while JVC version has many types of access but no built-in programmability. JVC's random-access programmer attachment won't work with consumer player, is designed for industrial use. Sharp's VHD player has no random access either, but combination random-access & remote control system will be offered to consumers as accessory. No prices are being quoted yet, most sources reiterating they'll be "somewhere between CED & LV" systems.

VHD or AHD (audio) players were shown by 11 CES exhibitors -- GE, JVC, Quasar, Panasonic, Mitsubishi, Sansui, Sharp, Fisher, NEC, Audio Technica, Yamaha (last 2 with AHD versions). Two exhibitors showed 2 systems -- Fisher VHD & LV, Sansui VHD & CED -- stressing they'd go whichever way software goes.

VHD proponents said they expect 5 brands of players in U.S., with first year's sales of 200,000-225,000 players and availability of at least 10 discs per player at introduction.

Meanwhile, LV optical camp was getting its 2nd wind (first sample discs from Universal Pioneer in Japan and from 3M showed up at CES demonstrations). North American Philips Vp John Messerschmitt estimated LV player population at less than 50,000 at end of 1980, saw it rising to 300,000 next year and million in 1983, with sales of at least 25-30 discs per player per year. Magnavox, moving into disc distribution, has signed to handle discs from Pioneer Artists & Optical Programming Assoc., is negotiating with other suppliers. Pioneer Video Pres. Ken Kai said dealers who agree to buy one player per month for year will be guaranteed 10 discs per player. First sample disc from Universal Pioneer in Japan (VHD) and 3M (LV) showed up at CES demonstrations.

Disc programming news at CES was all upbeat, especially from Laservision group which showed new-found confidence with announcements that Paramount, Fox & Columbia has signed custom-pressing deals. Change for better was most pronounced for MCA Videodisc (MCAV), formerly MCA Discovision, now freed of all manufacturing & optical development responsibilities. "We were the last to go into cassette," said Pres. James Fiedler. "We're determined not to be in disc."

MCAV has licensed VHD Programs, is open to CED deal as well, in meantime will reduce its LV catalog from 150 titles to maximum of 50, including MCA movies in current theatrical release, dropping titles of other producers. Last Paramount title on books is Heaven Can Wait, re-pressed before DVA-Paramount deal came through.

Laservision Assn. Chmn. Jack Reilly told news conference that just under million optical discs had been shipped to date, with 80% of April-May production in CLV (hour-per-side) format. Magnetic Video order for 40 titles will add 200,000-300,000 to total, and Paramount should add like number for next batch of 25-30 releases due in Dec. LV now lists about 150 titles in library, could have 175-200 by year's end.

On VHD side, first 76 titles will be mix of 55% movies, 45% special interest, including 30-90-min. instructional discs. VHD Pres. Gary Dartnall said music & theatrical performances wil account for 1/3 of 600 titles expected by 1985. First shipment of 20 titles on 1" tape went to Japan May 20, and 80% of opening catalog wil be pressed by Oct., he said.

GUIDE TO VIDEO BOOM: Picture of unprecedeted video equipment sales boom, tempered by growing industry concern with helping dealers cope with inventory problems as products multiply, was painted during video products seminar at Summer CED in Chicago last week.

Virtually all sales estimates for 1981 & 1982 have been revised upwards in light of strong first quarter & April results, Quasar Pres. Alex Stone said in keynote remarks. He cited following original & revised consensus of "industry executives" (millions of units):

	1981		1982	
	Original	Revised	Original	Revised
Color TV	10.0	10.5	10.5	10.75
B&W TV.....	6.0	6.3	6.0	6.3
VCR	1.2	1.5	1.5	2.25
TV cameras	0.18	0.25	0.25	0.3
Projec. TV	0.08	0.15	0.15	0.7

Forecast for other key products for 1981 & 1982: Videocassettes, 25 million & 35 million; videodisc players, 350,000 & 700,000; video discs, 4 million & 10 million; programmable video games, 2.5 million & 3.5 million.

First panelist to tackle inventory situation was Morton Fink, Warner Home Video, who said "a new business system is required on the software side." As dealers have to carry software in increasing number of different formats, suppliers must "shift inventory responsibility from the dealer." Most of industry's business is being done in about 300 of some 3,500 titles available, and in tape it's becoming more a rental than a sales business.

Smaller & moderate sized dealers find 2-step distribution working to their advantage now, as they can work with local distributors, pointed out Zenith Sales Pres. Walter Fisher. He drew immediate agreement from RCA Group Vp Jack Sauter, who said only through distributor network can dealers get full support they need with floor planning, dating, financing & local promotional support. RCA's answer to software inventory, he pointed out, was direct-to-home delivery of videodiscs not stocked at retail level.

There was less unanimity when it came to videodisc. Sauter & Fisher hewed to official CED party line that disc customer is less technically oriented thn VCR buyer. This drew sharp retort from Pioneer Video Pres. Ken Kai, who said average

optical disc purchaser "owns a VCR already" and follows same general demographic pattern, "but maybe our customers are different." Panasonic Exec. Vp Ray Gates used opportunity to quash speculation over 1982 introduction date for VHD videodisc system. "We have been in touch with Japan and have heard nothing to indicate a change" in plan for Jan. launch, he said.

As for threat to disc posed by lower priced VCRs, "I think there will always be a reasonable difference in the price of the 2 products," Sauter said. Giving software supplier view of multiple disc format situation, Fink said: "We would rather see less formats than more formats because of the inventory involvement, [but] we will be in all formats that are viable."

There were diverse views too when it came to projection TV. Fisher said Zenith sees industry sales of 100,000 this year, predicted 25-30% annual growth through 1984. It's "not a mass-market item, but a tremendous growth item," he said. Gates said that while projection is a growth market, a \$2,000 price tag "would immediately make this a mass market," quickly adding that he saw no such price in near future.

"I think it will take more time than others are predicting," for projection to catch hold, said Kai. He said he sees projector evolving into "a component type business," as homes acquire VCRs, disc players and other equipment to go along with it. Concept thrown on table by Sauter was that projection "instead of becoming wall-sized could go in the other direction," ending up as step-up from standard 25" console.

June 15, 1981

RCA EXPANDS DISCS: RCA announced "major expansion" of videodisc capacity last week, at same time elevating disc operation to divisional status, while formally putting player operation under Consumer Electronics Div.

Major aspects of expansion: (1) Provision for up to 60 presses at Rockville Rd. (Indianapolis) disc plant, which currently has 10, each capable of turning out disc in 40 sec. At plant tour last month, officials said new power plant would be capable of supporting 40 presses. Last week's announcement indicated power plant is being enlarged to handle energy requirements for 60. (2) Acceleration of pressing capability to support 10-million capacity level in 1982. Previously announced was upgrading to 3-million rate (from 2 million) this year. (3) Construction of separate compounding facility next to disc plant, capable of supplying disc compound material to manufacturers worldwide.

Disc & player operations now are formally separated. Jay Brandinger, who had headed disc operations since Jan. 1979, was appointed vp-gen. mgr. of new Selectavision Videodisc Div., reporting to James Alic, corporate vp for electronic services & videodisc operations. Player manufacturing operation was transferred to Consumer Electronics, under Group Vp Jack Sauter. Exec. Vp Roy Pollack indicated move underscores emergence of disc manufacturing as separate business; it gives evidence that disc & player operations will have arm's length relationship and that each will be separate profit center. RCA estimated June 11 that more than 28,000 players and some 250,000 discs had been sold to consumers in first 11 weeks.

CBS Video Enterprises, which introduced 20 CED titles at CES, said it plans to ship 600,000 discs this year (presumably included in RCA's total, since they're being pressed by RCA). CVE Pres. Cy Leslie expects consumer sales of 240,000, disc purchases averaging 10 per player. CBS will start up own CED plant early next year, plans to press 1.2 million discs in 1982. Leslie had disappointing news for

those looking to CBS to press discs for them: "This capacity will be completely absorbed by ourselves and our associated labels. We did not build [Carrollton, Ga.] as a contract-pressing plant." In answer to question, Leslie indicated CBS would make VHD discs if that system becomes mass-market product. He forecast videodiscs would be \$500 million-a-year business in 2 years.

In addition to own distributors, CBS will make its discs available through hardware distribution pipelines, including Zenith and any others which want them, according to Leslie, and through Sears, Ward & Penney. Although RCA prominently featured CBS discs at its CED display, there is no RCA-CBS distribution deal, he said.

Sanyo, meanwhile, announced that its \$499.95 CED player would include wired remote control, which originally had been planned as \$30 option, said introduction was being pushed back to Aug. At Hitachi, it's understood that rising costs may threaten under-\$500 price for CED player, but company officials said that still was target price. Toshiba now plans U.S. introduction of its CED player next month with first shipment of 10,000. Same company is source for players to be sold here under own name by Elmo Co., Japanese 8-mm camera maker, contracting to buy 1,000 OEM players monthly.

June 22, 1981

RCA TO ISSUE CED STEREO SPECS IN AUG.: RCA videodisc licensees will be briefed on specifications for CED system's stereo sound at regular semiannual technical update in late Aug. We understand most parameters of system have long been decided, but one decision which remained to be made -- at least until recently -- was on noise-reduction, or companding, technique. CBS says it's now negotiating with RCA on use of CX system, and there are solid indications this is one which has been, or will be, adopted. CBS, meanwhile, now says it will start mastering CED discs in 4th quarter, pressing in Jan.

RCA confirmed to us it will "release the technical specifications for stereo" at Aug. licensee meeting. Company has announced it will introduce stereo version of Selectavision CED player, along with stereo discs, next spring.

CBS is on schedule with CED disc project, Technology Vp Harry Smith said last week at tour of CBS Technology Center in Stamford, Conn., where videodisc is biggest single project. We saw intensive pilot mastering there in virtual miniature of RCA mastering plant in Indianapolis which we visited last month. Pilot pressing is being done at CBS Records Labs in Milford, Conn. while audio disc line is being converted to video in \$22 million project at Carrollton, Ga. factory. Compounding facility is being built in Terre Haute, Ind.

CBS is aiming at 90% yield in disc pressing (vs. 97% for its audio discs), hopes to achieve it in 2nd full year of production. All that's required is "good record technology," said Smith. He estimated that manufacturing cost of disc, including caddy, must be \$3-\$5 to break even at \$20-\$25 list price -- "RCA is the only system which has a chance to do this." For disc to have cost advantage, runs must average 50,000 per title, Smith said. "In small runs, tape is ideal, but for the mass market, disc has the advantage."

Smith guessed that LV optical system's per-disc costs are about 3 times the RCA-CBS goal of \$4 a disc, and "on the way down to 2 times." LV pressing is more costly, he said, because each disc side must be pressed separately and then 2 bonded together, and because of extra plastic-coating operation LV mastering by

photoresist technique is difficult, Smith added. "We feel it is an inherently higher-cost system. The whole purpose of the videodisc is low-cost records. When you compete head-to-head with videotape it loses its advantages."

As for VHD system, Smith said it was similar to CED in pressing technique, but mastering is done by same process as LV -- "we've done optical mastering and that's why we don't like it." He seemed dubious that VHD would make Jan. target date for introduction -- "you can't get started on any of these systems in less than 2 years." Smith told us CBS tests indicated picture quality of CED & LV discs was just about same, perhaps with a nod to CED.

In industrial videodisc field, McDonnell Douglas bought assets & personnel of Ardev from Atlantic Richfield for slightly over \$2 million cash "plus royalties based on future selected product sales." It will become Videodisc Div. of McDonnell Douglas Electronics, remaining in Palo Alto under Peter Wohlmuth, concentrating on interactive training devices, presumably including flight simulators and radar training systems.

SEARS, PENNEY OFFERING CED PLAYERS: First non-RCA-brand CED videodisc player on market is Sears' Hitachi-built unit, listed in new fall-winter catalog at \$489.95, with optional remote at \$39.50. Sears will also offer RCA-built player under Sears brand at its approximately 600 Class A retail stores starting in Sept. Regular price will be \$499.95, but there will be introductory promotional discount (possibly \$50).

Sears said it received first supply from Hitachi 2 weeks ago; local catalog order desk quoted us one week delivery time. Catalog gives player & discs slightly over half of the page it shares with Sanyo-built projection TV, lists RCA's Group A selection of 20 discs at same prices as RCA. Player is similar to the one shown by Hitachi at CES, has 2-speed visual search, audio/video output jacks, stereo adapter jack -- only difference being that it appears to have window showing elapsed time (not mentioned in catalog copy) in addition to sliderule elapsed-time display, a seemingly needless redundancy.

Videodisc player isn't featured in Penney or Ward fall-winter books, but both companies indicated it probably would be in Christmas catalogs. Ward's players will be made by Toshiba. Penney has shipped RCA-brand player to over 250 larger stores (price \$499.95) and its "instant checkout" service said "outlook for this product is good" based on early customer reaction. Woolco now has RCA disc & player displays in all its major stores. Radio Shack says it's checking out Hitachi-made player samples, will offer it in stores in midsummer.

N.Y. area Caldor chain, which has been doing good job of promoting & selling RCA player, advertised it last week as Father's Day special at "\$388 (our reg. \$433)."

Sears catalog devotes 3 pages to VCRs & cameras, still offers Beta recorders only (spokesman said it could be 1983 before VHS is added). Its 4-recorder line features Sanyo-made basic 2-speed unit with electronic tuning at \$685, step-up with forward & reverse scan at \$785 (Sanyo list-prices similar units at \$795 & \$895); Toshiba-made special-effects programmable with wireless remote is \$985 (vs. Toshiba's suggested list of \$1,495 for similar VCR); mechanically tuned Toshiba portable outfit is \$1,145 (up \$20 from spring-summer book), will be replaced in Oct. with electronically tuned unit. Single Hitachi color camera at \$985 (down \$4) will be replaced by 2 new Hitachi cameras in Oct. Some of Sears' color sets are up \$10-\$30. Penney's Matsushita-made VCRs are up \$40-\$100, color sets up \$7-\$40.

July 6, 1981

NEW VIDEODISC PLANTS: Two new videodisc plants are now scheduled to go on stream in Nov. -- for LV & VHD discs -- and one now in operation will temporarily go out of consumer discs for 2 months to concentrate on industrial.

DVA's Cal. facility will be devoted largely to pressing for GM in Aug.-Sept. as automaker gears up programming for new model presentations on its disc network. During that period, consumer disc output will shift to Universal Pioneer plant in Kofu, Japan. We're told this doesn't indicate permanent split between industrial & consumer pressing. DVA has increased number of business & institutional accounts, including banks, colleges, govt.

There were some complaints last year when DVA concentrated on pressing for GM in late summer, but this year it has big Kofu plant, now pressing at rate of 100,000 discs monthly, to fall back on. Since U.S. currently is only LV market, bulk of Kofu's output is coming here. By year's end, plant is scheduled to be producing 200,000 discs monthly, with 5 million capacity planned for 1982. First pressings from plant reportedly have been of excellent quality.

Another source for LV discs is scheduled to open in Sept., when 3M's Menomonie, Wis. plant starts commercial pressing. Facility has turned out good sample discs using 3M's photopolymerization (PP) process and company expects to be at million-side-per-year rate (500,000 discs) by 4th quarter, starting almost immediately to increase capacity. Plant will be exclusively custom-pressing operation. Sales & Mktg. Mgr. Frank Price told us 3M is talking with prospective customers but probably won't sign any deals until plant is in operation.

3M's schedule appears to show some slippage, original target for mass pressing having been mid-1981. Most disc plants don't quite seem to meet their original targets. Philips' British plant, scheduled to start this summer, now appears to be headed for production about Oct. CBS's CED plant, although called "on schedule," is now targeted to start pressing in Jan. -- but as recently as last Nov., Pres. Thomas Wyman was talking of mid-1981 production in Carrollton, Ga..

VHD disc plant in Irvine, Cal. has produced satisfactory test pressings and official said it should be on stream in Sept., month before official opening. VHD system is scheduled to make market debut in Oct. in Japan, next Jan. here, and until U.S. disc plant opens, VHD Programs must depend on Japan plant for any disc backlog -- which creates problem, since that plant is busy developing backlog of Japanese software to accompany home-market launch.

Among first projects by VHD Programs will be development of interactive discs on blackjack, roulette and children's games for opening catalog.

July 13, 1981

PROMOTING VIDEODISC WITH FREE HOME TRIAL: "Try it in your home tonight" was message that helped RCA put color TV over the top. Now Pioneer, in big way, and RCA, on much smaller scale, are trying same approach with videodisc.

Pioneer this month will start 6-month campaign, until Christmas, keyed to barnstorming Home Entertainment Fair (HEF), backed by national campaign in general & specialized consumer magazines and local newspaper ads, highlighted by try-it-in-your-home-free offer. Participating dealers -- those who attend special training session and sponsor own 3-4 day HEF -- will receive free factory-supplied players to loan to potential customers, along with 3-4 discs. Dealer doesn't have

to use own stock for home-trial units. Consumer will leave deposit, and if he decides to buy player, he returns loaner, gets new one in sealed carton.

Pioneer will supply dealers as many loaners as they can use at no cost, according to Pioneer Video Pres. Ken Kai. Four company teams and 20 rep teams will operate fair at participating stores.

RCA's home trial program is one of "roll-your-own" promotions suggested by company for local or regional use during summer hiatus in national advertising. Others are in-store "videodisc parties," free corn-poppers, free disc and road atlas promotions. These will get some factory & distributor support, but RCA said it has no plans for national home trial offer of type which promoted color during early days. Company official explained that changes in marketing structure -- concentration on shopping malls, de-emphasis of neighborhood dealers & home delivery -- militate against nationwide program, although "it may be a very good idea for a company like Pioneer."

Home videodisc population now stands at about 70,000, we estimate -- about 40,000 IV, 30,000 CED. Pioneer's Kai told us some 20,000 Pioneer players are in hands of public, and company's guarantee of adequate software to participating dealers resulted in tripling of dealers' sales in June from first-quarter monthly average. He said he doesn't expect summer sales to maintain that pace, but "for the first time, dealer orders were in the 5 figures [in June], and we expect the same in July, for fall delivery." Player sales depend on "how many discs we can deliver," he added. "If we can deliver a million discs this year, I think we'll sell 25,000 players."

Magnavision sales have been disappointing so far this year, despite extremely attractive prices, and one source close to company estimates it has more players in inventory than it has sold to date. "We're disappointed in the year," said company official, "but hope for a turnaround in the fall." G.R.

RCA is expected to demonstrate European version of CED system with PAL color and stereophonic sound at 2 major shows this fall -- Internationale Funkausstellung in Berlin in Sept., Vidcom in Cannes in Oct.

SPECIALTY VIDEO PROGRAMS: Next step in videocassette & disc market is under way with establishment of specialty programming companies in last few months. Payoff for non-movie product, especially in disc format, is 4-5 years away, but investment money isn't hard to come by.

Most ambitious effort to date involves Vidmax, Cincinnati, which raised \$330,000 for disc devoted to National Gallery of Art collection. Publisher Harry Abrams Inc., Times-Mirror subsidiary, already has sold more than 100,000 copies of \$55 book, basis of disc. Videodisc Publishing, N.Y., is producer, with assistance from consultants Fox/Lorber Assoc. Both are new businesses. Discovision Assoc. will handle mastering & pressing.

Optical 55-min. disc is to contain 3,000 photographs of National Gallery artworks, plus narration, tour of museum, music. It's expected to sell for \$90-\$100, 2-3 times present IV disc prices. Vidmax said it won't subsidize sales, hopes to have \$2 million invested in various programs by next July. Vidmax hopes to recoup most of expenses by selling edited versions to cable, cassette, TV syndication interests.

Others getting Fox/Lorber aid include Delilah Communications, which wants to do video version of The Compleat Beatles, 2-volume book it's publishing, and Dubs Video, which now has 7 cultural cassette titles under its Electronics Arts Intermix label, and is seeing performing arts programs from overseas suppliers.

Pioneer Video is about to acquire disc distribution rights to group of football programs from NFL Films Video. Discs will be CAV (30 min. per side) to allow use of special effects. They'll list at \$25 each. Release is expected in Oct.; NFL will co-distribute.

NFL contract with DVA is similar to other custom-pressing agreements negotiated recently. NFL pays \$500 for videotape master, \$5 per side, plus fee for pseudo stereo reprocessing & encoding and chapter stops, but little else. Minimum order is 5,000 per title, and Pioneer has agreed to buy & distribute most of that.

In other software activities: Pioneer will market some 100 Magnetic Video titles on optical videodiscs in Japan. Pioneer subsidiary Laser Disc Corp. will do pressing. Pioneer is to start sale in fall, under agreement that runs out at end of 1982. Also this fall, MV will start distributing videocassettes in Japan... **Copy swapping** is new video piracy wrinkle. Subject of recent state police bust in New Bedford, Mass., restaurant owner rented cassette, made copies, then opened cassette shells and swapped tapes. Store got back original housings containing 3rd-generation copies, while pirate kept originals to make more copies for sale. Justice Dept., meanwhile, has urged House Copyright Subcommittee to impose tougher penalties for piracy.

RCA videodisc system gets good report card in July Consumer Reports, which advises readers to "wait and see which system develops the best programming before you gamble." CR calls RCA picture quality "superb, close behind that of the laser systems' image." Record wear in test was "minimal -- we played a scene from The Graduate more than 350 times with no very noticeable change in picture quality. And after more than 150 hours of use, we haven't detected any decline in performance of the diamond stylus." Success of videodisc systems, CR concludes, depends on programming available and how well they can compete with VCRs.

July 20, 1981

VIDEODISC SALES EXCITE J.C. PENNEY: If RCA's videodisc system is truly mass-market item as company claims, you'd expect a true middle America retailer to have good results with it. And while sophisticated video dealers complain about their customers' lack of interest, J.C. Penney is happy with product after 2 months of sales in 265 full-line stores.

Player sales are "better than we expected," says Art Glenn, senior color TV & video buyer, who notes disc got off to much faster start than VCR at Penney stores. Interestingly, it's selling best "in smaller towns, where there's not as much choice of TV channels." Penney currently is opening disc sales in more stores, probably will add at least 30 locations this year, according to Glenn.

Penney is making particular effort to supply software aftermarket. Jack Fleischer, buyer for b&w TV and home entertainment accessories, told us sales ratio is already 8 discs per player sale -- "but we think some of the disc customers bought their players from other dealers [who] aren't making the commitment to software that we are." This is fine with Fleischer, who believes disc business could be very big -- "we want to make sure people know they can get software at Penney."

Company's stores stock 25 titles from RCA catalog, but not RCA's pre-packaged "recommended" selection. It picked & chose its own instead, and found its best-selling title was one not even offered by other retail stores (although it has recently been moved onto retail list) -- Star Trek, which was in Quick Delivery

Service (QDS) catalog. Penney offers any RCA title on request, orders for customers through QDS, which "gives us an extra edge," Fleischer explained -- "it lets us advertise 100 titles."

Later this summer, Penney plans to stock 14 of first 20 MGM/CBS titles on CED videodisc, offering 5 more by special order. Only movie it won't take is R-rated Cruising -- "not in keeping with the Penney image," said Fleischer.

"We took a strong stand" on CED system, Fleischer asserted, "and it's meeting our expectations. We think it's because we did everything RCA recommended -- we used the display and point-of-sale material, carried an adequate supply of players & software and made other titles available through QDS." Salespeople received no special training, according to Glenn -- "it's so simple to operate no instructions are necessary." Chain is sticking to RCA-recommended \$499.95 price for player, has offer this month of 2 free discs with purchase.

Stores were selected for sales volume, geographical location, but also for nearby availability of RCA service. Some defective discs have been turned back -- main complaint is groove-skipping -- but there's been "no epidemic," according to Fleischer. "One or 2 players have been returned for service, but there have been no major problems -- an exceptional record."

Players & discs won't be included in Penney catalog until spring-summer 1982 edition, due next winter. Chain hasn't decided whether to switch to own private-label players. "We'll probably do the same as we did with VCR," Fleischer speculated -- "we carried the RCA brand for the first couple of years, then switched to our own."

Penney sells recorded videocassettes in 50-55 larger stores, Fleischer said, but hasn't done as well as with discs. "There are many problems, including the \$39.95 Beta promotion, which hurt our VHS sales." On other hand, cassettes do very well in catalog, "which reaches areas where there are no video stores."

RCA's "roll-your-own" summer videodisc promotions are now hitting the street. N.Y. distributor Bruno N.Y. is running first ads we've seen comparing costs of videodiscs & cassettes. Ad shows discs of Airplane, Blondie, Goldfinger under headline "To buy these 3 shows on videotape cassettes would cost you over \$150 -- now they're on discs and they're free when you buy the amazing RCA Selectavision..." Some Woolco stores are combining 3 RCA promotions -- buy player for \$479.95 and get 3 free discs, free corn-popper, free road atlas -- and throwing in b&w TV for \$84 more.

Non-RCA CED players are beginning to show up. In addition to Hitachi-built Sears, now on sale through catalog at \$489.95, Toshiba delivered first 2 shipments to dealers, totaling over 2,000 players, and officials said they were very happy with early returns indicating "complete sellout." List price is \$525, but it's being offered in most stores at price competitive with RCA. Hitachi-brand players are due around end of month.

July 27, 1981

RCA REJECTION SLOWS HITACHI CED DEBUT: Sales of Hitachi-made CED videodisc players have been held up for modifications to meet RCA's compatibility standards, resulting in delays of up to 2 months in marketing under Hitachi, Radio Shack & Sears brand names. Major problems are understood to have been corrected, and modified product has "conditional" approval subject to some minor changes, which presumably have been made. Hitachi said shipments to its own dealers will start this week.

Under terms of license, RCA inspects each production model to certify its qualification to carry "CED" logo. First Hitachi models, it's understood, flunked test because turntable was too small, causing disc to sag. Other minor incompatibilities also were discovered.

Sears, which offers Hitachi-made player for \$489.95 in fall-winter catalog, in distribution since June, told us product was placed "on hold" until Aug. for "improvement in disc-handling," but large-scale sales seem improbable before Sept. Radio Shack said there had been "slight delay for RCA approval -- so we'll have it in Sept. instead of Aug." Hitachi Senior Mktg. Vp Robert O'Neil told us "several thousand" players would be shipped to Hitachi dealers by end of Aug.

Toshiba CED player received RCA approval and is now on sale. Sanyo's version has just been submitted and is being tested. Hitachi, Toshiba & Sanyo originally had June target for U.S. sales. In addition to license, Toshiba has technical assistance agreement with RCA and buys RCA stylus assemblies. Hitachi has basic license only, uses stylus of own design. Referring to Hitachi's problem, one RCA engineer told us: "They shouldn't feel too bad -- we didn't get it right the first time, either."

Sears has contracts to buy CED disc players from both RCA & Hitachi, will list RCA-built model as "Sears' good CED player," Hitachi's as "Sears' better CED player." RCA player (with Sears' brand name) will be featured in Christmas catalog at \$439.95, appear in retail stores in Aug. at \$479.95. Hitachi-made version will be \$499.95 in stores in Sept., \$10 more than in catalog, remote control a \$39.50 option in both cases.

Zenith has started shipping RCA-made players, listing at \$499.95. Toshiba-made players under brand name of Elmo, Japanese photographic manufacturer, will be shipped to camera stores nationwide starting within next 2 weeks, according to Elmo (U.S.) Eastern Sales Mgr. Murray Weinberg, who told us company is now talking with RCA & CBS about software; player lists at \$499.95.

Hitachi plans to double output of players to 20,000 units monthly this fall, company said in Japan. Universal Pioneer also is doubling production of LV players to same number early next year, with addition of 2nd plant in Japan. In London, Thorn EMI announced it has acquired plant at Swindon to master & press VHD discs, to start next Jan., reach full production by April with about 100 employes.

First short-term disc player rental scheme we've seen is being promoted by Key Rental Inc., Laurel, Miss. TV rental outlet, offering RCA disc player and one movie overnight any Mon. through Thurs. at \$11.99, player and 2 discs Fri. night for \$16.99, Sat.-Tues. "weekender" with 2 discs for \$21.99, extra movie with any package \$3.99, movie disc without player \$4.99. Key Pres. Frank Ellsworth told us he also rents VCRs, but consumers overwhelmingly prefer disc players because of simplicity of operation. Lowest prices we've observed to date for disc players: Lowest prices observed for disc players: RCA \$375, Magnavox \$475, in Grand Central Camera promotion in N.Y.

August 3, 1981

DISCS--LV PRICES UP, TOSHIBA-ZENITH TIE: Zenith is completing negotiations for new CED videodisc player supplier to succeed RCA and contract is expected to go to Toshiba although deal hasn't been signed yet. RCA had agreed to supply Zenith with players for year. Although deal was extendable, it was clear that neither party wanted extension.

MCA has increased prices of most of the 36 remaining titles in its present LV catalog by \$4-\$5, making new range \$19.95-\$29.95, vs. \$5.95-\$15.95 when MCA & Magnavox entered Atlanta test market in Dec. 1978. (Most RCA CED disc prices are \$19.98-\$27.98, about half of them below \$20). Prices of some programs in MCA catalog are unchanged, including music, children's & movie entries and 2 interactive discs -- How to Watch Pro Football (\$24.95) and First National Kidisc (\$19.95). However, 2 Disney cartoon shows jumped \$10 to \$19.95 and National Gallery art collection went from \$9.95 to \$24.95.

MCA Videodisc Pres. James Fiedler said prices had been below those of other studios' LV discs. Paramount titles custom-pressed by Discovision Assoc. for distribution by Paramount & Pioneer Video are \$29.95-\$35.95, haven't run into consumer resistance. Magnetic Video top will be \$34.95 for first DVA discs shipped next month, while Pioneer Artists could go as high as \$50 for operas. MCA's move, combined with Magnetic Video's Beta sale offer of \$39.95 for 50 movies on cassette, considerably narrow gap between disc & cassette prices.

MCA goal, of course, is to turn profit in distinctly unprofitable disc business. Fiedler called increase "helpful, but it's still not where I want to be." Prospects for kind of assembly-line prices prophesied earlier are still distant. Fiedler thinks it will be at least 12-18 months before optical camp can answer question of what technology can do without subsidies such as Pioneer's guaranteed purchase of custom-pressed discs to support player sales. There's little likelihood of lower prices before then.

MCA Videodisc titles are selling, DVA orders increasing from 5,000 to 10,000 average. "We've quit playing Charles Atlas" by carrying other studios' lines in catalog, said Fiedler. Only non-MCA programs are Disney's. He expects to add 10-15 titles by year's end. Nearly gone are 30-min.-per-side movies. "There'll be very few CAVs left on the shelf by the end of the month," Fiedler noted, adding that MCA might convert hour-long concerts to extended play (CLV) as well. Some former CAV titles are being remastered in CLV. Some MCA titles dropped from catalog may be reissued later.

Magnetic Video has decided to extend 50-title Beta sale through Oct. 31, according to Vp Jack Dreyer, who claimed MV Beta production now runs "very close to VHS." Offer was to have ended July 31. Company will try new promotion strategies to overcome what Dreyer said was major problem -- distributors & dealers, with limited capital, forced to choose between Beta promotion and new releases.

New industrial videodisc player, which performs some functions previously possible only with attached computer, has been announced by Discovision Assoc. Designed for exhibitions, point-of-purchase & training, new model was tested in Sears stores with catalog on disc. It can be programmed to play continuous audio-video loop segment, to be interrupted by customer who wants access to specific product information, automatically returning to loop operation after inquiry is complete. It's 3rd model in Discovision industrial line; existing models may be upgraded by DVA for \$325 each.

August 10, 1981

RCA PLANS PLAYER REBATES, LV DISCS PERK UP: Factory rebate on RCA videodisc players is expected to be one of keystones of multifaceted fall advertising-promotion program that will be outlined to distributors this week in Indianapolis. Meanwhile, owners of LV optical disc players are turning out to be avid disc buyers, and Pioneer Artists is humming happy tune over success of recent musical releases.

RCA's big fall CED push will involve variations on promotions tried regionally by distributors during summer. These included free home trial, giveaways (discs, popcorn poppers, road atlases), and, in Atlanta, \$50 rebate. It's understood RCA has already been talking about new rebate program with some major national accounts. RCA also will announce major ad campaign -- only about 25% of some \$20 million earmarked for national introduction has been spent so far, leaving \$15 million for big selling season.

In LV camp, suppliers are jubilant about disc sales. Pioneer Artists Pres. Barry Shereck claims Paul Simon and Liza Minnelli discs, released in last 30-40 days, are selling "spectacularly well." He puts number at about 10,000 each, or 25% of estimated 40,000 LV units in use. "We are startled by the success," says Shereck, adding that reception enhances already strong prospects for music releases. At same time, disc quality is no longer serious problem, according to PA and Paramount Home Video -- position confirmed by retailers we've contacted recently.

For future releases, including ballet & opera, PA won't be shy about asking stiff retail price, up to \$60-\$70 for 4-side 2-1/2-hour opera with libretto. Shereck indicates many of 70 proposed program projects will be accepted. Tradeoff of cheaper extended-play discs vs. 30 min.-per-side with LV special effects will become more critical as catalog grows.

Paramount reports sales of about 11,000 each of LV discs of Star Trek: The Motion Picture, Grease & Airplane, cautions that total "has to do with how many you manufacture... We're trying everything we can to squeeze more production out of [Discovision Assoc.]". Orders are placed 3 months in advance, with production fairly evenly split between DVA and Universal Pioneer plant in Kofu. Paramount probably will raise press runs from minimum of 5,000 to 10,000 per title, still plans to add 3 titles per month to 1981 disc catalog.

Early success of LV titles won't hurt chances of VHD Programs, expected to announce signing of 1-2 major studios shortly. Others such as 20th Century-Fox may hold back pending further discussions about extent of VHD control of distribution, similar to RCA Selectavision arrangement. VHD Programs Pres. Gary Dartnall said hardware & software ends of venture are moving ahead on schedule.

RCA has added Korea's Taihan to growing list of licensees for manufacture of videodisc players. RCA doesn't announce names of licensees, now believed to number score or more. Taihan isn't first Korean company to take out license -- Samsung also has one, as well as Philips license for LV players. RCA royalty is 2.6% of net sales.

ANOTHER VIDEO FORECAST: VCR & videodisc player purchases will skyrocket in U.S. to more than 20% of consumer electronics outlay, or 4.9 million units in 1985, according to July update of study by International Competitive Assessments (ICA), which puts average U.S. color TV demand for 1981-5 at 11.2 million sets. It predicts home entertainment factory sales will increase in U.S. by 65% to \$13.9 billion, in Europe by 28% to \$14.7 billion, in Japan by 48% to \$9.5 billion.

Of this enlarged 1985 pie, ICA sees video (TV, VCR, disc) getting bigger slice, with world video outlays up to 60% of \$49.5 billion expenditure and U.S. up to 62% in contrast to 51% in 1980 & 45% in 1979.

Color TV production in U.S. will increase substantially over next 5 years while Southeast Asian import surge probably will taper off, survey forecasts, on basis of finding that color TV unit costs in Japan & U.S. are about equal in range of

215-225 yen per dollar. U.S. color TV exports are seen rising to 1.8-2 million units by 1985. Forecast is based on increased demand in Latin America. Report concludes that U.S. will continue to be world's most important consumer electronics market. Details: International Competitive Assessments, 23 E. 74th St., N.Y. 10021. Annual subscription fee is \$10,000.

August 17, 1981

BRADSHAW SEES RCA'S STRENGTH IN VIDEO: RCA's future is tied to communications & electronics -- both software and delivery systems -- Chmn. Thornton Bradshaw told us in interview last week. Delivery systems include broadcasting, cable TV, satellite, tape, disc, could involve such new concepts as electronic mail. Verdict on public acceptance of RCA's most widely publicized delivery system -- videodisc -- probably won't come for at least 2 years, he said.

Company will get "back to basics of what RCA has been in the past," Bradshaw pledged. "We have an extraordinary base no other company has in terms of hardware & software," his views, in this area at least, coinciding with his predecessor Edgar Griffiths, who pulled RCA out of many unrelated fields into which company was led by Robert Sarnoff.

Bradshaw believes RCA now can compete with Japanese, which wasn't always the case. "We have to pick our areas. We're not going to compete with the Japanese on VCRs. They had a 16-year start before we looked over our shoulders and found they had taken over the world market. If this company hadn't been busy trying to compete with IBM, or making carpets, or plucking chickens, or freezing foods or what have you, perhaps we would have been in there, but we weren't and... that market belongs to the Japanese now." RCA will spend \$550 million on R&D this year (including govt. projects), which will have "enormous throw-off some time in the future."

Videodisc "represents the basic strengths of RCA," Bradshaw believes -- in manufacturing, marketing & software. "My feeling is strongly that if anyone wins on a disc basis, we're going to win. It's eventually in the hands of the American people as to whether or not this is a fixture in a significant number of homes. This is not a videophile's toy (although we can provide a hell of a piece of equipment for them). We're going to know more... by Christmas, because we're going to mount a major campaign early this fall," he asserted, but he estimated that success or failure of disc concept won't really be established for 2 years. "The real test is 5 or more years down the road, when the family gathers around the video tube" facing such choices as network TV, cable, pay TV, tape & disc -- "do they want all these choices?" He added: "Win, lose or draw on this one, we're going to look at [RCA's videodisc] marketing as being a very professional effort."

First priority for RCA under Bradshaw is "to make sure we have a process for strategic planning." Booz, Allen & Hamilton has been retained to "help us review our major options," will complete study in about 7 months. "The world of communications is unfolding so rapidly it's a revolution and we don't know what direction it's going to take in the future."

Bradshaw says he already has instituted major changes in organization, citing appointment of Grant Tinker as NBC chmn. (for comments on NBC, see P. 1) and Kenneth Bilby as corporate affairs exec. vp. He feels that people are company's most important asset and he wants to "nurture the innovative spirit" in RCA employes. Possibly as model, he cited his former company, Atlantic Richfield, composed of 11 companies, "each headed by a president who has essentially his own organization, but power resides at the top level for the allocation of funds,

assignment of priorities and major appointments." Top officials of all RCA operations meet with Bradshaw every Mon. morning. He said he's "not close at all" to naming pres., is now taking "very good look at what there is inside RCA," getting to know its people and working with them.

Importance of company image to Bradshaw is well known. Asked what he thinks RCA's image should be, he replied simply: "It ought to be perceived as being as good as it is. It is really quite good. We will raise the perception of a company which is a leader in this unfolding field of communications & electronics and therefore an exciting growth company."

August 24, 1981

DISC PROBLEMS POSTPONE VHD LAUNCH 6 MONTHS: Introduction of VHD videodisc system will be delayed half-year to April in Japan, June in U.S., as result of reformulation of compound used to make discs. When introduced, player will be 2-speed unit designed for acceptable playback of discs recorded for any color standard (PAL, SECAM, NTSC) on any player.

JVC Pres. Ichiro Shinji announced delay in Japan, citing problem with plastic disc material which caused deformation of disc pits, which convey audio and video information, under high-temperature conditions, resulting in dropouts & streaks on playback. He said trouble has been corrected with adoption of new formula and ample material now is available. It would seem postponement for full 6 months from Oct. for Japan and Jan. for U.S. probably wasn't necessary, but additional time was welcomed here as chance to press & stockpile more discs.

Two days after Shinji candidly gave straight story of reason for delay, VHD Programs in U.S. issued release stating that postponement was due to redesign of player to accommodate discs recorded in other world color standards. Release was dated Aug. 17, but wasn't handed out until late following day. Issued as statement by Pres. Garry Dartnall, who represents Thorn EMI in U.S. VHD partnership companies, release made no mention of disc compound problem. In telephone interview, Dartnall said he wasn't aware of situation, although we were told later by knowledgeable source that JVC had fully briefed U.S. supporters on west coast week earlier, demonstrated new prototype multi-standard player. Press spokesman for other VHD group members -- GE, JVC, Panasonic, Quasar -- said VHD Programs was solely responsible for release contents. All indicated they were aware of Shinji statement.

New players will automatically spin disc at 900 or 750 rpm, depending on whether it was recorded in NTSC or PAL/SECAM systems. Discs & players will be produced in the 3 different formats for sale in different countries, but any player will accommodate any disc (with some picture deterioration for alien formats, however). This will let customers who buy discs in other countries play them on their own players. On NTSC players, PAL discs will overscan (extreme top & bottom of recorded picture being omitted), but playback is acceptable, according to JVC.

VHD marketing launch is now scheduled for June CES, and Dartnall said delay will provide opportunity to broaden catalog and boost per-title production. He said 60 of 75 introductory titles have been mastered in Japan, remainder to be processed here; 15 are expected to be original material, with emphasis on interactive releases. Paramount is expected to announce VHD license Aug. 24, and Warner will be next to adopt system.

Survey of CED & LV disc player owners conducted by VHD group in June shows majority very happy with purchases, find machines do just what they expected them to do. Most cited low cost of players & programs as big advantage, said they would recommend purchase to friends -- but 70% complained about either disc availability or selection.

DISCS--NEW PIONEER PLAYER, RCA STEREO: Videodiscs aren't even on sale in Japan, but that's where the action is. In addition to announcement of VHD postponement, Tokyo last week saw heavily attended Pioneer news conference heralding Japanese LV debut and announcing new model player for sale in both Japan & U.S. along with news that player with solid-state diode laser would be introduced next year. This week, RCA will meet with Far Eastern licensees in Japan to turn over specs for stereo version of CED discs & players.

New LV & CED players will feature improved audio, and both will use CBS-developed CX compatible noise-reduction system -- although quite possibly somewhat different variations of it. This means that future discs will be recorded in CX process.

New Pioneer player model goes on sale in Japan Oct. 9, in U.S. some time next year. In Japan, it's priced at about \$990, including remote control, considerably above the \$800 model here. Asked when price would come down, Pioneer Pres. Yozo Ishizuka said introduction of laser diode pickup by end of next year would make reduction possible. He proclaimed disc shortage over, said Pioneer would be stamping out 300,000 monthly by year's end.

Pioneer also introduced component video system, which presumably will be introduced in U.S., probably in modified form. Foresight 50 & Foresight 70 include disc player, amplifier, 19" color monitor made for Pioneer by Hitachi, speaker systems at \$1,950 & \$2,225, depending on audio components. Accessory stereo-sound TV tuner is \$325. Pioneer said it had spent \$43 million on videodisc system development, and in 4 years its annual sales would total \$1.74 billion, about 25% of that related to videodisc.

RCA's tell-all session is scheduled in Tokyo because most of its licensees are in Far East. It will be followed by release of information package to other licensees who don't attend Japan meetings. RCA plans to introduce stereo version of player & discs next May.

Total of 171 titles will be available for RCA's CED system by end of fall (vs. about 100 for LV system), based on RCA's scheduled release of 25 more programs during period, plus 20 CBS/MGM titles now in distribution. Among RCA fall titles are Elephant Man, Raging Bull, Friday the 13th, History of the World Part I, African Queen, Stagecoach, Little House on the Prairie, Saturday Night Live.

September 7, 1981

VIDEO BATTLEGROUND IN EUROPE: To the accompaniment of first regular stereo-sound TV transmissions, big Internationale Funkausstellung opened in Berlin last weekend completely dominated by video, and by video battles -- VHD vs. LV in disc, VHS vs. Video 2000 in cassette. Not in evidence anywhere: RCA CED disc system, for which major display is planned at Vidcom in Cannes next month.

JVC is major presence at show for first time with own building and elaborate exhibit designed not so much to plug JVC itself as to spread gospel about VHD system. Main feature is mammoth display with 156 color TV screens -- 84 showing PAL picture, 36 NTSC, 36 SECAM -- with 3 disc players, one for each color TV standard. Discs were played interchangeably on all 3 players, with excellent results. PAL and SECAM discs played on NTSC player demonstrated overscan -- tops of heads & feet sometimes going beyond confines of screen and being cut off, and NTSC sets had stretched pictures to avoid underscan -- but otherwise pictures were eminently viewable.

VHD won first major European convert, Telefunken announcing it has "decided to support" JVC-developed system through its video consortium with Thorn EMI (U.K.) JVC & Thomson-Brandt (France) -- though there's chance T-B will be nationalized and

withdraw from group. Telefunken indicated it will use U.K.-made disc players, didn't state whether production would be by Thorn or consortium. Venture will produce video cameras in France, VHS recorders in Berlin.

"Second generation" VHS recorder developed by JVC was shown for first time by JVC, Telefunken & others, for sale starting in Oct. Front-loading unit has all special effects features and fluorescent screen indicating elapsed play or record time and time left in cassette, similar to feature of new Sony VCRs; it's due for introduction in U.S. by JVC in Dec. at \$1,595. Virtually overlooked in preoccupation with features of machine is fact that entire system has been completely re-designed and optimized for rapid, efficient, low-cost production anywhere in world. This is recorder to be made by new European venture. Telefunken's version has 43-button infrared remote control of all functions, including programming.

Philips & Grundig both had their first major multi-screen displays featuring LV optical disc system, scheduled for introduction by them and Pioneer in U.K. next year, continental Europe in 1983, same target dates as VHD. Philips said its Vienna plant will be producing at 500,000 annual rate by end of 1981.

Europe has another VCR standard, and U.S. visitors got look at prototype of what will be (for while at least) smallest, lightest portable, to be marketed next spring by Grundig. It's new version of Funai CVC 1/4-in. recorder, but sharply miniaturized and updated with special effects. Now weighing only 5 lbs. (vs. 7 for version Technicolor sells here), it's size of elongated cigar box, just 7.1 x 2.4 x 9.8 in., only 167 cu. in., 44% smaller than current 300 cu.-in. model. Grundig's version runs at twice speed of NTSC model for improved signal-to-noise ratio, but uses same cassette, so gets 15-min. recording on current cassette, 30-min. on upcoming hour cassette. Grundig was showing NTSC as well as PAL version in exhibit.

Grundig's espousal of another portable VCR standard was surprise as it's one of proprietors (with Philips) of Video 2000, which is said to have been designed with development of compatible 1/4-in. portable in mind. Grundig's move presumably indicates no portable V2000 is in sight.

Very little was said about compatible mini-VHS portable developed by JVC, and company officials wouldn't comment on report that all 7 VHS licensees in Japan had agreed on specs, planned production next spring. They didn't comment, but they smiled.

German TV makers made big splash with first stereo audio sets, offering them with built-in audio systems of up to 15 watts per channel. B&W sets have stereo jacks on back, and Philips shows monochrome boom-box portables. ITT and others offer stereo TV sound tuners for use with hi-fi systems.

Japanese manufacturers were left out in cold by stereo TV -- consortium of German TV makers holding basic patents has refused to license imports before 1983. Exception is Sony which is member of consortium through subsidiary Wega which makes TVs there; it showed stereo model. Proponents of V2000 also made hay with stereo, showing VCRs that will feed stereo audio either from tape or broadcast to stereo amplifier. As Telefunken is member of consortium, it's likely stereo VHS VCRs will show up in Germany next year.

SAUTER CHASTISES HOLLYWOOD: Movie industry is "doing everything possible to dampen the spirit of consumers who want to accept the product," and is helping keep home videodisc business from taking off, RCA Group Vp Jack Sauter charged during interview last week where he outlined plan for \$20 million fall CED ad program .

Program owners are too preoccupied with today's sales, Sauter charged. "People who are in software are very concerned for their properties," but lack understanding that there must be cooperation with player marketers "to get a solid base of hardware established, otherwise there isn't going to be a benefit." Sauter said consumers want to build program libraries, "and my concern is that we are going to make it so hard for them to do that, that they won't be impressed with the system. My position is that whatever we can do to foster the system should be done." After player population is in place is when software people should start deciding on ways to maximize profits, Sauter said.

RCA has put more than \$200 million into CED system, and others should be willing to put something in too, Sauter said, adding that kind of agreements being made with software owners now, which put all financial risks on hardware companies, "don't make any sense for anybody." He said software companies should be willing to invest in disc business: "I see nothing on the horizon that would provide revenue from software that videodisc offers." There will be more software income from disc than from CATV or TV, and as for cassette, "we'll sell 5 disc players for every VCR" in future, Sauter said, adding it will take a population of million players to generate profitable disc business. As for CATV, Sauter said, "they can have that too," along with other methods of delivery. "With the American public showing an insatiable appetite for video products, why should anybody play one against the other?"

Sauter said he still believes only one disc system can survive. "Maybe I'm wrong and there could be 2," but multiple systems make producing special disc programming difficult. "It will take 6-8 years to build up player population to level needed to make special discs profitable. While LV & VHD format supporters are underwriting some disc production, they are likely to get little outside support. "How many will have the stomach for it?" Sauter asked.

He expressed confidence RCA will reach 200,000 CED player sales goal this year: "I really believe we can do it." He pointed out that RCA already has shipped about 90,000, "and we expect some 12,000-unit weeks" this fall when campaign hits. Dealers will start ordering for inventory "as soon as sales begin to materialize," while right now they are just replacing stock one-for-one, he said. As for general industry disappointment with CED sales so far, Sauter said RCA is spending 90% of CED 1981 ad budget this fall, as had always been planned.

About 70%-75% of CED sales are expected to be made by traditional TV-appliance dealers, and that's where RCA is concentrating sales support effort, Sauter said. "We are not saying we don't want to see video specialty stores" in disc business, "and there's no reason for them to disassociate themselves from us. Certain customers are more likely to go to specialty stores and I don't think those stores want to turn their back on their customers."

As for postponement of VHD introduction from Jan. to June, Sauter said "that certainly isn't going to hurt us at all, but it hasn't caused us to make any changes in our plans." By fall of next year, he said, "we will have well established the CED system" in U.S. market. LV optical system will have only a minimal market position, he predicted.

Sauter said he expects industry to sell about 1.5 million VCRs this year, along with 300,000 color cameras. He said about 35% of RCA VCR sales are portables, against 25% industry average, noted most camera sales are of high-end models: "You can't give away a cheap camera." He said he sees VCR market peaking at about 3 million annually, with portable share keyed to development of 1/4-in. format. "We are looking at them now," he said, adding belief that no successful standard can be brought out without RCA's support. As for projection TVs, "we are doing well with

ours." Sauter said "there is some sobering in the industry," about future of projection, estimated about 100,000 would be sold this year, put 500,000 ceiling on annual potential.

RCA's STEREO DISC: Stereo-sound version of CED videodisc & player was outlined by RCA to Far Eastern licensees in individual demonstrations, and other licensees received information package. Specs are essentially same as those developed at least 2 years ago, with exception of addition of CBS-developed CX noise-reduction system.

RCA has signed CBS license for CX on videodisc (as well as audio disc). It has modified levels, pre-emphasis & de-emphasis to optimize it for video use. Stereo on system is accomplished by frequency-modulating 2 discrete carriers in baseband areas below lowest video sideband; L+R is in vicinity of 705 kHz, L-R around 906.

Although RCA hasn't talked about stereo system's specs since commercialization of CED, one observer estimated stereo would add "perhaps \$10-\$12, or maybe less" to cost of producing player; ICs for system are available. RCA didn't reveal details of stereo player it will offer next year -- for example, whether stereo jacks on back will be designed for plugging into home stereo amplifier or whether player will contain own audio amplification so that speakers are all that are required.

Stereo demonstration was well received in Japan, as was impressive display of system during presentation supervised by Technical Liaison Dir. Nelson Crooks -- player was set so that single groove was repeated throughout entire session, showing no record wear.

RCA is scheduled to make big splash at Vidcom in Cannes next month, with first demonstration of special effects obtainable with add-on devices. Spokesman told us RCA wants to show potential European partners that CED format is complete system, not just video phonograph. One licensee said CED can produce same effects as VHD system, but track location system inherently can be better because pickup can't straddle 2 tracks producing picture breakup.

* * * *

Japan's TEAC has agreed tentatively to produce industrial optical video disc players for France's Thomson-CSF. Thomson will market players, which use transparent rather than reflective discs, worldwide. 3M has license to produce Thomson type discs in U.S. Also in Japan, Olympus Optical says it will start producing solid state lasers for optical video & digital audio disc players next spring. It plans to turn out 15,000 monthly at first, expand to 50,000 by year's end.

RCA CED PROMOTION: RCA will spend \$20 million on TV & print ads for CED videodisc player, with kickoff Sept. 7 as company launches Video Expo Days promotion that also includes color TV trade-in, \$100 VCR rebate efforts, according to Group Vp Jack Sauter.

Disc promotion will include previously announced \$50 rebate, 10-day trial. Sauter said campaign, which runs through Dec. 24, represents about 90% of disc ad budget for year. He told us campaign was tested in Atlanta where 130 players were sold, only 3 returned -- 2 of those exchanged for VCRs.

This week, RCA will unveil new disc campaign that stresses family orientation of product. TV spots show disc as viewing alternative when there's nothing for children or other family members to watch, and its use at party. Original ads, showing how easy player was to use, spotlighting excitement of showing movies at home, are being dropped. "Bring the Magic Home" theme continues.

Saturation TV campaign, aimed at reaching 98% of target audience, starts this fall, with emphasis on family, rather than sports shows, and 4-page insert will appear in 141 Sun. Oct. 4 papers with 40 million readers. RCA already has 4 demonstration trucks on road, plans to hit 91 shopping centers by Thanksgiving, when that portion of campaign ends. Separately, RCA's disc marketing unit has launched in-store display contest for retailer, offering \$50,000 in prize money.

RCA ON VIDEO 1990: There will be more videodisc player homes than VCR homes by 1990, year when industry factory color TV sales will rise 59% from 1979 level to \$5.7 billion, according to forecast by Keith Drysdale of RCA's Electronic Business Development Committee.

In predictions, appearing in current issue of *RCA Engineer*, Drysdale estimates that 1990 will see b&w sales of \$700 million, up 24% from 1979, and projection TV at \$260 million, up 260%. He also sees sharp increase in multi-set homes as new video delivery systems gain popularity.

Videodisc player home penetration is seen reaching 28% in 1990, while VCR penetration climbs to 17% with color cameras coat-tailing up to 4%. Projections assume VCRs won't compete directly with videodisc players because of "planned price levels." Discs are pegged at \$15-\$25 retail, players under \$500 offering stereo & freeze-frame. Projected 1990 home video sales to distributors: VCR & cameras \$1.5 billion (vs. \$346 million in 1979), videodisc players \$2.3 billion, home computers \$700 million (\$175 million in '79), games \$25 million (\$120 million), videotext \$1.2 billion (not available in 1979).

Here are some other forecast highlights: (1) Shift to digital TV circuitry. (2) Insertion of TV channels between 6 & 7 and 13 & 14. (3) Growth of add-on market in items such as converters for cable, DBS antennas, STV descramblers, teletext decoders. (4) Stereo & bi-lingual audio for TV. (5) Modular TV design.

RCA's projections of penetration in 1990, vs. 1979 estimates:

	Household Penetration (% of TV Homes)	
	1979	1990
Network stations.....	100.0	100.0
Independents.....	71.0	80.0
PBS.....	90.0	92.0
Cable.....	20.0	50.0
Pay cable.....	7.5	35.0
STV.....	.9	7.7
DBS.....	---	5.0
VCR.....	1.6	17.0
Videodisc players....	---	28.0
Home computers.....	.6	13.0
Games.....	14.0	20.0
Teletext/viewdata....	---	33.0

September 14, 1981

REDESIGNING VHS: Although it put main emphasis on its VHD videodisc demonstration, JVC also used Funkausstellung in Berlin quietly to introduce completely redesigned version of VHS recorder. Youichi Odagiri, mgr. of JVC's VTR Engineering Development Div., told us goal of revamping was to make possible 33% production increase with same manufacturing facilities.

First model to be introduced in U. S. with new design will be front loading VR-7650, with infra-red remote, due late this year at \$1,595. It will have dual sound channel for stereo (European version is mono because of patent situation), Dolby, 5 motors, 4 heads, time counter.

Philips-Grundig Video 2000 format has been adopted by about dozen brandnames in Europe, VHS by about same number (though it's far ahead in sales), Beta by 5. By year's end, capacity for V2000 production is expected to total 700,000 annually -- 400,000 by Philips, 300,000 by Grundig. Consortium of "3 Ts" (Telefunken, Thomson & Thorn EMI) with JVC is scheduled to have Berlin plant in 2nd quarter 1982, with annual capacity of 400,000 VHS recorders.

VCR formats have produced some crazy alliances. ITT is backing 2 horses-- its Standard Elektrik Lorenz (SEL) sells V2000, while its Graets line features VHS. Fisher is selling Beta in Europe, will offer VHS in U.S. Grundig, one of owners of V2000 format, is fielding 1/4-in. Funai-developed CVC format for portables.

NEB. DISC PROJECT: More interactive videodiscs have been designed and produced in Neb. than anywhere else in world, thanks to Corp. for Public Bcstg., but that source is drying up and more outside financing is needed, according to Dir. Rod Daynes Neb. Videodisc Group (NVG). Funded since 1978 and operating at public ETV Network studios of KUON-TV on U. of Neb.-Lincoln campus, NVG's 7-member staff has produced 34 interactive discs, has another 6 in works or proposed. "We're attempting to become self-sufficient," said Daynes. "Let's face it, public TV is in trouble, it's got to pull its head out of the sand sometime."

Several ways to raise money for not-for-profit project are being explored, explained Daynes. NVG has entered videodisc pre-mastering business, offering to compile & edit from various formats onto videotape at rate of \$189 an hour. Average West Coast or N.Y. price runs \$500-\$700 an hour, Daynes said. NVG is also bidding for disc production contracts, on strength of having finished major project for 3M called "Producing Interactive Videodiscs," slated for broad distribution. Through newsletter with 4,000 circulation, NVG also offers workshops & symposia.

One current project is disc on whales for National Geographic. Disc is experimental in that it's being programmed for use on players "with varying levels of intelligence." Each machine will read only its appropriate code. Targeted for 5th-9th graders, program is designed for use by individual students. It has numerous interactive features such as multiple choice questions, contains sounds of humpback whale in stereo, uses discrete 2-channel audio -- one gives views of environmentalist organization while other speaks for commercial whalers. It also has video magazine based on National Geographic format. Disc is due out this month.

One major obstacle to NVG's income goal is distribution. "We still don't know where our market is for independently produced discs, but we're learning," Daynes said. That will be among key topics at NVG's in Lincoln, Oct. upcoming 2nd National Videodisc Symposium in Lincoln, Oct. 21-22, where design, production & pre-mastering are also on agenda.

Among videodisc pioneers tapped to speak: Bruce Green, producer of First National Kidisc & A Touch of Love (massage manual); Andrew Lippman, now researching video mapping techniques at MIT; Jerrold Sundt, producer of discs for Ford; Art Palolini of Sears Catalog. Optical disc hardware & software manufacturers are also slated to attend. Disc fair will highlight R&D projects, such as computer-generated graphics. For details: NVG, Dept. of Conferences & Institutes, 205 Neb. Center, U. of Neb.-Lincoln, Lincoln, Neb. 68583.

SUPERMARKET DISC RENTAL: RCA's CED videodisc system may get boost from newly formed Humphrie Video Systems, which says it's about to sign deal with First National chain to offer RCA players & discs for rental in more than 100 supermarkets. Cassette rental is being considered.

After deal is closed, HVS will sell store operating franchises to local investors for \$43,500 each. Company says it expects to start Oct. 1 in Cleveland's Pick-N-Pay and Finast & Edwards stores in New England.

As planned, each store will have 30-sq.-ft. booth with 5 disc players, 1,600 discs, color monitor. Discs will rent at \$2-\$4.35 for 36 hours. Players will be offered for long-term rental, lease/purchase or straight purchase. HVS intends to charge \$50 a month for no-purchase rental, \$25 a month for 24-month lease/purchase. Under lease/purchase, consumer ends up paying just \$100 more than \$500 retail list. That's sharp departure from usual U.S. rental industry practice where consumer pays about double under 18-month plan.

Pricing structure is meant to encourage purchase and to cover high service costs on rental models, said Arthur Cerio of HVS. He said company has arrangement with RCA distributor for one-day delivery of discs & players, received favorable response from RCA.

"If disc is rented 4 times, the dealer breaks even -- tests have shown each disc can be played 700-800 times; we're very optimistic," Cerio said. Outdated players will either be sold at discount or rented at reduced rates. Senior Vp Ray Korfant of First National said deal is still under discussion, declined further comment.

September 21, 1981

VIDEO SOFTWARE CIRCUS: Though major developments on video software scene last week weren't all as inane as they appeared at first glance, there was distinct impression that Peter Pan was running industry direct from Never Never Land. Consider: (1) At same time RCA was announcing formation of umbrella group under Exec. Vp Herbert Schlosser to handle all non-broadcast software, NBC Enterprises appointed Warner Home Video (WHV) as home market distributor in U.S. & Canada for video programs in all formats except CED disc. (2) Andre Blay announced his unresignation as Magnetic Video pres. and was then fired. (3) MCA responded to problem of rental and potential threat posed by low-cost videodiscs by hiking prices of most videocassettes \$10-\$15, putting \$89 tag on blockbuster features. (4) WHV top execs. sped to Dallas where its new cassette rental-only policy had sparked dealer revolt.

RCA realignment puts Selectavision disc operation, RCA Records, international software ventures with Columbia Pictures & pay-cable program service all under new home entertainment group. Video-audio combination is step toward RCA Records entrance into video distribution field, and that move was probable was indicated here last March. "We previously indicated that at some point [video] discs would appear in record stores and RCA Records would be involved. We're now in a position to do some serious work on that," but no dates have been set, Schlosser told us.

NBC-WHV pact involves package of 28 programs, some of which are already out on CED discs being distributed by RCA Consumer Electronics. Schlosser said he has long been aware of negotiations that led to deal, said "it does not foreclose us at all from going into the cassette business nor from getting NBC programs." Whether RCA Records should become full-line video software distributor, handling all types of formats "is a real question to be examined," he said. But he pointed out that RCA has no real film library of its own, no cassette rights or duplication service, indicated cassette market might not be that important if disc has predicted market

success. NBC Enterprises Vp-Gen. Mgr. Jerome Wexler told us signing with WHV was aimed at getting immediate entry into segments of market not now covered by RCA. Though official announcement talks about looking toward "continued & mutually beneficial relationship," Wexler told us "this is not a long term arrangement."

Andre Blay, whose alleged resignation was announced with sincere regret by Magnetic Video (via parent 20th Century Fox) 2 weeks ago, last week issued statement saying he hadn't quit, was "willing & able" to continue his duties. Blay said Oakland County Circuit Court in Pontiac, Mich. had issued temporary restraining order to prevent Fox or MV from interfering with his role as company pres. In submission to court, Blay stated he had left MV only under threat of physical expulsion. Court clerk confirmed to us order had been signed, but was still in hands of judge and exact contents couldn't be determined.

Counter from MV was release saying board met and discharged Blay day before he issued statement. It said Blay is not officer or dir. of any MV or Fox company, called his description of order "totally inaccurate & misleading." Responded Blay: "It's a matter of record." Blay, it's understood, has filed contract breach suit against Fox, and at week's end Fox indicated it was preparing to file a suit against Blay.

Blay, who founded MV as professional video services house in 1969, is considered father of recorded videocassette industry, taking MV into it in 1977 when fewer than 200,000 VCRs were in U.S. homes. MV's first big program supplier was Fox, which in turn acquired MV in 1978 for \$7.2 million. How important home video has become to Fox since then is demonstrated in first-half 10Q filing with SEC which says MV sales were up 145% in period, and were main contributor to Fox's 12% rise in operating net. It also says expansion of cassette operations was largely responsible for 21% increase in operating costs.

In hiking cassette prices, MCA is opting to follow Paramount's approach of tacking on surcharge in lieu of any rental payment by dealers, though it's officially being called just price increase. "We're not calling it a surcharge; we don't want to start any more controversies," said MCA Videocassette Pres. Gene Giaquinto. He said boost is recognition that "rental market is expanding," but said he isn't sure "rental-only is an established business." Hedge against bad debts is secondary consideration. Giaquinto says he feels significant number of outlets are closing and there's "too much product in the marketplace." MCA, he said, is becoming more conservative, may start ordering fewer copies per title from duplicators.

Dallas rebellion against WHV rental plan came in vote of rejection by dealer group at Sept. 14 meeting. Complaints covered costs, record keeping, lack of advance notice, program for recalling existing inventory. But program, designed to give WHV a goodly chunk of cassette rental pie, will go through as planned, according to WHV Pres. Morton Fink, who said "we never thought it would be easy." He said WHV plans to be all-rental in top-50 markets which account for 90% of software business by spring. He acknowledged that non-franchised dealers in rental markets will be able to buy Warner cassettes from dealers in other markets for rental or re-sale. But those sources will dry up as program expands and unauthorized rental tapes wear out, he said.

September 28, 1981

VIDEO BUFFS DOMINATE CED BUYERS: Despite RCA's protestations that its CED videodisc system is aimed at average mass-market consumer, buyers so far include large percentage of video sophisticates, according to RCA's own data. This could change, of course, after fall ad campaign, clearly beamed at people currently not in video market.

RCA's latest phone survey of 1,004 owners indicates 19% also have VCRs -- 6 times national average -- while some 16% subscribe to pay TV, according to Program & Mkt. Research Vp Stuart Gray. At same time, video specialist dealers have achieved highest disc sales rate, National Sales Dir. William Reilly told us. "They've expanded inventory as rapidly as they're able," and "software sales have exploded" wherever dealer dramatically increases selection.

Analyzing phone survey, one RCA official commented that it "indicates RCA hasn't yet done its selling job on the mass public." Survey also showed average owner had already bought 15 albums and planned to buy more soon -- far greater than the 8-9 discs RCA estimated at last March's launch. MASH continues to be most popular title, followed by Muppet Movie, Black Stallion, 20,000 Leagues Under the Sea.

RCA is de-emphasizing direct-order Quick Delivery System (QDS), offering increasing proportion of titles through dealers. Of first 100 titles last March, 40 were available only through QDS. With 151 titles today, QDS library is down to 30. RCA spokesman said this was result of greater disc production capacity.

Another change in distribution has been elimination of direct mail-order coupon from RCA's consumer disc brochures -- done in response to dealer gripes. However, RCA direct-order coupons are included in cartons with players to be sold by Radio Shack, which will stock only 4 titles -- Rocky, Muppet Movie, MASH, Singing in the Rain.

After several postponements, Radio Shack (RS) now expects to have Hitachi-made CED players in its 6,000-plus stores in U.S. & Canada late in Oct. "They're on the high seas now," said Video Buyer Tom Harris. Radio Shack's policy will be to emphasize hardware, let people buy discs elsewhere. "We hope to stay out of the software business because of the low gross margins," he told us. The 4 titles in RS stores "will be carried mainly for demonstration, and so people will have something to carry home with the player."

RS will sell player for \$500, he reiterated, won't discount or cut prices. "We'll either make money selling videodisc players or we won't sell videodisc players." Postponement of debut -- first from Aug., then from Sept. -- has already resulted in cancellation of one national magazine ad, said Harris, but player is featured in Christmas Catalog, and RS will advertise it in shelter magazines.

Sears' Chistmas catalog, in mails last week, features RCA-made player at \$439.95, now also available in retail stores, while Hitachi-built unit is advertised in regular catalog at \$489.95, with remote \$40 extra. Sears is offering 20 disc titles.

European introduction of LV optical system has hit another snag, -- "technical problems" in disc production at Philips U.K. plant. Discs are still being tested at 100% rate in real time there. Philips is now giving 1982 as introductory date in U.K. At recent Internationale Funkausstellung in Berlin, both Philips & JVC were indicating there would be no widespread availability of their disc systems in continental Europe before 1983. Pioneer, which demonstrated LV system at Funkausstellung, said it would be on European market about same time as, or shortly after Philips.

Funkausstellung served as first European consumer introduction to both LV & VHD systems, with CED players shown only by Toshiba (along with VHD) & Sanyo (with LV). While JVC touted VHD players' ability to play back in any color standard, company officials were needled at Berlin news conference by British technical writers, who insisted that PAL & SECAM TV sets used for playback had been "doctored" to provide full-screen picture from NTSC discs. JVC conceded monitors were set to overscan, said unadjusted sets would have black band at top & bottom because of 100-line difference between U.S. & European standards.

JVC sought to lay to rest another controversy -- whether "freeze-frame" ability could truly be claimed for system using 2 frames per revolution. It did this semantically, by announcing "Type 2" disc designed for special effects -- with each frame repeated once. Theoretically a Type 2 disc would play only for 30 min. per side, but company officials said most special-effects discs would be partly Type 2 and partly Type 1, so playing time would be somewhere between 30 & 60 min. To get real-time motion, Type 2 disc must be played at double speed.

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October 5, 1981

MAGNAVOX VIDEODISC PLAYER--A NEW TRY: After agonizing reappraisal by team under North American Philips Vp John Messerschmitt, Magnavox has reoriented its videodisc player strategy into what may well be crucial test of whether it should stay in that market.

"We originally said this was basically a buff product, but we had left that perception," said NAP Consumer Products Senior Mktg. Vp Myrddin Jones. "Now we're going back to the original position -- it's a high-end, high-value product, which shouldn't be price-sensitive. It's not another color TV, and we won't compete with RCA because we don't believe it's a mass-market product."

First, Magnavox had to restore faith of its own dealers and the public. Its fall "Project New Horizon" is designed to do that. "We had a product which wasn't performing to satisfaction," said Jones bluntly. "We brought it up to the spec level of Pioneer" player. Dealers are permitted to swap all old Magnavision players for new remote-control models. Basic non-remote unit has been completely reworked, even given new model number.

Magnavox is tackling software problem, filling vacuum created when MCA stopped pushing LV discs and discontinued distribution to hardware dealers. It will distribute discs of virtually all labels -- currently MCA, OPA, Paramount & Pioneer Artists -- to all 2,000 accredited Magnavision dealers through its Parts Dept. Discs may be ordered by calling 800 number, minimum order being 6 discs in any combination; defective discs are returnable. Unlike Pioneer's guaranteed disc availability program, Magnavox's has no strings, isn't tied to sale of specific number of players. Current program lists 29 discs available either now or in next month or so.

Other aspects of Magnavox program: (1) Free copies of demo disc, OPA's First National Kidisc, displays & point-of-sale material. (2) Spiffs to dealer salesmen selling players. Suggested list prices of players are unchanged (\$699 & \$769).

"We addressed all the negatives and we have decided that the disc is for segmented audiences," Jones told us. "We're selling to the person who already has a good stereo, a good TV in his home." New fall ad campaign will reflect this approach, using mainly upscale & videophile magazines, keyed to theme, "you already own half a video system" (the TV set). "We're aiming at an audience of 4-9 million, not RCA's 30-40 million," said Jones. Emphasis will be placed on stereo & interactive discs, and "we're pushing DVA not to copy RCA with movies -- we want to plug the unique things it can do."

How does this approach differ from Pioneer's? Jones sees Pioneer as concentrating on audiophile market -- while "Magnavox will concentrate on the family, but the upscale family." In the wings -- no dates given -- is new model Magnavision of different configuration, designed to last until miniaturized model is made possible by solid-state laser.

Sylvania & Philco brands won't appear on disc players in near future. "We decided not to give it to them until we're sure we're rolling again" -- and that looks like year or so in future. However, Magnavox will start using videodisc for sales & service training at Philco & Sylvania as well as in own shop.

October 12, 1981

RCA MAKES WORLD PITCH, SHOWS SPECIAL EFFECTS: RCA chose Vidcom this week in Cannes to make major thrust for CED as world-standard videodisc system, showing player & discs for PAL system and demonstrating variety of special effects for first time. Move was obviously direct response to big campaign in Europe by VHD proponents, and Exec. Vp Roy Pollack left little doubt as to his unnamed target, saying in his prepared remarks: "When RCA makes a commitment of support, or sets a date, we mean it, and we will do our best to keep it."

Updating experience in U.S. marketing in talk prepared for Oct. 11 opening, Pollack said that sales rate has accelerated "significantly" since start of fall marketing program, that RCA has "produced & sold over 1.4 million discs [and] over 135,000 players" and that early owners have been "buying discs at almost twice the rate we anticipated" -- survey showed sales of 15 discs per player in first 4 months. By year's end, he said, RCA will have sold over 200,000 players, produced about 3 million discs "and will have sold over 90% of them."

Exec. Vp Herbert Schlosser, in prepared remarks for same session, said CED catalog would include 186 titles by year's end -- RCA's current 151 plus 3 new releases and 32 under MGM/CBS label. Future discs, he said, "may very well be interactive."

For 1982 -- which "should be the year during which the CED system momentum is truly established in the U.S." -- Pollack forecast CED player capacity by all manufacturers "more than doubling," disc capacity "more than tripling," RCA's own annual capacity "approaching 10 million discs." Detailing strategy for markets outside U.S., Pollack said RCA will concentrate on producing discs, not players -- "our plan is to do what we can do better than anyone else regarding the disc," leaving design, manufacture & marketing of player to others.

Special-effects version of player with keypad wired remote control, scheduled for demonstration in Cannes, is designed for location of any segment by punching in min. & sec. Although it wasn't demonstrated, spokesman said another possibility is calling up any individual field (or 1/8 of a groove) from keypad. Remote-control unit also has button to repeat any single groove (4 frames), used Treasures of the Louvre disc to show this could produce stop motion in disc in which any frame is repeated 3 times, similar to method used in VHD system, which repeats frame once for stop-motion.

"The only feature or performance limitation of CED," said Pollack, "is the fact that, with 4 TV frames per disc revolution, simple freeze-frame, or stop action, is not possible without some form of frame-storage electronics. Even this apparent limitation can be readily surmounted -- in the short term by specially prepared software and the longer term by cost-effective solid-state memory." All other features, including programmable random-access, chapter access, etc., are now practical & possible, he added. Player for demonstration at Vidcom also has dual sound channel with indicator to show whether soundtrack is bilingual or stereo.

PAL system player demonstrated also has dual soundtrack, with disc revolving at 375 rpm (vs. 450 for NTSC model). Same discs can be used for PAL & SECAM players.

It will take more years of "blood, sweat, tears & money" for disc system to succeed, Pollack said, adding pointedly that "real test" of system is conversion to manufacturable product -- "not the lab demonstration, not 50 prototypes for a trade show. Not 1,000, or even 10,000 demonstration discs. The true test does not even start until you are trying to press millions of discs, and are manufacturing hundreds of thousands of pickups and complete players, and then actually selling... to highly critical consumers."

October 19, 1981

RECORDING VIDEO DISCS: Japan Electronics Show and concurrent Audio Fair this year failed to generate much excitement, major Japanese developments last week being announcement of 2 recording videodisc systems and stampede of audio manufacturers to develop (mutually incompatible) PCM digital audio cassette systems.

TEAC & Mitsubishi demonstrated jointly developed industrial optical videodisc recorder, now going on sale in Japan. System uses reinforced glass discs which may be recorded only once. Prices announced were about \$52,000 for recorder, \$6,500 for player, \$130 for disc. Principle is similar to Laservision, but track pitch was said to be greater.

Sharp announced lab development of "optical-magnetic disc capable of repeated recording & playback," which it said could lead to random-access VCR or disc with recording capability, presumably for consumer use. Details were unclear, but system is said to use glass master with copper reflection sheet, recording medium being amorphous metal. Semiconductor laser is used for both recording & playback. Magnetic domain of recording is vertically, rather than horizontally, oriented -- that is, magnetic particles are polarized at right angles to disc's surface. Playback is accomplished by "combined optical & magnetic effect."

First potential competitor to Sony's Mavica electronic still photography system surfaced at Electronics Show as Sharp displayed CCD video camera in configuration of 35mm SLR, weighing 2.6 lb. with lens. CCD measures 8.4x10mm, has 200,000 picture elements. Sharp said camera eventually would sell for about \$435. Although it had no still-picture capability as demonstrated, company said still recording feature would be added within 6 months.

Opening of Electronics Show coincided with Japan-market launch of Pioneer Laserdisc player & discs, and optical disc players were demonstrated there and at Audio Fair by Pioneer & Sanyo, latter showing all 3 systems. JVC, Matsushita, Sharp & Akai showed VHD system, Yamaha & JVC demonstrating AHD digital audio version.

Following JVC's demonstration of digital audio tape recorder prototype using standard size audio cassette, Sanyo, Sharp & Sony all displayed their own versions of similar PCM decks -- each company using completely different set of specs.

Sony unveiled production-model PCM audio adaptor for Beta or VHS recorder, scheduled to go on sale in Japan Dec. 1 at about \$1,045, replacing earlier version which sold for more than \$3000.

October 26, 1981

DISC SOFTWARE SURGE: MCA will order 15,000-20,000 copies of upcoming Olivia Newton-John album -- sharp increase above recent 10,000 average and 5,000 average earlier in year, MCA Videodisc Pres. James Fiedler said at Vidcom in Cannes. He put current U.S. optical player population at 60,000, predicted 125,000-150,000 by end of 1982, year in which MCA and Optical Programming Assoc. could spend \$10 million on programming.

Other software developments: Sony has established Video Software Operations, named John O'Donnell national mgr. VSO, part of Consumer Video Group, is responsible for Sony participation in Magnetic Video Beta tape sale, plus program acquisitions... Warner Home Video will launch rental-only program in Denver & San Francisco Nov. 4. Tex. launch kicked off last week. WEA International Video reports plan without take-back policy has been well received overseas.

VCR penetration in U.K. is outpacing that of U.S., will hit 5% this year, but cassette retailing is in "chaos" because of rental/sale dilemma, according to CIC Video Managing Dir. Roy Featherstone... Viacom plans optical videodisc educational series. It expects to have 3 programs for 6-9 year-olds available by Christmas 1982, 6 more in 1983, 10 in 1984... Sound/Video Unlimited has taken over A&H Video Sales, N.Y.-based distributor operated by Arthur Morowitz... Eckerd Drug Stores may add video software depts. in wake of its takeover of American Home Video.

Sony videodisc centers will be opened in N.Y., Detroit & L.A. to let potential industrial customers see how their material can be presented on discs by means of simulated disc productions on tape. Sony will announce industrial videodisc price schedule Oct. 20. Company has delivered 4,000 players ordered by Ford, now is making Ford discs. Sony said 2nd largest disc player customer is U.S. govt.

RCA'S VIDCOM SHOW: Demonstration of special-effects CED videodisc player at Vidcom in Cannes last week won some points for RCA as it finally showed what it meant when it said such special features could be added to system.

Model shown at news conference, it was emphasized, was prototype developed at RCA Labs and no timetable has been established for introduction of its features. As demonstrated by Labs' Videodisc Systems Dir. Jon Clemens, remote-control unit could select program material either by time, band or field. System had 2-speed visual search 16X & 120X.

During news conference, single still video picture was held for about 20 min., same 4-frame groove being played 9,000 times with no visible change. Clemens said "plays of over one million times have been demonstrated with no noticeable degradation to the picture." Random access to any segment of disc was demonstrated, but Group Vp James Alic said such special effects probably are fairly far in future. He added research showed "relatively little demand" for them, and much larger base of installed players is necessary before needs of next player generation can be determined.

RCA made no effort to hide outboarded circuitry used to achieve new functions. Four ICs were in box under player and about same size -- and Alec seemed to relish comments from reporters contrasting RCA's openness with what were considered JVC's efforts to conceal similar components in VHD system.

PAL player demonstrated in RCA booth had 2 sound tracks, was operated in bilingual mode only, RCA officials saying they didn't think open booth was best place for stereo. Beta Film, RCA software partner in Europe, provided 6 titles in German & English, including classical music, 30-min. Muppets show, 2 wildlife features. Alec said he expected CED players to be on European market by 1983 -- about same time as LV & VHD are expected to arrive on continent -- but RCA apparently still has no player manufacturing licensee.

Having made splash in behalf of VHD at Berlin show, JVC didn't even show disc system in Cannes. Philips merely demonstrated LV system. It was far cry from confrontation among disc proponents which enlivened 1980 Vidcom.

Vidcom had little in way of new hardware. Most interesting exhibit was by Tape Automation, U.K. company which showed high-speed computerized cassette loader. TA Dir. Mark Fisher said machine will cost about \$18,000 in U.S., \$6,000-\$7,000 less than similar unit designed but not yet produced by King Instrument, Westboro, Mass. TA demonstrated VHS model, won't have Beta until early next year. Unit stacks up to 15 cassette shells, loads from tape pancake, automatically cutting tapes to specified lengths. It will produce 123 30-min. or 45 180-min. cassettes per hour.

Philips exhibited Video 2000 VCR with picture-scan, plans to have stereo model out by year's end, as does partner Grundig. Video Group Commercial Mgr. Willem Den Tuinder said stereo unit should comprise 30% of European sales in 1982. Philips-Grundig market share is 17%, Beta 10%, according to Gerald Barc, JVC sales dir. in U.K. Den Tuinder expects V2000 to jump to 30% of 3 million units in 1982, nevertheless believes "time is our enemy," with next format change due in 3 years. U.S. won't see Philips V2000 for at least another year, partly because of Magnavox reluctance, partly because of high European demand, Den Tuinder said. (Grundig plans to sell its own V2000 in U.S. next year.) Philips now makes 40,000 per month, Grundig 10,000, should double total next year.

Meanwhile, in U.S., Sony said it had completed installation of 4,000 industrial LV players for Ford and was now pressing Ford discs in Japan. Company will announce industrial videodisc price schedule this week, will actively solicit custom-pressing business at videodisc centers in N.Y., Detroit & L.A., where prospective customers can see how their material can be presented on interactive discs by means of simulator using tape.

November 2, 1981

RCA LAYS OFF CED WORKERS, EXTENDS REBATE: RCA is furloughing about half of production workers at Bloomington, Ind. videodisc player plant Nov. 6 and shutting down one of 2 production lines. Additional 100 workers will be laid off at color TV chassis plant as result of "scheduling variations." At same time, RCA is extending until Christmas its \$50 rebate and 10-day money-back guarantee promotion which was to have expired at end of Oct.

Company put best possible face on both developments. Official statement on layoffs of 300 workers said player production "has progressed to the point that distributor & factory inventory pipelines have been filled in line with anticipated 4th-quarter retail sales," and that "with over 100,000 videodisc players sold to RCA distributors... RCA is extremely pleased with the introduction of this important new consumer electronic product." Company official told us production efficiencies had increased ahead of schedule.

Two weeks earlier at Vidcom in Cannes, Exec. Vp Roy Pollack said RCA had sold 135,000 players -- difference between that and the "over 100,000" figure presumably representing OEM shipments to Zenith & Sears. Company spokesman estimated consumers have purchased about 50,000 players and indicated RCA could achieve target of 200,000 player sales this year. RCA said disc production is still at capacity, and plant expansion is continuing.

As for its unusual action in extending player promotion through Dec. 24, RCA said it had been extremely successful in first 2 months, resulting in "substantial pickup in player sales, [and] we don't want to lose momentum."

In Laservision camp, meanwhile, North American Philips Vp John Messerschmitt estimated LV player population will "approach 100,000" by year's end, 250,000 by end of 1982 and 500,000 by end of 1983, with disc production reaching million this year, 7 million next. He also revealed Magnavox "is actively pursuing programming options" through new Magnavox Productions. On RCA's CED system: "It has always been the contention of [LV] proponents that this is not a mass-market product. We do not feel that the mass market needs another signal source for movies -- network, cable, pay TV & VCR will, we feel, satisfy those needs." How strongly does Magnavox feel about videodisc? "We are totally committed," said Messerschmitt.

First videodisc player giveaway we've seen is advertised by New Deal store, St. Louis. Customer pays \$50 for RCA player, receives \$50 rebate from RCA, agrees to rent 2 discs a week for year at \$5 per disc. Total cost, including rental of 104 discs -- \$520. New Deal reportedly has signed up more than 100 customers. Another chain is said to be advertising Pioneer LV player at half price with purchase of RCA projection TV set.

VHD & SLIPPAGE: Members of VHD group have spent last few weeks in traditional stance for videodisc industry -- denying rumors. Last week, both JVC & Matsushita denied slippage in June 1982 U.S. introductory date for VHD, and Matsushita issued denial that it was cooling toward system.

More light on subject -- or more denials -- could come this week after scheduled N.Y. meeting of VHD consortium representatives JVC, Matsushita, GE & Thorn EMI.

In Japan, VHD was taking one step forward and 2 backwards. JVC told us it now is pressing discs using new temperature-resistant plastic formulation in Japan, but VHD disc plant in U.S. isn't doing so yet. While VHD generally has been assumed to be destined to become Japan-market disc standard, successful launch of optical system there seems to be giving manufacturers pause.

First defector appears to be Hitachi, previously committed to VHD for Japan market, which now says it will produce consumer optical player for Japan but not until it perfects semiconductor laser pickup. Toshiba, which had planned to start VHD system sales shortly after JVC introduction, announced it will delay marketing until next fall. Published (and denied) reports in Japan said Matsushita's VHD target is now Oct. 1982.

There does seem to be hesitation on Matsushita's part, however, at least so far as U.S. commitment is concerned. Insiders tell us Matsushita doesn't have JVC's sense of urgency about VHD, particularly now that RCA failed to start market stampede with CED, and would prefer postponement to entering U.S. before VHD disc plants in Japan & U.S. are fully operational. It may or may not be significant that while JVC & GE both have at least skeleton VHD specialist executive staffs in place, counterpart posts at Matsushita's Panasonic & Quasar are unfilled.

Pioneer's LV system introduction in Japan, backed by \$2-million ad campaign, has been successful, according to company, which claims some 1,200 hi-fi dealers are handling players, that first batch for mid-Oct. debut have been sold out and production has been increased. Published Japanese figures say 3,500 players were sold to public in first week and 200,000 discs have been shipped to Japanese dealers.

November 9, 1981

RCA RAISES SOME VIDEODISC PRICES: RCA last week told distributors of increase in suggested list prices on 25 two-disc feature film albums to \$34.98 from former \$22.98-\$27.98 to reflect cost differential in manufacturing. Remaining 121 album prices are unchanged, and company pointed out 100 still are under \$20.

Increase brings RCA's multi-disc packages more in line with others -- CBS in RCA's CED family (\$39.95 for 2-disc sets), Paramount (\$35.95) & Magnetic Video (\$34.95) in Laservision format. MCA's LV movies are all on single EP discs, with \$29.95 top price.

RCA also announced last week it had pressed 2 millionth videodisc, is aiming at 3 million by year's end, 10 million in 1982. As of Oct. 20, RCA said it had sold 107,300 players to its distributors, who sell to more than 5,000 videodisc player dealers. Figure doesn't include those it makes for Sears & Zenith, or CED players made by Hitachi & Toshiba. RCA will start producing stereo players and new version of existing monaural model in first quarter, for May introduction.

Mastering is understood to have started on stereo discs, and first title is expected to be stereo version of Paul Simon concert, which has been big seller in LV for Pioneer Video, and is in RCA catalog in monaural form. Stereo discs will carry stickers pointing out that they can be played on mono players.

RCA's surveys have found that 70% of its discs are being sold through hardware dealers. Company lists 151 titles in catalog now, has produced 174 titles, including MGM/CBS label, and early next year there could be total of 186 titles available. RCA has scheduled 160 new titles for 1982. If CBS keeps adding releases, there could be about 400 available in CED format by end of next year.

November 16, 1981

WEBBER EYES GE's VIDEO YEAR: GE has healthy TV Div., is making profit in video sales, and this year increased color share for 5th year in row and tripled VCR market share, according to Vp William Webber, who predicted that VHD would be 2nd best selling video disc format in U.S. next year as LV optical players fade and market for CED stagnates. Webber was in N.Y. last week making debut before trade press as TV Div. gen. mgr., role he formally assumes Jan. 1, replacing retiring Fred Wellner.

Webber estimated videodisc player sales to dealers would "approach 200,000" this year, climb to 250,000-300,000 in 1982 when VHD will represent 25-40% even though it will be available for only 6 months of next year. He predicted CED system would represent 50-60% of sales, LV optical system 10-15%. "I think there are going to be some shakeouts," he said. Pressed on subject, he added, obviously referring to LV: "The first casualty is well on the way."

Commenting on 2 days of meetings of top-level VHD group executives in N.Y. last week, he said VHD system "is right on schedule," would be introduced to dealers next June, be in consumer market in July or Aug. He added that VHD group is taking

advantage of 6-month delay in introduction to strengthen software -- particularly in non-movie area -- and to add features to player. He confirmed JVC is using improved disc compound for pressings in Japan -- "I had one right in my hand" -- but ducked question of whether JVC's U.S. plant has started using new material.

"We're all a bit disappointed at the sales record so far," Webber said, commenting on RCA's CED launch. "We continue to believe the disc player will be an integral part of the video system of the future -- disc can do things tape cannot do." He acknowledged that bringing 3rd disc system into market won't draw cheers from dealers, said GE expects it "will hit some resistance."

Webber saw color TV sales at almost 12 million in 1982, up from 11.5 million this year, b&w remaining around 6.1 million. He said he expects VCRs to rise to 2 million next year, up from 1.3 million; color camera sales of 400,000, up from 200,000; projection TV at 150,000, up from 115,000. Market in 1980s will be for video systems, and successful manufacturers, he said, will be those "who can effectively bridge the gap between technology and the consumer." He said video hardware-software represents \$4.7 billion business at wholesale this year, forecast jump to \$9.7 billion by 1985, \$22 billion by 1990 for 20% average annual growth.

GE would be in even better position in TV than it is today if Justice had cleared 1977 proposal for joint U.S. manufacturing venture with Hitachi, Wellner said in answer to question. "Technologically we would be stronger," he asserted -- then, in reference to that agency's go-ahead for North American Philip's addition of Sylvania & Philco to Magnavox, he added, "the climate has changed today."

GE used briefing to announce development of new PC chassis for 19" & 25" color models. Chassis draws average of 75 watts, has 25% fewer components than one it replaces. First models using it are 19" mechanical-tuned trio with leader at about \$455, step with automatic color at \$461, VIR version at \$480. Also introduced was \$1,439 4-head VHS VCR deck with infrared remote, 105-channel tuner.

November 23, 1981

DISC PLAYERS PRICE-SENSITIVE--HOW ABOUT \$300? Videodisc players sell when they're priced right -- and \$500 isn't right. That's growing feeling among marketers, including some within RCA. But don't expect any outright reductions; until new models are introduced, at least, realistic pricing will be achieved through special promotions, with suggested lists unchanged.

This view, frequently expressed in private, was articulated to us last week by Robert O'Neil, exec. vp of Hitachi, whose CED player business has "picked up suddenly" in last month or so as result, he said, of realistic pricing, software availability and increased dealer interest.

"We'll continue to see an improvement in player sales for the rest of the year because the trade's finally talking about it," said O'Neil. "A player at \$495 just doesn't fulfill any product strategy," he added, indicating that he thought "under-\$500" line in RCA ads turned potential customers off. "It sells when the price doesn't embarrass the dealer." In Hitachi's experience, said O'Neil, "people respond to the disc player at \$300-\$350 -- that price broke the consumer barrier everywhere it's been used." In O'Neil's view, disc player "must be priced \$200 below a low-end VCR."

Hitachi disc player currently can be sold profitably by dealer at \$350, O'Neil said, and in 1982 "we will be represented in the disc player business with prices in line with that strategy." Hitachi plans to show new player with more features,

including stereo, at Jan. CES at list price near \$500, deliver to dealers in Feb. (RCA's stereo player is due in May). Depending on availability, price of current model will be reduced either this winter or next spring.

Hitachi doesn't make videodiscs -- but RCA does, and its surveys have shown that owners buy discs at far greater rate than anticipated. Thus, RCA has more to gain from lower player prices than hardware-only manufacturers. Giveaway & low-price promotions on RCA player have been successful in many areas. Examples: Free player with commitment to buy or rent specified number of discs, player at rock-bottom price with purchase of projection TV, etc. Widespread reductions in CED players certainly wouldn't bode well for upcoming VHD system, which presumably is aiming player at around \$650 list-price range, between CED & LV systems. VHD now is shipping new record compound from Japan to Cal. plant for first pressings.

Among O'Neil's other observations: TV rental -- "When credit becomes more available, I'm not sure that won't hurt the rental business. The American consumer just isn't rental-oriented." Color TV inventories -- "Ours are fairly tight, but I'd still like to see them down 15-20%." With current inventory overhang, "industry may well postpone many new models. VCR is heading in the same direction -- there's more capacity than sales."

Projection TV -- "It's become an all-cash business [because of difficulty of getting credit]. Sales could total 200,000 this year if people could get credit. If interest rates go down, next year could be a sellout." Hitachi will introduce new projection TV in May. VCR -- Hitachi will introduce stereo-sound unit at Jan. CES. Component video -- "Nobody has found the right form factor yet." 1982 outlook -- "The first half is very cloudy, and the 2nd half looks good. If the prime rate starts rising again it will be a very long winter."

O'Neil was in N.Y. last week for news conference to open marketing of first all-solid-state consumer color camera with MOS pickup at \$1,995.

Videodisc player sales by major retailers rose median 5.8% in units, 4.2% in dollars, in Oct., according to Television Digest's monthly Early Warning Report (EWR), mailed to EWR subscribers last week. Projection TV sales rose 10% in units, 8% in dollars, in Oct. from Sept. Projection TV & disc player sales, inventories & sales trends have been added to EWR's monthly tabulations with Nov. issue. Other data in EWR, which entered 8th year of publication this month: Color & monochrome TV, stereo, home VCR. EWR measures unit & dollar sales in terms of percentage change vs. year earlier (month earlier in case of disc players & projection TV) among fixed panel of representative dealers. For information about EWR subscriptions, call our circulation dept. collect (202-872-9200).

November 30, 1981

PENNEY, RADIO SHACK EVALUATE VIDEODISC: Blade business is hot, razors only so-so. That's experience of J.C. Penney after 6 months of handling RCA videodisc system. "Nothing exciting" is Radio Shack's reaction after first month of selling Realistic brand CED player made by Hitachi. That general lack of enthusiasm in U.S. may be catching in Japan, where press reports say Matsushita has decided to postpone scheduled April introduction of VHD disc system.

There's disagreement whether player is price-sensitive, as Hitachi's Robert O'Neil believes. Radio Shack's Bernie Appel conceded: "The pricing is a little wrong, but we'll keep it at \$499.95 through Christmas." Late start set it back somewhat, Appel indicated, and "too many [competing] dealers are selling up to

VCRs, selling away from disc players." Radio Shack doesn't sell VCRs because of its policy against low-profit items. Appel added: "We still believe it has more advantages than are being sold -- but it's a toughie." RS specializes in hardware, handles few discs at most stores, packs disc catalog with player.

Penney does handle software, and is thankful. "We're a little disappointed [with player sales], but not totally," said buyer Jack Fleischer. "We've sold a fair number of players, but we're very happy with disc sales. To date, sales ratio has run about 12 discs to every player sold, "but some weeks it's been as much as 30-1, and the last 2 weeks 35-1." He doesn't think all disc buyers bought players at Penney, said some shopping mall player dealers don't handle wide variety of discs, refer customers to Penney for discs. Penney recommends its stores carry assortment of 36 disc titles, about 2/3 RCA, rest CBS/MGM.

"Our people feel it's not price-sensitive," Fleischer told us. "The consumer doesn't know whether it should be \$199 or \$499." Penney sells player at \$499, is participating in RCA's \$50 rebate program and in other RCA-suggested promotions, including disc giveaways. "I don't think the price-cutters are doing significantly better than we are," said Fleischer. "From our viewpoint, it's strictly a matter of consumer awareness. The product was introduced at the time many customers were just becoming aware of VCRs. RCA is doing a good job, but it's still too early -- very few people know about it." He added that RCA's videodisc caravan promotion, which has now reached 100 shopping malls, has helped Penney's player sales, also praised RCA's \$50,000-prize videodisc display contest, which some Penney stores have entered.

If Penney is doing well with disc software, opposite is true with cassettes. After fullscale test in 50-55 larger stores, company has decided to discontinue recorded cassettes. Said Fleischer: "It's not the type of product suitable for a dept. store." Problems include rental situation, margins, breadth of inventory required, fixtures, rapid rate of releases. Penney lists 34 cassette titles in Christmas sale book, will continue to sell fast-moving titles through catalog. Fleischer said Penney's unit sales of blank cassettes have increased 300% this year; company has added TDK to own-brand line.

One dealer which is very happy with disc players is New Deal, St. Louis, which says it has moved 250 since Oct. 1 -- by giving them away.

JVC may have to go it alone in Japan if it wants to have VHD on market there on schedule. Matsushita has reportedly decided to hold off, mainly because it feels not enough videodiscs will be available to support full-scale multi-company player launch. It also was indicated that Matsushita feels lackluster U.S. market performance of both optical Laservision and CED systems has made rapid market entry something less than urgent.

June is still firm introduction date for U.S., according to Paul Foster, program development vp for VHD Programs. He supported statement of GE TV Div. Gen. Mgr. William Webber that U.S. members of VHD Group had left schedule unchanged at top-level meeting held in N.Y. earlier this month. Foster said new disc compound developed by JVC, and being used to press discs in Japan, hasn't yet been supplied to U.S. VHD pressing plant, but said material will be in use here before year's end.

GIVING AWAY PLAYERS: "Free videodisc player" sales pitch by New Deal stores in St. Louis has breathed life into "dead item," caused stores to have "helluva Oct. & Nov.," according to Mgr. Joseph Ferrett. Here's unusual formula: Customer pays New Deal \$50, receives \$50 rebate from RCA, agrees to rent 2 videodiscs at \$5 each a week (paying \$520 in advance, either by cash, credit card or 15% financing plan). Since Oct. 1 kick off, ND has racked up 250 sales at 2 locations, decided to continue campaign through Christmas.

Ferrett has directed sales personnel to try to push customers toward RCA CED player, complains that other dealers "have made it tough to make a dollar off VCRs... They're panicking -- maybe dumping a \$1,000 [wholesale] item for \$1,100 or \$1,200. We can make more on one disc player than we can on 3 VCRs." CED player also is offered outright for \$498, with purchaser entitled to \$50 rebate. He breaks down player deals at 50% cash, 30% credit card, 20% credit plan.

New Deal stocks full RCA catalog, also offers rental plan with \$50 lifetime membership, \$5 for 3-day disc rental, according to Ferrett, who said weekly traffic of 250 people picking up their 2 discs was boosting business, generating disc sales. ND maintains \$10,000 disc inventory, picks up additional titles when possible from RCA's Quick Delivery Service (QDS) in Indianapolis. On player quality, he reports "5 or 6 needle problems" out of 250 units.

December 7, 1981

TOSHIBA, SANYO VIDEODISCS: There seems to be little inclination so far for Toshiba or Sanyo to follow Hitachi's major promotion on videodisc players, which makes possible sales in \$300-\$350 range. Toshiba has pre-holiday promotion, but company said there was no way player could be sold below \$350, and even getting below \$400 would involve considerable shaving of margin.

Toshiba's player lists at \$525, includes remote control packed in same carton, so it would be difficult for dealer to outboard remote -- unless he wanted to open boxes and be stuck with extras.

Toshiba said June was good player sales month, largely because of pipeline-filling, July-Aug. were sluggish, meeting only about 70% of sales target. Final 3 weeks of Sept. were good, at 150% of target, but sales slumped again in mid-Oct., showing some recovery early in Nov., short-lived because of price-cutting by others. Toshiba concedes it's studying pricing, but doesn't think it can match under-\$400. "Our target was not so high," said spokesman, "and so far we're within 10% of our goal. We don't have much inventory, so there's no need for a drastic price reduction."

New models for 1982 with lower prices are under consideration as stepdowns from current deluxe model, according to Toshiba, which says it's watching market reaction to lower price points. Company official also speculated that RCA's disc prices probably are too high.

Sanyo's view of market generally follows Toshiba's. Player is moving "fairly well," paralleling reports on RCA, according to Video Mgr. Russ Mayworm. "We're shipping comfortable quantities, still at \$499 list, with no special promotions under way now. We're just watching what happens, being conservative, and we'll evaluate the situation later."

CBS, meanwhile, says its videodisc program is on schedule, producing usable masters in Stamford, Conn. Carrollton, Ga. pressing plant is being equipped, will start pilot production around first of year.

Some videodisc titles apparently are being shipped in quantities of 40,000 by RCA. Six were presented Golden Videodisc awards by ITA for retail value totaling \$1 million or more. Awards don't necessarily represent retail sales, include pipeline-filling. Winning discs are Rocky, Saturday Night Fever, Grease, Heaven Can Wait, Godfather, Fiddler on the Roof. First 4 of these carry \$25 suggested list, meaning 40,000 must be sold to total \$1 million. Last 2 were \$28 (since increased to \$35), indicating sales of at least 35,700.

Japan-Europe video consortium formerly known as "3Ts" (Telefunken, Thorn EMI, Thomson-Brandt, with JVC) may become "2Ts." Its official filing with Japanese govt. leaves out Thomson-Brandt, whose parent is being nationalized by French govt. Combine is scheduled to produce VCRs, cameras & videodisc players in Europe. Also officially announced in Japan was formation of 2nd consortium -- by Matsushita & Robert Bosch Co. -- to make VCRs in Europe.

December 14, 1981

BRADSHAW REAFFIRMS VIDEODISC COMMITMENT: RCA is "committed" to "probe the potential [of videodisc] with everything we've got," Chmn. Thornton Bradshaw said in his first address to distributors. At same Miami meeting, RCA gave distributors preview of stereo disc player, to be introduced in May, told them 3rd player -- stereo version with wireless remote -- would be introduced in Aug.

In other developments, RCA: (1) Forecast video business (excluding recorded tape, games & computers) will nearly triple to more than \$26 million at retail by 1990 in economic outlook report for 1980s (enclosed with this issue as TV Digest White Paper). (2) Announced retailers will have bought 100,000, consumers 60,000, RCA videodisc players this year, and said latest survey showed average player owner had over 18 videodiscs. (3) Forecast slight decline in U.S. color TV sales in 1982, said RCA planned price increase in May. (4) Disclosed early-1982 promotions offering choice of \$50 rebate or 3 discs worth \$75 with purchase of player, and remote control color console for same or slightly more than manual set. (5) Intimated that May line would feature innovations in color picture quality and styling, redesigned VCRs, rear-projection TV.

Bradshaw's talk stressed technology, said RCA will implement new program starting in 1982 which will emphasize communications, electronics & entertainment. He told distributors that in 3rd quarter RCA took lead in U.S. sales of both color & monochrome TV, maintaining No. 1 position in VCR.

Bradshaw took pains to spell out corporate patience with videodisc. "There has been some speculation in the press about the videodisc and the future because we seem to be falling somewhat short of our goals," he said. "The path of pioneering a new product has never been smooth, and this is particularly true in today's economy." He noted player performance was "reflected in the remarkably few warranty service calls -- 0.25 per player, 1/16 of the average 4 per set in color's introductory year." RCA has "every reason to be proud" of videodisc system, he said, singling out Exec. Vp Roy Pollack & Group Vp Jack Sauter, architects of program, as "heading any list" of top management, which he called RCA's "No. 1 asset." He said 188 disc titles are available from RCA & CBS, promised number would exceed 400 by end of 1982.

Buoyed by front-office vote of confidence, Sauter forecast disc player sales would continue at 4th-quarter rate in first 3-4 months of 1982, fed by unabated ad campaign. He said he saw "definite change of attitude of retailers" toward disc & player and there was "no question in my mind" that launch was most successful in consumer electronics history. Asked about failure to meet forecast of 200,000 players in 1981, he conceded that was "unrealistic number -- we were caught up in explosive VCR demand." He declined to forecast 1982 sales "because the numbers have a way of coming back to haunt us."

Asked about comments that \$299 is more appropriate price than \$500 for player, Sauter said current RCA pricing will continue, adding player is "price-sensitive to some degree, but we think that is secondary to merchandising of the product. Pure price is not an effective merchandising tool. You can't establish value until you know what to compare it to." In answer to question in news briefing, he quipped: "At \$299, we'd probably be in bankruptcy. We don't think that will be the major

price point in 1982." As for competitive promotion making possible sales at that price, he said: "Hitachi is unloading inventory."

Stereo player will be priced above mono leader version, Sauter said, and there were indications that list-price differential might be as much as \$100, but he declined to be specific on mid-1982 pricing plans, except to indicate RCA sees "marketing opportunities with the monaural player." Average dealer who's doing well in videodisc doesn't do well in VCR, he commented, and VCR dealers don't do well in videodisc -- pointing out the 2 are completely different markets, with VCR's annual sales potential topping out at 3.5 million units. RCA's long-range forecast sees videodisc players in 28% of TV homes, VCRs in 17%, in 1990.

RCA's return to audio will be "minimal" to support stereo videodisc market, Sauter said, indicating company would offer stereo receiver & speaker system to provide "total stereo package" in May.

Matsushita denied Japanese press reports it planned to delay launch of VHD disc system there, letting JVC go it alone, saying it would be on market this spring, as would JVC & Sharp. Reiterating position expressed in interview last June, Pres. Toshihiko Yamashita said company feels education is most appropriate market for videodisc, announced plan to make software tie with unidentified Japanese publisher. He said first sales were expected to run at something under 5,000 monthly. Separately, Matsushita said it produced 5 millionth VHS VCR in opening Dec. week. It has been manufacturing VHS format for 4-1/2 years.

LATEST VIDEOGRAPHIC customer research shows average CED player owner has more than 18 discs, according to Selectavision Videodisc Div. Vp Thomas Kuhn, who gave these statistics: People who have owned players over 6 months own average of more than 22 discs; 44 out of 1,000 owners surveyed have more than 50, 10 have 75, 4 have 100. One-half of owners said they knew where they could rent discs, and 18% of total had already rented them. Some 21% also own VCRs.

Kuhn said RCA will have made 3 million discs (about 2.4 million albums), sold 90% of them, in 1981. Samples of joint RCA-MGM/CBS CED videodisc catalog, for early 1982 release, list 198 titles, including 40 under MGM/CBS label. RCA released list of 8 new titles for Jan. introduction. Although RCA says it expects consumers to buy some 60,000 players in 1981, extrapolation of survey data indicates to us that close to 100,000 players may be in use, including non-RCA brands (Sears, Radio Shack, Hitachi, Sanyo, Toshiba, Ward).

Ten stereo discs will accompany introduction of stereo player next May, Kuhn said, with total of 20 scheduled for introduction next year. At distributor meeting in Miami, RCA played sampling of upcoming stereo discs, including reissue of Fiddler on the Roof. In answer to question, Kuhn said RCA is developing interactive programming in anticipation of random access special-effects player in 2-4 years.

Best-seller disc list is headed by Muppet Movie, followed by 20,000 Leagues Under the Sea and Airplane. Topping non-movie best sellers are Star Trek TV episode, Disney Cartoon Parade and Charlie Brown Festival.

December 21, 1981

VHD, LV PLAN DISC SYSTEM PITCHES AT CES: VHD videodisc system will have own display at CES, presumably inspired by Laservision's elaborate show at last summer's event. However, there will be no official CED presence -- RCA isn't

exhibitor -- but licensees Hitachi, Sanyo & Toshiba will show players and displays of discs provided by RCA & CBS/MGM.

VHD proponents plan 30x56-ft. system booth under banner "There's More to See on VHD." At same time, individual companies including GE, Panasonic, Sharp will show players & programming at own stands. VHD Programs Mktg. Vp Lou Delmonico said he expects them to incorporate same theme, part of ad campaign designed by L.A. agency Haller Schwarz.

Player was featured at June show in Chicago, but at various locations, lacking punch of Laservision display -- effect Pioneer Video, Philips & Discovision Assoc. hope to duplicate in Las Vegas next month. Hitachi has announced it will introduce stereo CED player at CES, and stereo versions could be shown by Sanyo & Toshiba. However, all they can do is show -- not demonstrate -- since no stereo discs will be available. RCA says stereo disc pressing won't start until first quarter, in preparation for player introduction in May. Although RCA played stereo selections at recent distributor meeting, company official said these were mere "snippets," not cleared for public demonstration. Toshiba is expected to show random-access version of CED player, designed to locate any groove by frame number.

VHD's Delmonico told us 14-15 discs, mastered in Oct. and part of catalog for June launch, are available for show, including Ordinary People, Black Stallion, Broadway show Eubie, selections from Muppet TV series. Display, sponsored by VHD Programs and VHD Disc Mfg., will feature 9 VHD players, with all brands represented; movies will run on 7, catalog sampler on 2. To be distributed at show will be 40-page catalog, listing all 110-120 titles due in June, about 60% of them movies, 25% music, rest interactive & children's material.

"We've identified most of the 250" programs that will be out by end of 1982, according to Delmonico, who estimated some 2 million discs will be produced in June-Dec. period. Number in 1983 should be at least double that, he believes, with VHD owners buying average of 21 discs per machine in first year. Delmonico claims VHD Programs has signed deals with about 30 program suppliers, including MCA, Columbia, Paramount, UA.

Many provide for custom pressing, but studios won't get own discs to distribute until late 1982 or early 1983, after VHD Programs satisfies needs of hardware dealers. "You need to put the software where you put the players," he noted. Disc assortments will be packed & shipped from facility at L.A. airport, are expected to retail for \$15-\$32. Japan will produce "significant number" of discs, Delmonico said. VHD Disc Mfg. plant in Irvine, Cal. has been making masters and test runs, should begin fullscale operations in first quarter 1982, hasn't had any problems with reformulated disc compound which helped push back player introduction in U.S. from Jan. to June, according to Delmonico.

December 28, 1981

INDUSTRY SEES MODEST TV SALES DIP IN '82: Caution is strongly evident in industry's forecasts for 1982, as recorded in our 23rd annual year-end survey of manufacturers & importers. Collectively, they see comparatively moderate increases in sales of new video products, slight dip in color TV. Probably more significant, most survey respondents think it's going to be increasingly tough to make a buck next year, as consumer electronics sales increase while profits are unchanged from 1971.

Here are industry's median forecasts of sales to dealers for 1982, compared with our estimates of 1981 sales, based on EIA figures where available, and with 1980 EIA sales-to-dealers data (videodisc player estimate is ours):

Product	1982 (forecast)	1981 (estimated)	1982 vs. 1981	1980	1981 vs. 1980
Total TV ^a	16,600,000	16,800,000	- 1.2%	17,182,596 ^b	- 2.2%
color ^a	11,000,000	11,200,000 ^b	- 1.8%	10,897,080	+ 2.8%
monochrome....	5,600,000	5,600,000	0%	6,285,516	-10.9%
Projection TV..	175,000	120,000 ^b	+45.8%	51,706	+132.1%
Home VCR.....	1,950,000	1,375,000 ^b	+41.8%	804,663	+70.9%
V'disc players.	300,000	175,000 ^b	+71.4%	20,000	+500.0%

^aProjection TV not included. ^bRecord year.

This year there were 16 usable responses to our questionnaire. As has been case since our first such survey in 1959, they represent complete cross-section of industry. This year's responses came from all major domestic & import TV brands and many minor ones. For the record, you may be interested in how well virtually same companies did in forecasting 1981 just a year ago -- fairly well, we think. Respondents then saw total TV sales of 15.9 million, 10 million color, 5.9 million monochrome, 1 million VCRs, 75,000 projection TVs, 225,000 videodisc players. Year actually came out better than highest forecasts received for color, VCR and projection.

For 1982, color TV median of 11 million would make it 2nd best year in history, after 1981, down by less than equivalent of one week's sales. Although more respondents chose 11 million than any other number, there was no unanimity, forecasts ranging from bleak 8.5 million to heady 11.9 million. Once again, consensus was that color factory prices would go up in 1982, this time by median 3%. However, only 57% thought prices would rise, 43% seeing no change, 7% predicting decline. Nobody thought average prices would rise more than 5%.

Industry expects import competition with domestic sets to continue at about same rate in 1982 as 1981, despite fact that quotas on color sets from Taiwan & Korea expire July 1. Based on our estimate that imports of complete color sets comprised about 20% of 1981 market, survey showed that 1982 figure would be 21% of slightly smaller base. Forecasts ranged 10-25%.

Monochrome sales forecasts all were between 5 & 6 million, and survey indicated minicombos' share of market would rise from estimated 13% in 1981 to 15% in 1982. Two-thirds of those surveyed believed minicombo percentage would increase.

Home VCR sales will fail to crack 2-million mark in 1982, in opinion of median response, although exactly half of participants saw sales of 2 million or more. Lowest forecast was 1.5 million, highest 2.2 million. Of the 1.95 million VCRs to be sold, predominant opinion was that 25% would be portables, with estimates ranging 20-50%.

Prices of VCRs will come tumbling down in 1982 -- 79% of respondents saw lower average prices than this year. Considering all forecasts -- including the 14% seeing an increase and the 7% indicating no change -- VCRs will be down average of 5%. However, more respondents (36%) predicted 10% decline than any other number.

Very cautious attitude is being taken on videodisc players by manufacturers & marketers -- a revealing fact which could provide clue to marketing plans for 1982. In 1981, we estimate sales to dealers of 175,000 disc players of all types & brands -- 125,000 CED, 50,000 LV. While responses came out to median of 300,000 players for 1982, total range was 100,000-600,000, with 62% of responses in 200,000-375,000 range. For whatever it may mean, CED advocates were most optimistic, seeing sales of median 500,000 units, followed by VHD at 300,000 units, LV at 285,000. In each case, these are forecasts for players of all systems.

Projection TV sales estimates varied from 137,500 to 230,000 units, number most frequently cited being 150,000.

Total consumer electronics sales will increase 5.5% in 1982 over 1981, in median opinion, although 29% saw no rise at all. But profit once again will be toughest nut to crack, strong consensus being that earnings picture will be unchanged despite higher total dollar sales. Exactly half of our panel said profits would be unchanged in 1982, with 35.7% forecasting decrease, 14.3% increase.

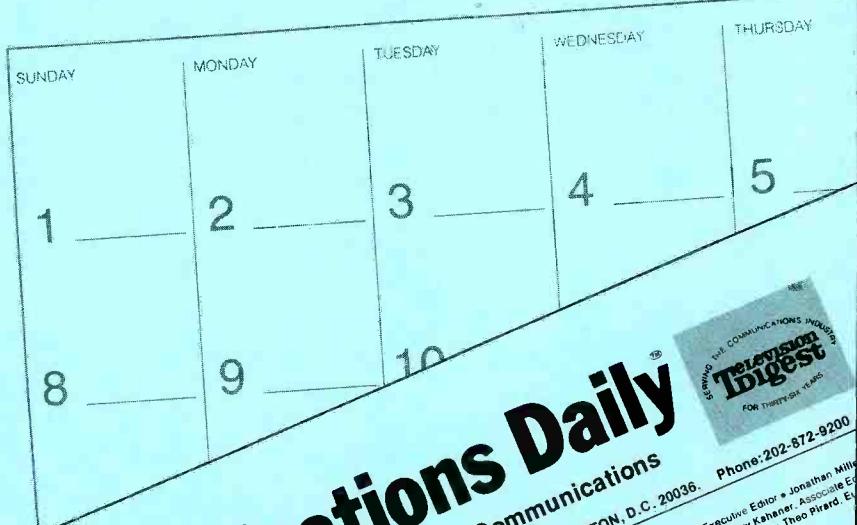
Profitability is overwhelming challenge of 1982, cited by 10 of the 16 respondents. Other challenges mentioned: Overcapacity or inventories (by 4 respondents), the economy (by 3), price cutting or maintaining price points (3), imports (2), productivity, new product development, audio phaseout, new video products.

It may not be the very merriest of holiday seasons, but none of companies surveyed sees depression, and all of them predict prospect of very healthy sales (if not profit) year ahead.

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Today:
FOWLER'S LITMUS TEST: Can new FCC handle issues facing it? skeptics doubt it. Fowler, in interview, says everything according to plan. (P. 1)

E-COM MAIL IN JEOPARDY as postal rate commission starts hearings; Postal Service threatens to defy commission of Appeals, begin E-COM in Jan. (P. 6)

TANDY IN NETWORKING GAME with Datapoint. System to link personal computers. (P. 7)

LEAGUE OF CITIES GETS SUPPORT from 12 groups in effort to pass cable provisions from S-898. Coalition sends 10 senators in massive lobbying drive. (P. 8)

Communications Daily FCC Fall Pre-Season for Testing Fowler Commi-

FCC Chmn. Mark Fowler, 3-1/2 months on job proving he can take control when FCC: (1) Ra-
surgery to its legislative charter. (2) Must be more austere financial limits. (3) Has more solution this fall.

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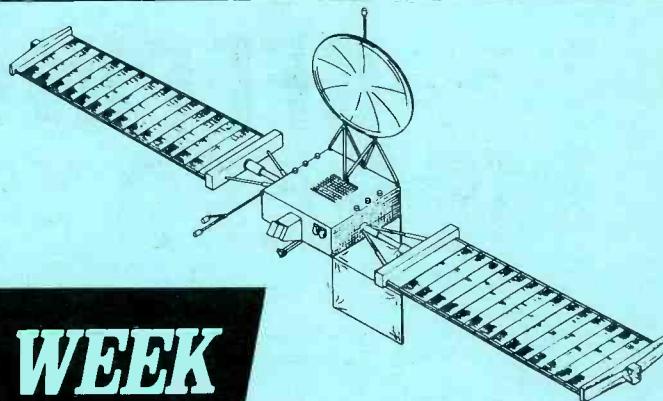
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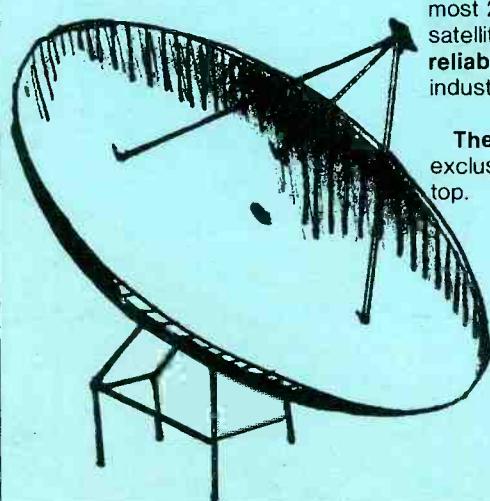
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